MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.

PROCESS COOLING

PRODUCT GUIDE

- CHILLERS
- HEAT PUMPS
- UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER
- ROOFTOP UNITS
- AIR HANDLING UNITS
- CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS
- ANCILLARY PRODUCTS

climaveneta.com

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FOR PROCESS APPLICATIONS

Climaveneta's mission in process cooling is to provide high performing, resilient, and reliable cooling solutions in all production, conservation, storage, and logistics applications where cooling systems are critical for productivity and sustainability.

Environmental Respect

Specific solutions for each project

Lowest cost of Ownership

Climaveneta, as a brand of Mitsubishi Electric Hydronics & IT Cooling Systems Spa, is aware of the important role cooling systems play as well as of their peculiarities and challenges in each type of process application.

From the correct conservation of perishable goods and the effectiveness of specific manufacturing phases, to the potential economic and environmental benefits resulting from free cooling and heat recovery, process cooling represents one of the strongest and most consolidated segments where Climaveneta units are employed.

Vast experience, profound know-how, and the capability to combine the highest standards of manufacturing and operational quality with flexible, customized solutions are the key distinctive factors that make Climaveneta solutions the preferred choice in the most challenging and innovative process cooling projects worldwide.

Highest manufacturing quality standards & tailor-made solutions

Comprehensive portfolio of proprietary & patented technologies

All air units up to
100.000m³/h
air flow

Extensive range
of chillers and multiuse units
from 1 to 4.200kW

12 specialized manufacturing hubs

Worldwide distribution and service network

Dedicated products & specialised solutions

7 R&D and testing labs in Italy, China and India

Climaveneta has developed a large array of solutions and systems for the highest efficiency, reliability and continuity of operation in process cooling and heating applications, based on a wide portfolio of diverse technologies:

- CHILLERS

- HEAT PUMPS

- UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

- ROOFTOP UNITS

- AIR HANDLING UNITS

- CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS

- ANCILLARY PRODUCTS

Climaveneta solutions for process applications are designed to provide the following advantages even in the most challenging projects where cooling and heating are applied to manufacturing or goods conservation processes:

Smart Integration of the most advanced technologies

The extensive experience in the peculiarities of process cooling applications allows Climaveneta to offer the smartest combination of the most advanced technologies such as: full inverter concept, free cooling, heat recovery management, and evaporative cooling.

Highest industrial quality also in bespoke solutions

The Climaveneta approach, by combining the highly industrialized organisation with the widest range of versions, configurations and bespoke solutions, offers complete flexibility in the product proposal with all the advantages of the highest standards of product manufacturing and quality testing.

Complete Reliability

Thanks to high quality components and materials, and continuous improvement programmes aimed at cutting maintenance costs and ensuring 24/7 premium performance.

High Efficiency

Guaranteeing that the HVAC system always runs at the highest efficiency, through a strong focus on premium performances and the implementation of advanced plant room control and optimisation software.

The smartest use of energy

Integrated in the cooling system, advanced heat recovery systems provide an innovative look at heat rejection as a free source of energy for adjoining applications.

Increased sustainability

Intelligent energy management is also crucial for sustainability, considering the extensive use of energy and levels of CO_2 emissions in industrial processes.

CLIMAVENETA

OPERATIONS

The excellence of our solutions is the result of a leading-edge organisation, structured on specialized manufacturing hubs and laboratories, applying lean manufacturing and continuous improvement principles together with an integrated approach to quality, environment and health and safety, consistently with Mitsubishi Electric's guiding principles.

LABORATORIES

ML12
Belluno
Italy

Total surface area: 4,000 m²

PATENT PENDING
MITSUBISHI ELECTRIC
PATENT PENDING

NEW TESTING CENTRE

Chillers, Heat Pumps, 4-pipe units, rooftop units, AHUs, IT cooling systems

- Up to 4800 kW
- From -20°C to +55°C
- Up to 100.000 m³/h
- Combined Testing of IT Cooling package (Chillers + HPAC units)
- UNI 14511
- ISO 9614-2

ML14
Treviso
Italy

Terminal Units, small chillers & Heat Pumps
- UNI 14511
- ISO 9614-2

ML21
Valle Salimbene
Italy

Chillers & Heat Pumps up to 1600 kW, Telecom solutions
- UNI 14511
- ISO 9614-2

ML24
Valle Salimbene
Italy

Close control air conditioners, Rack cooling units
- EUROVENT 6/6
- ANSI-ASHRAE 2016

ML91
Shanghai
China

Terminal units
- GB/T 19232-2003
- GB/T 7725-2016

ML92
Shanghai
China

Chillers & Heat Pumps
- GB/T 10870-2014

ML93
Shanghai
China

Close control air conditioners
- GB/T 17758-2010

12 Manufacturing hubs and 7 R&D and testing laboratories in Italy and worldwide

MANUFACTURING HUBS

M11
Bassano
Italy

Productive area:
12,500 m²

- Scroll compressor chillers
- Scroll compressor reversible chillers
- Heat pumps up to 700 kW
- ISO 9001/ ISO 14001/ OHSAS18001

M12
Belluno
Italy

Productive area:
25,000 m²

- Screw and oil-free compressor chillers
- Screw and oil-free compressor reversible chillers / Heat pumps
- Shell&tube evaporators
- ISO 9001/ ISO 14001/ OHSAS18001

M13
Belluno
Italy

Productive area:
7,000 m²

- MEHITS Training Centre

M14
Treviso
Italy

Productive area:
10,000 m²

- Residential chillers
- Heat pumps up to 50kW
- OHSAS18001
- ISO 9001/ ISO 14001

M21
Valle Salimbene
Italy

Productive area:
36,500 m²

- Telecom solutions
- Rack cooling air conditioners
- Splitted air systems
- ISO 9001/ ISO 14001/ OHSAS18001

M22
Valle Salimbene
Italy

Productive area:
2,300 m²

- Scroll compressor chillers and heat pumps up to 200 kW
- ISO 9001/ ISO 14001/ OHSAS18001

M23
Zeccone
Italy

Productive area:
7,500 m²

- Close control air conditioners
- Telecom solutions
- ISO 9001/ ISO 14001/ OHSAS18001

M91
Shanghai
China

Productive area:
15,000 m²

- Liquid chillers
- Reversible chillers for the Chinese and SEA market
- ISO 9001, ISO 14001, OHSAS18001

M92
Shanghai
China

Productive area:
2,500 m²

- HPAC units for the Chinese and SEA market
- ISO 9001, ISO 14001, OHSAS18001

M93
Shanghai
China

Productive area:
3,000 m²

- AHU units
- Fan coil units
- Aluminium fin and copper tube coils
- ISO 9001, ISO 14001, OHSAS18001

M94
Shanghai
China

Productive area:
2,000 m²

- Shell & tube Heat Exchangers
- Condensers and evaporators
- ISO 9001, ISO 14001, OHSAS18001

M81
Bangalore
India

Productive area:
2,500 m²

- HPAC units
- Screw compressor chillers
- ISO 9001

CLIMAVENETA®

QUALITY, ENVIRONMENT, SAFETY

In consistency with Mitsubishi Electric's 7 guiding principles, Mitsubishi Electric Hydronics & IT Cooling Systems SpA aims at making a positive difference towards a more sustainable HVAC industry.

We do this by responsibly managing the environmental, social, and economical impacts of our activities and solutions. This is a key element of RC and Climaveneta's value proposition and the best guarantee to deliver sustainable value to our customers, employees, and all of our stakeholders.

QUALITY

Following Mitsubishi Electric's principles, satisfying and exceeding customers' and stakeholders' expectations are core elements of Climaveneta and RC's approach.
Company and product certifications play a crucial role within our approach to Quality, enhancing our care to comply with the regulations of the countries and markets where we operate.

SAFETY

For Mitsubishi Electric Hydronic & IT Cooling Systems SpA, safety is a core element of the organizational culture, proven by the OHSAS 18001 certification obtained in June 2015 and by the BBS - Behaviour Based Safety – project, gradually extended to all our establishments.

ENVIRONMENT

Comfort and sustainability are key elements of our mission, to be pursued in all company choices, from product development to operations management.

This approach reflects a company strategy based on a business model focused on the highest sustainability, extending from the traditional attention to energy efficiency and reduced environmental impact of the product, to the whole manufacturing process.
From this perspective ISO 14001 certification means, above all, systematic implementation of explicit projects to reduce the environmental impact of the company globally. At the same time Mitsubishi Electric Hydronics & IT Cooling Systems as a leading company in sustainable HVAC solutions, recognizes and supports the diffusion of building performance rating systems and green certification protocols.

NEW REFRIGERANT TRENDS

Mitsubishi Electric Hydronics & IT Cooling Systems is fully committed to supporting the creation of a greener tomorrow by adopting forward-looking refrigerants able to combine both high efficiency standards with a sustainable approach.

THE CALL FOR CLIMATE ACTION

Based on the specific characteristics of each plant and segment, and according to performance levels, operational reliability and costs, Mitsubishi Electric Hydronics & IT Cooling Systems introduces the new G04 and G05 series optimized for the HFO 1234ze and R513a eco-friendly refrigerants.

r1234ze r R513A

r1234ze G04 SERIES

PRODUCT RANGE WITH HFO 1234ze REFRIGERANT.

The G04 series with HFO 1234ze refrigerant is the greenest eco-friendly alternative to traditional refrigerants and the perfect solution for HVAC plants where environmental issue is a key priority. Featuring GWP values almost 0, the G04 series maintain very high efficiency values and operating performance similar to the R134a products.

0 Ozone Depletion Potential

NEGLIGIBLE GWP
Global Warming Potential
$GWP_{100\ year} < 1$

COMPATIBLE WITH COMMON CONSTRUCTION MATERIALS

- No special components
- No extra cost

IN-LINE WITH ENVIRONMENTAL REGULATION OBJECTIVES

- No future retrofit required

RAPID MOLECULE DISINTEGRATION IN THE ATMOSPHERE

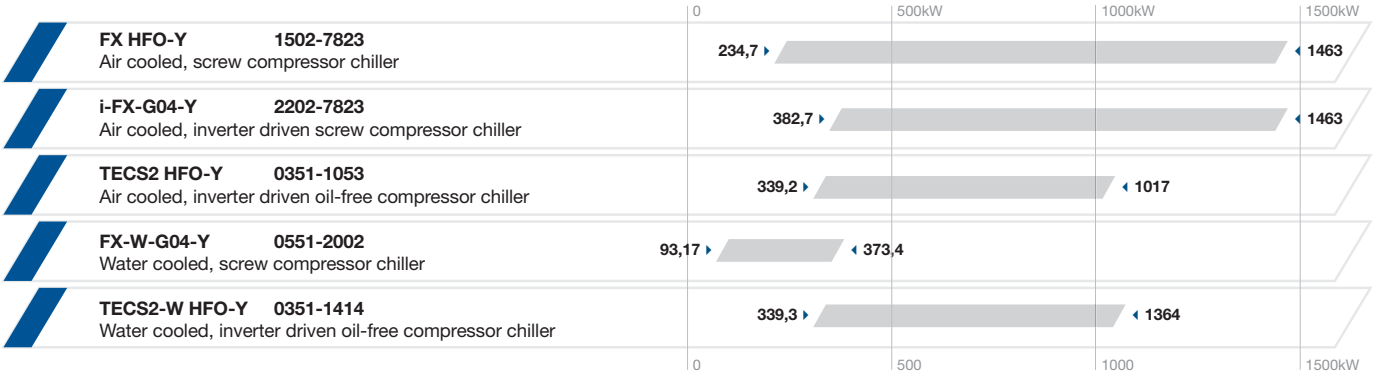
- HFO 1234ze = 2 weeks (R134a = 14 years)

APPROVED BY INTERNATIONAL STANDARDS

- ASHRAE 34, ISO 817:
- A2L classification (non toxic, midly flammable)

CHILLERS

R HFO1234ze



CLIMAVENETA

G05 SERIES with R513a

The green alternative to R134a

Among the alternative refrigerants available on the market, the R513a of the G05 series features very low GWP values and 0 depletion potential.

-56% GWP COMPARED TO R134A

NON-FLAMMABLE Safety Class A1

R513A

REDUCED GWP

- R513A $GWP_{100\ year}$=572
- R134a $GWP_{100\ year}$=1300
- GWP values according to IPCC AR5

NON-TOXIC, NON-FLAMMABLE

- ASHRAE 34, ISO817: A1class

FAVORABLE PHYSICAL PROPERTIES

- Same cooling capacity delivered as R134a
- Same operating preasures as R134a

IN-LINE WITH STANDARD BUILDING CODES

- No special equipment
- No need for flammable risk assesment
- No extra costs

COMPLIANT WITH ECO REGULATION OBJECTIVES

- No future retofit required
- Reduced price volatility

CHILLERS

R HFC R513A

		0	500kW	1000kW	1500kW	2000kW	2500kW
FX-G05-Y Air cooled, screw compressor chiller	**0751-1801**	140,1	395,7				
FX-G05-Y Air cooled, screw compressor chiller	**1502-7223**	288,5				1710	
i-FX-G05-Y Air cooled, inverter driven screw compressor chiller	**2202-7223**	478,6			1697		
TECS2-G05-Y Air cooled, oil-free compressor chiller	**0211-1154**	217,9	1313				
FX-W-G05-Y Water cooled, screw compressor chiller	**0551-1752**	124,3			400,6		
FOCS2-W-G05-Y Water cooled, screw compressor chiller	**1301-9604**	306				2416	
FOCS3-W-G05-Y Water cooled, screw compressor chiller	**0551-4752**	188,2				1693	
i-FX-W (1+i)-G05-Y Water cooled, inverter driven and fixed speed screw compressor chiller	**1402-4652**	532,3			1784		
TX-W-G05-Y Water cooled, oil-free compressor chiller	**1A00-6D00**	248					4466
TECS-FC-G05-Y Air cooled, oil-free compressor chiller with free-cooling technology	**0211-1204**	299,2			1671		

HEAT PUMPS

R HFC R513A

		0	500kW	1000kW	1500kW	2000kW	2500kW
FOCS-N-G05-Y Air cooled, screw compressor heat pump	**2022-4822**	440,7		1162			
FOCS2-W-Y /H Water cooled, screw compressor heat pump	**1301-9604**	306				2416	
i-FX-W (1+i)-G05-Y /H Water cooled, inverter driven and fixed speed screw compressor heat pump	**1402-4652**	532,3			1784		

UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

R HFC R513A

		0	500kW	1000kW	1500kW	2000kW	2500kW
ERACS2-Q-G05-Y Air cooled, screw compressor 4-pipe heat pump	**1062-3222**	199,5		825,6			
i-FX-Q2-G05-Y Air cooled, full inverter screw compressor 4-pipe heat pump	**0502-1102**	442,9		1125			
ERACS2-WQ-G05-Y Water cooled, screw compressor 4-pipe heat pump	**0802-1502**	189,4	363,4				

Key to symbols and notes

Functions

- COOLING — Cooling
- HEATING — Heating
- FREE COOLING — Free Cooling
- RE-HEATING — Re Heating
- HUMIDIFICATION — Humidification
- PLATE — Plate
- HEATING — Heating 60°C
- HEATING — Heating 65°C
- HEATING — Heating 78°C
- 4 PIPE SYSTEM — Combined production of heating and cooling
- EVAPOR. FREE COOLING — Evaporative free cooling
- HOT WATER — Hot water
- THERMODYNAMIC — Thermodynamic

Fan

- CENTRIFUGAL — Centrifugal fan
- PLUG FAN — Plug fan
- ROTARY — Rotary enthalpy recovery
- AXIAL — Axial fan
- EC AXIAL — EC axial fan

Refrigerant

- R HFC R-134a — R-134a
- R HFC R-407C — R-407C
- R HFC R-410A — R-410A
- R HFO1234ze — HFO-1234ze
- R R513A — R513A

Compressors

- ROTATIVE — Rotary compressor
- SCROLL — Scroll compressor
- SCREW — Screw compressor
- CENTRIFUGAL — Centrifugal compressor

Recovery

- PLATE — Plate heat recovery
- ROTARY — Rotary enthalpy recovery
- REFRIG. BOOSTER — Refrigerant booster
- THERMODYNAMIC — Thermodynamic

Exchangers

- P PLATES — Plates heat exchanger
- T SHELL & TUBES — Shell & Tubes
- FL FLOODED — Flooded evaporator

Int. sect.

- CENTRIFUGAL — Centrifugal fan
- PLUG FAN — Plug fan

Out. sect.

- AXIAL — Axial fan

Other features right position

- A ENERGY CLASS — Energy Class A

Other features

- EUROVENT CERTIFIED PERFORMANCE — Eurovent
- AHRI CERTIFIED — AHRI - Water-Cooled Water Chilling and Heat Pump Water-Heating Packages
- AHRI CERTIFIED — AHRI - Air-Cooled Water Chilling Packages
- L1 CLASS LEAKAGE — Leakage L1
- FULL FLOATING — Full Floating
- INVERTER DRIVEN COMPRESSOR — Inverter Driven Compressor
- VPF — VPF
- VSPEED — VSpeed
- EEV — Electronic Expansion Valve
- ErP 2018 COMPLIANT — ErP 2018 COMPLIANT
- ErP 2021 COMPLIANT — ErP 2021 COMPLIANT

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CHILLERS

Pag.	Product	Capacity kW	Functions	Refrigerant	Compressors	Fan	Exchangers
AIR COOLED CHILLERS							
18	i-BX-Y 004M - 035T	4,300-35,10 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
22	i-NX-Y 0151P - 0502P	43,88-129,3 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
26	NX-Y 0152P - 0812P	39,24-227,1 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
40	NX-Y 0614P - 1214P	159,0-326,7 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
44	NECS-Y 0202T - 0612T	47,79-158,6 kW	COOLING	HFC R-410A	SCROLL	AXIAL	SHELL & TUBES
50	NX-Y 0614T - 1214T	159,0-352,0 kW	COOLING	HFC R-410A	SCROLL	AXIAL	SHELL & TUBES
58	NECS-Y 1314 - 3218	333,6-884,7 kW	COOLING	HFC R-410A	SCROLL	AXIAL	SHELL & TUBES
66	FX-Y 0751 - 1801	140,1-395,7 kW	COOLING	HFC R-134a	SCREW	AXIAL	PLATES SHELL & TUBES
72	FX-Y 1502 - 7223	288,5-1710 kW	COOLING	HFC R-134a	SCREW	AXIAL	SHELL & TUBES
90	FX-G05-Y 0751 - 1801	140,1-395,7 kW	COOLING	R513A	SCREW	AXIAL	PLATES SHELL & TUBES
96	FX-G05-Y 1502 - 7223	288,5-1710 kW	COOLING	R513A	SCREW	AXIAL	SHELL & TUBES
114	FX HFO-Y 1502 - 7823	234,7-1463 kW	COOLING	HFO1234ze	SCREW	AXIAL	SHELL & TUBES
120	i-FX-G01-Y 2202 - 7223	477,0-1697 kW	COOLING	HFC R-134a	SCREW	AXIAL EC FAN	SHELL & TUBES
132	i-FX-G04-Y 2202 - 7823	377,2-1463 kW	COOLING	HFO1234ze	SCREW	EC FAN	SHELL & TUBES
138	i-FX-G05-Y 2202 - 7223	477,0-1697 kW	COOLING	R513A	SCREW	AXIAL EC FAN	SHELL & TUBES
150	i-FX (1+i)-Y 2602 - 5403	567,5-1273 kW	COOLING	HFC R-134a	SCREW	AXIAL	SHELL & TUBES
156	TECS2-Y 0211 - 1154	220,1-1324 kW	COOLING	HFC R-134a	CENTRIFUGAL	AXIAL EC FAN	FLOODED
164	TECS2-G05-Y 0211 - 1154	217,9-1313 kW	COOLING	R513A	CENTRIFUGAL	AXIAL EC FAN	FLOODED
172	TECS2 HFO-Y 0351 - 1053	339,2-1017 kW	COOLING	HFO1234ze	CENTRIFUGAL	EC FAN	FLOODED
174	NX-C-Y 0072 - 1204	17,43-291,1 kW	COOLING	HFC R-410A	SCROLL		PLATES

CHILLERS

Pag.	Product	Capacity kW	Functions	Refrigerant	Compressors	Fan	Exchangers
WATER COOLED CHILLERS							
184	NX-W-Y 0122 - 1204	38,14-397,8 kW	COOLING	HFC R-410A	SCROLL		PLATES
188	FX-W-Y 0551 - 1752	124,3-400,6 kW	COOLING	HFC R-134a	SCREW		SHELL & TUBES
192	FOCS2-W-Y 1301 - 9604	306,0-2416 kW	COOLING	HFC R-134a	SCREW		SHELL & TUBES
196	FOCS3-W-Y 0551 - 4752	188,2-1693 kW	COOLING	HFC R-134a	SCREW		FLOODED
200	FX-W-G04-Y 0551 - 2002	93,17-373,4 kW	COOLING	HFO1234ze	SCREW		SHELL & TUBES
204	FX-W-G05-Y 0551 - 1752	124,3-400,6 kW	COOLING	R513A	SCREW		SHELL & TUBES
208	FOCS2-W-G05-Y 1301 - 9604	306,0-2416 kW	COOLING	R513A	SCREW		SHELL & TUBES
212	FOCS3-W-G05-Y 0551 - 4752	188,2-1693 kW	COOLING	R513A	SCREW		FLOODED
216	i-FX-W (1+i)-Y 1402 - 4652	532,3-1784 kW	COOLING	HFC R-134a	SCREW		FLOODED
220	i-FX-W (1+i)-G05-Y 1402 - 4652	532,3-1784 kW	COOLING	R513A	SCREW		FLOODED
224	TECS2-W HFO-Y 0351 - 1414	339,6-1364 kW	COOLING	HFO1234ze	CENTRIFUGAL		FLOODED
226	TX-W-Y 1A00 - 6D00	246-4549 kW	COOLING	HFC R-134a	CENTRIFUGAL		FLOODED
234	TX-W-G05-Y 1A00 - 6D00	248-4466 kW	COOLING	R513A	CENTRIFUGAL		FLOODED
CONDENSERLESS CHILLERS							
242	HE-Y 0011 - 0121	4,700-32,40 kW	COOLING	HFC R-407C	SCROLL		PLATES
244	NECS-ME-Y 0152 - 1604	39,51-431,6 kW	COOLING	HFC R-410A	SCROLL		PLATES
248	FOCS-ME-Y 0401 - 1902	79,23-410,4 kW	COOLING	HFC R-134a	SCREW		SHELL & TUBES
250	FOCS-ME-Y 1001 - 9604	218,9-2240 kW	COOLING	HFC R-134a	SCREW		SHELL & TUBES
AIR COOLED CHILLERS - FREECOOLING							
254	NECS-FC-Y 0152 - 1604	41,50-477,1 kW	COOLING FREE COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
266	FX-FC-Y 1502 - 6002	331,7-1450 kW	COOLING FREE COOLING	HFC R-134a	SCREW	AXIAL	SHELL & TUBES
276	FX-FC-G05-Y 1502 - 6002	331,7-1450 kW	COOLING FREE COOLING	R513A	SCREW	AXIAL	SHELL & TUBES
286	TECS-FC-Y 0211 - 1204	302,2-1693 kW	COOLING FREE COOLING	HFC R-134a	CENTRIFUGAL	EC FAN	FLOODED
294	TECS-FC-G05-Y 0211 - 1204	299,2-1671 kW	COOLING FREE COOLING	R513A	CENTRIFUGAL	EC FAN	FLOODED
AIR COOLED CHILLERS - EVAPORATIVE FREECOOLING							
302	FX-EFC-Y 1502 - 6002	329,5-1441 kW	COOLING FREE COOLING	HFC R-134a	SCREW	AXIAL	SHELL & TUBES
308	TECS-EFC-Y 0211 - 1204	300,2-1682 kW	COOLING EVAPOR. FREE COOLING	HFC R-134a	CENTRIFUGAL	EC AXIAL	FLOODED

HEAT PUMPS

Pag.	Product	Capacity kW	Functions	Refrigerant	Compressors	Fan	Exchangers
AIR TO WATER REVERSIBLE HEAT PUMPS							
318	i-BX-N-Y 004M - 035T	4,200-35,10 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
322	i-KIR-MTD-Y 0075t - 0151t	15,59-40,50 kW	COOLING	HFC R-410A	SCROLL	EC AXIAL	PLATES
326	AWR-HT-Y 0122 - 0302	34,00-91,70 kW	COOLING	HFC R-407C	SCROLL	AXIAL	PLATES
330	AWR-HT-Y 0404 - 0604	116,3-181,2 kW	COOLING	HFC R-407C	SCROLL	AXIAL	PLATES
334	i-NX-N-Y 0151P - 0502P	43,87-128,3 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
338	NX-N-Y 0152P - 0812P	35,79-219,5 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
348	NX-N-Y 0604P - 1204P	148,0-319,3 kW	COOLING	HFC R-410A	SCROLL	AXIAL	PLATES
352	NECS-N-Y 0202T - 0612T	48,00-150,5 kW	COOLING	HFC R-410A	SCROLL	AXIAL	SHELL & TUBES
356	NX-N-Y 0604T - 1204T	148,0-335,3 kW	COOLING	HFC R-410A	SCROLL	AXIAL	SHELL & TUBES
364	NECS-N-Y 1314 - 2116	319,6-515,8 kW	COOLING	HFC R-410A	SCROLL	AXIAL	SHELL & TUBES
368	FOCS-N-Y 2022 - 4822	440,7-1162 kW	COOLING	HFC R-134a	SCREW	AXIAL	SHELL & TUBES
374	FOCS-N-G05-Y 2022 - 4822	440,7-1162 kW	COOLING	R513A	SCREW	AXIAL	SHELL & TUBES
380	NX-CN-Y 0072 - 1104	18,03-265,3 kW	COOLING	HFC R-410A	SCROLL	EC FAN	PLATES
AIR TO WATER HEAT PUMPS, ONLY HEATING							
392	i-KI-MTD-Y 0075t - 0151t	21,62-44,39 kW		HFC R-410A	SCROLL	AXIAL	PLATES
396	AW-HT-Y 0122 - 0302	38,00-102,0 kW		HFC R-407C	SCROLL	AXIAL	PLATES
402	AW-HT-Y 0404 - 0604	134,9-204,8 kW		HFC R-407C	SCROLL	AXIAL	PLATES
WATER TO WATER REVERSIBLE HEAT PUMPS							
408	WWR MTD2-Y 0011ms - 0121ts	5,200-33,40 kW	COOLING	HFC R-410A	SCROLL		PLATES
414	NX-WN-Y 0122 - 1204	37,48-396,2 kW	COOLING	HFC R-410A	SCROLL		PLATES
WATER TO WATER HEAT PUMPS, HEATING ONLY							
420	WW-HT-Y 0071 - 0302	27,52-109,2 kW		HFC R-410A	SCROLL		PLATES
424	EW-HT-Y 0152 - 0612	70,18-279,2 kW		HFC R-134a	SCROLL		PLATES
WATER TO WATER HEAT PUMPS, REVERSIBLE ON HYDRAULIC SIDE							
426	NX-W-Y /H 0122 - 1204	38,14-397,8 kW	COOLING	HFC R-410A	SCROLL		PLATES
432	FOCS-W-Y /H 0401 - 1302	86,96-297,9 kW	COOLING	HFC R-134a	SCREW		SHELL & TUBES
436	FOCS2-W-Y /H 1301 - 9604	306,0-2416 kW	COOLING	HFC R-134a	SCREW		SHELL & TUBES
442	FOCS2-W-G05-Y /H 1301 - 9604	306,0-2416 kW	COOLING	R513A	SCREW		SHELL & TUBES
448	i-FX-W (1+i)-Y /H 1402 - 4652	532,3-1784 kW	COOLING	HFC R-134a	SCREW		FLOODED
452	i-FX-W (1+i)-G05-Y/H 1402 - 4652	532,3-1784 kW	COOLING	R513A	SCREW		FLOODED

UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

Pag.	Product	Capacity kW	Functions	Refrigerant	Compressors	Fan	Exchangers
MULTIFUNCTION UNITS AIR SOURCE							
458	NX-Q-Y 0152P - 0602P	43,94-168,6 kW	4 PIPE SYSTEM	HFC R-410A	SCROLL	AXIAL	PLATES
462	NECS-Q-Y 0604 - 1204	142,0-310,8 kW	4 PIPE SYSTEM	HFC R-410A	SCROLL	AXIAL	PLATES
468	NECS-Q-Y 1314 - 3018	332,0-756,7 kW	4 PIPE SYSTEM	HFC R-410A	SCROLL	AXIAL	SHELL & TUBES
476	ERACS2-Q-Y 1062 - 3222	199,5-825,6 kW	4 PIPE SYSTEM	HFC R-134a	SCREW	AXIAL EC FAN	SHELL & TUBES
486	ERACS2-Q-G05-Y 1062 - 3222	199,5-825,6 kW	4 PIPE SYSTEM	R513A	SCREW	AXIAL EC FAN	SHELL & TUBES
496	i-FX-Q2-Y 0502 - 1102	442,9-1125 kW	4 PIPE SYSTEM	HFC R-134a	SCREW	EC FAN	SHELL & TUBES
502	i-FX-Q2-G05-Y 0502 - 1102	442,9-1125 kW	4 PIPE SYSTEM	R513A	SCREW	EC FAN	SHELL & TUBES
MULTIFUNCTION UNITS WATER SOURCE							
508	NECS-WQ-Y 0152 - 1604	48,38-519,8 kW	4 PIPE SYSTEM	HFC R-410A	SCROLL		PLATES
512	ERACS2-WQ-Y 0802 - 1502	189,4-363,4 kW	4 PIPE SYSTEM	HFC R-134a	SCREW		SHELL & TUBES
516	ERACS2-WQ-G05-Y 0802 - 1502	189,4-363,4 kW	4 PIPE SYSTEM	R513A	SCREW		SHELL & TUBES

ROOFTOP UNITS

Pag.	Product	Capacity kW	Functions	Refrigerant	Compressors	Recovery	Int. sect.	Out. sect.
AIR TO AIR ROOFTOP UNIT, ONLY COOLING								
522	WRX-T-Y 0162 - 0804	50,8-240 kW	COOLING FREE COOLING	HFC R-410A	SCROLL	PLATE ROTARY REFRIG. BOOSTER THERMODYNAMIC	PLUG FAN	AXIAL
526	WSM-T-Y 0162 - 1204	50,9-422 kW	COOLING FREE COOLING	HFC R-410A	SCROLL	PLATE REFRIG. BOOSTER	PLUG FAN	AXIAL
528	WSM2-T-Y 0264 - 0604	81,1-182 kW	COOLING FREE COOLING	HFC R-410A	SCROLL	PLATE ROTARY REFRIG. BOOSTER	PLUG FAN	AXIAL
530	WSM-T-Y 0082 - 0152	23,4-55,0 kW	COOLING FREE COOLING	HFC R-410A	SCROLL	REFRIG. BOOSTER	PLUG FAN	AXIAL
REVERSIBLE AIR COOLED ROOFTOP UNIT								
532	WRX-Y 0162 - 0804	50,8-240 kW	COOLING HEATING FREE COOLING	HFC R-410A	SCROLL	PLATE ROTARY REFRIG. BOOSTER THERMODYNAMIC	PLUG FAN	AXIAL
536	WSM-Y A082 - A152	24,4-47,5 kW	COOLING HEATING FREE COOLING	HFC R-410A	SCROLL	REFRIG. BOOSTER	PLUG FAN	AXIAL
538	WSM2-Y 0264 - 0604	81,1-182 kW	COOLING HEATING FREE COOLING	HFC R-410A	SCROLL	PLATE ROTARY REFRIG. BOOSTER	PLUG FAN	AXIAL
540	WSM-Y A164 - A1004	51,7-317 kW	COOLING HEATING FREE COOLING	HFC R-410A	SCROLL	PLATE REFRIG. BOOSTER	PLUG FAN	AXIAL

AIR HANDLING UNITS

Pag.	Product	Capacity kW
CONFIGURABLE AIR HANDLING UNITS		
544	WIZARD 1070 - 920	

CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS

Pag.	Product	Capacity kW
GROUP DEVICES		
548	ClimaPRO -	
550	MANAGER 3000 1 - 1	
552	SEQUENCER Bacnet - not BMS	

ANCILLARY PRODUCTS

Pag.	Product	Capacity kW	Functions	Refrigerant	Fan
REMOTE CONDENSERS					
556	NHCR 0011-21 - 0121	7,90-40,1 kW	COOLING	HFC R-407C	AXIAL
558	NCE 118A - 528B	45,0-566 kW	COOLING	HFC R-410A	AXIAL
562	FCE 218A - 828C	83,0-929 kW	COOLING	HFC R-134a	AXIAL

CHILLERS

i-BX-Y	004M - 035T
i-NX-Y	0151P - 0502P
NX-Y	0152P - 0812P
NX-Y	0614P - 1214P
NECS-Y	0202T - 0612T
NX-Y	0614T - 1214T
NECS-Y	1314 - 3218
FX-Y	0751 - 1801
FX-Y	1502 - 7223
FX-G05-Y	0751 - 1801
FX-G05-Y	1502 - 7223
FX HFO-Y	1502 - 7823
i-FX-G01-Y	2202 - 7223
i-FX-G04-Y	2202 - 7823
i-FX-G05-Y	2202 - 7223
i-FX (1+i)-Y	2602 - 5403
TECS2-Y	0211 - 1154
TECS2-G05-Y	0211 - 1154
TECS2 HFO-Y	0351 - 1053
NX-C-Y	0072 - 1204
NX-W-Y	0122 - 1204
FX-W-Y	0551 - 1752
FOCS2-W-Y	1301 - 9604
FOCS3-W-Y	0551 - 4752
FX-W-G04-Y	0551 - 2002
FX-W-G05-Y	0551 - 1752
FOCS2-W-G05-Y	1301 - 9604
FOCS3-W-G05-Y	0551 - 4752
i-FX-W (1+i)-Y	1402 - 4652
i-FX-W (1+i)-G05-Y	1402 - 4652
TECS2-W HFO-Y	0351 - 1414
TX-W-Y	1A00 - 6D00
TX-W-G05-Y	1A00 - 6D00
HE-Y	0011 - 0121
NECS-ME-Y	0152 - 1604
FOCS-ME-Y	0401 - 1902
FOCS-ME-Y	1001 - 9604
NECS-FC-Y	0152 - 1604
FX-FC-Y	1502 - 6002
FX-FC-G05-Y	1502 - 6002
TECS-FC-Y	0211 - 1204
TECS-FC-G05-Y	0211 - 1204
FX-EFC-Y	1502 - 6002
TECS-EFC-Y	0211 - 1204

CHILLERS

i-BX-Y

Chiller, air source for outdoor installation

004M - 035T 4,300-35,10 kW

Outdoor unit for the production of chilled/hot water with variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, condensing coil with copper tubes and aluminum fins, plate heat exchanger on water side and electronic expansion valve as standard equipment. Flexible and reliable unit; it easily adapts itself to different process cooling applications thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both at full and partial load, is achieved thanks to the accurate unit's design and to the use of variable speed (inverter) motor.
i-BX-Y chillers are used in many industrial applications, even completely different from each other, without making any compromises.

Control

NADISYSTEM
The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, increasing the energy efficiency.
The electronic board allows you to manage:
-outdoor air temperature sensor on board for climatic curve
-the built-in clock can be used to create an operating profile containing time bands for space cooling
-night mode to limit the noise level of the units. Noise level is reduced limiting the maximum speed of the compressor and fans.
-up to 4 units in cascade (with the accessories N-CM)

Refrigerant

R410A

Versions

B Basic

Features

ErP READY
The highest level of efficiency at part load, thanks to the inverter technology, can meet and exceed the minimum seasonal energy performance ratio, SEPR, in accordance with the eco-sustainable design requirements for all products using energy. For this reason, the unit represents the best choice for all the hydronic application on the industrial market.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High efficiency at partial loads using DC inverter technology to modulate compressor operation and low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump and the modulating the fans speed as standard equipments.

WIDE OPERATING RANGE
Full load operation is ensured with outdoor air temperature up to 46°C during summer and down to -10°C of outdoor air temperature during winter. Production of evaporator leaving water temperature from -8°C to 20°C.

INTEGRATED HYDRONIC MODULE
The integrated hydronic include all the water circuit components (anti-freeze electrical heater on plate heat exchanger, air vents, flow switch, water filter, safety valve, EC water pumps, expansion tank) so as to optimize installation space, times and costs.

Accessories

- Remote keyboard
- Cascade management kit
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Copper-Copper heat exchanger coils
- Buffer tank
- Serial card RS485 for ModBus
- Rubber anti-vibration mounting kit

i-BX-Y M			004M	006M	008M	010	013
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	4,300	6,107	8,100	10,60	12,90
Total power input	(1)	kW	1,555	2,120	2,820	3,640	4,740
EER	(1)	kW/kW	2,774	2,882	2,872	2,912	2,722
ESEER	(1)	kW/kW	4,200	4,360	4,700	4,290	4,550
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	4,300	6,110	8,110	10,60	12,90
EER	(1)(2)	kW/kW	2,820	2,920	2,930	2,920	2,740
ESEER	(1)(2)	kW/kW	4,530	4,600	5,080	4,340	4,690
Cooling energy class			C	B	B	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	4,300	6,110	8,110	10,60	12,90
SEPR	(7)(9)		5,97	6,32	6,68	5,44	5,43
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	2,570	3,740	4,840	6,460	7,850
SEPR	(8)(9)		3,39	3,84	3,82	2,95	2,93
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow		l/s	0,206	0,292	0,387	0,507	0,617
Available unit's head	(1)	kPa	50,7	38,1	61,8	55,6	55,3
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	1,45	2,10	3,55	3,60	3,65
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	33	34	35	38	39
Sound power level in cooling	(4)(5)	dB(A)	64	65	66	69	70
SIZE AND WEIGHT							
A	(6)	mm	900	900	900	900	900
B	(6)	mm	370	370	420	420	420
H	(6)	mm	940	940	1240	1240	1240
Operating weight	(6)	kg	75	80	95	110	125

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-BX-Y T			010T	013T	015T	020T	025T	030T	035T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	10,70	13,30	15,50	20,60	25,00	29,80	35,10
Total power input	(1)	kW	3,640	4,740	5,440	7,200	8,690	10,00	11,84
EER	(1)	kW/kW	2,940	2,806	2,849	2,861	2,877	2,980	2,975
ESEER	(1)	kW/kW	4,360	4,570	4,140	4,120	4,260	4,150	4,290
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	10,70	13,30	15,50	20,60	25,00	29,90	35,20
EER	(1)(2)	kW/kW	2,950	2,820	2,870	2,880	2,900	3,010	3,010
ESEER	(1)(2)	kW/kW	4,420	4,690	4,200	4,200	4,360	4,270	4,390
Cooling energy class			B	C	C	C	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	10,70	13,30	15,50	20,60	25,00	29,90	35,20
SEPR	(7)(9)		5,65	5,61	5,18	5,01	5,56	5,67	6,00
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	6,630	8,100	9,570	12,70	15,60	18,20	21,60
SEPR	(8)(9)		3,09	2,98	2,67	2,79	2,99	3,30	3,33
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow		l/s	0,512	0,636	0,741	0,985	1,196	1,425	1,679
Available unit's head	(1)	kPa	52,7	51,7	76,7	66,3	60,3	90,0	73,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	3,60	3,65	2,75	4,15	5,75	6,45	6,90
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	38	39	43	43	43	44	45
Sound power level in cooling	(4)(5)	dB(A)	69	70	74	74	75	76	77
SIZE AND WEIGHT									
A	(6)	mm	900	900	900	1450	1450	1450	1700
B	(6)	mm	420	420	420	550	550	550	650
H	(6)	mm	1240	1240	1390	1200	1700	1700	1700
Operating weight	(6)	kg	110	125	135	190	250	270	305

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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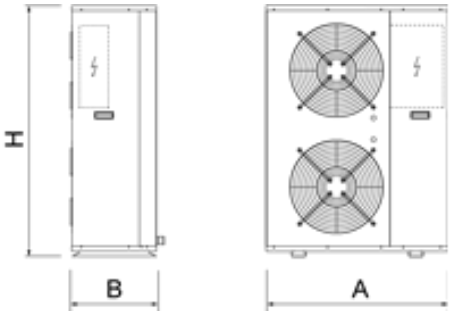
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-NX-Y

Chiller, air source for outdoor installation

0151P - 0502P 43,88-129,3 kW

Outdoor unit for the production of chilled water with fixed speed and variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, micro-channel full-aluminum air coils and electronic expansion valve as standard equipment.
Flexible and reliable unit; it easily adapts itself to different process cooling applications thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both at full and partial load, is achieved thanks to the accurate unit's design and to the use of fixed speed motor together with variable speed (inverter) motor.

Control

Electronic control W3000TE
The brand new W3000TE controller offers advanced functions and algorithms. The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. In addition to or as an alternative, the KIPlink is available - Keyboard In Your Pocket - is the innovative user interface based on WiFi technology that allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans and the pumps (if present) and display and reset the possible alarms. The regulation features the continuous modulation of capacity, based on sequential adjustment + DIP referring to the leaving water temperature (neutral zone adjustment + DIP on outlet temperature probe, for the 0151 size). Diagnostics include complete alarm management, with "blackbox" functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well. Supervision is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions. Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

- Basic
- SL Super-low noise version

Configurations

- Basic function
- D Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

ErP READY
The highest level of efficiency at part load, thanks to the inverter technology, can meet and exceed the minimum seasonal energy performance ratio, SEPR, in accordance with the eco-sustainable design requirements for all products using energy. The units already comply with the minimum seasonal energy efficiency requirements that will start from 2021. For this reason, the unit represents the best choice for all the hydronic application on the industrial market.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed and buffer tank.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
This new range of chiller uses aluminum micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminium coils and to reduce the weight of the unit.

WIDE OPERATING RANGE
Full load operation is ensured with outdoor air temperature up to 48°C during summer. Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature during winter.
Production of evaporator leaving water temperature from -10°C to 20°C.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Compressor power factor correction
- Soft start
- Hydronic kit available in different configurations with 1 or 2 pumps fixed speed or variable speed and buffer tank
- VPF (Variable Primary Flow) system
- EC fans with electronic DC brushless motor
- LOW NOISE KIT (only on no silenced versions)
- User Limit Control (U.L.C.) allows the safe startup of the unit in critical conditions of water and air temperature.
- Night mode is a system setting to limit maximum noise level of the unit.
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.

i-NX-Y			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	43,88	52,86	63,14	72,07	83,83	100,9	119,7	129,3
Total power input	(1)	kW	15,72	18,79	21,36	24,95	29,15	35,20	41,92	46,84
EER	(1)	kW/kW	2,796	2,814	2,949	2,884	2,870	2,866	2,857	2,763
ESEER	(1)	kW/kW	4,560	4,550	4,510	4,540	4,510	4,660	4,580	4,530
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	43,60	52,60	62,70	71,70	83,40	100,4	119,1	128,7
EER	(1)(2)	kW/kW	2,730	2,750	2,880	2,820	2,820	2,810	2,800	2,720
ESEER	(1)(2)	kW/kW	4,270	4,190	4,170	4,230	4,240	4,360	4,270	4,250
Cooling energy class			C	C	C	C	C	C	C	C
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	43,60	52,60	62,70	71,70	83,40	100,4	119,1	128,7
SEPR	(7)(9)		5,21	5,13	5,29	5,36	5,38	5,40	5,26	5,21
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	24,00	28,70	34,10	39,40	45,90	55,00	65,40	71,00
SEPR	(8)(9)		3,44	3,31	3,37	3,47	3,51	3,43	3,33	3,36
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,098	2,528	3,020	3,446	4,009	4,824	5,726	6,181
Pressure drop	(1)	kPa	37,2	41,2	42,3	39,4	35,0	36,2	42,9	38,9
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	7,00	7,20	8,90	9,40	9,50	12,5	12,9	13,5
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	51	52	53	53	54	55	57	57
Sound power level in cooling	(4)(5)	dB(A)	83	84	85	85	86	87	89	89
SIZE AND WEIGHT										
A	(6)	mm	2000	2000	2625	2625	2625	3250	3250	3250
B	(6)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(6)	mm	2070	2070	2070	2070	2070	2170	2170	2170
Operating weight	(6)	kg	600	660	750	780	810	1060	1070	1080

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-NX-Y / SL			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	42,60	51,20	60,09	68,07	81,23	96,66	115,1	124,3
Total power input	(1)	kW	14,40	17,78	20,91	24,45	28,26	33,95	39,27	44,30
EER	(1)	kW/kW	2,958	2,876	2,876	2,780	2,869	2,853	2,929	2,806
ESEER	(1)	kW/kW	4,480	4,580	4,490	4,550	4,540	4,750	4,780	4,700
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	42,30	50,90	59,80	67,70	80,80	96,30	114,6	123,8
EER	(1)(2)	kW/kW	2,890	2,810	2,820	2,730	2,820	2,810	2,880	2,760
ESEER	(1)(2)	kW/kW	4,210	4,260	4,200	4,250	4,260	4,480	4,500	4,430
Cooling energy class			C	C	C	C	C	C	C	C
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	42,30	50,90	59,80	67,70	80,80	96,30	114,6	123,8
SEPR	(7)(9)		5,34	5,42	5,40	5,41	5,33	5,50	5,69	5,50
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	23,10	27,70	32,60	37,40	44,40	52,70	63,00	68,40
SEPR	(8)(9)		3,43	3,50	3,46	3,52	3,50	3,48	3,62	3,59
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,037	2,449	2,874	3,255	3,885	4,622	5,504	5,946
Pressure drop	(1)	kPa	35,1	38,7	38,3	35,2	32,9	33,2	39,6	36,0
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	8,10	8,30	8,70	9,20	11,8	12,3	14,7	15,2
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	45	45	46	46	47	48	50	50
Sound power level in cooling	(4)(5)	dB(A)	77	77	78	78	79	80	82	82
SIZE AND WEIGHT										
A	(6)	mm	2625	2625	2625	2625	3250	3250	3875	3875
B	(6)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(6)	mm	2070	2070	2070	2070	2170	2170	2170	2170
Operating weight	(6)	kg	700	760	790	820	980	1090	1180	1200

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
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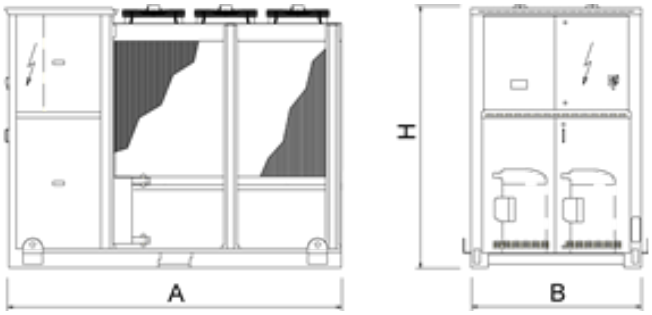
Dimensional drawing



CHILLERS

NX-Y

Chiller, air source for outdoor installation

0152P - 0812P 39,24-227,1 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, plate heat exchanger, micro-channel full-aluminum air coils and thermostatic or electronic expansion valve, according to the model. The range is composed by units equipped with two compressors in a single-circuit configuration.

Control

Electronic control W3000 / W3000TE

The controller is available in two different versions according to the unit's model:

W3000 : electronic controller with Compact keyboard. It features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-lenguage menu, available in three languages: Italian, English and a further language among French, Spanish, German, Russian and Swedish. The alarm history display function can be enable by installing a real-time clock (optional).

W3000TE : electronic controller with Compact keyboard. It features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available). The diagnostics includes a complete alarm management, with the "black-box" and the alarm history display for enhanced analysis of the unit operation. The programmable timer manages a weekly schedule organised into time bands to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points.

Both the controllers offer advanced functions and algorithms.

The regulation is based on the patented "Quickmind" water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.

Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well.

Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard (up to 8 units).

The defrosting (reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version	CA	Class A of efficiency
LN-K	Low Noise, Key efficiency and compact version	LN-CA	Low Noise, Class A of efficiency
SL-K	Super Low noise, Key efficiency and compact version	SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

CLASS A EFFICIENCY

The full range is available with the Class A efficiency rating. Thanks to the generous sizing of the heat exchangers and an accurate control of the fan speed, the CA versions grant a premium level efficiency in every noise configuration.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version, optional for the compact K versions.

WIDE OPERATING RANGE

Full load operation is ensured with outdoor air temperature up to 46°C, partial load operation is possible up to or even beyond 50°C. The unit can produce chilled water at negative temperature (down to -10°C of leaving water temperature). Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- DVVF and DVV2F devices for low air temperature operation
- Hydronic module with 1 or 2 pumps, high or low head. Buffer tank available.
- Anti-intrusion grills

NX-Y / K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,24	44,25	51,91	58,87	64,99	77,62	88,53
Total power input	(1)	kW	13,50	15,59	18,08	20,51	23,46	26,76	31,34
EER	(1)	kW/kW	2,904	2,840	2,867	2,873	2,766	2,896	2,827
ESEER	(1)	kW/kW	4,410	4,370	4,410	4,390	4,330	4,230	4,410
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,00	44,00	51,60	58,60	64,70	77,20	87,90
EER	(1)(2)	kW/kW	2,850	2,780	2,800	2,820	2,720	2,840	2,760
ESEER	(1)(2)	kW/kW	4,190	4,150	4,200	4,200	4,170	4,060	4,160
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	39,00	44,00	51,60	58,60	64,70	77,20	87,90
SEPR	(7)(9)		5,39	5,41	5,37	5,32	5,29	5,19	5,12
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	20,50	23,70	27,70	31,30	35,80	42,30	48,40
SEPR	(8)(9)		3,55	3,42	3,56	3,53	3,61	3,38	3,43
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,876	2,116	2,483	2,815	3,108	3,712	4,233
Pressure drop	(1)	kPa	36,3	34,1	36,3	33,4	33,2	33,9	54,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,70	6,00	6,20	8,00	8,10	9,60	10,2
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	51	51	52	52	52	53	54
Sound power level in cooling	(4)(5)	dB(A)	83	83	84	84	84	85	86
SIZE AND WEIGHT									
A	(6)	mm	1825	1825	1825	2395	2395	2395	2395
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1865	1865
Operating weight	(6)	kg	470	480	490	540	550	570	660

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
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NX-Y / K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	102,0	114,5	127,4	144,3	165,7	189,5	206,6
Total power input	(1)	kW	35,36	40,15	44,91	52,28	57,66	67,88	77,89
EER	(1)	kW/kW	2,881	2,855	2,837	2,759	2,872	2,791	2,652
ESEER	(1)	kW/kW	4,040	4,130	4,130	4,240	4,080	4,150	3,890
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	101,4	113,9	126,7	143,5	164,9	188,6	205,5
EER	(1)(2)	kW/kW	2,820	2,800	2,780	2,700	2,820	2,740	2,600
ESEER	(1)(2)	kW/kW	3,860	3,960	3,950	4,040	3,920	3,990	3,740
Cooling energy class			C	C	C	C	C	C	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	101,4	113,9	126,7	143,5	164,9	188,6	205,5
SEPR	(7)(9)		4,88	4,90	5,00	4,94	4,96	4,85	4,60
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	54,50	62,00	69,90	79,30	89,40	104,5	116,1
SEPR	(8)(9)		3,15	3,15	3,23	3,26	3,26	3,17	2,99
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,876	5,474	6,094	6,899	7,922	9,060	9,879
Pressure drop	(1)	kPa	49,9	51,3	49,1	52,1	49,3	49,8	59,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	12,2	13,5	13,8	15,4	17,7	17,8	17,9
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	56	57	58	58	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	88	89	90	90	91
SIZE AND WEIGHT									
A	(6)	mm	2825	2825	2825	3360	3980	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	830	870	900	980	1130	1110	1140

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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NX-Y / LN-K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,26	44,35	51,70	58,76	65,52	74,65	89,94
Total power input	(1)	kW	13,62	15,78	18,51	20,36	23,15	28,31	31,06
EER	(1)	kW/kW	2,890	2,804	2,795	2,882	2,823	2,640	2,891
ESEER	(1)	kW/kW	4,500	4,440	4,410	4,380	4,390	4,220	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,10	44,00	51,40	58,50	65,20	74,40	89,30
EER	(1)(2)	kW/kW	2,830	2,740	2,730	2,830	2,770	2,600	2,820
ESEER	(1)(2)	kW/kW	4,280	4,220	4,200	4,190	4,210	4,080	4,010
Cooling energy class			C	C	C	C	C	D	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	39,10	44,00	51,40	58,50	65,20	74,40	89,30
SEPR	(7)(9)		5,50	5,47	5,41	5,29	5,34	5,18	5,02
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	20,50	23,90	27,70	31,20	36,00	41,20	48,80
SEPR	(8)(9)		3,65	3,51	3,59	3,52	3,65	3,48	3,34
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,878	2,121	2,472	2,810	3,133	3,570	4,301
Pressure drop	(1)	kPa	36,3	34,2	36,0	33,3	33,7	31,4	55,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,80	5,80	6,80	8,30	8,40	9,20	10,9
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	47	47	47	48	48	48	51
Sound power level in cooling	(4)(5)	dB(A)	79	79	79	80	80	80	83
SIZE AND WEIGHT									
A	(6)	mm	1825	1825	2395	2395	2395	2395	2825
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1865	1980
Operating weight	(6)	kg	480	500	540	570	570	580	780

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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NX-Y / LN-K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	99,41	112,9	125,2	139,9	162,8	179,4	194,1
Total power input	(1)	kW	35,95	39,26	44,20	52,95	58,07	70,29	81,91
EER	(1)	kW/kW	2,769	2,873	2,833	2,645	2,802	2,552	2,370
ESEER	(1)	kW/kW	4,110	4,290	4,330	4,360	4,200	4,100	3,830
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	98,80	112,3	124,5	139,2	162,0	178,6	193,2
EER	(1)(2)	kW/kW	2,710	2,810	2,770	2,600	2,750	2,510	2,330
ESEER	(1)(2)	kW/kW	3,920	4,110	4,140	4,170	4,040	3,950	3,700
Cooling energy class			C	C	C	D	C	D	E
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	98,80	112,3	124,5	139,2	162,0	178,6	193,2
SEPR	(7)(9)		5,01	5,10	5,23	5,05	5,14	4,79	4,58
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	54,20	61,50	69,00	77,70	89,10	100,5	110,7
SEPR	(8)(9)		3,34	3,29	3,35	3,33	3,40	3,18	2,98
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,754	5,397	5,989	6,689	7,785	8,580	9,282
Pressure drop	(1)	kPa	47,4	49,8	47,4	49,0	47,6	44,7	52,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	12,1	14,0	15,1	15,3	16,7	17,1	17,2
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	51	52	52	52	53	53	53
Sound power level in cooling	(4)(5)	dB(A)	83	84	84	84	85	85	85
SIZE AND WEIGHT									
A	(6)	mm	2825	3360	3360	3360	3980	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	880	1000	1030	1060	1180	1150	1180

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

NX-Y / SL-K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	39,41	44,60	52,28	58,89	65,87	77,75	88,50
Total power input	(1)	kW	13,89	16,07	18,18	20,27	22,88	27,39	30,52
EER	(1)	kW/kW	2,835	2,770	2,874	2,901	2,878	2,836	2,902
ESEER	(1)	kW/kW	4,280	4,250	4,490	4,150	4,220	4,300	4,400
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,20	44,30	52,00	58,60	65,60	77,30	87,90
EER	(1)(2)	kW/kW	2,780	2,710	2,810	2,840	2,830	2,780	2,830
ESEER	(1)(2)	kW/kW	4,070	4,050	4,270	3,990	4,050	4,120	4,140
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	39,20	44,30	52,00	58,60	65,60	77,30	87,90
SEPR	(7)(9)		5,28	5,32	5,48	5,07	5,17	5,27	5,14
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	20,60	24,00	28,00	31,20	36,00	42,60	48,00
SEPR	(8)(9)		3,46	3,36	3,64	3,30	3,46	3,47	3,39
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,884	2,133	2,500	2,816	3,150	3,718	4,232
Pressure drop	(1)	kPa	36,6	34,6	36,8	33,4	34,1	34,0	54,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	6,00	6,90	7,80	8,10	9,50	11,1	11,4
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	44	45	45	46	46	46	47
Sound power level in cooling	(4)(5)	dB(A)	76	77	77	78	78	78	79
SIZE AND WEIGHT									
A	(6)	mm	2395	2395	2395	2825	2825	2825	3360
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1980	1980	1980	1980
Operating weight	(6)	kg	540	550	560	670	680	680	860

Notes

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NX-Y / SL-K			0402P	0452P	0502P	0552P	0602P	0702P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	100,0	113,4	124,3	140,5	153,0	175,4
Total power input	(1)	kW	35,09	39,30	44,76	52,47	61,73	72,08
EER	(1)	kW/kW	2,849	2,885	2,775	2,676	2,480	2,433
ESEER	(1)	kW/kW	4,400	4,380	4,320	4,290	4,080	3,960
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	99,40	112,8	123,7	139,8	152,3	174,6
EER	(1)(2)	kW/kW	2,780	2,830	2,720	2,630	2,440	2,400
ESEER	(1)(2)	kW/kW	4,190	4,180	4,150	4,120	3,950	3,810
Cooling energy class			C	C	C	D	E	E
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	99,40	112,8	123,7	139,8	152,3	174,6
SEPR	(7)(9)		5,31	5,18	5,24	5,02	5,03	4,66
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	54,40	62,00	68,70	77,70	85,40	98,80
SEPR	(8)(9)		3,50	3,36	3,35	3,28	3,36	3,14
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,782	5,424	5,946	6,717	7,316	8,387
Pressure drop	(1)	kPa	48,0	50,3	46,7	49,4	42,0	42,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	13,6	15,6	16,7	16,8	17,1	17,2
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	48	49	49	50	50	51
Sound power level in cooling	(4)(5)	dB(A)	80	81	81	82	82	83
SIZE AND WEIGHT								
A	(6)	mm	3360	3980	3980	3980	3980	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	960	1070	1080	1110	1180	1150

Notes

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NX-Y / CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	41,69	47,43	55,00	62,45	69,59	85,05	96,60
Total power input	(1)	kW	12,85	14,50	16,73	19,28	21,80	26,49	30,18
EER	(1)	kW/kW	3,258	3,269	3,293	3,238	3,193	3,208	3,199
ESEER	(1)	kW/kW	4,560	4,650	4,450	4,450	4,490	4,280	4,410
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	41,40	47,10	54,70	62,20	69,20	84,50	95,90
EER	(1)(2)	kW/kW	3,170	3,180	3,220	3,170	3,120	3,140	3,100
ESEER	(1)(2)	kW/kW	4,300	4,410	4,230	4,260	4,280	4,070	4,130
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	41,40	47,10	54,70	62,20	69,20	84,50	95,90
SEPR	(7)(9)		5,58	5,81	5,50	5,44	5,47	5,24	5,18
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	21,60	25,20	28,90	33,00	37,80	45,80	51,60
SEPR	(8)(9)		3,64	3,51	3,51	3,52	3,67	3,31	3,33
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,994	2,268	2,630	2,987	3,328	4,067	4,619
Pressure drop	(1)	kPa	40,9	39,1	40,7	37,6	38,0	40,7	64,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	6,40	7,90	8,10	8,80	8,90	10,3	13,8
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	52	52	53	53	54	56	56
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	85	86	88	88
SIZE AND WEIGHT									
A	(6)	mm	1825	2395	2395	2395	2395	2825	3360
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1865	1865	1980	1980
Operating weight	(6)	kg	480	540	550	560	570	680	830

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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NX-Y / CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	108,0	121,9	137,8	160,3	178,4	201,2	227,1
Total power input	(1)	kW	33,64	38,25	42,64	48,87	55,44	63,47	70,52
EER	(1)	kW/kW	3,214	3,183	3,235	3,278	3,220	3,169	3,221
ESEER	(1)	kW/kW	4,430	4,540	4,340	4,320	4,310	4,380	4,170
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	107,3	121,2	137,0	159,3	177,5	200,2	225,7
EER	(1)(2)	kW/kW	3,130	3,110	3,160	3,190	3,150	3,100	3,140
ESEER	(1)(2)	kW/kW	4,190	4,300	4,130	4,080	4,130	4,180	3,960
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	107,3	121,2	137,0	159,3	177,5	200,2	225,7
SEPR	(7)(9)		5,30	5,35	5,22	5,11	5,24	5,12	4,82
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	57,30	65,60	74,00	85,40	95,10	109,5	124,7
SEPR	(8)(9)		3,42	3,42	3,20	3,17	3,36	3,27	3,02
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	5,163	5,831	6,589	7,668	8,532	9,622	10,86
Pressure drop	(1)	kPa	56,0	58,2	57,4	64,4	57,2	56,2	71,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	13,9	14,3	19,4	22,0	22,5	23,1	25,6
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	58	58	58	59	59	60	61
Sound power level in cooling	(4)(5)	dB(A)	90	90	90	91	91	92	93
SIZE AND WEIGHT									
A	(6)	mm	3360	3360	3980	3160	3160	3160	4335
B	(6)	mm	1195	1195	1195	2250	2250	2250	2250
H	(6)	mm	1980	1980	1980	2170	2170	2170	2170
Operating weight	(6)	kg	960	1000	1080	1510	1550	1570	1810

Notes

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NX-Y / LN-CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	41,48	46,98	55,01	63,49	70,68	82,66	94,43
Total power input	(1)	kW	12,57	14,40	17,20	19,48	21,88	25,96	29,34
EER	(1)	kW/kW	3,294	3,264	3,198	3,256	3,228	3,181	3,222
ESEER	(1)	kW/kW	4,560	4,620	4,710	4,310	4,340	4,370	4,520
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	41,20	46,70	54,70	63,10	70,30	82,30	93,80
EER	(1)(2)	kW/kW	3,200	3,180	3,130	3,180	3,150	3,120	3,140
ESEER	(1)(2)	kW/kW	4,290	4,380	4,460	4,110	4,150	4,200	4,250
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	41,20	46,70	54,70	63,10	70,30	82,30	93,80
SEPR	(7)(9)		5,57	5,78	5,75	5,28	5,33	5,42	5,37
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	21,50	25,00	29,20	33,50	38,30	44,80	50,70
SEPR	(8)(9)		3,62	3,48	3,78	3,39	3,54	3,50	3,47
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,984	2,247	2,631	3,036	3,380	3,953	4,516
Pressure drop	(1)	kPa	40,5	38,4	40,7	38,8	39,2	38,5	61,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	6,70	7,90	8,00	8,90	11,4	11,5	12,6
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	48	48	48	49	49	50	52
Sound power level in cooling	(4)(5)	dB(A)	80	80	80	81	81	82	84
SIZE AND WEIGHT									
A	(6)	mm	2395	2395	2395	2825	2825	3360	3360
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1865	1865	1865	1980	1980	1980	1980
Operating weight	(6)	kg	550	560	560	670	680	750	870

Notes

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NX-Y / LN-CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	107,4	120,6	134,2	153,9	172,8	198,4	221,2
Total power input	(1)	kW	33,27	37,89	42,25	47,07	54,45	60,76	67,49
EER	(1)	kW/kW	3,225	3,182	3,180	3,268	3,176	3,263	3,277
ESEER	(1)	kW/kW	4,320	4,410	4,360	4,670	4,480	4,650	4,380
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	106,7	119,9	133,4	153,0	171,9	197,4	219,9
EER	(1)(2)	kW/kW	3,140	3,110	3,100	3,190	3,110	3,190	3,200
ESEER	(1)(2)	kW/kW	4,100	4,190	4,150	4,400	4,290	4,430	4,160
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	106,7	119,9	133,4	153,0	171,9	197,4	219,9
SEPR	(7)(9)		5,25	5,27	5,30	5,44	5,46	5,40	5,07
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	57,00	65,00	72,80	82,90	93,20	108,1	121,8
SEPR	(8)(9)		3,37	3,37	3,32	3,51	3,66	3,50	3,22
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	5,137	5,769	6,417	7,361	8,261	9,486	10,58
Pressure drop	(1)	kPa	55,4	56,9	54,4	59,3	53,6	54,6	67,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	14,5	14,5	15,7	26,2	26,3	26,4	28,5
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	52	52	53	54	54	55	56
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	86	86	87	88
SIZE AND WEIGHT									
A	(6)	mm	3980	3980	3980	3160	3160	4335	4335
B	(6)	mm	1195	1195	1195	2250	2250	2250	2250
H	(6)	mm	1980	1980	1980	2170	2170	2170	2170
Operating weight	(6)	kg	1050	1080	1090	1510	1550	1810	1870

Notes

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NX-Y / SL-CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	41,88	47,52	55,33	62,21	69,20	81,95	94,49
Total power input	(1)	kW	12,75	14,49	17,10	18,96	21,35	25,52	29,59
EER	(1)	kW/kW	3,273	3,276	3,234	3,274	3,234	3,212	3,193
ESEER	(1)	kW/kW	4,260	4,390	4,520	4,440	4,460	4,570	4,520
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	41,60	47,20	55,00	61,90	68,80	81,50	93,90
EER	(1)(2)	kW/kW	3,180	3,190	3,160	3,210	3,160	3,150	3,110
ESEER	(1)(2)	kW/kW	4,020	4,160	4,300	4,240	4,260	4,380	4,270
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	41,60	47,20	55,00	61,90	68,80	81,50	93,90
SEPR	(7)(9)		5,30	5,58	5,58	5,41	5,44	5,61	5,38
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	21,60	25,20	29,20	32,80	37,40	44,40	50,80
SEPR	(8)(9)		3,36	3,27	3,59	3,47	3,62	3,62	3,49
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,003	2,272	2,646	2,975	3,309	3,919	4,519
Pressure drop	(1)	kPa	41,3	39,3	41,2	37,3	37,6	37,8	61,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	7,30	8,30	8,50	10,0	10,8	10,9	13,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	45	46	46	47	47	47	48
Sound power level in cooling	(4)(5)	dB(A)	77	78	78	79	79	79	80
SIZE AND WEIGHT									
A	(6)	mm	2825	2825	2825	3360	3360	3360	3980
B	(6)	mm	1195	1195	1195	1195	1195	1195	1195
H	(6)	mm	1980	1980	1980	1980	1980	1980	1980
Operating weight	(6)	kg	650	660	670	760	770	780	940

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

NX-Y / SL-CA			0412P	0462P	0512P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	106,0	118,7	133,0	151,6	172,3	194,9	217,6
Total power input	(1)	kW	32,38	36,91	41,85	47,29	52,84	61,59	68,21
EER	(1)	kW/kW	3,272	3,217	3,174	3,205	3,263	3,164	3,191
ESEER	(1)	kW/kW	4,560	4,640	4,670	4,700	4,630	4,720	4,460
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	105,4	118,0	132,3	150,8	171,4	194,0	216,4
EER	(1)(2)	kW/kW	3,190	3,140	3,110	3,140	3,190	3,100	3,120
ESEER	(1)(2)	kW/kW	4,350	4,390	4,460	4,470	4,420	4,510	4,260
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	105,4	118,0	132,3	150,8	171,4	194,0	216,4
SEPR	(7)(9)		5,52	5,46	5,63	5,51	5,61	5,49	5,17
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	56,40	64,00	72,60	82,10	92,60	107,0	120,7
SEPR	(8)(9)		3,53	3,53	3,56	3,54	3,69	3,57	3,30
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	5,070	5,674	6,361	7,252	8,240	9,318	10,40
Pressure drop	(1)	kPa	54,0	55,1	53,5	57,6	53,3	52,7	65,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	15,8	16,6	19,3	24,0	26,1	26,2	30,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	49	50	50	51	52	53	54
Sound power level in cooling	(4)(5)	dB(A)	81	82	82	83	84	85	86
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	4335	4335	4335	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1410	1450	1480	1740	1820	1850	2130

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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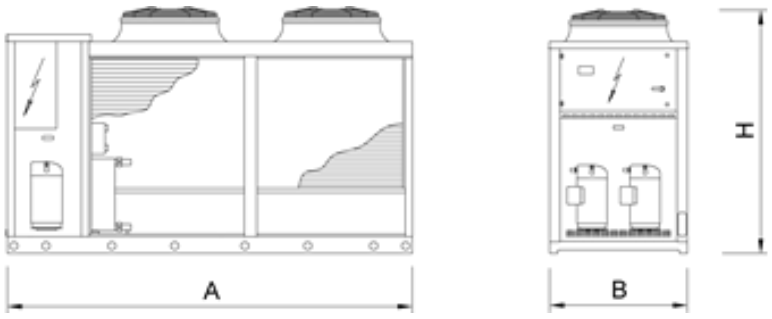
Dimensional drawing



CHILLERS

NX-Y

Chiller, air source for outdoor installation

0614P - 1214P 159,0-326,7 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, braze-welded plate-type heat exchanger, micro-channel full-aluminum air coils and thermostatic expansion valve. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigeration circuits.

Control

Electronic control W3000TE

W3000TE Compact control features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available).

The regulation is based on the patented “Quickmind” water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.

The diagnostics comprises a complete alarm management system, with the “black-box” (via PC) and the alarm history display (via display or also PC) for enhanced analysis of the unit operation

Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well.

Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard (up to 8 units).

The programmable timer manages a weekly schedule organised into time bands to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points.

The defrosting (air source reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version
LN-K	Low Noise, Key efficiency and compact version
SL-K	Super Low noise, Key efficiency and compact version

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

MAXIMUM COMPACTNESS

This new range is available in the K version, that integrates the maximum compactness with a qualifying unit’s efficiency. This allow to achieve a very high flexibility in the design process as well as during the on-site installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

WIDE OPERATING RANGE

Full load operation is ensured with outdoor air temperature up to 46°C, partial load operation is possible up to or even beyond 50°C. The unit can produce chilled water at negative temperature (down to -10°C of leaving water temperature). Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Electronic expansion valve
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- DVVF and DVV2F devices for low air temperature operation
- Hydronic module with 1 or 2 pumps, high or low head. Buffer tank available.
- Anti-intrusion grills

NX-Y / K			0614P	0714P	0814P	0914P	1014P	1114P	1214P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	164,7	194,1	217,8	248,2	289,2	308,4	326,7
Total power input	(1)	kW	58,31	66,73	78,90	88,61	98,95	108,4	118,2
EER	(1)	kW/kW	2,825	2,910	2,760	2,801	2,921	2,845	2,764
ESEER	(1)	kW/kW	4,060	4,390	4,300	4,410	4,260	4,270	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	163,9	193,2	216,8	247,1	287,9	307,2	325,3
EER	(1)(2)	kW/kW	2,770	2,860	2,710	2,750	2,870	2,800	2,720
ESEER	(1)(2)	kW/kW	3,850	4,160	4,080	4,180	4,050	4,080	3,990
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	163,9	193,2	216,8	247,1	287,9	307,2	325,3
SEPR	(7)(9)		4,78	5,17	5,20	5,21	5,01	5,02	5,02
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	89,70	103,1	117,4	134,0	155,1	166,9	178,2
SEPR	(8)(9)		3,08	3,22	3,34	3,31	3,09	3,12	3,17
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,875	9,282	10,41	11,87	13,83	14,75	15,62
Pressure drop	(1)	kPa	45,0	47,1	47,8	50,4	54,8	46,8	52,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	18,5	20,5	26,8	26,9	30,4	35,2	35,3
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	60	61	62	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1510	1680	1690	1830	2250	2300	2330

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal energy efficiency ratio

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NX-Y / LN-K			0614P	0714P	0814P	0914P	1014P	1114P	1214P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,8	185,5	208,2	235,0	274,0	290,4	320,3
Total power input	(1)	kW	58,13	68,57	79,63	92,21	101,0	111,6	118,5
EER	(1)	kW/kW	2,750	2,704	2,616	2,549	2,713	2,602	2,703
ESEER	(1)	kW/kW	4,130	4,420	4,370	4,410	4,250	4,250	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,1	184,7	207,3	234,0	272,8	289,3	318,9
EER	(1)(2)	kW/kW	2,710	2,660	2,580	2,510	2,670	2,570	2,660
ESEER	(1)(2)	kW/kW	3,940	4,190	4,160	4,190	4,050	4,060	4,160
Cooling energy class			C	D	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	159,1	184,7	207,3	234,0	272,8	289,3	318,9
SEPR	(7)(9)		4,98	5,29	5,33	5,20	5,09	5,05	5,27
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	88,10	99,70	113,2	128,6	149,1	159,7	176,5
SEPR	(8)(9)		3,28	3,36	3,45	3,36	3,20	3,21	3,36
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,641	8,870	9,958	11,24	13,10	13,89	15,32
Pressure drop	(1)	kPa	42,4	43,0	43,7	45,2	49,2	41,5	50,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	18,5	20,5	26,8	26,9	30,4	35,2	35,3
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	54	55	56	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1550	1730	1740	1870	2300	2350	2370

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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NX-Y / SL-K			0614P	0714P	0814P	0914P	1014P	1114P	1214P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,0	179,9	214,3	241,3	264,0	296,0	312,2
Total power input	(1)	kW	56,28	70,71	77,80	89,35	103,7	109,1	119,6
EER	(1)	kW/kW	2,824	2,545	2,754	2,702	2,546	2,713	2,610
ESEER	(1)	kW/kW	4,340	4,410	4,400	4,410	4,280	4,340	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158,3	179,2	213,4	240,3	262,9	294,9	310,9
EER	(1)(2)	kW/kW	2,780	2,510	2,710	2,660	2,510	2,680	2,570
ESEER	(1)(2)	kW/kW	4,130	4,210	4,190	4,200	4,090	4,150	4,070
Cooling energy class			C	D	C	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	158,3	179,2	213,4	240,3	262,9	294,9	310,9
SEPR	(7)(9)		5,20	5,30	5,41	5,31	5,12	5,17	5,15
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	87,40	97,60	115,9	131,2	145,1	162,0	172,5
SEPR	(8)(9)		3,43	3,40	3,48	3,40	3,25	3,26	3,28
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,602	8,604	10,25	11,54	12,63	14,16	14,93
Pressure drop	(1)	kPa	41,9	40,5	46,3	47,6	45,7	43,1	48,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	17,2	21,2	28,6	30,3	30,4	40,3	40,4
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	51	51	52	52	54	54
Sound power level in cooling	(4)(5)	dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1550	1730	2030	2170	2300	2700	2730

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
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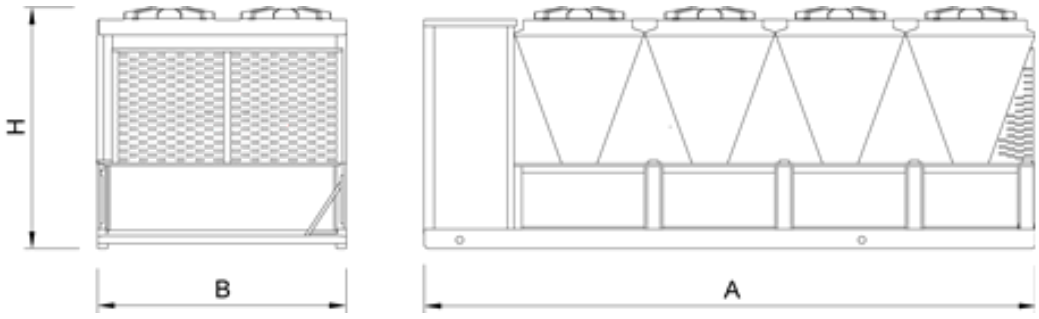
Dimensional drawing



CHILLERS

NECS-Y

Chiller, air source for outdoor installation

0202T - 0612T 47,79-158,6 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, axialflow fans, shell and tubes exchanger and thermostatic expansion valve. External panels in Peraluman and structure in aluminium sections. The range is equipped with two compressors on two independent refrigerant circuits.

Control

Electronic control W3000

The W3000 controller offers advanced functions and algorithms.

The Base keyboard features an easy-to-use interface that allows consulting and intervening on the unit by means of a multi-level menu.

The Compact keyboard (optional) has a complete LCD display with an interface available in three languages: Italian, English and a further language among French, Spanish, German, Russian and Swedish. The alarm history display function can be enable by installing a real-time clock (optional) (only with Compact keyboard).

The regulation is based on the patented “Quickmind” water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.

Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well.

Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, LonWorks.

Compatibility with the remote keyboard (up to 8 units) (only with Compact keyboard).

The defrosting (air source reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

B	Basic
LN	Low noise
SL	Super-low noise version
HT	High efficiency, high outdoor temperature version

Configurations

- Basic function

Features

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit’s installation, keeping at the minimum level the pressure drops on the hydronic side, thus representing the best choice for all the hydronic applications on the process market.

MAXIMUM RELIABILITY

Unit with two independent refrigerant circuit, designed to ensure maximum efficiency at full load, ensuring uninterrupted operation even in the event of temporary stop of one of the two circuits.

INTEGRATED HYDRONIC GROUP

The built-in hydronic module includes the main water circuit components; it is available in various configurations with one or two pumps with high or low head.

Accessories

- Traditional coils available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- Compact keyboard with LCD display and multi-language user interface (referred to the shown picture)
- Hydronic group

NECS-Y / B			0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	53,03	58,14	76,00	86,81	96,90	112,3	126,6	144,9	158,6
Total power input	(1)	kW	18,29	21,51	27,85	31,90	36,31	39,67	43,73	50,17	58,64
EER	(1)	kW/kW	2,896	2,702	2,734	2,721	2,669	2,829	2,897	2,886	2,706
ESEER	(1)	kW/kW	3,720	3,470	3,520	3,490	3,410	3,590	3,650	3,660	3,440
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	52,90	58,00	75,80	86,50	96,70	112,0	126,3	144,5	158,1
EER	(1)(2)	kW/kW	2,880	2,690	2,710	2,690	2,650	2,800	2,870	2,860	2,680
ESEER	(1)(2)	kW/kW	3,680	3,410	3,450	3,400	3,360	3,510	3,590	3,580	3,370
Cooling energy class			C	D	C	D	D	C	C	C	D
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	52,90	58,00	75,80	86,50	96,70	112,0	126,3	144,5	158,1
SEPR	(7)(9)		5,01	4,61	4,65	4,60	4,56	4,73	4,80	4,82	4,56
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	28,30	31,00	42,60	48,20	53,40	61,90	69,90	79,60	87,70
SEPR	(8)(9)		3,32	3,12	3,27	3,24	3,19	3,23	3,23	3,30	3,23
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,536	2,780	3,634	4,151	4,634	5,372	6,055	6,929	7,584
Pressure drop	(1)	kPa	6,25	7,64	13,1	17,2	12,8	17,2	15,7	21,7	25,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	9,50	10,2	12,6	13,3	16,0	17,3	21,8	24,0	24,1
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	53	53	53	54	54	54	55	55	55
Sound power level in cooling	(4)(5)	dB(A)	85	85	85	86	86	86	87	87	87
SIZE AND WEIGHT											
A	(6)	mm	2195	2195	2195	2195	2745	2745	3245	3245	3245
B	(6)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(6)	mm	1465	1465	1465	1465	1465	1465	1665	1665	1665
Operating weight	(6)	kg	625	625	665	765	920	990	1135	1180	1155

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

NECS-Y

Chiller, air source for outdoor installation

0202T - 0612T 47,79-158,6 kW

NECS-Y / LN			0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	50,65	57,60	74,19	84,40	96,38	108,8	122,0	138,8	150,9
Total power input	(1)	kW	18,92	21,23	28,60	33,66	37,07	41,41	45,91	53,09	62,43
EER	(1)	kW/kW	2,683	2,717	2,594	2,504	2,598	2,628	2,658	2,614	2,418
ESEER	(1)	kW/kW	3,500	3,510	3,370	3,220	3,330	3,360	3,380	3,340	3,110
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	50,60	57,50	74,00	84,20	96,20	108,5	121,7	138,4	150,4
EER	(1)(2)	kW/kW	2,660	2,700	2,570	2,480	2,580	2,600	2,630	2,590	2,390
ESEER	(1)(2)	kW/kW	3,460	3,460	3,300	3,170	3,270	3,300	3,320	3,280	3,040
Cooling energy class			D	C	D	E	D	D	D	D	E
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	50,60	57,50	74,00	-	96,20	108,5	121,7	138,4	-
SEPR	(7)(9)		4,78	4,72	4,51	-	4,52	4,51	4,50	4,51	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	27,30	30,80	42,00	47,30	53,30	60,50	68,00	77,20	84,60
SEPR	(8)(9)		3,26	3,20	3,21	3,04	3,16	3,15	3,11	3,17	3,02
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,422	2,755	3,548	4,036	4,609	5,201	5,834	6,637	7,214
Pressure drop	(1)	kPa	5,70	7,50	12,5	16,3	12,7	16,2	14,6	19,9	23,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	9,50	10,2	12,6	13,3	16,0	17,3	21,8	24,0	24,1
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	48	48	49	51	51	51	52	52	52
Sound power level in cooling	(4)(5)	dB(A)	80	80	81	83	83	83	84	84	84
SIZE AND WEIGHT											
A	(6)	mm	2195	2195	2745	2745	2745	2745	3245	3245	3245
B	(6)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(6)	mm	1465	1465	1465	1665	1665	1665	1665	1665	1665
Operating weight	(6)	kg	625	650	715	840	965	1025	1135	1180	1155

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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NECS-Y / SL			0202T	0252T	0302T	0352T	0412T	0452T	0512T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	47,79	55,45	69,95	85,39	96,82	106,1	117,5
Total power input	(1)	kW	20,32	22,60	30,89	33,64	37,35	43,22	48,06
EER	(1)	kW/kW	2,355	2,456	2,262	2,542	2,595	2,456	2,443
ESEER	(1)	kW/kW	3,130	3,190	3,000	3,250	3,300	3,140	3,140
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	47,70	55,40	69,70	85,20	96,60	105,8	117,2
EER	(1)(2)	kW/kW	2,340	2,440	2,250	2,520	2,580	2,430	2,420
ESEER	(1)(2)	kW/kW	3,090	3,140	2,930	3,190	3,250	3,090	3,090
Cooling energy class			E	E	F	D	D	E	E
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	-	-	-	-	-	-	-
SEPR	(7)(9)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	26,20	29,80	40,50	47,70	53,40	59,50	66,10
SEPR	(8)(9)		3,04	2,97	2,98	3,02	3,06	2,97	2,98
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,286	2,652	3,345	4,083	4,630	5,075	5,617
Pressure drop	(1)	kPa	5,08	6,95	11,1	16,7	12,8	15,4	13,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	11,7	11,7	14,6	16,4	20,1	20,6	21,2
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	45	46	46	49	49	49	50
Sound power level in cooling	(4)(5)	dB(A)	77	78	78	81	81	81	82
SIZE AND WEIGHT									
A	(6)	mm	2195	2745	2745	3245	3245	3245	3245
B	(6)	mm	1100	1100	1100	1100	1100	1100	1100
H	(6)	mm	1465	1465	1465	1665	1665	1665	1665
Operating weight	(6)	kg	650	700	750	915	1050	1075	1115

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal energy efficiency ratio

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NECS-Y

Chiller, air source for outdoor installation

0202T - 0612T 47,79-158,6 kW

NECS-Y / HT			0202T	0252T	0302T	0352T	0412T	0452T	0512T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	54,97	61,58	80,62	91,43	104,3	115,7	129,9
Total power input	(1)	kW	17,33	20,30	25,89	30,54	33,67	38,57	42,22
EER	(1)	kW/kW	3,179	3,034	3,112	2,997	3,095	2,997	3,078
ESEER	(1)	kW/kW	4,070	3,810	3,930	3,760	3,870	3,760	3,860
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	54,90	61,50	80,40	91,10	104,0	115,4	129,6
EER	(1)(2)	kW/kW	3,160	3,010	3,080	2,960	3,060	2,970	3,050
ESEER	(1)(2)	kW/kW	3,990	3,750	3,850	3,670	3,780	3,690	3,790
Cooling energy class			A	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	54,90	61,50	80,40	91,10	104,0	115,4	129,6
SEPR	(7)(9)		5,39	5,00	5,05	4,85	5,01	4,92	5,05
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	29,10	32,70	44,30	49,80	56,10	63,10	71,20
SEPR	(8)(9)		3,51	3,26	3,46	3,30	3,35	3,29	3,32
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,629	2,945	3,856	4,372	4,987	5,532	6,210
Pressure drop	(1)	kPa	6,72	8,58	14,7	19,1	14,9	18,3	16,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	11,7	11,7	14,6	16,4	20,1	20,6	21,2
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	53	54	54	55	55	55	55
Sound power level in cooling	(4)(5)	dB(A)	85	86	86	87	87	87	87
SIZE AND WEIGHT									
A	(6)	mm	2195	2745	2745	3245	3245	3245	3245
B	(6)	mm	1120	1120	1120	1120	1120	1120	1120
H	(6)	mm	1465	1465	1465	1665	1665	1665	1665
Operating weight	(6)	kg	650	700	750	915	1050	1075	1115

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
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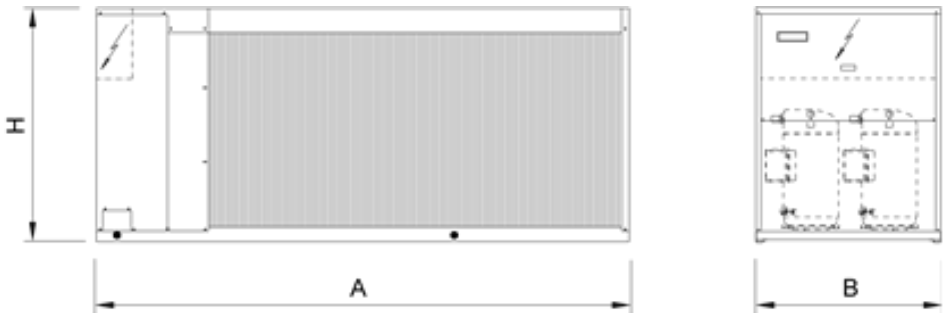
Dimensional drawing



CHILLERS

NX-Y

Chiller, air source for outdoor installation

0614T - 1214T 159,0-352,0 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes heat exchanger, micro-channel full-aluminum air coils and thermostatic or electronic expansion valve, according to the model. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigeration circuits.

Control

Electronic control W3000TE

W3000TE Compact control features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available).

The regulation is based on the patented “Quickmind” water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.

The diagnostics comprises a complete alarm management system, with the “black-box” (via PC) and the alarm history display (via display or also PC) for enhanced analysis of the unit operation

Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well.

Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard (up to 8 units).

The programmable timer manages a weekly schedule organised into time bands to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points.

The defrosting (air source reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version	CA	Class A of efficiency
LN-K	Low Noise, Key efficiency and compact version	LN-CA	Low Noise, Class A of efficiency
SL-K	Super Low noise, Key efficiency and compact version	SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

CLASS A EFFICIENCY

The full range is available with the Class A efficiency rating. Thanks to the generous sizing of the heat exchangers and an accurate control of the fan speed, the CA versions grant a premium level efficiency in every noise configuration.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version, optional for the compact K versions.

WIDE OPERATING RANGE

Full load operation is ensured with outdoor air temperature up to 46°C, partial load operation is possible up to or even beyond 50°C. The unit can produce chilled water at negative temperature (down to -10°C of leaving water temperature). Dedicated accessories allow the unit operation down to -20°C of outdoor air temperature.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit’s installation, keeping at the minimum level the pressure drops on the hydronic side, thus representing the best choice for all the hydronic applications on the process market.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Copper-Copper heat exchanger coils
- Compressor power factor correction
- Soft start
- Compressor suction and discharge valves
- High and low pressure gauges
- DVVF and DVV2F devices for low air temperature operation
- Hydronic module with 1 or 2 pumps, high or low head. Buffer tank available.
- Anti-intrusion grills

NX-Y / K			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	164,7	194,1	217,8	248,2	289,2	308,4	326,7
Total power input	(1)	kW	58,31	66,73	78,90	88,61	98,95	108,4	118,2
EER	(1)	kW/kW	2,825	2,910	2,760	2,801	2,921	2,845	2,764
ESEER	(1)	kW/kW	4,060	4,390	4,300	4,410	4,260	4,270	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	164,2	193,4	216,8	247,2	287,7	307,4	325,5
EER	(1)(2)	kW/kW	2,790	2,870	2,710	2,760	2,860	2,810	2,730
ESEER	(1)(2)	kW/kW	3,920	4,210	4,080	4,200	4,020	4,110	4,020
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	164,2	193,4	216,8	247,2	287,7	307,4	325,5
SEPR	(7)(9)		4,84	5,21	5,20	5,22	4,99	5,04	5,04
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	89,80	103,2	117,4	134,1	155,0	167,0	178,3
SEPR	(8)(9)		3,10	3,24	3,34	3,32	3,08	3,12	3,18
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,875	9,282	10,41	11,87	13,83	14,75	15,62
Pressure drop	(1)	kPa	23,3	32,4	50,9	45,5	61,7	38,0	42,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	22,5	26,6	27,7	27,8	33,6	36,3	36,9
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	60	61	62	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1650	1810	1820	1950	2340	2530	2550

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

NX-Y / LN-K			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,8	185,5	208,2	235,0	274,0	290,4	320,3
Total power input	(1)	kW	58,13	68,57	79,63	92,21	101,0	111,6	118,5
EER	(1)	kW/kW	2,750	2,704	2,616	2,549	2,713	2,602	2,703
ESEER	(1)	kW/kW	4,130	4,420	4,370	4,410	4,250	4,250	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,3	184,9	207,3	234,1	272,7	289,5	319,2
EER	(1)(2)	kW/kW	2,720	2,670	2,580	2,510	2,670	2,570	2,670
ESEER	(1)(2)	kW/kW	3,990	4,250	4,160	4,210	4,040	4,100	4,210
Cooling energy class			C	D	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	159,3	184,9	207,3	234,1	272,7	289,5	319,2
SEPR	(7)(9)		5,03	5,33	5,33	5,22	5,08	5,08	5,31
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	88,20	99,80	113,2	128,7	149,0	159,8	176,6
SEPR	(8)(9)		3,29	3,38	3,45	3,37	3,19	3,22	3,37
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,641	8,870	9,958	11,24	13,10	13,89	15,32
Pressure drop	(1)	kPa	21,9	29,6	46,5	40,7	55,4	33,7	41,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	22,5	26,6	27,7	27,8	33,6	36,3	36,9
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	54	55	56	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	86	86	87	88	89	89	90
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	3160	3160	4335	4335	4335
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	1860	1870	1990	2380	2580	2600

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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NX-Y / SL-K			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	159,0	179,9	214,3	241,3	264,0	296,0	312,2
Total power input	(1)	kW	56,28	70,71	77,80	89,35	103,7	109,1	119,6
EER	(1)	kW/kW	2,824	2,545	2,754	2,702	2,546	2,713	2,610
ESEER	(1)	kW/kW	4,340	4,410	4,400	4,410	4,280	4,340	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158,5	179,3	213,4	240,3	262,8	295,0	311,1
EER	(1)(2)	kW/kW	2,790	2,510	2,710	2,660	2,510	2,680	2,580
ESEER	(1)(2)	kW/kW	4,180	4,240	4,190	4,200	4,070	4,170	4,100
Cooling energy class			C	D	C	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	158,5	179,3	213,4	240,3	262,8	295,0	311,1
SEPR	(7)(9)		5,25	5,32	5,41	5,31	5,11	5,19	5,17
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	87,50	97,70	115,9	131,3	145,0	162,1	172,6
SEPR	(8)(9)		3,45	3,43	3,48	3,41	3,24	3,27	3,30
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,602	8,604	10,25	11,54	12,63	14,16	14,93
Pressure drop	(1)	kPa	21,7	27,8	49,3	43,0	51,4	35,1	39,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	22,5	26,6	30,2	41,2	41,3	41,4	41,4
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	51	51	52	52	54	54
Sound power level in cooling	(4)(5)	dB(A)	82	83	83	84	84	86	86
SIZE AND WEIGHT									
A	(6)	mm	3160	3160	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	1860	2160	2290	2380	2930	2950

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal energy efficiency ratio

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NX-Y / CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	174,1	205,2	235,4	266,4	301,9	330,0	352,0
Total power input	(1)	kW	54,38	65,00	72,87	84,11	95,76	102,8	111,0
EER	(1)	kW/kW	3,200	3,157	3,229	3,168	3,151	3,210	3,171
ESEER	(1)	kW/kW	4,310	4,260	4,450	4,490	4,430	4,350	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	173,6	204,4	234,2	265,2	300,9	328,8	350,6
EER	(1)(2)	kW/kW	3,160	3,110	3,160	3,110	3,110	3,160	3,120
ESEER	(1)(2)	kW/kW	4,170	4,060	4,200	4,240	4,260	4,170	4,180
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	173,6	204,4	234,2	265,2	300,9	328,8	350,6
SEPR	(7)(9)		5,19	5,06	5,28	5,25	5,27	5,13	5,22
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	93,40	107,8	124,3	141,4	161,0	175,4	188,2
SEPR	(8)(9)		3,24	3,04	3,25	3,22	3,21	3,07	3,16
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,326	9,814	11,26	12,74	14,44	15,78	16,83
Pressure drop	(1)	kPa	26,1	36,2	59,5	52,4	36,5	43,6	49,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	24,3	31,0	36,8	39,7	39,8	44,5	46,1
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	62	63	63	64	65
Sound power level in cooling	(4)(5)	dB(A)	92	93	94	95	95	96	97
SIZE AND WEIGHT									
A	(6)	mm	3160	4335	4335	4335	4335	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	2150	2160	2290	2550	2930	2950

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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NX-Y / LN-CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	167,5	198,4	227,4	262,1	294,5	318,0	344,4
Total power input	(1)	kW	52,84	61,62	70,49	82,78	93,23	99,58	108,7
EER	(1)	kW/kW	3,172	3,221	3,226	3,165	3,160	3,193	3,168
ESEER	(1)	kW/kW	4,560	4,610	4,700	4,710	4,550	4,630	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	167,0	197,7	226,3	261,0	293,6	316,9	343,0
EER	(1)(2)	kW/kW	3,130	3,170	3,160	3,110	3,120	3,150	3,120
ESEER	(1)(2)	kW/kW	4,400	4,400	4,440	4,470	4,390	4,430	4,480
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	167,0	197,7	226,3	261,0	293,6	316,9	343,0
SEPR	(7)(9)		5,54	5,68	5,76	5,76	5,51	5,58	5,68
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	90,90	104,9	121,0	140,5	157,7	170,7	186,1
SEPR	(8)(9)		3,58	3,50	3,64	3,64	3,38	3,44	3,54
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,011	9,488	10,87	12,53	14,08	15,21	16,47
Pressure drop	(1)	kPa	24,1	33,8	55,5	50,7	34,7	40,5	47,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	24,3	31,0	36,8	39,7	41,0	44,5	46,1
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	55	56	57	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	86	87	88	89	90	91	91
SIZE AND WEIGHT									
A	(6)	mm	3160	4335	4335	4335	5510	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1700	2150	2160	2290	2880	2900	2930

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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NX-Y / SL-CA			0614T	0714T	0814T	0914T	1014T	1114T	1214T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	167,3	194,9	224,2	259,3	291,8	316,6	343,6
Total power input	(1)	kW	52,28	61,03	69,89	82,01	92,62	99,59	108,8
EER	(1)	kW/kW	3,199	3,195	3,207	3,162	3,151	3,179	3,158
ESEER	(1)	kW/kW	4,690	4,700	4,680	4,720	4,720	4,680	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	166,8	194,2	223,1	258,2	290,9	315,5	342,2
EER	(1)(2)	kW/kW	3,160	3,150	3,140	3,110	3,110	3,130	3,110
ESEER	(1)(2)	kW/kW	4,520	4,490	4,420	4,470	4,550	4,490	4,470
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	166,8	194,2	223,1	258,2	290,9	315,5	342,2
SEPR	(7)(9)		5,67	5,80	5,69	5,73	5,67	5,62	5,73
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	90,80	103,2	119,1	138,8	156,6	170,1	186,0
SEPR	(8)(9)		3,68	3,61	3,58	3,61	3,51	3,47	3,58
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,000	9,322	10,72	12,40	13,95	15,14	16,43
Pressure drop	(1)	kPa	24,1	32,7	53,9	49,6	34,1	40,1	47,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	28,4	31,0	36,8	39,7	41,0	44,5	46,1
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	51	51	52	53	54	55	55
Sound power level in cooling	(4)(5)	dB(A)	83	83	84	85	86	87	87
SIZE AND WEIGHT									
A	(6)	mm	4335	4335	5510	5510	5510	5510	5510
B	(6)	mm	2250	2250	2250	2250	2250	2250	2250
H	(6)	mm	2170	2170	2170	2170	2170	2170	2170
Operating weight	(6)	kg	1980	2150	2490	2610	2880	2900	2930

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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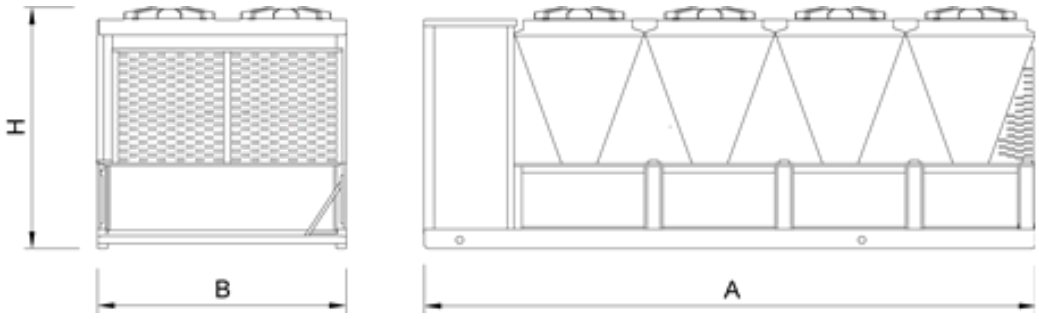
Dimensional drawing



CHILLERS

NECS-Y

Chiller, air source for outdoor installation

1314 - 3218 333,6-884,7 kW

Outdoor unit for the production of chilled water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes exchanger and electronic expansion valve. The range is composed by units equipped with four, six and eight compressors in multi-circuit configuration.

Control

W3000SE Compact

W3000SE Compact controller offers advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.

Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.

The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.

For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.

- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).

The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

B	Basic
SL	Super-low noise version
CA	High efficiency version
SL-CA	Super-low noise, high efficiency version

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS

This new range of chiller uses aluminum micro-channel condensers that ensure a premium level of efficiency. This solution also allows to reduce the refrigerant charge with respect to traditional copper/aluminum coils, assuring the minimum allowable ratio between the refrigerant volume and the power capacity thus making this product range unique in the market, also improving the resistance against corrosion in saline or corrosive atmospheres.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit's installation, keeping at the minimum level the pressure drops on the hydronic side, thus representing the best choice for all the hydronic applications on the process market.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters

NECS-Y / B			1314	1414	1614	1715	1816	2015
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	354,3	378,8	413,4	458,2	501,3	525,6
Total power input	(1)	kW	124,4	130,2	147,8	160,4	171,9	183,9
EER	(1)	kW/kW	2,848	2,909	2,797	2,857	2,916	2,858
ESEER	(1)	kW/kW	4,160	4,240	4,040	4,190	4,210	4,070
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	352,7	377,4	411,7	456,4	499,1	523,9
EER	(1)(2)	kW/kW	2,800	2,870	2,750	2,810	2,870	2,820
ESEER	(1)(2)	kW/kW	3,950	4,060	3,860	3,990	3,990	3,910
Cooling energy class			C	C	C	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	352,7	377,4	-	-	-	-
SEPR	(7)(9)		4,86	4,86	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	195,8	210,6	234,0	254,7	274,2	296,5
SEPR	(8)(9)		3,18	3,13	2,98	3,24	3,32	3,05
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	16,94	18,12	19,77	21,91	23,97	25,14
Pressure drop	(1)	kPa	54,0	43,8	52,2	48,5	58,1	39,3
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	5	6	5
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	40,1	45,2	45,4	52,2	55,8	63,8
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	64	64	64	64	65	65
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	97	97
SIZE AND WEIGHT								
A	(6)	mm	3905	3905	3905	5080	5080	5080
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	2730	2770	2800	3400	3650	3690

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

NECS-Y

1314 - 3218 333,6-884,7 kW

Chiller, air source for outdoor installation

NECS-Y / SL			1314	1414	1614	1715	1816	2015	2116
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	333,6	358,1	397,4	431,5	465,0	497,6	532,3
Total power input	(1)	kW	129,2	137,3	153,1	168,1	182,7	191,6	206,0
EER	(1)	kW/kW	2,582	2,608	2,596	2,567	2,545	2,597	2,584
ESEER	(1)	kW/kW	4,290	4,310	4,210	4,330	4,360	4,260	4,370
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	332,3	356,9	395,8	430,0	463,2	496,2	530,6
EER	(1)(2)	kW/kW	2,550	2,580	2,560	2,540	2,510	2,570	2,550
ESEER	(1)(2)	kW/kW	4,100	4,150	4,030	4,140	4,150	4,120	4,190
Cooling energy class			D	D	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	332,3	356,9	395,8	430,0	463,2	496,2	530,6
SEPR	(7)(9)		5,14	5,04	5,02	5,03	5,11	5,00	5,05
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	187,4	202,1	227,0	243,7	260,1	284,3	301,1
SEPR	(8)(9)		3,42	3,30	3,24	3,29	3,39	3,21	3,28
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	15,95	17,13	19,01	20,63	22,24	23,80	25,46
Pressure drop	(1)	kPa	47,8	39,2	48,2	43,0	50,0	35,2	40,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	5	6	5	6
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	41,0	47,0	50,0	57,0	57,0	66,0	79,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	54	54	54	54	54	54	54
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	87	87
SIZE AND WEIGHT									
A	(6)	mm	5080	5080	5080	6255	6255	6255	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3060	3160	3200	3900	4110	4190	4640

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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NECS-Y / SL			2316	2416	2418	2618	2818	3018	3218
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	579,3	595,9	615,8	666,4	717,7	757,8	794,6
Total power input	(1)	kW	220,0	229,7	244,6	258,3	274,8	288,4	306,2
EER	(1)	kW/kW	2,633	2,594	2,518	2,580	2,612	2,628	2,595
ESEER	(1)	kW/kW	4,380	4,290	4,320	4,390	4,360	4,390	4,270
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	577,4	593,9	613,8	664,0	715,6	755,4	791,9
EER	(1)(2)	kW/kW	2,600	2,560	2,490	2,550	2,580	2,600	2,560
ESEER	(1)(2)	kW/kW	4,200	4,120	4,150	4,190	4,190	4,210	4,090
Cooling energy class			D	D	E	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	577,4	593,9	613,8	664,0	715,6	755,4	791,9
SEPR	(7)(9)		5,01	5,01	5,20	5,20	5,12	5,05	5,03
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	329,6	-	345,3	374,8	405,0	430,4	454,2
SEPR	(8)(9)		3,24	-	3,45	3,44	3,33	3,26	3,23
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	27,70	28,49	29,45	31,87	34,32	36,24	38,00
Pressure drop	(1)	kPa	40,8	43,1	41,6	48,7	38,2	42,6	46,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	6	6	8	8	8	8	8
No. Circuits		N°	3	2	4	4	4	4	4
Refrigerant charge		kg	79,0	83,0	89,0	112	112	112	112
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	55	55	55	56	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	88	88	88	89	90	90	90
SIZE AND WEIGHT									
A	(6)	mm	7430	7430	7430	8605	9780	9780	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4730	4790	5410	5810	6160	6200	6250

Notes

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NECS-Y

1314 - 3218 333,6-884,7 kW

Chiller, air source for outdoor installation

NECS-Y / CA			1314	1414	1614	1715	1816	2015	2116
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	370,4	391,4	438,4	481,1	517,5	549,2	591,4
Total power input	(1)	kW	119,6	125,1	141,5	154,0	166,3	177,0	189,4
EER	(1)	kW/kW	3,097	3,129	3,098	3,124	3,112	3,103	3,122
ESEER	(1)	kW/kW	4,450	4,480	4,390	4,540	4,500	4,420	4,480
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	368,7	389,9	436,4	479,1	515,1	547,3	589,2
EER	(1)(2)	kW/kW	3,040	3,080	3,040	3,070	3,050	3,060	3,080
ESEER	(1)(2)	kW/kW	4,220	4,280	4,170	4,300	4,240	4,230	4,280
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	368,7	389,9	436,4	479,1	515,1	547,3	589,2
SEPR	(7)(9)		5,17	5,10	5,02	5,38	5,36	5,15	5,24
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	201,7	214,7	244,8	263,9	279,7	306,6	325,5
SEPR	(8)(9)		3,28	3,20	3,15	3,48	3,51	3,25	3,36
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	17,72	18,72	20,97	23,01	24,75	26,26	28,28
Pressure drop	(1)	kPa	59,0	46,8	58,7	53,5	61,9	42,9	49,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	5	6	5	6
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	47,0	51,0	54,0	67,0	67,0	70,0	77,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	65	65	65	64	65	65	65
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	5080	5080	5080	6255	6255	6255	7430
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3060	3100	3130	3800	4050	4090	4540

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
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NECS-Y / CA			2316	2416	2418	2618	2818	3018	3218
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	632,7	657,3	701,5	740,0	784,6	830,6	884,7
Total power input	(1)	kW	204,0	212,3	225,3	239,0	250,4	266,5	283,0
EER	(1)	kW/kW	3,101	3,096	3,114	3,096	3,133	3,117	3,126
ESEER	(1)	kW/kW	4,480	4,370	4,440	4,460	4,500	4,490	4,450
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	630,4	654,7	698,7	736,8	781,9	827,5	881,1
EER	(1)(2)	kW/kW	3,060	3,050	3,060	3,040	3,090	3,070	3,070
ESEER	(1)(2)	kW/kW	4,270	4,160	4,220	4,220	4,300	4,280	4,220
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	630,4	654,7	698,7	736,8	781,9	827,5	881,1
SEPR	(7)(9)		5,11	5,06	5,10	5,10	5,07	5,01	5,01
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	351,6	367,3	-	403,2	-	-	-
SEPR	(8)(9)		3,25	3,22	-	3,24	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	30,26	31,43	33,55	35,39	37,52	39,72	42,31
Pressure drop	(1)	kPa	48,6	52,5	54,0	60,0	45,6	51,1	58,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	6	6	8	8	8	8	8
No. Circuits		N°	3	2	4	4	4	4	4
Refrigerant charge		kg	81,0	86,0	89,0	112	112	112	112
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	66	66	66	66	67	67	67
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	99	100	100	100
SIZE AND WEIGHT									
A	(6)	mm	7430	7430	9780	9780	9780	9780	9780
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4630	4690	5930	5970	6040	6070	6110

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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NECS-Y

1314 - 3218 333,6-884,7 kW

Chiller, air source for outdoor installation

NECS-Y / SL-CA			1314	1414	1614	1715	1816
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	370,5	394,3	440,1	480,8	521,5
Total power input	(1)	kW	119,1	126,3	141,6	154,3	167,1
EER	(1)	kW/kW	3,111	3,122	3,108	3,116	3,121
ESEER	(1)	kW/kW	4,570	4,560	4,440	4,540	4,580
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	369,2	393,1	438,5	479,5	519,9
EER	(1)(2)	kW/kW	3,070	3,080	3,060	3,080	3,080
ESEER	(1)(2)	kW/kW	4,380	4,390	4,270	4,390	4,400
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	369,2	393,1	438,5	479,5	519,9
SEPR	(7)(9)		5,52	5,43	5,17	5,45	5,61
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	200,8	215,3	243,5	261,9	280,1
SEPR	(8)(9)		3,54	3,42	3,22	3,44	3,58
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	17,72	18,85	21,05	22,99	24,94
Pressure drop	(1)	kPa	41,9	35,9	44,8	32,9	38,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	4	4	4	5	6
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	53,0	67,0	72,0	77,0	77,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	53	53	53	54	54
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87
SIZE AND WEIGHT							
A	(6)	mm	6255	6255	6255	7430	7430
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450
Operating weight	(6)	kg	3490	3700	3730	4400	4650

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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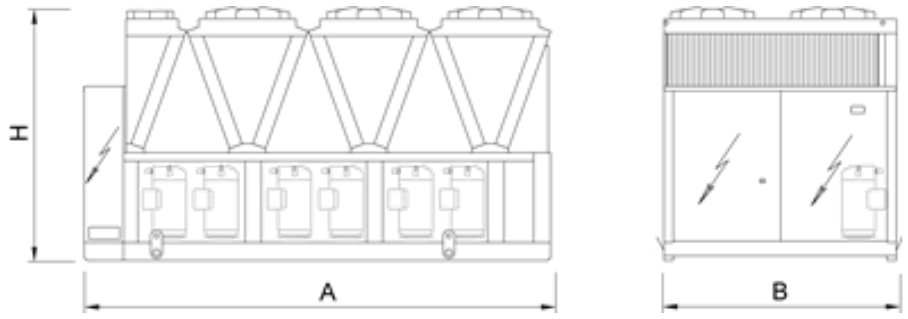
NECS-Y / SL-CA			2015	2116	2316	2416	2418
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	550,4	591,6	638,3	662,5	695,3
Total power input	(1)	kW	176,7	189,3	204,3	213,3	222,8
EER	(1)	kW/kW	3,115	3,125	3,124	3,106	3,121
ESEER	(1)	kW/kW	4,520	4,600	4,590	4,530	4,580
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	548,8	589,6	636,1	660,1	693,4
EER	(1)(2)	kW/kW	3,080	3,080	3,080	3,060	3,090
ESEER	(1)(2)	kW/kW	4,350	4,400	4,390	4,330	4,430
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	548,8	589,6	636,1	660,1	693,4
SEPR	(7)(9)		5,28	5,46	5,28	5,30	5,55
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	305,4	323,9	352,6	368,1	373,5
SEPR	(8)(9)		3,28	3,43	3,31	3,32	3,54
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	26,32	28,29	30,52	31,68	33,25
Pressure drop	(1)	kPa	36,8	42,5	44,7	48,1	35,8
REFRIGERANT CIRCUIT							
Compressors nr.		N°	5	6	6	6	8
No. Circuits		N°	2	2	3	2	4
Refrigerant charge		kg	79,0	91,0	96,0	96,0	97,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	54	54	55	55	55
Sound power level in cooling	(4)(5)	dB(A)	87	87	88	88	88
SIZE AND WEIGHT							
A	(6)	mm	7430	8605	8605	8605	9780
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2450	2450	2450	2450	2450
Operating weight	(6)	kg	4510	4990	5360	5360	6100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX-Y

Chiller, air source for outdoor installation

0751 - 1801 140,1-395,7 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressor optimized for R134a, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. (brazed plate evaporator for sizes 0751 and 0851) and electronic expansion valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R134a

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 46°C (50°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. It is available with 1 or 2 pumps, fixed or variable speed, high or low head to satisfy all the different industrial and comfort application requirements.

AHRI CERTIFICATION
Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX-Y /K			0751	0851	0951	0961	1101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	145,5	160,1	202,8	221,9	238,0
Total power input	(1)	kW	50,04	58,63	63,66	73,33	85,18
EER	(1)	kW/kW	2,910	2,732	3,184	3,027	2,793
ESEER	(1)	kW/kW	4,000	4,000	4,040	4,070	4,090
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	145,1	159,7	202,1	221,1	237,1
EER	(1)(2)	kW/kW	2,880	2,710	3,140	2,980	2,750
ESEER	(1)(2)	kW/kW	3,900	3,920	3,920	3,930	3,950
Cooling energy class			C	C	A	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	145,1	159,7	202,1	221,1	237,1
SEPR	(7)(9)		5,10	5,40	5,11	5,00	5,41
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	76,10	84,50	103,1	118,1	124,9
SEPR	(8)(9)		3,01	3,06	2,93	3,05	3,06
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,957	7,654	9,696	10,61	11,38
Pressure drop	(1)	kPa	20,6	20,1	30,2	36,2	41,6
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	20,0	22,0	28,0	31,0	33,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	62	62	62	62	64
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	96
SIZE AND WEIGHT							
A	(6)	mm	1500	1500	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1480	1510	2100	2130	2460

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-Y /K			1301	1401	1421	1431	1801
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	274,7	299,1	329,0	347,7	395,7
Total power input	(1)	kW	87,99	102,6	118,7	111,6	135,2
EER	(1)	kW/kW	3,122	2,915	2,772	3,116	2,927
ESEER	(1)	kW/kW	4,070	4,050	4,080	4,000	4,050
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	273,7	297,8	327,7	346,8	394,4
EER	(1)(2)	kW/kW	3,080	2,870	2,730	3,080	2,890
ESEER	(1)(2)	kW/kW	3,940	3,900	3,930	3,900	3,930
Cooling energy class			B	C	C	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	273,7	297,8	327,7	346,8	394,4
SEPR	(7)(9)		5,03	5,17	5,10	5,02	5,29
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	141,0	155,6	177,1	184,3	207,5
SEPR	(8)(9)		2,97	3,03	3,11	3,06	2,94
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	13,14	14,30	15,73	16,63	18,92
Pressure drop	(1)	kPa	42,5	50,4	44,9	29,5	38,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	38,0	42,0	46,0	49,0	55,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	64	65	66	66	66
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	98	98
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	2750	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2510	2540	2580	3110	3540

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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Certified data in EUROVENT

FX-Y /SL-K			0751	0851	0951	0961	1101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	140,1	169,5	195,5	214,7	245,9
Total power input	(1)	kW	50,40	53,88	64,25	74,84	80,11
EER	(1)	kW/kW	2,780	3,145	3,040	2,870	3,070
ESEER	(1)	kW/kW	3,970	4,210	4,020	4,050	4,140
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	139,7	169,0	194,9	214,0	244,9
EER	(1)(2)	kW/kW	2,750	3,110	3,000	2,830	3,020
ESEER	(1)(2)	kW/kW	3,880	4,100	3,910	3,930	3,990
Cooling energy class			C	A	B	C	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	139,7	169,0	194,9	214,0	244,9
SEPR	(7)(9)		5,09	5,84	5,14	5,04	5,57
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	73,70	87,60	99,90	114,8	127,2
SEPR	(8)(9)		2,98	3,14	2,91	3,00	3,04
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,698	8,107	9,351	10,27	11,76
Pressure drop	(1)	kPa	19,1	22,6	28,1	33,9	44,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	21,0	25,0	29,0	32,0	37,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	52	52	53	53	55
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	85	87
SIZE AND WEIGHT							
A	(6)	mm	1500	2750	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1640	2050	2270	2290	2770

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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5 Sound power level in cooling, outdoors.
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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
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The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-Y /SL-K			1301	1401	1421	1431	1801
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	265,0	287,8	331,8	346,5	395,0
Total power input	(1)	kW	89,07	104,5	112,5	107,8	130,0
EER	(1)	kW/kW	2,974	2,754	2,949	3,214	3,038
ESEER	(1)	kW/kW	4,050	4,020	4,260	4,370	4,100
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	264,1	286,6	330,5	345,6	393,7
EER	(1)(2)	kW/kW	2,930	2,710	2,900	3,180	3,000
ESEER	(1)(2)	kW/kW	3,930	3,870	4,110	4,260	3,980
Cooling energy class			B	C	B	A	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	264,1	286,6	330,5	345,6	393,7
SEPR	(7)(9)		5,02	5,19	5,35	5,55	5,38
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	136,6	150,4	177,3	182,8	205,4
SEPR	(8)(9)		2,93	3,00	3,13	3,18	2,89
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	12,67	13,76	15,86	16,57	18,89
Pressure drop	(1)	kPa	39,5	46,6	45,7	29,3	38,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	40,0	43,0	50,0	52,0	59,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	55	56	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	88	89	89	89
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	4000	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2770	2790	3250	3410	3880

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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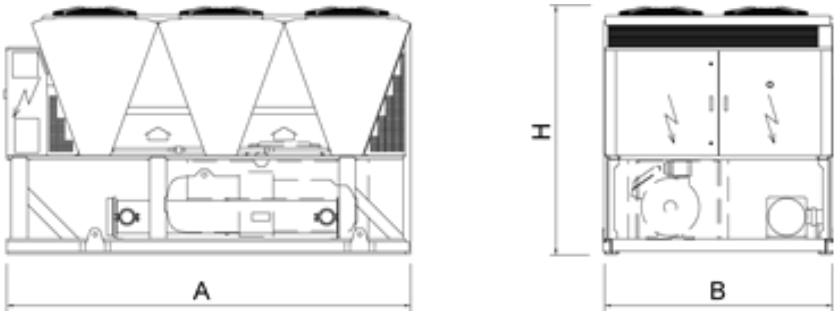
The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX-Y

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R134a

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
CA	High efficiency
SL-CA	Super low noise, high efficiency
E	Very high efficiency
SL-E	Super low noise, very high efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 50°C (54°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

AHRI CERTIFICATION
Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX-Y /K			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	299,6	325,8	383,2	432,0	480,6	533,4	558,7	600,7	658,3
Total power input	(1)	kW	100,6	117,0	130,7	143,5	169,3	185,1	193,9	203,6	234,8
EER	(1)	kW/kW	2,978	2,785	2,932	3,010	2,839	2,882	2,881	2,950	2,804
ESEER	(1)	kW/kW	4,260	4,260	4,290	4,320	4,250	4,280	4,280	4,310	4,300
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	298,9	324,9	382,1	430,5	479,3	531,7	557,1	598,8	656,3
EER	(1)(2)	kW/kW	2,950	2,760	2,900	2,970	2,810	2,850	2,850	2,910	2,770
ESEER	(1)(2)	kW/kW	4,130	4,120	4,140	4,130	4,110	4,110	4,130	4,140	4,140
Cooling energy class			B	C	B	B	C	C	C	B	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	298,9	324,9	382,1	430,5	479,3	531,7	557,1	598,8	656,3
SEPR	(7)(9)		5,23	5,46	5,34	5,24	5,43	5,39	5,36	5,33	5,19
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	154,8	170,6	202,7	232,2	251,6	279,7	290,6	-	-
SEPR	(8)(9)		2,98	3,08	3,00	3,02	3,00	3,04	3,07	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,33	15,58	18,32	20,66	22,98	25,51	26,72	28,73	31,48
Pressure drop	(1)	kPa	23,9	28,3	33,6	42,7	32,3	39,8	34,9	40,3	38,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	44,0	47,0	55,0	63,0	69,0	76,0	80,0	88,0	94,0
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	67	67	67	68	68	68	68	68	70
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	100	100	100	100	100	102
SIZE AND WEIGHT											
A	(6)	mm	2750	2750	4000	4000	4000	5250	5250	5250	5250
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3160	3170	3720	3810	4610	5060	5060	5130	5520

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-Y /K			3152	3602	3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	725,4	802,7	871,9	926,5	982,4	1021	1059	1146	1176
Total power input	(1)	kW	249,9	267,4	289,7	309,8	336,9	362,5	347,9	389,1	415,5
EER	(1)	kW/kW	2,903	3,002	3,010	2,991	2,916	2,817	3,044	2,945	2,830
ESEER	(1)	kW/kW	4,290	4,260	4,260	4,290	4,270	4,270	4,280	4,310	4,270
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	722,9	800,2	869,2	923,3	979,4	1018	1055	1142	1172
EER	(1)(2)	kW/kW	2,860	2,960	2,970	2,950	2,880	2,780	3,000	2,900	2,800
ESEER	(1)(2)	kW/kW	4,110	4,100	4,100	4,110	4,110	4,100	4,110	4,120	4,120
Cooling energy class			C	B	B	B	C	C	B	B	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	722,9	800,2	869,2	923,3	979,4	1018	1055	1142	1172
SEPR	(7)(9)		5,30	5,40	5,39	5,37	5,39	5,39	5,40	5,32	5,40
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,69	38,39	41,70	44,31	46,98	48,82	50,65	54,81	56,25
Pressure drop	(1)	kPa	46,8	40,9	42,6	48,1	41,8	45,1	48,5	53,3	42,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	104	117	127	135	140	146	151	164	168
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	69	69	70	70	71	71	71	71	72
Sound power level in cooling	(4)(5)	dB(A)	102	102	103	103	104	104	104	104	105
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	7750	7750	9000	9000	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6450	6940	7440	7560	7790	7820	8250	8370	8660

Notes

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5 Sound power level in cooling, outdoors.
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7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-Y /K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1239	1303	1401	1481	1547	1654	1710
Total power input	(1)	kW	426,0	466,1	466,4	513,5	546,6	569,8	594,2
EER	(1)	kW/kW	2,908	2,796	3,004	2,884	2,830	2,903	2,878
ESEER	(1)	kW/kW	4,270	4,310	4,270	4,290	4,250	4,280	4,320
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1235	1298	1397	1476	1543	1649	1704
EER	(1)(2)	kW/kW	2,870	2,760	2,970	2,850	2,800	2,870	2,840
ESEER	(1)(2)	kW/kW	4,110	4,120	4,110	4,110	4,110	4,120	4,140
Cooling energy class			C	C	B	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1235	1298	1397	1476	1543	1649	1704
SEPR	(7)(9)		5,43	5,31	5,34	5,37	5,42	5,29	5,29
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,26	62,29	67,01	70,81	74,00	79,11	81,79
Pressure drop	(1)	kPa	46,9	51,8	45,4	50,7	39,0	44,6	51,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	186	205	212	221	237	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	73	73	73	73	73	73	73
Sound power level in cooling	(4)(5)	dB(A)	106	106	106	106	106	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9200	9310	11880	11940	11950	12490	12570

Notes

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Certified data in EUROVENT

FX-Y /SL-K			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	288,5	333,4	381,6	418,7	476,0	518,6	556,0	578,5	663,2
Total power input	(1)	kW	101,2	113,0	125,9	146,1	161,4	174,6	191,8	207,2	222,7
EER	(1)	kW/kW	2,851	2,950	3,031	2,866	2,949	2,970	2,899	2,792	2,978
ESEER	(1)	kW/kW	4,230	4,250	4,280	4,300	4,270	4,280	4,280	4,260	4,260
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	287,8	332,5	380,5	417,3	474,7	517,0	554,4	576,8	661,2
EER	(1)(2)	kW/kW	2,820	2,920	3,000	2,830	2,920	2,930	2,870	2,760	2,940
ESEER	(1)(2)	kW/kW	4,100	4,110	4,130	4,130	4,130	4,120	4,130	4,110	4,110
Cooling energy class			C	B	B	C	B	B	C	C	B
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	287,8	332,5	380,5	417,3	474,7	517,0	554,4	576,8	661,2
SEPR	(7)(9)		5,23	5,32	5,45	5,27	5,25	5,20	5,27	5,33	5,27
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	149,8	173,1	197,1	225,9	250,3	270,1	288,3	-	-
SEPR	(8)(9)		3,02	3,03	3,03	3,08	3,04	3,02	3,01	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,80	15,94	18,25	20,02	22,76	24,80	26,59	27,66	31,72
Pressure drop	(1)	kPa	22,2	29,6	33,3	40,1	31,7	37,6	34,5	37,4	39,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	44,0	51,0	58,0	63,0	72,0	79,0	84,0	88,0	101
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	55	55	56	56	57	57	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	87	88	88	89	89	89	89	90
SIZE AND WEIGHT											
A	(6)	mm	2750	4000	4000	4000	5250	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3420	4160	4230	4230	5200	5560	5580	5620	6610

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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5 Sound power level in cooling, outdoors.
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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-Y /SL-K			3152	3602	3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	716,6	770,8	838,7	892,9	964,9	1021	1052	1137	1169
Total power input	(1)	kW	246,8	271,7	294,5	315,0	335,4	353,2	341,0	380,8	407,3
EER	(1)	kW/kW	2,904	2,837	2,848	2,835	2,877	2,891	3,085	2,986	2,870
ESEER	(1)	kW/kW	4,280	4,260	4,270	4,290	4,270	4,280	4,290	4,290	4,260
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	714,1	768,6	836,2	890,0	962,1	1018	1048	1133	1166
EER	(1)(2)	kW/kW	2,860	2,810	2,820	2,800	2,840	2,860	3,040	2,940	2,840
ESEER	(1)(2)	kW/kW	4,100	4,110	4,120	4,120	4,120	4,110	4,110	4,110	4,110
Cooling energy class			C	C	C	C	C	C	B	B	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	714,1	768,6	836,2	890,0	962,1	1018	1048	1133	1166
SEPR	(7)(9)		5,32	5,41	5,42	5,40	5,39	5,38	5,36	5,30	5,35
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,27	36,86	40,11	42,70	46,14	48,85	50,30	54,38	55,91
Pressure drop	(1)	kPa	45,7	37,7	39,4	44,7	40,3	45,2	47,9	52,5	41,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	109	117	127	135	146	155	159	172	177
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	58	58	59	59	60	60	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	91	91	92	92	93	93	94	94	94
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	9000	9000	10250	10250	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7080	7550	8090	8200	9000	8870	9360	9470	9780

Notes

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5 Sound power level in cooling, outdoors.
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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

Chiller, air source for outdoor installation

FX-Y /SL-K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1194	1289	1350	1463	1530	1595	1649
Total power input	(1)	kW	432,8	459,1	474,3	509,9	540,4	582,7	609,3
EER	(1)	kW/kW	2,759	2,808	2,846	2,869	2,831	2,737	2,706
ESEER	(1)	kW/kW	4,260	4,300	4,270	4,290	4,250	4,250	4,270
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1190	1285	1346	1458	1526	1590	1644
EER	(1)(2)	kW/kW	2,730	2,770	2,810	2,830	2,800	2,710	2,680
ESEER	(1)(2)	kW/kW	4,100	4,120	4,110	4,110	4,110	4,110	4,100
Cooling energy class			C	C	C	C	C	C	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1190	1285	1346	1458	1526	1590	1644
SEPR	(7)(9)		5,43	5,36	5,38	5,37	5,40	5,34	5,31
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,11	61,64	64,56	69,97	73,16	76,27	78,86
Pressure drop	(1)	kPa	43,5	50,7	42,1	49,5	38,2	41,5	47,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	195	205	222	232	242	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	61	61	61	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	94	94	95
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9860	10420	12810	13340	13340	13420	13500

Notes

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9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-Y /CA			1502	1702	1902	1922	2202	2602	2652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	302,4	349,6	395,0	461,7	513,2	551,4	590,7
Total power input	(1)	kW	95,40	108,6	124,9	143,9	159,8	174,8	184,4
EER	(1)	kW/kW	3,170	3,219	3,163	3,208	3,212	3,154	3,203
ESEER	(1)	kW/kW	4,380	4,390	4,400	4,370	4,400	4,390	4,400
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	301,6	348,6	393,8	460,5	511,7	549,9	588,9
EER	(1)(2)	kW/kW	3,140	3,180	3,120	3,170	3,170	3,120	3,160
ESEER	(1)(2)	kW/kW	4,230	4,230	4,230	4,230	4,240	4,250	4,240
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	301,6	348,6	393,8	460,5	511,7	549,9	588,9
SEPR	(7)(9)		5,42	5,52	5,56	5,56	5,53	5,38	5,42
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	153,5	178,7	203,2	235,9	263,9	282,7	-
SEPR	(8)(9)		2,91	2,99	3,06	3,02	3,00	3,04	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,46	16,72	18,89	22,08	24,54	26,37	28,25
Pressure drop	(1)	kPa	24,4	32,6	35,7	29,8	36,8	34,0	39,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	48,0	54,0	58,0	68,0	79,0	81,0	87,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	66	66	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	98	99	99	100	100	101
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3660	3720	3760	4660	5040	5090	5830

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-Y /CA			2702	2722	3152	3602	3902	4202	4502
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	628,7	683,7	766,2	837,8	904,7	956,0	1031
Total power input	(1)	kW	195,9	217,5	241,6	260,1	279,6	299,5	319,9
EER	(1)	kW/kW	3,209	3,143	3,171	3,221	3,236	3,192	3,223
ESEER	(1)	kW/kW	4,390	4,410	4,390	4,390	4,400	4,420	4,400
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	626,6	681,5	764,0	835,0	901,7	952,5	1028
EER	(1)(2)	kW/kW	3,160	3,100	3,130	3,180	3,190	3,140	3,180
ESEER	(1)(2)	kW/kW	4,210	4,240	4,230	4,210	4,220	4,220	4,220
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	626,6	681,5	764,0	835,0	901,7	952,5	1028
SEPR	(7)(9)		5,43	5,34	5,42	5,49	5,48	5,46	5,47
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	30,07	32,70	36,64	40,06	43,26	45,72	49,29
Pressure drop	(1)	kPa	44,2	41,6	37,2	44,5	45,8	51,2	46,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	92,0	100	113	123	133	141	151
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	68	68	68	69	69	70	70
Sound power level in cooling	(4)(5)	dB(A)	101	101	101	102	102	103	103
SIZE AND WEIGHT									
A	(6)	mm	6500	6500	7750	7750	9000	9000	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5690	6110	6970	7440	7890	8000	8700

Notes

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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
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FX-Y /CA			4802	4822	5412	5703	6303	6603
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	1098	1177	1236	1342	1460	1521
Total power input	(1)	kW	339,5	374,9	390,8	414,5	458,8	484,7
EER	(1)	kW/kW	3,234	3,140	3,163	3,238	3,182	3,138
ESEER	(1)	kW/kW	4,430	4,400	4,410	4,350	4,370	4,390
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1094	1173	1232	1338	1456	1517
EER	(1)(2)	kW/kW	3,190	3,100	3,120	3,200	3,150	3,100
ESEER	(1)(2)	kW/kW	4,240	4,240	4,240	4,200	4,240	4,240
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	1094	1173	1232	1338	1456	1517
SEPR	(7)(9)		5,48	5,46	5,49	5,47	5,46	5,47
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	52,53	56,31	59,13	64,17	69,81	72,73
Pressure drop	(1)	kPa	50,1	42,3	46,7	41,6	34,7	37,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	3	3	3
No. Circuits		N°	2	2	2	3	3	3
Refrigerant charge		kg	161	173	182	197	226	224
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	70	70	71	71	71	71
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	104	104	104
SIZE AND WEIGHT								
A	(6)	mm	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8780	9040	10120	12160	12330	12640

Notes

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FX-Y /SL-CA			1502	1702	1902	1922	2202	2602	2652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	304,2	344,9	394,3	450,1	500,7	560,7	582,8
Total power input	(1)	kW	94,73	107,7	121,8	143,7	159,4	178,3	181,6
EER	(1)	kW/kW	3,212	3,202	3,237	3,132	3,141	3,145	3,209
ESEER	(1)	kW/kW	4,380	4,390	4,400	4,350	4,390	4,390	4,390
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	303,4	343,9	393,1	449,0	499,3	559,1	581,0
EER	(1)(2)	kW/kW	3,180	3,160	3,200	3,100	3,110	3,110	3,170
ESEER	(1)(2)	kW/kW	4,240	4,230	4,240	4,220	4,240	4,240	4,220
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	303,4	343,9	393,1	449,0	499,3	559,1	581,0
SEPR	(7)(9)		5,51	5,58	5,52	5,58	5,53	5,49	5,41
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	155,0	176,9	205,8	231,0	258,5	287,8	298,8
SEPR	(8)(9)		3,00	3,06	3,07	3,06	3,03	3,04	3,06
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,55	16,49	18,85	21,53	23,94	26,81	27,87
Pressure drop	(1)	kPa	24,7	31,7	35,6	28,3	35,1	35,1	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	48,0	54,0	62,0	71,0	79,0	88,0	92,0
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	55	56	56	57	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	87	88	88	89	89	90	91
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	5250	5250	5250	6500	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4130	4190	4680	5140	5520	6140	6390

Notes

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Certified data in EUROVENT

FX-Y /SL-CA			2702	2722	3152	3602	3902	4202	4502
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	615,6	680,7	754,1	819,3	899,1	947,9	1020
Total power input	(1)	kW	196,2	212,3	236,9	252,1	273,7	293,5	314,1
EER	(1)	kW/kW	3,138	3,206	3,183	3,250	3,285	3,230	3,247
ESEER	(1)	kW/kW	4,380	4,410	4,390	4,370	4,390	4,420	4,390
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	613,9	678,5	752,0	816,7	896,1	944,5	1017
EER	(1)(2)	kW/kW	3,100	3,160	3,150	3,210	3,240	3,180	3,200
ESEER	(1)(2)	kW/kW	4,230	4,240	4,230	4,200	4,210	4,220	4,220
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	613,9	678,5	752,0	816,7	896,1	944,5	1017
SEPR	(7)(9)		5,45	5,34	5,40	5,50	5,50	5,46	5,47
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	29,44	32,55	36,06	39,18	43,00	45,33	48,80
Pressure drop	(1)	kPa	33,7	41,2	36,1	42,6	45,3	50,3	45,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	97,0	107	118	129	141	149	160
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	58	59	59	59	59	60	60
Sound power level in cooling	(4)(5)	dB(A)	91	92	92	92	92	93	93
SIZE AND WEIGHT									
A	(6)	mm	6500	7750	7750	9000	10250	10250	11650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6520	7150	7610	8500	8990	9280	9810

Notes

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FX-Y /SL-CA			4802	4822	5412	5703	6303
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1086	1163	1219	1310	1442
Total power input	(1)	kW	333,8	369,1	385,3	409,5	460,0
EER	(1)	kW/kW	3,253	3,151	3,164	3,199	3,135
ESEER	(1)	kW/kW	4,420	4,400	4,410	4,370	4,370
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1082	1160	1215	1306	1439
EER	(1)(2)	kW/kW	3,210	3,110	3,120	3,160	3,100
ESEER	(1)(2)	kW/kW	4,230	4,240	4,240	4,210	4,240
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	1082	1160	1215	1306	1439
SEPR	(7)(9)		5,50	5,47	5,50	5,48	5,52
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	51,94	55,63	58,31	62,64	68,95
Pressure drop	(1)	kPa	48,9	41,3	45,4	39,7	33,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	3	3
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	171	183	191	206	226
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	60	60	62	62	62
Sound power level in cooling	(4)(5)	dB(A)	93	93	95	95	95
SIZE AND WEIGHT							
A	(6)	mm	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9890	10230	10760	13130	13260

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-Y /E			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	316,5	362,6	413,8	451,2	530,5	575,8	612,9	649,8	703,3
Total power input	(1)	kW	94,57	108,4	123,1	136,8	156,4	170,7	181,3	192,0	213,3
EER	(1)	kW/kW	3,346	3,345	3,361	3,298	3,392	3,373	3,381	3,384	3,297
ESEER	(1)	kW/kW	4,430	4,450	4,440	4,460	4,440	4,450	4,450	4,470	4,450
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	315,8	361,6	412,9	450,1	529,0	574,4	611,2	647,9	701,5
EER	(1)(2)	kW/kW	3,310	3,310	3,330	3,260	3,350	3,340	3,340	3,340	3,260
ESEER	(1)(2)	kW/kW	4,310	4,300	4,320	4,320	4,290	4,310	4,300	4,310	4,310
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	315,8	361,6	412,9	450,1	529,0	574,4	611,2	647,9	701,5
SEPR	(7)(9)		5,45	5,55	5,57	5,59	5,55	5,41	5,44	5,45	5,42
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	159,0	181,9	207,1	237,1	267,2	290,9	-	-	-
SEPR	(8)(9)		2,97	2,90	3,00	3,14	2,95	3,02	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,14	17,34	19,79	21,58	25,37	27,54	29,31	31,07	33,63
Pressure drop	(1)	kPa	22,9	30,1	24,0	28,5	35,8	29,5	33,4	37,5	31,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	49,0	56,0	64,0	71,0	82,0	89,0	95,0	101	109
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	66	67	67	67	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	99	99	99	100	100	101	101	101
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3720	4240	4360	4420	5590	5920	6400	6490	6600

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-Y /E			3152	3602	3902	4202	4502	4802	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	785,8	854,0	931,3	986,6	1054	1123	1219	1277
Total power input	(1)	kW	236,1	256,1	277,1	297,5	317,3	337,2	373,1	391,5
EER	(1)	kW/kW	3,328	3,335	3,361	3,316	3,322	3,330	3,267	3,262
ESEER	(1)	kW/kW	4,440	4,460	4,510	4,460	4,490	4,480	4,410	4,430
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	783,7	851,4	927,8	983,6	1051	1119	1216	1274
EER	(1)(2)	kW/kW	3,290	3,290	3,310	3,270	3,280	3,280	3,230	3,230
ESEER	(1)(2)	kW/kW	4,290	4,290	4,290	4,290	4,300	4,290	4,280	4,290
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	783,7	851,4	927,8	983,6	1051	1119	1216	1274
SEPR	(7)(9)		5,47	5,51	5,50	5,49	5,52	5,52	5,51	5,53
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,58	40,84	44,54	47,18	50,39	53,70	58,31	61,05
Pressure drop	(1)	kPa	34,6	40,9	53,0	42,1	46,1	51,2	34,4	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	122	132	144	153	163	174	189	198
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	68	69	69	70	70	70	70	71
Sound power level in cooling	(4)(5)	dB(A)	101	102	102	103	103	103	103	104
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7400	7880	8420	8660	9190	9270	10330	11170

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-Y /SL-E			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	312,8	359,1	409,0	447,3	524,1	568,3	605,2	641,9	696,6
Total power input	(1)	kW	93,22	106,0	121,2	135,8	154,2	169,0	179,3	189,5	212,1
EER	(1)	kW/kW	3,356	3,388	3,375	3,294	3,399	3,363	3,375	3,387	3,284
ESEER	(1)	kW/kW	4,450	4,470	4,450	4,460	4,450	4,460	4,470	4,490	4,470
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	312,1	358,1	408,1	446,2	522,6	566,9	603,6	640,0	694,9
EER	(1)(2)	kW/kW	3,320	3,350	3,340	3,260	3,360	3,330	3,340	3,340	3,250
ESEER	(1)(2)	kW/kW	4,330	4,320	4,330	4,320	4,300	4,330	4,330	4,330	4,330
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	312,1	358,1	408,1	446,2	522,6	566,9	603,6	640,0	694,9
SEPR	(7)(9)		5,56	5,66	5,67	5,68	5,62	5,50	5,55	5,56	5,55
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	157,7	180,6	205,4	235,7	264,9	288,0	-	-	368,5
SEPR	(8)(9)		3,11	3,01	3,11	3,25	3,03	3,13	-	-	3,22
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,96	17,17	19,56	21,39	25,06	27,18	28,94	30,70	33,31
Pressure drop	(1)	kPa	22,4	29,5	23,4	28,0	34,9	28,7	32,6	36,6	30,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	49,0	56,0	64,0	71,0	82,0	89,0	95,0	101	109
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	56	57	57	57	57	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	89	89	89	90	91	91	92	92
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3960	4460	4620	4680	6120	6460	6940	7040	7140

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-Y

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

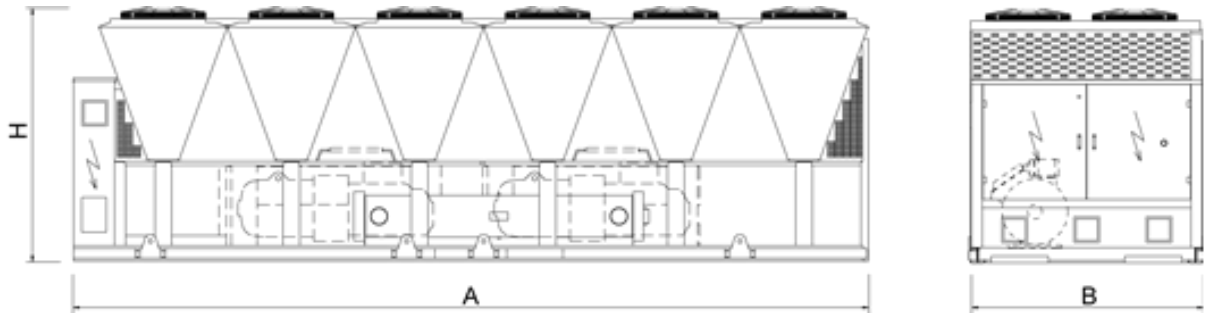
FX-Y /SL-E			3152	3602	3902	4202	4502	4802	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	776,1	841,9	918,4	973,5	1040	1108	1205	1260
Total power input	(1)	kW	234,5	253,8	275,0	295,6	315,3	335,2	373,3	389,9
EER	(1)	kW/kW	3,310	3,317	3,340	3,293	3,298	3,305	3,228	3,232
ESEER	(1)	kW/kW	4,450	4,470	4,510	4,470	4,490	4,490	4,420	4,440
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	774,1	839,4	915,0	970,6	1037	1104	1202	1257
EER	(1)(2)	kW/kW	3,270	3,280	3,290	3,250	3,250	3,260	3,200	3,200
ESEER	(1)(2)	kW/kW	4,310	4,300	4,300	4,310	4,320	4,290	4,290	4,300
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	774,1	839,4	915,0	970,6	1037	1104	1202	1257
SEPR	(7)(9)		5,56	5,56	5,56	5,56	5,60	5,59	5,58	5,60
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	-	-	-	-	-	-	639,7	-
SEPR	(8)(9)		-	-	-	-	-	-	3,22	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,11	40,26	43,92	46,55	49,72	52,98	57,62	60,28
Pressure drop	(1)	kPa	33,7	39,7	51,5	41,0	44,9	49,8	33,6	36,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	122	132	144	153	163	174	189	198
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	59	59	59	60	60	60	60	62
Sound power level in cooling	(4)(5)	dB(A)	92	92	92	93	93	93	93	95
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7990	8500	8990	9290	9830	9910	10900	11530

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX-G05-Y

Chiller, air source for outdoor installation

0751 - 1801 140,1-395,7 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressor optimized for R513A, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. (brazed plate evaporator for sizes 0751 and 0851) and electronic expansion valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R513A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

LOW GWP REFRIGERANT
New generation refrigerant R513A, with reduced greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of R513A = 572, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer. Not flammable (ASHRAE 34, ISO 817: class A1).

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 46°C (50°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. It is available with 1 or 2 pumps, fixed or variable speed, high or low head to satisfy all the different industrial and comfort application requirements.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX-G05-Y /K			0751	0851	0951	0961	1101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	145,5	160,1	202,8	221,9	238,0
Total power input	(1)	kW	52,12	61,09	66,27	76,37	88,76
EER	(1)	kW/kW	2,793	2,620	3,059	2,904	2,680
ESEER	(1)	kW/kW	3,930	3,920	3,970	4,010	4,000
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	145,1	159,7	202,1	221,1	237,1
EER	(1)(2)	kW/kW	2,760	2,600	3,020	2,860	2,640
ESEER	(1)(2)	kW/kW	3,830	3,840	3,850	3,880	3,870
Cooling energy class			C	D	B	C	D
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	145,1	159,7	202,1	221,1	237,1
SEPR	(7)(9)		5,00	5,24	5,01	5,00	5,25
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	76,10	84,50	103,1	118,1	124,9
SEPR	(8)(9)		2,95	2,97	2,87	3,03	2,96
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,957	7,654	9,696	10,61	11,38
Pressure drop	(1)	kPa	20,6	20,1	30,2	36,2	41,6
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	23,0	25,0	32,0	36,0	38,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	62	62	62	62	64
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	96
SIZE AND WEIGHT							
A	(6)	mm	1500	1500	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1480	1510	2100	2130	2460

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-G05-Y

0751 - 1801 140,1-395,7 kW

Chiller, air source for outdoor installation

FX-G05-Y /K			1301	1401	1421	1431	1801
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	274,7	299,1	329,0	347,7	395,7
Total power input	(1)	kW	91,61	106,9	123,7	116,2	140,9
EER	(1)	kW/kW	2,999	2,798	2,660	2,992	2,808
ESEER	(1)	kW/kW	4,020	3,970	3,990	3,940	3,960
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	273,7	297,8	327,7	346,8	394,4
EER	(1)(2)	kW/kW	2,960	2,750	2,620	2,960	2,770
ESEER	(1)(2)	kW/kW	3,890	3,820	3,850	3,860	3,850
Cooling energy class			B	C	D	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	273,7	297,8	327,7	346,8	394,4
SEPR	(7)(9)		5,00	5,01	5,00	5,00	5,14
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	141,0	155,6	177,1	184,3	207,5
SEPR	(8)(9)		2,95	2,94	3,04	3,03	2,86
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	13,14	14,30	15,73	16,63	18,92
Pressure drop	(1)	kPa	42,5	50,4	44,9	29,5	38,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	44,0	48,0	53,0	56,0	63,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	64	65	66	66	66
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	98	98
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	2750	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2510	2540	2580	3110	3540

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-G05-Y /SL-K			0751	0851	0951	0961	1101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	140,1	169,5	195,5	214,7	245,9
Total power input	(1)	kW	52,54	56,12	66,96	78,02	83,46
EER	(1)	kW/kW	2,669	3,021	2,918	2,753	2,945
ESEER	(1)	kW/kW	3,940	4,130	3,940	4,050	4,060
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	139,7	169,0	194,9	214,0	244,9
EER	(1)(2)	kW/kW	2,640	2,990	2,880	2,720	2,900
ESEER	(1)(2)	kW/kW	3,840	4,020	3,840	3,930	3,920
Cooling energy class			D	B	C	C	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	139,7	169,0	194,9	214,0	244,9
SEPR	(7)(9)		5,06	5,68	5,04	5,01	5,40
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	73,70	87,60	99,90	114,8	127,2
SEPR	(8)(9)		2,96	3,05	2,85	2,97	2,95
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	6,698	8,107	9,351	10,27	11,76
Pressure drop	(1)	kPa	19,1	22,6	28,1	33,9	44,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	24,0	29,0	33,0	37,0	43,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	52	52	53	53	55
Sound power level in cooling	(4)(5)	dB(A)	84	84	85	85	87
SIZE AND WEIGHT							
A	(6)	mm	1500	2750	2750	2750	2750
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	1640	2050	2270	2290	2770

Notes

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FX-G05-Y

Chiller, air source for outdoor installation

0751 - 1801 140,1-395,7 kW

FX-G05-Y /SL-K			1301	1401	1421	1431	1801
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	265,0	287,8	331,8	346,5	395,0
Total power input	(1)	kW	92,83	109,0	117,3	112,3	135,5
EER	(1)	kW/kW	2,856	2,640	2,829	3,085	2,915
ESEER	(1)	kW/kW	4,050	3,940	4,180	4,290	4,010
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	264,1	286,6	330,5	345,6	393,7
EER	(1)(2)	kW/kW	2,820	2,600	2,790	3,050	2,880
ESEER	(1)(2)	kW/kW	3,930	3,800	4,030	4,180	3,900
Cooling energy class			C	D	C	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	264,1	286,6	330,5	345,6	393,7
SEPR	(7)(9)		5,00	5,04	5,19	5,38	5,22
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	136,6	150,4	177,3	182,8	205,4
SEPR	(8)(9)		2,92	2,91	3,03	3,08	2,81
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	12,67	13,76	15,86	16,57	18,89
Pressure drop	(1)	kPa	39,5	46,6	45,7	29,3	38,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	46,0	49,0	58,0	60,0	68,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	55	56	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	88	89	89	89
SIZE AND WEIGHT							
A	(6)	mm	2750	2750	4000	4000	4000
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	2770	2790	3250	3410	3880

Notes

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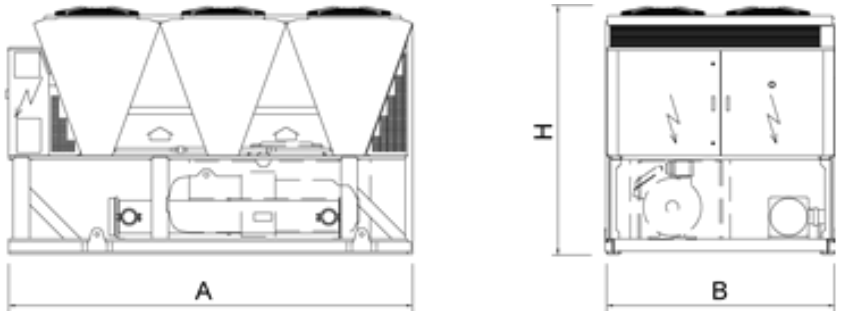
Dimensional drawing



CHILLERS

FX-G05-Y

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for R513A, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components.
The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R513A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
CA	High efficiency
SL-CA	Super low noise, high efficiency
E	Very high efficiency
SL-E	Super low noise, very high efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

LOW GWP REFRIGERANT
New generation refrigerant R513A, with reduced greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of R513A = 572, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer. Not flammable (ASHRAE 34, ISO 817: class A1).

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-20°C with accessories) to 50°C (54°C with accessories) of outdoor air temperature and from -8°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX-G05-Y /K			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	299,6	325,8	383,2	432,0	480,6	533,4	558,7	600,7	658,3
Total power input	(1)	kW	104,7	122,0	136,1	149,4	176,5	192,9	202,0	212,1	244,6
EER	(1)	kW/kW	2,862	2,670	2,816	2,892	2,723	2,765	2,766	2,832	2,691
ESEER	(1)	kW/kW	4,170	4,160	4,210	4,230	4,170	4,230	4,250	4,220	4,210
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	298,9	324,9	382,1	430,5	479,3	531,7	557,1	598,8	656,3
EER	(1)(2)	kW/kW	2,840	2,640	2,780	2,850	2,700	2,730	2,740	2,800	2,660
ESEER	(1)(2)	kW/kW	4,050	4,030	4,060	4,060	4,030	4,070	4,110	4,060	4,060
Cooling energy class			C	D	C	C	C	C	C	C	D
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	298,9	324,9	382,1	430,5	479,3	531,7	557,1	598,8	656,3
SEPR	(7)(9)		5,08	5,30	5,18	5,09	5,27	5,28	5,27	5,17	5,03
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	154,8	170,6	202,7	232,2	251,6	279,7	290,6	-	-
SEPR	(8)(9)		2,89	2,98	2,91	2,93	2,91	2,98	3,01	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,33	15,58	18,32	20,66	22,98	25,51	26,72	28,73	31,48
Pressure drop	(1)	kPa	23,9	28,3	33,6	42,7	32,3	39,8	34,9	40,3	38,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	51,0	54,0	63,0	72,0	79,0	87,0	92,0	101	108
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	67	67	67	68	68	68	68	68	70
Sound power level in cooling	(4)(5)	dB(A)	99	99	99	100	100	100	100	100	102
SIZE AND WEIGHT											
A	(6)	mm	2750	2750	4000	4000	4000	5250	5250	5250	5250
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3160	3170	3720	3810	4610	5060	5060	5130	5520

Notes

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FX-G05-Y

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05-Y /K			3152	3602	3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	725,4	802,7	871,9	926,5	982,4	1021	1059	1146	1176
Total power input	(1)	kW	260,4	278,6	301,8	322,7	351,1	377,8	362,3	405,4	433,0
EER	(1)	kW/kW	2,786	2,881	2,889	2,871	2,798	2,702	2,923	2,827	2,716
ESEER	(1)	kW/kW	4,200	4,180	4,180	4,200	4,180	4,190	4,200	4,230	4,190
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	722,9	800,2	869,2	923,3	979,4	1018	1055	1142	1172
EER	(1)(2)	kW/kW	2,750	2,850	2,850	2,830	2,770	2,670	2,880	2,790	2,680
ESEER	(1)(2)	kW/kW	4,030	4,020	4,020	4,030	4,030	4,020	4,030	4,050	4,040
Cooling energy class			C	C	C	C	C	D	C	C	D
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	722,9	800,2	869,2	923,3	979,4	1018	1055	1142	1172
SEPR	(7)(9)		5,14	5,24	5,23	5,21	5,24	5,23	5,24	5,15	5,25
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,69	38,39	41,70	44,31	46,98	48,82	50,65	54,81	56,25
Pressure drop	(1)	kPa	46,8	40,9	42,6	48,1	41,8	45,1	48,5	53,3	42,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	120	135	146	155	161	168	174	189	193
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	69	69	70	70	71	71	71	71	72
Sound power level in cooling	(4)(5)	dB(A)	102	102	103	103	104	104	104	104	105
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	7750	7750	9000	9000	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6450	6940	7440	7560	7790	7820	8250	8370	8660

Notes

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FX-G05-Y /K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1239	1303	1401	1481	1547	1654	1710
Total power input	(1)	kW	443,8	485,7	485,8	535,1	569,7	593,7	619,2
EER	(1)	kW/kW	2,792	2,683	2,884	2,768	2,715	2,786	2,762
ESEER	(1)	kW/kW	4,190	4,220	4,190	4,200	4,160	4,200	4,230
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1235	1298	1397	1476	1543	1649	1704
EER	(1)(2)	kW/kW	2,760	2,650	2,850	2,730	2,690	2,750	2,730
ESEER	(1)(2)	kW/kW	4,030	4,040	4,030	4,030	4,020	4,040	4,050
Cooling energy class			C	D	C	C	D	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1235	1298	1397	1476	1543	1649	1704
SEPR	(7)(9)		5,27	5,15	5,19	5,20	5,26	5,14	5,13
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,26	62,29	67,01	70,81	74,00	79,11	81,79
Pressure drop	(1)	kPa	46,9	51,8	45,4	50,7	39,0	44,6	51,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	214	236	244	254	273	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	73	73	73	73	73	73	73
Sound power level in cooling	(4)(5)	dB(A)	106	106	106	106	106	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9200	9310	11880	11940	11950	12490	12570

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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FX-G05-Y

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05-Y /SL-K			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	288,5	333,4	381,6	418,7	476,0	518,6	556,0	578,5	663,2
Total power input	(1)	kW	105,5	117,7	131,2	152,3	168,2	182,0	199,9	216,1	232,1
EER	(1)	kW/kW	2,735	2,833	2,909	2,749	2,830	2,849	2,781	2,677	2,857
ESEER	(1)	kW/kW	4,140	4,160	4,190	4,220	4,190	4,250	4,230	4,220	4,180
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	287,8	332,5	380,5	417,3	474,7	517,0	554,4	576,8	661,2
EER	(1)(2)	kW/kW	2,710	2,800	2,880	2,720	2,800	2,820	2,750	2,650	2,820
ESEER	(1)(2)	kW/kW	4,020	4,030	4,050	4,050	4,050	4,090	4,090	4,070	4,030
Cooling energy class			C	C	C	C	C	C	C	D	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	287,8	332,5	380,5	417,3	474,7	517,0	554,4	576,8	661,2
SEPR	(7)(9)		5,07	5,17	5,29	5,11	5,09	5,11	5,16	5,23	5,11
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	149,8	173,1	197,1	225,9	250,3	270,1	288,3	-	-
SEPR	(8)(9)		2,93	2,94	2,94	2,98	2,95	2,97	2,95	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,80	15,94	18,25	20,02	22,76	24,80	26,59	27,66	31,72
Pressure drop	(1)	kPa	22,2	29,6	33,3	40,1	31,7	37,6	34,5	37,4	39,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	51,0	59,0	67,0	72,0	83,0	91,0	97,0	101	116
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	55	55	56	56	57	57	57	57	57
Sound power level in cooling	(4)(5)	dB(A)	87	87	88	88	89	89	89	89	90
SIZE AND WEIGHT											
A	(6)	mm	2750	4000	4000	4000	5250	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3420	4160	4230	4230	5200	5560	5580	5620	6610

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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5 Sound power level in cooling, outdoors.
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FX-G05-Y /SL-K			3152	3602	3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	716,6	770,8	838,7	892,9	964,9	1021	1052	1137	1169
Total power input	(1)	kW	257,3	283,3	307,1	328,4	349,6	368,2	355,4	396,9	424,6
EER	(1)	kW/kW	2,785	2,721	2,731	2,719	2,760	2,773	2,960	2,865	2,753
ESEER	(1)	kW/kW	4,200	4,170	4,190	4,200	4,180	4,200	4,200	4,210	4,180
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	714,1	768,6	836,2	890,0	962,1	1018	1048	1133	1166
EER	(1)(2)	kW/kW	2,750	2,690	2,700	2,690	2,730	2,740	2,920	2,830	2,720
ESEER	(1)(2)	kW/kW	4,030	4,030	4,040	4,030	4,030	4,030	4,030	4,030	4,030
Cooling energy class			C	D	C	D	C	C	B	C	C
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	714,1	768,6	836,2	890,0	962,1	1018	1048	1133	1166
SEPR	(7)(9)		5,16	5,25	5,26	5,24	5,23	5,22	5,21	5,14	5,19
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,27	36,86	40,11	42,70	46,14	48,85	50,30	54,38	55,91
Pressure drop	(1)	kPa	45,7	37,7	39,4	44,7	40,3	45,2	47,9	52,5	41,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	125	135	146	155	168	178	183	198	204
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	58	58	59	59	60	60	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	91	91	92	92	93	93	94	94	94
SIZE AND WEIGHT											
A	(6)	mm	6500	6500	7750	7750	9000	9000	10250	10250	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7080	7550	8090	8200	9000	8870	9360	9470	9780

Notes

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FX-G05-Y

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

FX-G05-Y /SL-K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1194	1289	1350	1463	1530	1595	1649
Total power input	(1)	kW	451,2	478,6	494,5	531,6	563,4	607,6	635,5
EER	(1)	kW/kW	2,646	2,693	2,730	2,752	2,716	2,625	2,595
ESEER	(1)	kW/kW	4,180	4,220	4,180	4,200	4,160	4,170	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1190	1285	1346	1458	1526	1590	1644
EER	(1)(2)	kW/kW	2,620	2,660	2,700	2,720	2,690	2,600	2,570
ESEER	(1)(2)	kW/kW	4,020	4,040	4,030	4,030	4,030	4,030	4,020
Cooling energy class			D	D	C	C	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1190	1285	1346	1458	1526	1590	1644
SEPR	(7)(9)		5,27	5,20	5,22	5,21	5,24	5,17	5,15
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,11	61,64	64,56	69,97	73,16	76,27	78,86
Pressure drop	(1)	kPa	43,5	50,7	42,1	49,5	38,2	41,5	47,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	224	236	255	267	278	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	61	61	61	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	94	94	94	94	94	94	95
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9860	10420	12810	13340	13340	13420	13500

Notes

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FX-G05-Y /CA			1502	1702	1902	1922	2202	2602	2652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	302,4	349,6	395,0	461,7	513,2	551,4	590,7
Total power input	(1)	kW	99,27	112,9	130,0	149,8	166,3	182,0	191,9
EER	(1)	kW/kW	3,045	3,097	3,038	3,082	3,086	3,030	3,078
ESEER	(1)	kW/kW	4,290	4,310	4,310	4,280	4,310	4,310	4,320
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	301,6	348,6	393,8	460,5	511,7	549,9	588,9
EER	(1)(2)	kW/kW	3,010	3,060	3,000	3,050	3,050	3,000	3,040
ESEER	(1)(2)	kW/kW	4,150	4,160	4,150	4,150	4,160	4,170	4,160
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	301,6	348,6	393,8	460,5	511,7	549,9	588,9
SEPR	(7)(9)		5,27	5,36	5,40	5,40	5,37	5,22	5,26
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	153,5	178,7	203,2	235,9	263,9	282,7	-
SEPR	(8)(9)		2,83	2,90	2,97	2,94	2,92	2,95	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,46	16,72	18,89	22,08	24,54	26,37	28,25
Pressure drop	(1)	kPa	24,4	32,6	35,7	29,8	36,8	34,0	39,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	55,0	62,0	67,0	78,0	91,0	93,0	100
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	66	66	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	98	99	99	100	100	101
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3660	3720	3760	4660	5040	5090	5830

Notes

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FX-G05-Y

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05-Y /CA			2702	2722	3152	3602	3902	4202	4502
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	628,7	683,7	766,2	837,8	904,7	956,0	1031
Total power input	(1)	kW	203,9	226,5	251,5	270,8	291,1	311,7	333,0
EER	(1)	kW/kW	3,083	3,019	3,047	3,094	3,108	3,067	3,096
ESEER	(1)	kW/kW	4,310	4,330	4,310	4,300	4,320	4,330	4,310
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	626,6	681,5	764,0	835,0	901,7	952,5	1028
EER	(1)(2)	kW/kW	3,040	2,980	3,010	3,050	3,070	3,020	3,060
ESEER	(1)(2)	kW/kW	4,140	4,160	4,150	4,130	4,140	4,140	4,140
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	626,6	681,5	764,0	835,0	901,7	952,5	1028
SEPR	(7)(9)		5,27	5,18	5,26	5,34	5,32	5,31	5,32
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	30,07	32,70	36,64	40,06	43,26	45,72	49,29
Pressure drop	(1)	kPa	44,2	41,6	37,2	44,5	45,8	51,2	46,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	106	115	130	141	153	162	174
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	68	68	68	69	69	70	70
Sound power level in cooling	(4)(5)	dB(A)	101	101	101	102	102	103	103
SIZE AND WEIGHT									
A	(6)	mm	6500	6500	7750	7750	9000	9000	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5690	6110	6970	7440	7890	8000	8700

Notes

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FX-G05-Y /CA			4802	4822	5412	5703	6303	6603
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	1098	1177	1236	1342	1460	1521
Total power input	(1)	kW	353,4	390,4	406,9	431,5	477,7	504,8
EER	(1)	kW/kW	3,107	3,015	3,038	3,110	3,056	3,013
ESEER	(1)	kW/kW	4,340	4,310	4,330	4,270	4,290	4,300
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	1094	1173	1232	1338	1456	1517
EER	(1)(2)	kW/kW	3,060	2,980	3,000	3,070	3,030	2,980
ESEER	(1)(2)	kW/kW	4,160	4,160	4,160	4,120	4,160	4,160
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	1094	1173	1232	1338	1456	1517
SEPR	(7)(9)		5,32	5,30	5,33	5,31	5,30	5,30
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	52,53	56,31	59,13	64,17	69,81	72,73
Pressure drop	(1)	kPa	50,1	42,3	46,7	41,6	34,7	37,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	3	3	3
No. Circuits		N°	2	2	2	3	3	3
Refrigerant charge		kg	185	199	209	227	260	258
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	70	70	71	71	71	71
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	104	104	104
SIZE AND WEIGHT								
A	(6)	mm	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8780	9040	10120	12160	12330	12640

Notes

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FX-G05-Y

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

FX-G05-Y /SL-CA			1502	1702	1902	1922	2202	2602	2652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	304,2	344,9	394,3	450,1	500,7	560,7	582,8
Total power input	(1)	kW	98,67	112,2	126,9	149,7	166,1	185,7	189,1
EER	(1)	kW/kW	3,082	3,074	3,107	3,007	3,014	3,019	3,082
ESEER	(1)	kW/kW	4,290	4,310	4,320	4,250	4,300	4,310	4,300
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	303,4	343,9	393,1	449,0	499,3	559,1	581,0
EER	(1)(2)	kW/kW	3,050	3,040	3,070	2,980	2,980	2,990	3,040
ESEER	(1)(2)	kW/kW	4,160	4,160	4,160	4,130	4,160	4,150	4,150
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	303,4	343,9	393,1	449,0	499,3	559,1	581,0
SEPR	(7)(9)		5,35	5,42	5,35	5,41	5,36	5,33	5,25
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	155,0	176,9	205,8	231,0	258,5	287,8	298,8
SEPR	(8)(9)		2,91	2,97	2,98	2,97	2,94	2,95	2,97
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	14,55	16,49	18,85	21,53	23,94	26,81	27,87
Pressure drop	(1)	kPa	24,7	31,7	35,6	28,3	35,1	35,1	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	55,0	62,0	71,0	82,0	91,0	101	106
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	55	56	56	57	57	57	58
Sound power level in cooling	(4)(5)	dB(A)	87	88	88	89	89	90	91
SIZE AND WEIGHT									
A	(6)	mm	4000	4000	5250	5250	5250	6500	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4130	4190	4680	5140	5520	6140	6390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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FX-G05-Y /SL-CA			2702	2722	3152	3602	3902	4202	4502
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	615,6	680,7	754,1	819,3	899,1	947,9	1020
Total power input	(1)	kW	204,4	221,1	246,8	262,5	285,1	305,7	327,1
EER	(1)	kW/kW	3,012	3,079	3,056	3,121	3,154	3,101	3,118
ESEER	(1)	kW/kW	4,290	4,330	4,300	4,290	4,300	4,330	4,300
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	613,9	678,5	752,0	816,7	896,1	944,5	1017
EER	(1)(2)	kW/kW	2,980	3,040	3,020	3,080	3,110	3,060	3,080
ESEER	(1)(2)	kW/kW	4,150	4,160	4,160	4,120	4,130	4,140	4,140
Cooling energy class			B	B	B	B	A	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	613,9	678,5	752,0	816,7	896,1	944,5	1017
SEPR	(7)(9)		5,29	5,17	5,24	5,34	5,34	5,31	5,31
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	29,44	32,55	36,06	39,18	43,00	45,33	48,80
Pressure drop	(1)	kPa	33,7	41,2	36,1	42,6	45,3	50,3	45,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	112	123	136	148	162	171	184
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	58	59	59	59	59	60	60
Sound power level in cooling	(4)(5)	dB(A)	91	92	92	92	92	93	93
SIZE AND WEIGHT									
A	(6)	mm	6500	7750	7750	9000	10250	10250	11650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6520	7150	7610	8500	8990	9280	9810

Notes

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FX-G05-Y

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

FX-G05-Y /SL-CA			4802	4822	5412	5703	6303
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1086	1163	1219	1310	1442
Total power input	(1)	kW	347,6	384,6	401,4	426,7	479,4
EER	(1)	kW/kW	3,124	3,024	3,037	3,070	3,008
ESEER	(1)	kW/kW	4,330	4,310	4,330	4,280	4,280
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1082	1160	1215	1306	1439
EER	(1)(2)	kW/kW	3,080	2,990	3,000	3,030	2,980
ESEER	(1)(2)	kW/kW	4,150	4,160	4,160	4,130	4,150
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	1082	1160	1215	1306	1439
SEPR	(7)(9)		5,34	5,30	5,33	5,31	5,36
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	51,94	55,63	58,31	62,64	68,95
Pressure drop	(1)	kPa	48,9	41,3	45,4	39,7	33,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	3	3
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	197	210	220	237	260
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	60	60	62	62	62
Sound power level in cooling	(4)(5)	dB(A)	93	93	95	95	95
SIZE AND WEIGHT							
A	(6)	mm	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9890	10230	10760	13130	13260

Notes

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FX-G05-Y /E			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	316,5	362,6	413,8	451,2	530,5	575,8	612,9	649,8	703,3
Total power input	(1)	kW	98,32	112,6	128,0	142,3	162,6	177,5	188,6	199,6	221,8
EER	(1)	kW/kW	3,220	3,220	3,233	3,171	3,263	3,244	3,250	3,256	3,171
ESEER	(1)	kW/kW	4,350	4,370	4,360	4,370	4,360	4,360	4,370	4,390	4,360
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	315,8	361,6	412,9	450,1	529,0	574,4	611,2	647,9	701,5
EER	(1)(2)	kW/kW	3,190	3,180	3,200	3,140	3,220	3,210	3,210	3,220	3,140
ESEER	(1)(2)	kW/kW	4,230	4,220	4,250	4,240	4,210	4,230	4,220	4,240	4,230
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	315,8	361,6	412,9	450,1	529,0	574,4	611,2	647,9	701,5
SEPR	(7)(9)		5,29	5,40	5,41	5,43	5,39	5,25	5,28	5,29	5,26
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	159,0	181,9	207,1	237,1	267,2	290,9	-	-	-
SEPR	(8)(9)		2,88	2,82	2,91	3,04	2,87	2,94	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,14	17,34	19,79	21,58	25,37	27,54	29,31	31,07	33,63
Pressure drop	(1)	kPa	22,9	30,1	24,0	28,5	35,8	29,5	33,4	37,5	31,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	56,0	64,0	74,0	82,0	94,0	102	109	116	125
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	66	67	67	67	67	67	68	68	68
Sound power level in cooling	(4)(5)	dB(A)	98	99	99	99	100	100	101	101	101
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3720	4240	4360	4420	5590	5920	6400	6490	6600

Notes

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9 Seasonal energy efficiency ratio

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FX-G05-Y

1502 - 7223 288,5-1710 kW

Chiller, air source for outdoor installation

FX-G05-Y /E			3152	3602	3902	4202	4502	4802	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	785,8	854,0	931,3	986,6	1054	1123	1219	1277
Total power input	(1)	kW	245,6	266,4	288,3	309,5	330,1	350,9	388,4	407,4
EER	(1)	kW/kW	3,200	3,206	3,230	3,188	3,193	3,200	3,139	3,135
ESEER	(1)	kW/kW	4,350	4,370	4,420	4,380	4,400	4,400	4,330	4,350
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	783,7	851,4	927,8	983,6	1051	1119	1216	1274
EER	(1)(2)	kW/kW	3,160	3,170	3,180	3,150	3,150	3,150	3,110	3,100
ESEER	(1)(2)	kW/kW	4,210	4,210	4,210	4,210	4,220	4,210	4,200	4,210
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	783,7	851,4	927,8	983,6	1051	1119	1216	1274
SEPR	(7)(9)		5,32	5,35	5,34	5,33	5,36	5,36	5,35	5,37
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,58	40,84	44,54	47,18	50,39	53,70	58,31	61,05
Pressure drop	(1)	kPa	34,6	40,9	53,0	42,1	46,1	51,2	34,4	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	140	152	166	176	187	200	217	228
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	68	69	69	70	70	70	70	71
Sound power level in cooling	(4)(5)	dB(A)	101	102	102	103	103	103	103	104
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7400	7880	8420	8660	9190	9270	10330	11170

Notes

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FX-G05-Y /SL-E			1502	1702	1902	1922	2202	2602	2652	2702	2722
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	312,8	359,1	409,0	447,3	524,1	568,3	605,2	641,9	696,6
Total power input	(1)	kW	97,03	110,3	126,2	141,4	160,5	176,0	186,6	197,3	220,9
EER	(1)	kW/kW	3,225	3,256	3,241	3,163	3,265	3,229	3,243	3,253	3,153
ESEER	(1)	kW/kW	4,380	4,390	4,360	4,370	4,370	4,450	4,430	4,440	4,430
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	312,1	358,1	408,1	446,2	522,6	566,9	603,6	640,0	694,9
EER	(1)(2)	kW/kW	3,190	3,220	3,210	3,130	3,230	3,200	3,210	3,210	3,120
ESEER	(1)(2)	kW/kW	4,260	4,250	4,250	4,240	4,220	4,320	4,290	4,280	4,290
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	312,1	358,1	408,1	446,2	522,6	566,9	603,6	640,0	694,9
SEPR	(7)(9)		5,39	5,50	5,51	5,50	5,50	5,51	5,50	5,50	5,50
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	157,7	180,6	205,4	235,7	264,9	288,0	-	-	-
SEPR	(8)(9)		3,02	2,92	3,02	3,15	2,97	3,13	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	14,96	17,17	19,56	21,39	25,06	27,18	28,94	30,70	33,31
Pressure drop	(1)	kPa	22,4	29,5	23,4	28,0	34,9	28,7	32,6	36,6	30,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	56,0	64,0	74,0	82,0	94,0	102	109	116	125
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	56	57	57	57	57	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	89	89	89	90	91	91	92	92
SIZE AND WEIGHT											
A	(6)	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3960	4460	4620	4680	6120	6460	6940	7040	7140

Notes

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FX-G05-Y

Chiller, air source for outdoor installation

1502 - 7223 288,5-1710 kW

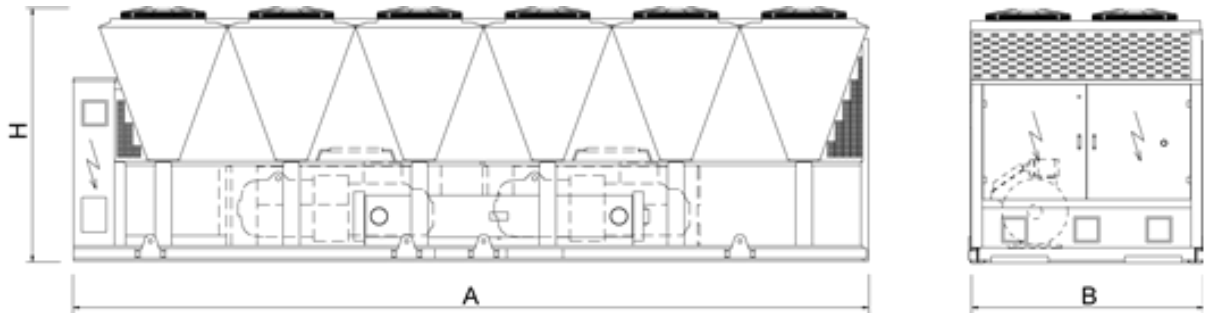
FX-G05-Y /SL-E			3152	3602	3902	4202	4502	4802	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	776,1	841,9	918,4	973,5	1040	1108	1205	1260
Total power input	(1)	kW	244,2	264,3	286,4	307,9	328,4	349,1	389,0	406,2
EER	(1)	kW/kW	3,178	3,185	3,207	3,162	3,167	3,174	3,098	3,102
ESEER	(1)	kW/kW	4,400	4,410	4,460	4,420	4,410	4,410	4,360	4,370
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	774,1	839,4	915,0	970,6	1037	1104	1202	1257
EER	(1)(2)	kW/kW	3,140	3,150	3,160	3,120	3,130	3,130	3,070	3,070
ESEER	(1)(2)	kW/kW	4,260	4,250	4,260	4,260	4,240	4,220	4,240	4,230
Cooling energy class			A	A	A	A	A	A	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	774,1	839,4	915,0	970,6	1037	1104	1202	1257
SEPR	(7)(9)		5,50	5,50	5,51	5,50	5,50	5,51	5,51	5,51
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	37,11	40,26	43,92	46,55	49,72	52,98	57,62	60,28
Pressure drop	(1)	kPa	33,7	39,7	51,5	41,0	44,9	49,8	33,6	36,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	140	152	166	176	187	200	217	228
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	59	59	59	60	60	60	60	62
Sound power level in cooling	(4)(5)	dB(A)	92	92	92	93	93	93	93	95
SIZE AND WEIGHT										
A	(6)	mm	9000	9000	10250	10250	11650	11650	11650	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7990	8500	8990	9290	9830	9910	10900	11530

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX HFO-Y

1502 - 7823 234,7-1463 kW

Chiller, air source for outdoor installation

Outdoor unit for the production of chilled water with semi-hermetic screw compressors optimized for HFO refrigerant R1234ze, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation and the accurate sizing of all internal components. The compressors feature an enhanced lubrication system, an innovative internal geometry and a different control of capacity steps. Innovations that grant a remarkable performance improvement especially at partial loads.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R1234ze

Versions

A	High efficiency
SL-A	Super low noise, high efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HFO REFRIGERANT
4th generation refrigerant HFO 1234ze, with negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze < 1, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer.

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As the result of a systematic design oriented to minimize the noise level, the silenced version units give the best combination of quietness and efficiency on the market.

FLEXIBILITY
Flexibility in the applications thanks to the many configurations and versions available.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C (-15°C with accessories) to 48°C (52°C with accessories) of outdoor air temperature and from -2°C to 18°C (20°C with accessories) of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Compressor enclosure (standard on silenced versions)
- Leak detector
- Kit HT to increase the unit operating range
- Compressor power factor correction
- Soft start
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

FX HFO-Y /A			1502	1702	1802	1922	2202	2602	2702	2722	3602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	237,5	269,7	293,1	339,6	377,1	414,8	483,4	533,4	631,7
Total power input	(1)	kW	74,04	84,99	91,95	103,9	118,5	131,7	152,7	167,7	199,3
EER	(1)	kW/kW	3,209	3,173	3,186	3,269	3,182	3,150	3,166	3,181	3,170
ESEER	(1)	kW/kW	4,310	4,270	4,340	4,250	4,270	4,360	4,300	4,340	4,310
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	236,7	268,9	292,4	338,7	376,0	413,4	482,2	531,8	629,5
EER	(1)(2)	kW/kW	3,160	3,130	3,150	3,230	3,140	3,110	3,130	3,140	3,120
ESEER	(1)(2)	kW/kW	4,140	4,120	4,210	4,120	4,120	4,180	4,170	4,180	4,130
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	236,7	268,9	292,4	338,7	376,0	413,4	482,2	531,8	629,5
SEPR	(7)(9)		5,18	5,34	5,48	5,23	5,29	5,17	5,34	5,17	5,43
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,36	12,90	14,02	16,24	18,04	19,84	23,12	25,51	30,21
Pressure drop	(1)	kPa	33,0	31,4	20,7	27,8	34,3	41,5	29,7	36,2	44,6
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	43,0	47,0	51,0	58,0	63,0	70,0	81,0	86,0	108
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	66	67	67	68	68	68	68	70	69
Sound power level in cooling	(4)(5)	dB(A)	98	99	99	100	100	100	100	102	102
SIZE AND WEIGHT											
A	(6)	mm	4000	4000	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3640	3665	3740	3980	4610	5060	5120	5120	6760

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

FX HFO-Y

1502 - 7823 234,7-1463 kW

Chiller, air source for outdoor installation

FX HFO-Y /A			4202	4802	4822	6002	6022	6603	7203	7223	7823
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	727,1	840,5	900,3	983,8	1065	1152	1271	1384	1452
Total power input	(1)	kW	229,4	268,6	279,6	311,3	334,5	363,3	404,7	434,4	460,7
EER	(1)	kW/kW	3,170	3,129	3,220	3,160	3,184	3,171	3,141	3,186	3,152
ESEER	(1)	kW/kW	4,320	4,310	4,300	4,360	4,390	4,330	4,340	4,360	4,370
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	724,5	838,5	897,3	980,8	1062	1149	1267	1379	1447
EER	(1)(2)	kW/kW	3,120	3,100	3,180	3,120	3,140	3,130	3,100	3,140	3,110
ESEER	(1)(2)	kW/kW	4,130	4,190	4,130	4,200	4,220	4,180	4,190	4,190	4,190
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	724,5	838,5	897,3	980,8	1062	1149	1267	1379	1447
SEPR	(7)(9)		5,17	5,30	5,05	5,49	5,34	5,23	5,28	5,13	5,20
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,77	40,19	43,05	47,05	50,95	55,11	60,78	66,17	69,44
Pressure drop	(1)	kPa	47,0	30,6	45,4	41,9	46,1	40,5	40,2	47,7	52,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3	3
Refrigerant charge		kg	124	134	139	167	171	189	195	203	218
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	70	71	71	73	73	73	73	73	73
Sound power level in cooling	(4)(5)	dB(A)	103	104	104	106	106	106	106	106	106
SIZE AND WEIGHT											
A	(6)	mm	7750	7750	9000	10400	10400	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7535	7820	8145	9040	9044	11932	11950	12600	12750

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX HFO-Y /SL-A			1502	1702	1802	1922	2202	2602	2702	2722	3602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	234,7	266,2	289,0	336,9	371,6	414,6	476,6	528,1	622,8
Total power input	(1)	kW	72,69	84,06	91,27	103,3	118,0	129,0	151,9	168,2	198,4
EER	(1)	kW/kW	3,228	3,165	3,165	3,261	3,149	3,214	3,138	3,140	3,139
ESEER	(1)	kW/kW	4,330	4,290	4,340	4,280	4,270	4,400	4,310	4,360	4,310
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	233,9	265,4	288,4	336,0	370,5	413,2	475,4	526,6	620,7
EER	(1)(2)	kW/kW	3,180	3,130	3,140	3,220	3,110	3,170	3,110	3,100	3,100
ESEER	(1)(2)	kW/kW	4,170	4,140	4,240	4,150	4,130	4,220	4,180	4,200	4,140
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	233,9	265,4	288,4	336,0	370,5	413,2	475,4	526,6	620,7
SEPR	(7)(9)		5,31	5,45	5,59	5,37	5,35	5,27	5,42	5,27	5,49
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,22	12,73	13,82	16,11	17,77	19,83	22,79	25,25	29,78
Pressure drop	(1)	kPa	32,2	30,6	20,1	27,4	33,3	41,5	28,9	35,5	43,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	43,0	47,0	51,0	58,0	63,0	73,0	81,0	86,0	108
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	55	55	55	56	57	57	57	58	58
Sound power level in cooling	(4)(5)	dB(A)	87	87	87	88	89	89	89	90	91
SIZE AND WEIGHT											
A	(6)	mm	4000	4000	4000	4000	4000	5250	5250	5250	6500
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	3640	3665	3740	3980	4610	5050	5120	5120	6760

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

CHILLERS

FX HFO-Y

1502 - 7823 234,7-1463 kW

Chiller, air source for outdoor installation

FX HFO-Y /SL-A			4202	4802	4822	6002	6022	6603	7203	7223	7823
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	717,9	831,0	892,1	971,0	1054	1137	1261	1379	1463
Total power input	(1)	kW	228,4	258,0	280,1	309,7	335,0	362,7	400,3	430,7	466,7
EER	(1)	kW/kW	3,143	3,221	3,185	3,135	3,146	3,135	3,150	3,202	3,135
ESEER	(1)	kW/kW	4,330	4,310	4,310	4,360	4,410	4,330	4,370	4,420	4,420
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	715,4	828,6	889,2	968,1	1051	1134	1257	1375	1460
EER	(1)(2)	kW/kW	3,100	3,180	3,140	3,100	3,110	3,100	3,110	3,160	3,110
ESEER	(1)(2)	kW/kW	4,150	4,160	4,150	4,210	4,230	4,190	4,220	4,240	4,290
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(7)	kW	715,4	828,6	889,2	968,1	1051	1134	1257	1375	1460
SEPR	(7)(9)		5,25	5,37	5,14	5,56	5,42	5,29	5,38	5,23	5,35
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	34,33	39,74	42,66	46,44	50,42	54,36	60,32	65,92	69,95
Pressure drop	(1)	kPa	45,8	38,7	44,6	40,8	45,1	39,4	39,6	47,3	31,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3	3
Refrigerant charge		kg	124	134	139	167	171	189	204	213	223
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	59	60	61	61	61	61	61	62	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	94	94	94	94	94	95	95
SIZE AND WEIGHT											
A	(6)	mm	7750	9000	9000	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7535	8100	8145	9040	9044	11932	12500	12700	12800

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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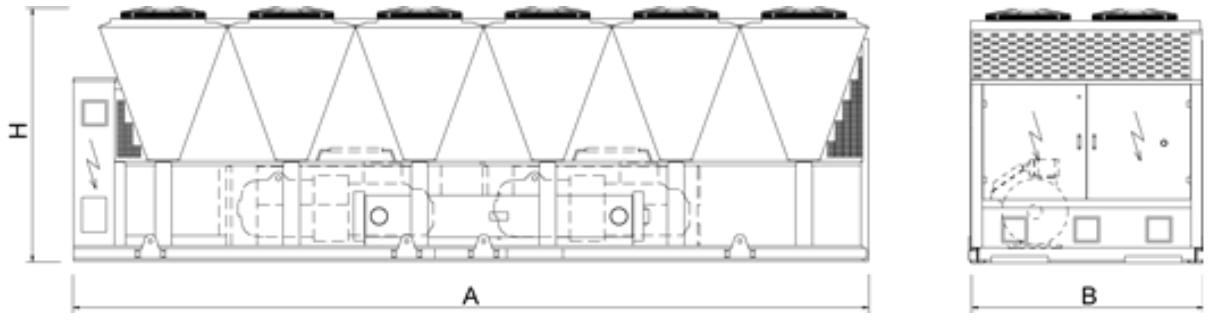
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-G01-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

Outdoor unit for the production of chilled water with semi-hermetic variable-speed screw compressors optimized for R134a, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
The screw compressors feature the variable speed technology thanks to the integrated refrigerant cooled inverter, for the maximum compactness and operating flexibility. Moreover, they feature the Variable Vi (compression ratio) technology, to change the internal geometry according to the operating conditions.
Thanks to the accurate sizing of all internal components and the use of variable speed technology, the unit ensures flexibility, reliability and maximum efficiency in every operating condition.

Control

W3000TE

W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R134a

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency
SL-A	Super low noise, high efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP COMPLIANT 2021
Thanks to the inverter technology and the accurate design, the units already comply and exceed the minimum seasonal energy efficiency requirements that will start from 2021, imposed by the eco-sustainable design Directive 2009/125/EC.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model), the availability of devoted kits and smart control logics allow unit's operation from -20°C up to 55°C of outdoor air temperature and from -8°C to 20°C of evaporator leaving water temperature.

REDUCED FOOTPRINT
These new units have a reduced footprint, making them the best solution both for new plants (thanks to high efficiency) and for the replacement of obsolete units in existing plants, offering a very high efficiency increase with same dimensions and cooling capacity.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

ADAPTABILITY
Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

HARMONY BETWEEN UNIT AND PLANT
Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor (for K versions)
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Leak detector
- Kit HT to increase the unit operating range
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Mitsubishi M-Net, Echelon, Bacnet, Bacnet over-IP.

i-FX-G01-Y/K			2202	2602	2652	2702	2722	3152	3602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	478,6	531,1	561,2	598,1	656,7	720,7	801,4
Total power input	(1)	kW	165,1	181,6	190,6	200,8	227,7	252,4	278,6
EER	(1)	kW/kW	2,899	2,925	2,944	2,979	2,884	2,855	2,877
ESEER	(1)	kW/kW	4,710	4,720	4,720	4,690	4,680	4,770	4,760
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	477,3	529,4	559,6	596,2	654,7	718,2	798,9
EER	(1)(2)	kW/kW	2,870	2,890	2,910	2,940	2,850	2,820	2,840
ESEER	(1)(2)	kW/kW	4,530	4,510	4,530	4,480	4,480	4,540	4,550
Cooling energy class			C	C	B	B	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	477,3	529,4	559,6	596,2	654,7	718,2	798,9
SEPR	(7)(9)		5,69	5,63	5,61	5,63	5,55	5,60	5,66
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,89	25,40	26,84	28,60	31,40	34,47	38,33
Pressure drop	(1)	kPa	32,0	39,5	35,2	40,0	38,3	46,2	40,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	69,0	76,0	80,0	88,0	94,0	104	117
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	67	68	68	68	69	68	68
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	5400	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4790	5360	5360	5420	5730	6150	6240

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G01-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G01-Y/K			3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	874,1	932,0	990,3	1029	1054	1128	1169
Total power input	(1)	kW	299,6	317,8	343,7	368,3	352,1	389,0	413,1
EER	(1)	kW/kW	2,918	2,933	2,881	2,794	2,993	2,900	2,830
ESEER	(1)	kW/kW	4,660	4,680	4,730	4,790	4,700	4,710	4,850
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	871,3	928,7	987,3	1026	1050	1124	1166
EER	(1)(2)	kW/kW	2,880	2,890	2,850	2,760	2,950	2,860	2,800
ESEER	(1)(2)	kW/kW	4,460	4,450	4,530	4,560	4,480	4,480	4,640
Cooling energy class			C	C	C	C	B	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	871,3	928,7	987,3	1026	1050	1124	1166
SEPR	(7)(9)		5,54	5,55	5,74	5,73	5,61	5,52	5,79
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	41,80	44,57	47,36	49,20	50,41	53,94	55,90
Pressure drop	(1)	kPa	42,8	48,7	42,4	45,8	48,1	51,7	41,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	127	135	140	146	151	164	168
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	69	70	70	71	71	72	72
Sound power level in cooling	(4)(5)	dB(A)	102	103	103	104	104	105	105
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	7900	7900	9150	9150	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6730	6810	7410	7760	8360	8470	8560

Notes

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4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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i-FX-G01-Y/K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1242	1302	1409	1493	1559	1649	1697
Total power input	(1)	kW	421,2	457,9	478,8	522,8	555,4	572,1	593,5
EER	(1)	kW/kW	2,949	2,843	2,943	2,856	2,807	2,882	2,859
ESEER	(1)	kW/kW	4,860	4,870	4,660	4,710	4,720	4,670	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1238	1297	1405	1488	1555	1644	1691
EER	(1)(2)	kW/kW	2,910	2,800	2,910	2,820	2,780	2,850	2,820
ESEER	(1)(2)	kW/kW	4,630	4,620	4,460	4,490	4,530	4,480	4,480
Cooling energy class			B	C	B	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1238	1297	1405	1488	1555	1644	1691
SEPR	(7)(9)		5,82	5,68	5,54	5,58	5,63	5,53	5,54
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,42	62,28	67,38	71,40	74,58	78,86	81,17
Pressure drop	(1)	kPa	47,1	51,8	45,9	51,5	39,6	44,3	50,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	186	205	212	221	237	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	72	72	72	72	72	73	73
Sound power level in cooling	(4)(5)	dB(A)	105	105	105	105	105	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9030	9060	10880	11620	11940	12420	12440

Notes

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9 Seasonal energy efficiency ratio

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i-FX-G01-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G01-Y/SL-K			2202	2602	2652	2702	2722	3152	3602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	477,0	516,7	554,6	578,0	662,9	711,3	774,2
Total power input	(1)	kW	161,3	169,9	187,5	203,5	219,1	249,6	283,5
EER	(1)	kW/kW	2,957	3,041	2,958	2,840	3,026	2,850	2,731
ESEER	(1)	kW/kW	4,870	4,860	4,820	4,710	4,810	4,820	4,810
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	475,7	515,1	553,0	576,3	660,9	708,9	772,0
EER	(1)(2)	kW/kW	2,930	3,000	2,920	2,810	2,990	2,810	2,700
ESEER	(1)(2)	kW/kW	4,680	4,640	4,630	4,520	4,610	4,590	4,610
Cooling energy class			B	B	B	C	B	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	475,7	515,1	553,0	576,3	660,9	708,9	772,0
SEPR	(7)(9)		5,86	5,80	5,81	5,61	5,65	5,72	5,75
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,81	24,71	26,52	27,64	31,70	34,02	37,02
Pressure drop	(1)	kPa	31,8	37,4	34,4	37,3	39,1	45,0	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	72,0	79,0	84,0	88,0	101	109	117
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	61	61	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94
SIZE AND WEIGHT									
A	(6)	mm	5400	5400	5400	5400	6650	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5510	5680	5700	5720	6480	6510	6550

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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i-FX-G01-Y/SL-K			3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	845,6	903,1	972,7	1028	1046	1120	1162
Total power input	(1)	kW	304,7	323,1	342,2	358,3	344,9	381,1	404,9
EER	(1)	kW/kW	2,775	2,795	2,842	2,869	3,033	2,939	2,870
ESEER	(1)	kW/kW	4,700	4,690	4,820	4,900	4,800	4,860	4,940
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	843,1	900,1	969,8	1025	1042	1116	1159
EER	(1)(2)	kW/kW	2,740	2,760	2,810	2,830	2,990	2,900	2,840
ESEER	(1)(2)	kW/kW	4,500	4,480	4,620	4,670	4,580	4,610	4,730
Cooling energy class			C	C	C	C	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	843,1	900,1	969,8	1025	1042	1116	1159
SEPR	(7)(9)		5,62	5,57	5,78	5,77	5,75	5,67	5,79
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	40,44	43,19	46,52	49,15	50,01	53,58	55,57
Pressure drop	(1)	kPa	40,1	45,7	40,9	45,7	47,3	51,0	41,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	127	135	146	155	159	172	177
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	62	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	9150	9150	10400	10400	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7070	7150	8290	8670	9110	9110	9360

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
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i-FX-G01-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G01-Y/SL-K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1199	1290	1365	1474	1541	1590	1635
Total power input	(1)	kW	428,2	451,3	486,9	519,0	548,8	584,9	607,6
EER	(1)	kW/kW	2,800	2,858	2,803	2,840	2,808	2,718	2,691
ESEER	(1)	kW/kW	4,930	4,930	4,810	4,940	4,870	4,850	4,870
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1195	1286	1361	1469	1537	1586	1630
EER	(1)(2)	kW/kW	2,770	2,820	2,770	2,800	2,780	2,690	2,660
ESEER	(1)(2)	kW/kW	4,710	4,680	4,620	4,700	4,690	4,660	4,660
Cooling energy class			C	C	C	C	C	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1195	1286	1361	1469	1537	1586	1630
SEPR	(7)(9)		5,89	5,77	5,83	5,97	5,89	5,78	5,74
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,32	61,67	65,28	70,50	73,70	76,02	78,18
Pressure drop	(1)	kPa	43,9	50,8	43,1	50,2	38,7	41,2	46,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	181	195	205	222	232	242	250
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	64	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	97	97
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9370	9780	11350	12550	12870	12890	12910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G01-Y/A			2202	2602	2652	2702	2722	3152	3602	3902
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	510,2	551,9	590,0	626,9	684,3	767,2	839,9	899,4
Total power input	(1)	kW	157,1	170,7	181,9	195,0	213,4	246,9	274,6	291,3
EER	(1)	kW/kW	3,248	3,233	3,244	3,215	3,207	3,107	3,059	3,088
ESEER	(1)	kW/kW	5,190	5,310	5,260	5,160	5,160	5,140	5,170	5,170
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	508,7	550,4	588,2	624,8	682,1	765,0	837,1	896,4
EER	(1)(2)	kW/kW	3,210	3,200	3,200	3,170	3,160	3,070	3,020	3,050
ESEER	(1)(2)	kW/kW	4,960	5,090	5,020	4,900	4,910	4,920	4,910	4,910
Cooling energy class			A	A	A	A	A	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	508,7	550,4	588,2	624,8	682,1	765,0	837,1	896,4
SEPR	(7)(9)		6,16	6,07	6,05	6,10	5,94	6,05	6,06	5,84
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	267,0	287,9	307,9	327,5	359,0	401,8	441,8	472,9
SEPR	(8)(9)		3,91	3,78	3,78	3,82	3,81	3,78	3,73	3,65
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	24,40	26,39	28,22	29,98	32,73	36,69	40,16	43,01
Pressure drop	(1)	kPa	36,4	34,0	38,9	43,9	41,6	37,3	44,7	45,3
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	79,0	81,0	87,0	92,0	100	113	123	133
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	67	68	67	67	68	68	68	69
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101	102
SIZE AND WEIGHT										
A	(6)	mm	5400	5400	6650	6650	6650	7900	7900	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5270	5330	5730	5800	6130	6610	6670	7130

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G01-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G01-Y/A			4202	4502	4802	4822	5412	5703	6303	6603
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	959,4	1028	1099	1162	1230	1334	1467	1520
Total power input	(1)	kW	307,8	326,5	343,9	373,0	385,1	434,5	473,6	498,0
EER	(1)	kW/kW	3,117	3,149	3,196	3,115	3,194	3,070	3,098	3,052
ESEER	(1)	kW/kW	5,190	5,200	5,170	5,130	5,160	5,130	5,090	5,110
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	955,9	1025	1095	1159	1226	1330	1463	1516
EER	(1)(2)	kW/kW	3,070	3,110	3,150	3,080	3,150	3,030	3,070	3,020
ESEER	(1)(2)	kW/kW	4,900	4,930	4,900	4,900	4,900	4,920	4,910	4,910
Cooling energy class			B	A	A	B	A	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	955,9	1025	1095	1159	1226	1330	1463	1516
SEPR	(7)(9)		5,77	5,90	5,98	5,92	5,88	5,88	5,81	5,79
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	507,7	540,5	575,9	609,6	644,8	696,8	770,8	795,9
SEPR	(8)(9)		3,71	3,77	3,83	3,81	3,69	3,62	3,70	3,67
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	45,88	49,16	52,54	55,59	58,81	63,78	70,16	72,70
Pressure drop	(1)	kPa	51,6	45,7	50,1	41,2	46,2	41,1	35,1	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3
Refrigerant charge		kg	141	151	161	173	182	197	226	224
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	70	70	71	72	72	72	72	72
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	105	105	105	105	105
SIZE AND WEIGHT										
A	(6)	mm	9150	10400	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7150	8270	8750	8850	9390	11000	11150	11500

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G01-Y/SL-A			2202	2602	2652	2702	2722	3152	3602	3902
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	498,8	559,5	581,8	615,1	682,8	751,6	811,9	891,5
Total power input	(1)	kW	155,7	175,2	178,0	194,0	208,0	240,9	264,1	283,2
EER	(1)	kW/kW	3,204	3,193	3,269	3,171	3,283	3,120	3,074	3,148
ESEER	(1)	kW/kW	5,220	5,210	5,250	5,180	5,200	5,170	5,180	5,190
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	497,4	557,9	580,0	613,4	680,6	749,5	809,4	888,6
EER	(1)(2)	kW/kW	3,170	3,160	3,230	3,130	3,240	3,080	3,040	3,110
ESEER	(1)(2)	kW/kW	5,000	4,980	5,000	4,960	4,940	4,940	4,940	4,930
Cooling energy class			A	A	A	A	A	B	B	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	497,4	557,9	580,0	613,4	680,6	749,5	809,4	888,6
SEPR	(7)(9)		6,28	6,17	6,11	6,13	5,98	6,09	6,16	6,08
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	261,7	291,6	303,3	320,5	356,9	393,5	425,9	467,6
SEPR	(8)(9)		4,01	3,89	3,81	3,85	3,82	3,80	3,75	3,78
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	23,85	26,76	27,82	29,42	32,65	35,94	38,83	42,63
Pressure drop	(1)	kPa	34,8	35,0	37,8	33,6	41,5	35,8	41,8	44,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	79,0	88,0	92,0	97,0	107	118	129	141
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	60	60	60	60	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94	95
SIZE AND WEIGHT										
A	(6)	mm	5400	6650	6650	6650	7900	7900	9150	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5590	6030	6070	6400	6930	6970	7460	8000

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G01-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G01-Y/SL-A			4202	4502	4802	4822	5412	5703	6303
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	942,8	1016	1086	1149	1213	1332	1462
Total power input	(1)	kW	299,7	318,3	335,7	364,6	377,2	438,1	473,2
EER	(1)	kW/kW	3,146	3,192	3,235	3,151	3,216	3,040	3,090
ESEER	(1)	kW/kW	5,180	5,220	5,190	5,170	5,220	5,140	5,100
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	939,4	1013	1082	1146	1209	1328	1458
EER	(1)(2)	kW/kW	3,100	3,150	3,190	3,110	3,170	3,010	3,060
ESEER	(1)(2)	kW/kW	4,900	4,960	4,920	4,940	4,960	4,920	4,910
Cooling energy class			A	A	A	A	A	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	939,4	1013	1082	1146	1209	1328	1458
SEPR	(7)(9)		6,04	6,14	6,08	6,00	6,08	6,17	6,11
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	497,8	533,3	568,2	601,6	635,1	697,6	770,5
SEPR	(8)(9)		3,86	3,91	3,89	3,85	3,80	3,84	3,92
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	45,09	48,60	51,92	54,96	58,00	63,72	69,92
Pressure drop	(1)	kPa	49,8	44,7	48,9	40,3	44,9	41,0	34,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	3	3
No. Circuits		N°	2	2	2	2	2	3	3
Refrigerant charge		kg	149	160	171	183	191	206	226
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8070	9050	9450	9630	10030	11520	11520

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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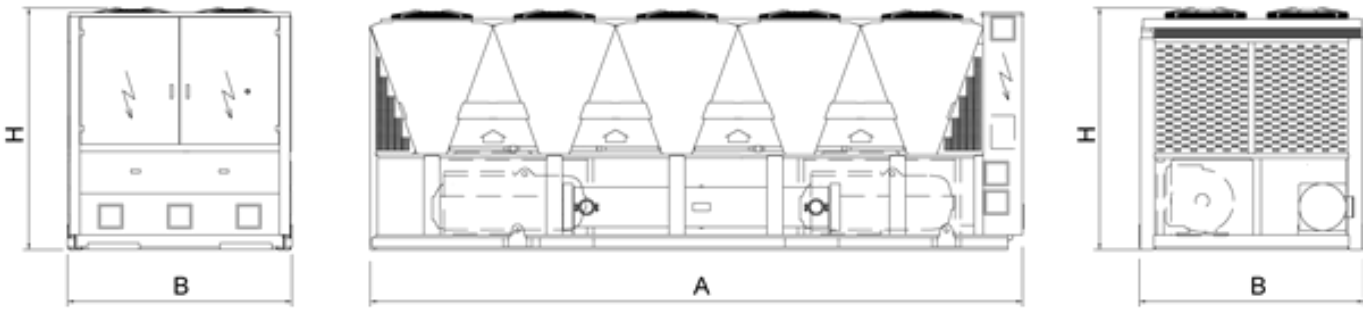
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-G04-Y

Chiller, air source for outdoor installation

2202 - 7823 377,2-1463 kW

Outdoor unit for the production of chilled water with semi-hermetic variable-speed screw compressors optimized for HFO R1234ze refrigerant, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
The screw compressors feature the variable speed technology thanks to the integrated refrigerant cooled inverter, for the maximum compactness and operating flexibility. Moreover, they feature the Variable Vi (compression ratio) technology, to change the internal geometry according to the operating conditions.
Thanks to the accurate sizing of all internal components and the use of variable speed technology, the unit ensures flexibility, reliability and maximum efficiency in every operating condition.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R1234ze

Versions

A	High efficiency
SL-A	Super low noise, high efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HFO REFRIGERANT
4th generation refrigerant HFO 1234ze, with negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze < 1, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer.

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP COMPLIANT 2021
Thanks to the inverter technology and the accurate design, the units already comply and exceed the minimum seasonal energy efficiency requirements that will start from 2021, imposed by the eco-sustainable design Directive 2009/125/EC.

REFRIGERANT LEAK DETECTOR
It is supplied factory mounted inside each compressor enclosure and wired in the electrical board. In case of leak detection it will raise an alarm.

WIDE OPERATING RANGE
The accurate condensation control (EC fans as standard on every model), the availability of devoted kits and smart control logics allow unit's operation from -15°C up to 55°C of outdoor air temperature and up to 20°C of evaporator leaving water temperature.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

ADAPTABILITY
Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

HARMONY BETWEEN UNIT AND PLANT
Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

Accessories

- Noise reducer (only on not silenced versions)
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Kit HT to increase the unit operating range
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Mitsubishi M-Net, Echelon, Bacnet, Bacnet over-IP.

i-FX-G04-Y /A			2202	2602	2702	2722	3602	4202	4802
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	382,7	417,9	486,9	534,8	642,0	725,9	843,1
Total power input	(1)	kW	117,7	130,2	147,7	168,4	211,1	237,1	281,3
EER	(1)	kW/kW	3,251	3,210	3,297	3,176	3,041	3,062	2,997
ESEER	(1)	kW/kW	5,010	5,170	5,130	5,030	4,960	5,000	4,950
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	381,5	416,4	485,7	533,2	639,7	723,4	841,1
EER	(1)(2)	kW/kW	3,210	3,160	3,260	3,140	3,000	3,020	2,970
ESEER	(1)(2)	kW/kW	4,790	4,890	4,940	4,810	4,700	4,750	4,770
Cooling energy class			A	A	A	A	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	381,5	416,4	485,7	533,2	639,7	723,4	841,1
SEPR	(7)(9)		5,87	5,83	6,01	5,74	5,93	6,39	5,85
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	18,30	19,98	23,29	25,58	30,70	34,71	40,32
Pressure drop	(1)	kPa	35,3	42,1	30,1	36,4	46,1	46,8	30,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	63,0	70,0	81,0	86,0	108	124	134
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	67	68	68	69	68	70	72
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	101	101	103	105
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	6650	7900	7900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4780	5220	5360	5430	6060	6820	7810

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G04-Y

Chiller, air source for outdoor installation

2202 - 7823 377,2-1463 kW

i-FX-G04-Y /A			4822	6002	6022	6603	7203	7223	7823
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	915,7	994,1	1038	1146	1280	1399	1463
Total power input	(1)	kW	305,7	322,1	340,6	379,0	423,0	471,2	499,3
EER	(1)	kW/kW	2,995	3,086	3,048	3,024	3,026	2,969	2,930
ESEER	(1)	kW/kW	4,870	4,980	4,930	4,950	4,930	4,920	4,900
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	912,6	991,0	1035	1143	1276	1394	1458
EER	(1)(2)	kW/kW	2,960	3,050	3,010	2,990	2,990	2,930	2,890
ESEER	(1)(2)	kW/kW	4,630	4,750	4,700	4,740	4,730	4,690	4,660
Cooling energy class			B	B	B	B	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	912,6	991,0	1035	1143	1276	1394	1458
SEPR	(7)(9)		5,71	5,80	5,78	5,88	5,86	5,75	5,65
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	43,79	47,54	49,65	54,79	61,21	66,89	69,95
Pressure drop	(1)	kPa	47,0	42,8	43,8	40,1	40,8	48,7	53,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	3	3	3	3
Refrigerant charge		kg	139	167	171	189	195	203	218
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	72	72	72	72	72	73	73
Sound power level in cooling	(4)(5)	dB(A)	105	105	105	105	105	106	106
SIZE AND WEIGHT									
A	(6)	mm	9150	10400	10400	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8240	8780	8880	11170	11800	12430	12390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G04-Y /SL-A			2202	2602	2702	2722	3602	4202	4802
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	377,2	421,3	480,7	527,2	633,2	718,2	832,9
Total power input	(1)	kW	116,8	125,4	145,9	167,1	207,2	234,4	269,9
EER	(1)	kW/kW	3,229	3,360	3,295	3,155	3,056	3,064	3,086
ESEER	(1)	kW/kW	5,020	5,220	5,130	5,050	4,950	5,020	5,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	376,1	419,8	479,5	525,7	631,0	715,7	830,5
EER	(1)(2)	kW/kW	3,190	3,310	3,260	3,120	3,010	3,020	3,050
ESEER	(1)(2)	kW/kW	4,810	4,940	4,940	4,840	4,710	4,770	4,840
Cooling energy class			A	A	A	A	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	376,1	419,8	479,5	525,7	631,0	715,7	830,5
SEPR	(7)(9)		5,99	6,05	6,17	5,93	5,99	6,43	6,02
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	18,04	20,15	22,99	25,21	30,28	34,34	39,83
Pressure drop	(1)	kPa	34,3	42,8	29,4	35,3	44,8	45,9	38,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	63,0	73,0	81,0	86,0	108	124	134
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	61	62	61	63	63
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	94	94	96	96
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	6650	7900	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5020	5600	5680	5760	6390	7160	8400

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G04-Y

Chiller, air source for outdoor installation

2202 - 7823 377,2-1463 kW

i-FX-G04-Y /SL-A			4822	6002	6022	6603	7203	7223	7823
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	902,8	972,2	1024	1141	1262	1391	1458
Total power input	(1)	kW	303,4	318,4	337,4	376,1	416,2	468,8	499,7
EER	(1)	kW/kW	2,976	3,053	3,035	3,034	3,032	2,967	2,918
ESEER	(1)	kW/kW	4,890	4,980	4,950	4,960	5,020	4,990	4,900
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	899,8	969,3	1021	1138	1258	1386	1455
EER	(1)(2)	kW/kW	2,940	3,020	3,000	3,000	3,000	2,930	2,890
ESEER	(1)(2)	kW/kW	4,660	4,770	4,730	4,760	4,820	4,750	4,750
Cooling energy class			B	B	B	B	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	899,8	969,3	1021	1138	1258	1386	1455
SEPR	(7)(9)		5,76	5,85	5,85	5,94	5,99	5,85	5,73
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	43,17	46,49	48,96	54,56	60,35	66,50	69,70
Pressure drop	(1)	kPa	45,7	40,9	42,6	39,7	39,7	48,1	30,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	3	3	3	3
No. Circuits		N°	2	2	2	3	3	3	0
Refrigerant charge		kg	139	167	171	189	204	213	223
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	64	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	97	97
SIZE AND WEIGHT									
A	(6)	mm	9150	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8550	9090	9180	11620	12660	12950	12890

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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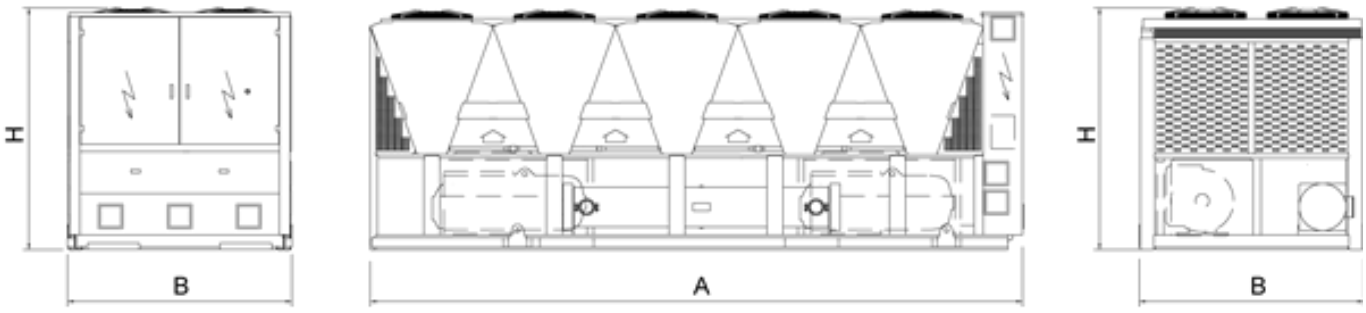
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-G05-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

Outdoor unit for the production of chilled water with semi-hermetic variable-speed screw compressors optimized for R513A, axial-flow fans, micro-channel full-aluminum condensing coils, single-pass shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Eurovent certification.
The screw compressors feature the variable speed technology thanks to the integrated refrigerant cooled inverter, for the maximum compactness and operating flexibility. Moreover, they feature the Variable Vi (compression ratio) technology, to change the internal geometry according to the operating conditions.
Thanks to the accurate sizing of all internal components and the use of variable speed technology, the unit ensures flexibility, reliability and maximum efficiency in every operating condition.

Control

W3000TE
W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms with dynamic neutral zone related to the leaving water temperature. Complete alarm management system is available, with the "black-box" and the alarm history display functions.
Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organized into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. As an option (VPF package), the capacity modulation is integrated with the modulation of the water flow, by means of inverter and dedicated resources for the hydraulic circuit.

Refrigerant

R513A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency
SL-A	Super low noise, high efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function
R	Total condensing heat recovery function

Features

LOW GWP REFRIGERANT
New generation refrigerant R513A, with reduced greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of R513A = 572, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer. Not flammable (ASHRAE 34, ISO 817: class A1).

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP COMPLIANT 2021
Thanks to the inverter technology and the accurate design, the units already comply and exceed the minimum seasonal energy efficiency requirements that will start from 2021, imposed by the eco-sustainable design Directive 2009/125/EC.

WIDE OPERATING RANGE
The accurate condensation control (variable fan speed regulation as per standard on every model), the availability of devoted kits and smart control logics allow unit's operation from -20°C up to 55°C of outdoor air temperature and from -8°C to 20°C of evaporator leaving water temperature.

REDUCED FOOTPRINT
These new units have a reduced footprint, making them the best solution both for new plants (thanks to high efficiency) and for the replacement of obsolete units in existing plants, offering a very high efficiency increase with same dimensions and cooling capacity.

ALUMINIUM MICRO-CHANNEL HEAT EXCHANGERS
The full aluminium micro-channel condenser coils deliver high efficiency whilst ensuring a reduced refrigerant volume and a lower unit weight. The e-coating protection (optional) grants the highest level of resistance to corrosion in any condition, even in the most aggressive environments.

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head.

HARMONY BETWEEN UNIT AND PLANT
Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

Accessories

- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor (for K versions)
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.
- Leak detector
- Kit HT to increase the unit operating range
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Mitsubishi M-Net, Echelon, Bacnet, Bacnet over-IP.

i-FX-G05-Y/K			2202	2602	2652	2702	2722	3152	3602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	478,6	531,1	561,2	598,1	656,7	720,7	801,4
Total power input	(1)	kW	172,0	189,2	198,6	209,1	237,2	263,0	290,3
EER	(1)	kW/kW	2,783	2,807	2,826	2,860	2,769	2,740	2,761
ESEER	(1)	kW/kW	4,660	4,670	4,670	4,630	4,630	4,720	4,700
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	477,3	529,4	559,6	596,2	654,7	718,2	798,9
EER	(1)(2)	kW/kW	2,750	2,770	2,800	2,830	2,740	2,710	2,730
ESEER	(1)(2)	kW/kW	4,480	4,460	4,480	4,430	4,430	4,490	4,490
Cooling energy class			C	C	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	477,3	529,4	559,6	596,2	654,7	718,2	798,9
SEPR	(7)(9)		5,56	5,51	5,51	5,51	5,50	5,51	5,54
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,89	25,40	26,84	28,60	31,40	34,47	38,33
Pressure drop	(1)	kPa	32,0	39,5	35,2	40,0	38,3	46,2	40,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	79,0	87,0	92,0	101	108	120	135
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	67	68	68	68	69	68	68
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101
SIZE AND WEIGHT									
A	(6)	mm	4150	5400	5400	5400	5400	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	4790	5360	5360	5420	5730	6150	6240

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G05-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G05-Y/K			3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	874,1	932,0	990,3	1029	1054	1128	1169
Total power input	(1)	kW	312,1	331,0	358,1	383,8	366,8	405,3	430,5
EER	(1)	kW/kW	2,801	2,816	2,765	2,681	2,874	2,783	2,715
ESEER	(1)	kW/kW	4,610	4,620	4,670	4,730	4,650	4,650	4,790
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	871,3	928,7	987,3	1026	1050	1124	1166
EER	(1)(2)	kW/kW	2,770	2,780	2,730	2,650	2,830	2,750	2,690
ESEER	(1)(2)	kW/kW	4,410	4,400	4,480	4,520	4,430	4,430	4,590
Cooling energy class			C	C	C	D	C	C	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	871,3	928,7	987,3	1026	1050	1124	1166
SEPR	(7)(9)		5,50	5,50	5,61	5,60	5,50	5,50	5,67
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	41,80	44,57	47,36	49,20	50,41	53,94	55,90
Pressure drop	(1)	kPa	42,8	48,7	42,4	45,8	48,1	51,7	41,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	146	155	161	168	174	189	193
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	69	70	70	71	71	72	72
Sound power level in cooling	(4)(5)	dB(A)	102	103	103	104	104	105	105
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	7900	7900	9150	9150	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	6730	6810	7410	7760	8360	8470	8560

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G05-Y/K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1242	1302	1409	1493	1559	1649	1697
Total power input	(1)	kW	438,8	477,1	498,8	544,8	578,9	596,2	618,5
EER	(1)	kW/kW	2,830	2,729	2,825	2,740	2,693	2,766	2,744
ESEER	(1)	kW/kW	4,810	4,810	4,610	4,660	4,660	4,620	4,650
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1238	1297	1405	1488	1555	1644	1691
EER	(1)(2)	kW/kW	2,800	2,690	2,790	2,710	2,670	2,730	2,710
ESEER	(1)(2)	kW/kW	4,580	4,560	4,410	4,440	4,480	4,430	4,430
Cooling energy class			C	D	C	C	D	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1238	1297	1405	1488	1555	1644	1691
SEPR	(7)(9)		5,70	5,56	5,51	5,51	5,51	5,50	5,50
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	59,42	62,28	67,38	71,40	74,58	78,86	81,17
Pressure drop	(1)	kPa	47,1	51,8	45,9	51,5	39,6	44,3	50,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	214	236	244	254	273	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	72	72	72	72	72	73	73
Sound power level in cooling	(4)(5)	dB(A)	105	105	105	105	105	106	106
SIZE AND WEIGHT									
A	(6)	mm	10400	10400	11650	11650	11650	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9030	9060	10880	11620	11940	12420	12440

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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5 Sound power level in cooling, outdoors.
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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G05-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G05-Y/SL-K			2202	2602	2652	2702	2722	3152	3602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	477,0	516,7	554,6	578,0	662,9	711,3	774,2
Total power input	(1)	kW	168,1	177,0	195,5	212,2	228,3	260,2	295,6
EER	(1)	kW/kW	2,838	2,919	2,837	2,724	2,904	2,734	2,619
ESEER	(1)	kW/kW	4,810	4,800	4,770	4,660	4,750	4,760	4,750
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	475,7	515,1	553,0	576,3	660,9	708,9	772,0
EER	(1)(2)	kW/kW	2,810	2,880	2,810	2,690	2,870	2,700	2,590
ESEER	(1)(2)	kW/kW	4,480	4,590	4,570	4,470	4,560	4,540	4,560
Cooling energy class			C	C	C	D	C	C	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	475,7	515,1	553,0	576,3	660,9	708,9	772,0
SEPR	(7)(9)		5,73	5,68	5,68	5,50	5,52	5,60	5,63
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	22,81	24,71	26,52	27,64	31,70	34,02	37,02
Pressure drop	(1)	kPa	31,8	37,4	34,4	37,3	39,1	45,0	38,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	83,0	91,0	97,0	101	116	125	135
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	60	61	61	61	61	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94
SIZE AND WEIGHT									
A	(6)	mm	5400	5400	5400	5400	6650	6650	6650
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5510	5680	5700	5720	6480	6510	6550

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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i-FX-G05-Y/SL-K			3902	4202	4502	4802	4812	4822	5412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	845,6	903,1	972,7	1028	1046	1120	1162
Total power input	(1)	kW	317,7	336,9	356,8	373,5	359,4	397,2	422,1
EER	(1)	kW/kW	2,662	2,681	2,726	2,752	2,910	2,820	2,753
ESEER	(1)	kW/kW	4,640	4,640	4,760	4,850	4,740	4,800	4,880
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	843,1	900,1	969,8	1025	1042	1116	1159
EER	(1)(2)	kW/kW	2,630	2,650	2,700	2,720	2,870	2,780	2,720
ESEER	(1)(2)	kW/kW	4,450	4,430	4,560	4,610	4,530	4,560	4,670
Cooling energy class			D	D	C	C	C	C	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	843,1	900,1	969,8	1025	1042	1116	1159
SEPR	(7)(9)		5,50	5,50	5,66	5,64	5,63	5,55	5,67
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	40,44	43,19	46,52	49,15	50,01	53,58	55,57
Pressure drop	(1)	kPa	40,1	45,7	40,9	45,7	47,3	51,0	41,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	146	155	168	178	183	198	204
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	62	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	7900	7900	9150	9150	10400	10400	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7070	7150	8290	8670	9110	9110	9360

Notes

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5 Sound power level in cooling, outdoors.
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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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i-FX-G05-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G05-Y/SL-K			6002	6022	6303	6903	7203	7213	7223
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1199	1290	1365	1474	1541	1590	1635
Total power input	(1)	kW	446,5	470,5	507,7	541,1	572,2	610,0	633,6
EER	(1)	kW/kW	2,685	2,742	2,689	2,724	2,693	2,607	2,580
ESEER	(1)	kW/kW	4,880	4,880	4,760	4,880	4,810	4,800	4,810
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1195	1286	1361	1469	1537	1586	1630
EER	(1)(2)	kW/kW	2,650	2,710	2,660	2,690	2,670	2,580	2,550
ESEER	(1)(2)	kW/kW	4,660	4,630	4,570	4,650	4,630	4,610	4,610
Cooling energy class			D	C	D	D	D	D	D
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1195	1286	1361	1469	1537	1586	1630
SEPR	(7)(9)		5,76	5,65	5,70	5,84	5,76	5,66	5,61
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	57,32	61,67	65,28	70,50	73,70	76,02	78,18
Pressure drop	(1)	kPa	43,9	50,8	43,1	50,2	38,7	41,2	46,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	3	3	3	3	3
No. Circuits		N°	2	2	3	3	3	3	3
Refrigerant charge		kg	208	224	236	255	267	278	288
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	64	64
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	97	97
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	12900	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	9370	9780	11350	12550	12870	12890	12910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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5 Sound power level in cooling, outdoors.
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i-FX-G05-Y/A			2202	2602	2652	2702	2722	3152	3602	3902
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	510,2	551,9	590,0	626,9	684,3	767,2	839,9	899,4
Total power input	(1)	kW	163,5	177,8	189,4	203,0	222,2	257,2	286,0	303,4
EER	(1)	kW/kW	3,120	3,104	3,115	3,088	3,080	2,983	2,937	2,964
ESEER	(1)	kW/kW	5,080	5,200	5,160	5,060	5,050	5,040	5,070	5,060
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	508,7	550,4	588,2	624,8	682,1	765,0	837,1	896,4
EER	(1)(2)	kW/kW	3,080	3,070	3,080	3,050	3,040	2,950	2,900	2,930
ESEER	(1)(2)	kW/kW	4,860	4,980	4,920	4,810	4,820	4,830	4,810	4,810
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	508,7	550,4	588,2	624,8	682,1	765,0	837,1	896,4
SEPR	(7)(9)		5,98	5,89	5,87	5,92	5,77	5,87	5,88	5,67
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	267,0	287,9	307,9	327,5	359,0	401,8	441,8	472,9
SEPR	(8)(9)		3,79	3,67	3,67	3,71	3,71	3,67	3,62	3,55
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	24,40	26,39	28,22	29,98	32,73	36,69	40,16	43,01
Pressure drop	(1)	kPa	36,4	34,0	38,9	43,9	41,6	37,3	44,7	45,3
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	91,0	93,0	100	106	115	130	141	153
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	67	68	67	67	68	68	68	69
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	100	101	101	101	102
SIZE AND WEIGHT										
A	(6)	mm	5400	5400	6650	6650	6650	7900	7900	9150
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5270	5330	5730	5800	6130	6610	6670	7130

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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i-FX-G05-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G05-Y/A			4202	4502	4802	4822	5412	5703	6303	6603
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	959,4	1028	1099	1162	1230	1334	1467	1520
Total power input	(1)	kW	320,6	340,0	358,2	388,6	401,1	452,6	493,4	518,9
EER	(1)	kW/kW	2,993	3,024	3,068	2,990	3,067	2,947	2,973	2,929
ESEER	(1)	kW/kW	5,080	5,090	5,060	5,020	5,060	5,030	4,990	5,010
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	955,9	1025	1095	1159	1226	1330	1463	1516
EER	(1)(2)	kW/kW	2,950	2,980	3,020	2,960	3,030	2,910	2,940	2,900
ESEER	(1)(2)	kW/kW	4,810	4,840	4,800	4,810	4,810	4,820	4,810	4,810
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	955,9	1025	1095	1159	1226	1330	1463	1516
SEPR	(7)(9)		5,60	5,73	5,80	5,75	5,71	5,71	5,64	5,61
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	507,7	540,5	575,9	609,6	644,8	696,8	770,8	795,9
SEPR	(8)(9)		3,61	3,66	3,72	3,69	3,58	3,51	3,60	3,56
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	45,88	49,16	52,54	55,59	58,81	63,78	70,16	72,70
Pressure drop	(1)	kPa	51,6	45,7	50,1	41,2	46,2	41,1	35,1	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	3	3	3
No. Circuits		N°	2	2	2	2	2	3	3	3
Refrigerant charge		kg	162	174	185	199	209	227	260	258
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	70	70	71	72	72	72	72	72
Sound power level in cooling	(4)(5)	dB(A)	103	103	104	105	105	105	105	105
SIZE AND WEIGHT										
A	(6)	mm	9150	10400	10400	10400	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	7150	8270	8750	8850	9390	11000	11150	11500

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-G05-Y/SL-A			2202	2602	2652	2702	2722	3152	3602	3902
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	498,8	559,5	581,8	615,1	682,8	751,6	811,9	891,5
Total power input	(1)	kW	162,3	182,7	185,5	202,2	216,8	251,1	275,3	295,2
EER	(1)	kW/kW	3,073	3,062	3,136	3,042	3,149	2,993	2,949	3,020
ESEER	(1)	kW/kW	5,110	5,110	5,150	5,080	5,100	5,060	5,080	5,080
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	497,4	557,9	580,0	613,4	680,6	749,5	809,4	888,6
EER	(1)(2)	kW/kW	3,040	3,030	3,100	3,010	3,110	2,960	2,910	2,980
ESEER	(1)(2)	kW/kW	4,900	4,890	4,910	4,860	4,850	4,840	4,850	4,840
Cooling energy class			B	B	A	B	A	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	497,4	557,9	580,0	613,4	680,6	749,5	809,4	888,6
SEPR	(7)(9)		6,10	5,98	5,93	5,94	5,80	5,92	5,98	5,90
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	261,7	291,6	303,3	320,5	356,9	393,5	425,9	467,6
SEPR	(8)(9)		3,90	3,78	3,70	3,73	3,71	3,69	3,64	3,67
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	23,85	26,76	27,82	29,42	32,65	35,94	38,83	42,63
Pressure drop	(1)	kPa	34,8	35,0	37,8	33,6	41,5	35,8	41,8	44,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	91,0	101	106	112	123	136	148	162
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	60	60	60	60	61	61	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94	94	95
SIZE AND WEIGHT										
A	(6)	mm	5400	6650	6650	6650	7900	7900	9150	10400
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	5590	6030	6070	6400	6930	6970	7460	8000

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

i-FX-G05-Y

Chiller, air source for outdoor installation

2202 - 7223 477,0-1697 kW

i-FX-G05-Y/SL-A			4202	4502	4802	4822	5412	5703	6303
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	942,8	1016	1086	1149	1213	1332	1462
Total power input	(1)	kW	312,4	331,8	350,0	380,1	393,2	456,9	493,5
EER	(1)	kW/kW	3,018	3,062	3,103	3,023	3,085	2,915	2,963
ESEER	(1)	kW/kW	5,080	5,120	5,090	5,060	5,120	5,030	5,000
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	939,4	1013	1082	1146	1209	1328	1458
EER	(1)(2)	kW/kW	2,970	3,020	3,060	2,990	3,050	2,880	2,930
ESEER	(1)(2)	kW/kW	4,810	4,860	4,830	4,840	4,870	4,820	4,820
Cooling energy class			B	B	B	B	B	C	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	939,4	1013	1082	1146	1209	1328	1458
SEPR	(7)(9)		5,85	5,96	5,90	5,83	5,89	5,98	5,93
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	497,8	533,3	568,2	601,6	635,1	697,6	770,5
SEPR	(8)(9)		3,74	3,80	3,77	3,74	3,68	3,72	3,80
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	45,09	48,60	51,92	54,96	58,00	63,72	69,92
Pressure drop	(1)	kPa	49,8	44,7	48,9	40,3	44,9	41,0	34,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	3	3
No. Circuits		N°	2	2	2	2	2	3	3
Refrigerant charge		kg	171	184	197	210	220	237	260
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	63	63	63	63	63	63	63
Sound power level in cooling	(4)(5)	dB(A)	96	96	96	96	96	96	96
SIZE AND WEIGHT									
A	(6)	mm	10400	11650	11650	11650	12900	12900	12900
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2500	2500	2500	2500	2500	2500	2500
Operating weight	(6)	kg	8070	9050	9450	9630	10030	11520	11520

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
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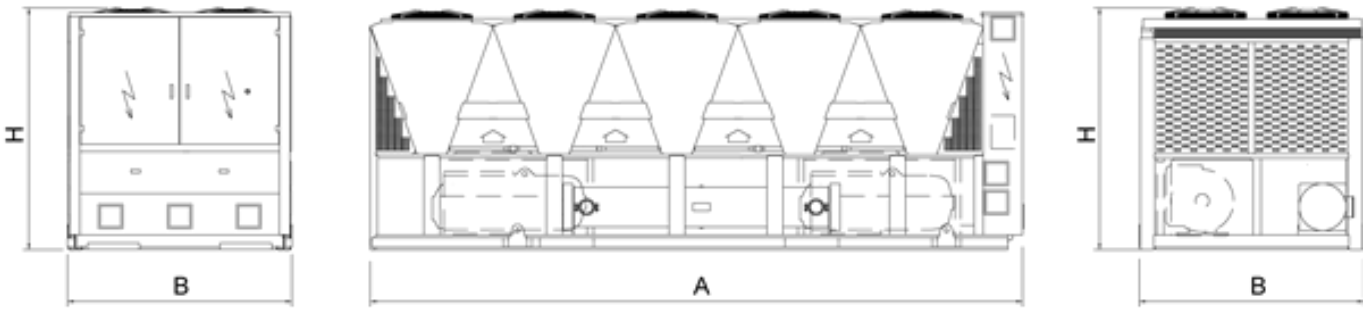
Dimensional drawing



CHILLERS

i-FX (1+i)-Y

2602 - 5403 567,5-1273 kW

High efficiency chiller, air source for outdoor installation

Outdoor unit for the production of chilled water with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube single pass evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Eurovent certification for all the sizes.
Base and supporting structure and panels are of galvanized epoxy powder coated steel.
Flexible and reliable unit thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both at full and partial load, is achieved thanks to the accurate unit's design and to the use of fixed speed motor together with variable speed (inverter) motor.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA Class A of efficiency
SL Super-low noise version

Configurations

- \- Basic function
- D Partial condensing heat recovery function
- R Total condensing heat recovery function

Features

WIDE RANGE
Extended capacity range.

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

GREEN RELEVANT PRODUCT
These units comply with the minimum efficiency requirements of air cooled chillers defined in ASHRAE 90.1-2013 "Energy Standard for buildings except LowRise Residential Building", included the higher values required from January 2015.

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Noise reducer (only on not silenced versions)
- EC fans with electronic DC brushless motor
- Axial fans with External Static Pressure (ESP) up to 130 Pa.
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards

i-FX (1+i)-Y /CA			2602	2662	2722	3152	3602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	567,5	631,0	700,2	785,2	858,0
Total power input	(1)	kW	181,1	201,2	223,7	249,0	273,4
EER	(1)	kW/kW	3,134	3,136	3,130	3,153	3,138
ESEER	(1)	kW/kW	4,810	4,810	4,780	4,790	4,840
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	565,9	629,2	698,5	783,1	855,4
EER	(1)(2)	kW/kW	3,100	3,100	3,100	3,120	3,100
ESEER	(1)(2)	kW/kW	4,620	4,620	4,620	4,610	4,630
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	565,9	629,2	698,5	783,1	855,4
SEPR	(7)(9)		5,74	5,72	5,59	5,63	5,52
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	291,2	327,7	362,6	402,6	442,7
SEPR	(8)(9)		3,49	3,44	3,35	3,44	3,46
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,14	30,17	33,48	37,55	41,03
Pressure drop	(1)	kPa	36,0	35,4	31,1	34,5	41,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	143	188	200	214	225
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	67	68	68	68	69
Sound power level in cooling	(4)(5)	dB(A)	100	101	101	101	102
SIZE AND WEIGHT							
A	(6)	mm	7000	7900	7900	7900	9860
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	6130	7170	7460	7970	9110

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX (1+i)-Y

2602 - 5403 567,5-1273 kW

High efficiency chiller, air source for outdoor installation

i-FX (1+i)-Y /CA			3902	4212	4513	4953	5403
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	951,2	1045	1127	1196	1273
Total power input	(1)	kW	302,0	333,1	358,7	380,1	404,9
EER	(1)	kW/kW	3,150	3,137	3,142	3,147	3,144
ESEER	(1)	kW/kW	4,790	4,820	4,840	4,790	4,820
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	948,6	1042	1123	1192	1269
EER	(1)(2)	kW/kW	3,110	3,100	3,100	3,110	3,100
ESEER	(1)(2)	kW/kW	4,610	4,610	4,600	4,600	4,600
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	948,6	1042	1123	1192	1269
SEPR	(7)(9)		5,53	5,66	5,64	5,84	5,73
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	486,7	539,1	589,1	619,9	661,9
SEPR	(8)(9)		3,33	3,41	3,43	3,56	3,54
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	45,49	49,96	53,90	57,18	60,88
Pressure drop	(1)	kPa	36,7	44,3	51,6	43,6	49,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	3	3	3
No. Circuits		N°	2	2	3	3	3
Refrigerant charge		kg	242	256	269	282	293
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	70	71	72	72	72
Sound power level in cooling	(4)(5)	dB(A)	103	104	105	105	105
SIZE AND WEIGHT							
A	(6)	mm	10790	11720	12630	12630	12630
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	10080	10140	11640	12570	12950

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX (1+i)-Y /SL			2602	2662	2722	3152	3903
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	543,7	611,1	678,8	752,3	804,7
Total power input	(1)	kW	180,5	200,7	221,8	248,5	267,7
EER	(1)	kW/kW	3,012	3,045	3,060	3,027	3,006
ESEER	(1)	kW/kW	4,910	4,900	4,870	4,920	4,870
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	542,2	609,5	677,2	750,4	802,5
EER	(1)(2)	kW/kW	2,980	3,010	3,030	3,000	2,970
ESEER	(1)(2)	kW/kW	4,720	4,720	4,710	4,740	4,680
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	542,2	609,5	677,2	750,4	802,5
SEPR	(7)(9)		5,89	5,86	5,71	5,83	5,81
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	282,4	320,4	354,7	390,9	420,6
SEPR	(8)(9)		3,57	3,54	3,44	3,56	3,63
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	26,00	29,22	32,46	35,97	38,48
Pressure drop	(1)	kPa	33,0	33,2	29,2	31,7	36,3
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	3
No. Circuits		N°	2	2	2	2	3
Refrigerant charge		kg	143	188	200	214	225
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	58	59	60	60	60
Sound power level in cooling	(4)(5)	dB(A)	91	92	93	93	93
SIZE AND WEIGHT							
A	(6)	mm	7000	7900	7900	7900	9900
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	6410	7400	7690	8370	9570

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX (1+i)-Y

2602 - 5403 567,5-1273 kW

High efficiency chiller, air source for outdoor installation

i-FX (1+i)-Y /SL			3953	4013	4063	4953	5403
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	880,2	946,3	1018	1143	1209
Total power input	(1)	kW	295,3	311,2	334,9	380,0	411,4
EER	(1)	kW/kW	2,981	3,041	3,040	3,008	2,939
ESEER	(1)	kW/kW	4,860	4,890	4,910	4,900	4,910
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	878,1	943,7	1015	1140	1205
EER	(1)(2)	kW/kW	2,950	3,010	3,000	2,970	2,900
ESEER	(1)(2)	kW/kW	4,690	4,700	4,700	4,710	4,690
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	878,1	943,7	1015	1140	1205
SEPR	(7)(9)		5,70	5,61	5,79	5,95	5,84
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	456,8	498,6	535,2	600,2	636,6
SEPR	(8)(9)		3,43	3,39	3,54	3,63	3,61
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	42,09	45,25	48,67	54,66	57,83
Pressure drop	(1)	kPa	31,5	36,4	42,1	39,9	44,6
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	3	3
No. Circuits		N°	3	3	3	3	3
Refrigerant charge		kg	242	256	269	282	293
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	60	60	61	61	64
Sound power level in cooling	(4)(5)	dB(A)	93	93	94	94	97
SIZE AND WEIGHT							
A	(6)	mm	10800	10800	11700	11700	12630
B	(6)	mm	2260	2260	2260	2260	2260
H	(6)	mm	2530	2530	2530	2530	2530
Operating weight	(6)	kg	10080	10650	11090	12600	13530

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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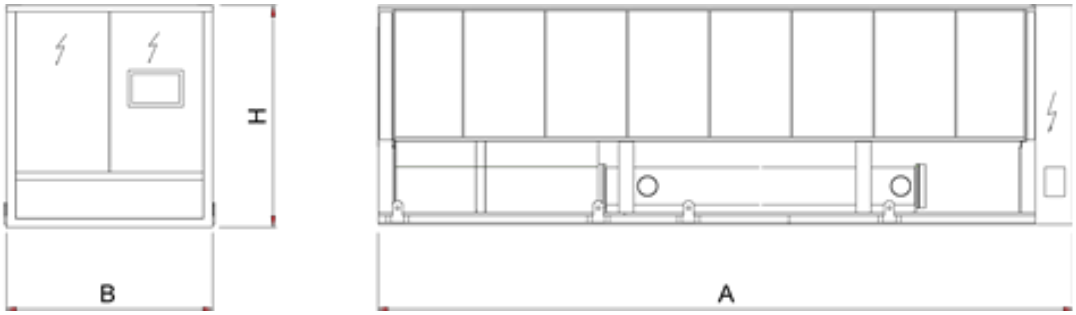
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TECS2-Y

0211 - 1154 220,1-1324 kW

High efficiency chiller, air source for outdoor installation

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with R134a, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

SL-CA	Super Low noise version, Class A of efficiency
XL-CA	eXtra Low noise version, Class A of efficiency
SL-CA-E	Super Low noise version, Premium efficiency, Class A enhanced

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

VERSION ´CA-E´ AVAILABLE
The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As result of a sistematic design oriented to minimize the noise level, XL version´s units give the best compromise between silence and efficiency on the market.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessories

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- EC fans with electronic DC brushless motor
- Set-up for remote connectivity with ModBus/Echelon protocol cards

TECS2-Y / SL-CA			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	232,7	257,7	345,7	442,3	508,6	573,7	649,6
Total power input	(1)	kW	70,53	81,12	110,4	138,4	161,0	173,7	207,6
EER	(1)	kW/kW	3,301	3,178	3,131	3,196	3,159	3,303	3,129
ESEER	(1)	kW/kW	4,770	4,870	4,720	5,070	5,170	5,090	5,040
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	231,9	257,0	344,8	441,2	507,4	572,1	648,4
EER	(1)(2)	kW/kW	3,250	3,140	3,100	3,160	3,130	3,260	3,110
ESEER	(1)(2)	kW/kW	4,610	4,730	4,570	4,880	4,970	4,870	4,890
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	231,9	257,0	344,8	441,2	507,4	572,1	648,4
SEPR	(7)(9)		5,87	5,90	6,06	5,95	6,07	5,73	6,20
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	11,13	12,33	16,53	21,15	24,32	27,43	31,07
Pressure drop	(1)	kPa	36,4	27,4	28,5	27,6	27,7	35,2	21,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	120	210	180	210	240
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2320	2370	3050	4000	4240	4530	5800

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TECS2-Y

0211 - 1154 220,1-1324 kW

High efficiency chiller, air source for outdoor installation

TECS2-Y / SL-CA			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	742,2	848,1	903,5	977,3	1065	1183
Total power input	(1)	kW	225,2	269,3	286,5	309,9	336,1	373,7
EER	(1)	kW/kW	3,296	3,149	3,154	3,154	3,169	3,166
ESEER	(1)	kW/kW	5,160	5,120	5,130	5,090	5,060	5,140
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	740,5	846,0	901,1	975,1	1062	1180
EER	(1)(2)	kW/kW	3,260	3,120	3,120	3,120	3,130	3,130
ESEER	(1)(2)	kW/kW	4,970	4,920	4,900	4,900	4,850	4,920
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	740,5	846,0	901,1	975,1	1062	1180
SEPR	(7)(9)		6,12	6,03	6,07	6,15	5,92	6,14
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	35,49	40,56	43,20	46,74	50,93	56,59
Pressure drop	(1)	kPa	27,6	31,8	36,0	29,7	35,3	37,3
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	280	340	430	490	480	520
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94
SIZE AND WEIGHT								
A	(6)	mm	7000	8500	9700	10600	11200	11500
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6150	6940	7370	8150	8700	9020

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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TECS2-Y / XL-CA			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	220,1	254,2	341,0	435,3	525,5	579,4	640,4
Total power input	(1)	kW	68,52	79,84	109,4	136,5	165,6	171,2	206,2
EER	(1)	kW/kW	3,213	3,185	3,117	3,189	3,173	3,384	3,106
ESEER	(1)	kW/kW	4,750	4,990	4,840	5,190	5,230	5,170	5,190
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	219,4	253,5	340,1	434,3	524,2	577,7	639,3
EER	(1)(2)	kW/kW	3,170	3,150	3,080	3,160	3,140	3,340	3,080
ESEER	(1)(2)	kW/kW	4,610	4,840	4,690	5,020	5,030	4,940	5,030
Cooling energy class			A	A	B	A	A	A	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	219,4	253,5	340,1	434,3	524,2	577,7	639,3
SEPR	(7)(9)		6,01	6,15	6,30	6,18	6,17	5,97	6,43
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,53	12,16	16,31	20,82	25,13	27,71	30,62
Pressure drop	(1)	kPa	32,6	26,7	27,7	26,7	29,5	35,9	20,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	50	51	51	52	52	52
Sound power level in cooling	(4)(5)	dB(A)	82	82	83	83	84	85	85
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	5800	7000	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2370	2420	3200	4240	4690	5350	6150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TECS2-Y

0211 - 1154 220,1-1324 kW

High efficiency chiller, air source for outdoor installation

TECS2-Y / XL-CA			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	738,9	873,7	899,7	971,8	1049	1174
Total power input	(1)	kW	226,2	278,7	289,5	311,8	331,2	377,3
EER	(1)	kW/kW	3,267	3,135	3,108	3,117	3,167	3,112
ESEER	(1)	kW/kW	5,240	5,240	5,300	5,240	5,190	5,230
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	737,3	871,5	897,3	969,6	1046	1171
EER	(1)(2)	kW/kW	3,240	3,100	3,070	3,090	3,130	3,080
ESEER	(1)(2)	kW/kW	5,050	5,030	5,060	5,040	4,960	5,010
Cooling energy class			A	A	B	B	A	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	737,3	871,5	897,3	969,6	1046	1171
SEPR	(7)(9)		6,25	6,20	6,27	6,36	6,16	6,33
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	35,33	41,78	43,03	46,47	50,15	56,14
Pressure drop	(1)	kPa	27,3	33,7	35,7	29,4	34,2	36,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	53	53	53	54	54	55
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	88
SIZE AND WEIGHT								
A	(6)	mm	7900	9400	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6650	7520	7770	8650	9150	9960

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2-Y / SL-CA-E			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	228,7	284,8	384,5	455,1	526,8	590,0	702,8
Total power input	(1)	kW	67,10	81,34	113,1	133,6	154,3	168,5	203,8
EER	(1)	kW/kW	3,408	3,503	3,400	3,406	3,414	3,501	3,448
ESEER	(1)	kW/kW	5,290	5,520	5,430	5,790	5,710	5,640	5,770
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	227,9	283,9	383,3	454,0	525,5	588,2	701,4
EER	(1)(2)	kW/kW	3,360	3,450	3,350	3,370	3,380	3,450	3,420
ESEER	(1)(2)	kW/kW	5,090	5,310	5,190	5,550	5,460	5,340	5,570
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	227,9	283,9	383,3	454,0	525,5	588,2	701,4
SEPR	(7)(9)		6,41	6,26	6,45	6,60	6,36	6,28	6,74
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,93	13,62	18,39	21,76	25,19	28,21	33,61
Pressure drop	(1)	kPa	35,2	33,5	35,2	29,2	29,7	37,2	24,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2270	2350	3130	4070	4230	4570	6040

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2-Y

0211 - 1154 220,1-1324 kW

High efficiency chiller, air source for outdoor installation

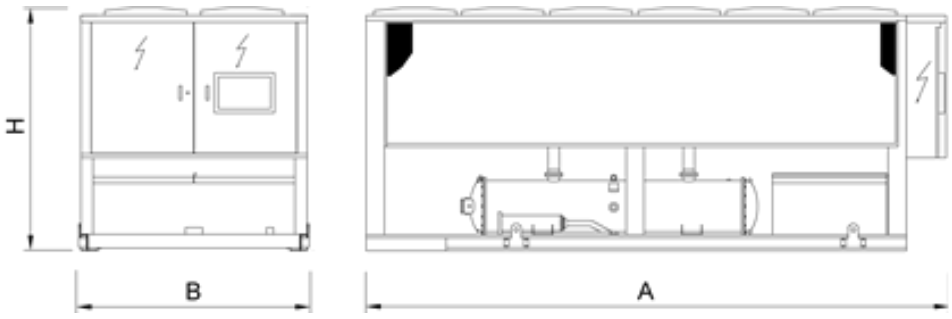
TECS2-Y / SL-CA-E			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	795,7	902,1	969,3	1086	1177	1324
Total power input	(1)	kW	233,5	262,8	278,7	317,1	336,5	382,9
EER	(1)	kW/kW	3,408	3,433	3,478	3,425	3,498	3,458
ESEER	(1)	kW/kW	5,770	5,620	5,790	5,710	5,870	5,750
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	793,7	899,7	966,4	1083	1173	1320
EER	(1)(2)	kW/kW	3,370	3,390	3,430	3,380	3,450	3,410
ESEER	(1)(2)	kW/kW	5,510	5,370	5,480	5,440	5,550	5,420
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	793,7	899,7	966,4	1083	1173	1320
SEPR	(7)(9)		6,50	6,42	6,61	6,59	6,23	6,48
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	38,05	43,14	46,35	51,91	56,30	63,34
Pressure drop	(1)	kPa	31,7	35,9	41,5	36,7	43,1	46,8
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	95
SIZE AND WEIGHT								
A	(6)	mm	7900	8500	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6450	7020	7610	8510	8660	9720

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TECS2-G05-Y

High efficiency chiller, air source for outdoor installation

0211 - 1154 217,9-1313 kW

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with R513A, axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

Electronic control W3000 TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

SL-CA	Super Low noise version, Class A of efficiency
XL-CA	eXtra Low noise version, Class A of efficiency
SL-CA-E	Super Low noise version, Premium efficiency, Class A enhanced

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

VERSION ´CA-E´ AVAILABLE
The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

EXTREMELY SILENT OPERATION
As result of a sistematic design oriented to minimize the noise level, XL version´s units give the best compromise between silence and efficiency on the market.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessories

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- EC fans with electronic DC brushless motor
- Set-up for remote connectivity with ModBus/Echelon protocol cards

TECS2-G05-Y/SL-CA			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	230,4	255,9	343,3	437,9	502,5	567,3	643,1
Total power input	(1)	kW	70,85	80,82	110,0	137,7	160,7	173,5	207,2
EER	(1)	kW/kW	3,254	3,167	3,121	3,180	3,127	3,270	3,104
ESEER	(1)	kW/kW							
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	229,6	255,2	342,4	436,9	501,3	565,7	641,9
EER	(1)(2)	kW/kW	3,210	3,130	3,090	3,150	3,100	3,230	3,080
ESEER	(1)(2)	kW/kW	4,600	4,760	4,550	4,880	4,920	4,810	4,840
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	229,6	255,2	342,4	436,9	501,3	565,7	641,9
SEPR	(7)(9)		5,80	5,87	6,04	5,92	6,00	5,68	6,15
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	11,02	12,24	16,42	20,94	24,03	27,13	30,76
Pressure drop	(1)	kPa	35,7	27,0	28,1	27,0	27,0	34,4	20,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	120	210	180	210	240
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2320	2370	3050	4000	4240	4530	5800

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2-G05-Y

High efficiency chiller, air source for outdoor installation

0211 - 1154 217,9-1313 kW

TECS2-G05-Y/SL-CA			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	733,3	840,5	891,7	964,6	1056	1173
Total power input	(1)	kW	225,0	269,6	287,3	309,1	335,2	373,3
EER	(1)	kW/kW	3,259	3,118	3,104	3,121	3,150	3,142
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	731,7	838,5	889,3	962,5	1053	1170
EER	(1)(2)	kW/kW	3,230	3,090	3,070	3,090	3,120	3,110
ESEER	(1)(2)	kW/kW	4,920	4,870	4,820	4,850	4,830	4,890
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	731,7	838,5	889,3	962,5	1053	1170
SEPR	(7)(9)		6,06	5,98	5,98	6,09	5,89	6,09
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	35,07	40,19	42,64	46,13	50,52	56,08
Pressure drop	(1)	kPa	26,9	31,2	35,1	29,0	34,7	36,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	280	340	430	490	480	520
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	61
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	94
SIZE AND WEIGHT								
A	(6)	mm	7000	8500	9700	10600	11200	11500
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6150	6940	7370	8150	8700	9020

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
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5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TECS2-G05-Y/XL-CA			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	217,9	252,4	338,6	431,0	519,2	573,0	634,0
Total power input	(1)	kW	68,84	79,54	109,0	135,9	165,3	171,1	205,8
EER	(1)	kW/kW	3,167	3,175	3,106	3,171	3,141	3,349	3,081
ESEER	(1)	kW/kW							
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	217,2	251,7	337,7	430,0	517,9	571,4	632,9
EER	(1)(2)	kW/kW	3,130	3,140	3,070	3,140	3,110	3,310	3,060
ESEER	(1)(2)	kW/kW	4,610	4,860	4,670	4,990	4,980	4,900	4,990
Cooling energy class			A	A	B	A	A	A	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	217,2	251,7	337,7	430,0	517,9	571,4	632,9
SEPR	(7)(9)		5,93	6,13	6,28	6,14	6,10	5,92	6,38
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,42	12,07	16,19	20,61	24,83	27,40	30,32
Pressure drop	(1)	kPa	32,0	26,3	27,3	26,2	28,8	35,1	20,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	50	50	51	51	52	52	52
Sound power level in cooling	(4)(5)	dB(A)	82	82	83	83	84	85	85
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	5800	7000	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2370	2420	3200	4240	4690	5350	6150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TECS2-G05-Y

High efficiency chiller, air source for outdoor installation

0211 - 1154 217,9-1313 kW

TECS2-G05-Y/XL-CA			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	730,0	865,8	888,0	959,1	1040	1163
Total power input	(1)	kW	226,0	279,0	290,4	311,0	330,3	376,9
EER	(1)	kW/kW	3,230	3,103	3,058	3,084	3,149	3,086
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	728,4	863,6	885,7	957,0	1037	1160
EER	(1)(2)	kW/kW	3,200	3,070	3,030	3,060	3,120	3,050
ESEER	(1)(2)	kW/kW	4,990	4,980	4,990	4,990	4,950	4,970
Cooling energy class			A	A	B	B	A	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	728,4	863,6	885,7	957,0	1037	1160
SEPR	(7)(9)		6,18	6,13	6,18	6,30	6,13	6,28
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	34,91	41,40	42,47	45,87	49,75	55,63
Pressure drop	(1)	kPa	26,7	33,1	34,8	28,6	33,7	36,1
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	53	53	53	54	54	55
Sound power level in cooling	(4)(5)	dB(A)	86	86	86	87	87	88
SIZE AND WEIGHT								
A	(6)	mm	7900	9400	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6650	7520	7770	8650	9150	9960

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2-G05-Y/SL-CA-E			0211	0251	0351	0452	0512	0552	0652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	226,4	282,8	381,9	450,5	520,5	583,5	695,8
Total power input	(1)	kW	67,41	81,04	112,7	133,0	154,1	168,3	203,5
EER	(1)	kW/kW	3,359	3,491	3,389	3,387	3,378	3,467	3,419
ESEER	(1)	kW/kW							
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	225,6	281,9	380,8	449,4	519,2	581,8	694,4
EER	(1)(2)	kW/kW	3,310	3,440	3,350	3,350	3,340	3,420	3,390
ESEER	(1)(2)	kW/kW	5,100	5,300	5,200	5,520	5,400	5,300	5,530
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	225,6	281,9	380,8	449,4	519,2	581,8	694,4
SEPR	(7)(9)		6,32	6,24	6,45	6,56	6,29	6,23	6,68
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	-	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,83	13,52	18,26	21,55	24,89	27,90	33,27
Pressure drop	(1)	kPa	34,5	33,0	34,7	28,6	29,0	36,4	24,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	100	100	130	220	220	240	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	56	56	58	58	58	59	59
Sound power level in cooling	(4)(5)	dB(A)	88	88	90	90	90	91	92
SIZE AND WEIGHT									
A	(6)	mm	3100	3100	4000	4900	4900	5800	7000
B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	2270	2350	3130	4070	4230	4570	6040

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

TECS2-G05-Y

High efficiency chiller, air source for outdoor installation

0211 - 1154 217,9-1313 kW

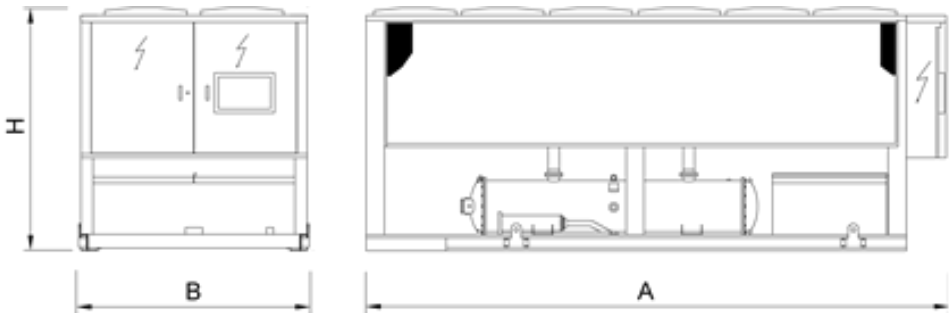
TECS2-G05-Y/SL-CA-E			0712	0853	0913	1013	1054	1154
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	786,2	894,0	956,7	1071	1168	1313
Total power input	(1)	kW	233,3	263,0	279,5	316,2	335,5	382,5
EER	(1)	kW/kW	3,370	3,399	3,423	3,387	3,481	3,433
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	784,3	891,6	953,9	1068	1164	1309
EER	(1)(2)	kW/kW	3,330	3,360	3,380	3,350	3,430	3,390
ESEER	(1)(2)	kW/kW	5,460	5,310	5,400	5,390	5,530	5,380
Cooling energy class			A	A	A	A	A	A
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	784,3	891,6	953,9	1068	1164	1309
SEPR	(7)(9)		6,44	6,36	6,51	6,53	6,20	6,43
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	37,60	42,75	45,75	51,24	55,85	62,77
Pressure drop	(1)	kPa	31,0	35,3	40,4	35,7	42,4	46,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	3	3	3	4	4
No. Circuits		N°	1	2	2	2	2	2
Refrigerant charge		kg	310	410	450	520	500	580
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	59	60	60	60	61	62
Sound power level in cooling	(4)(5)	dB(A)	92	93	93	93	94	95
SIZE AND WEIGHT								
A	(6)	mm	7900	8500	9700	10600	11200	12400
B	(6)	mm	2260	2260	2260	2260	2260	2260
H	(6)	mm	2430	2430	2430	2430	2430	2430
Operating weight	(6)	kg	6450	7020	7610	8510	8660	9720

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TECS2 HFO-Y

High efficiency chiller, air source for outdoor installation

0351 - 1053 339,2-1017 kW

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with refrigerant HFO (1234-ze), axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

r1234ze

Versions

SL-CA-E Super Low noise version, Premium efficiency, Class A enhanced (based on Eurovent classification)

Configurations

- Basic function

Features

HFO REFRIGERANT
4th generation refrigerant HFO 1234ze, with negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze < 1, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer.

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

EXTREMELY SILENT OPERATION
The best compromise between silence and efficiency, as result of a sistematic design oriented to minimize the noise level.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessories

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- Set-up for remote connectivity with ModBus/Echelon protocol cards

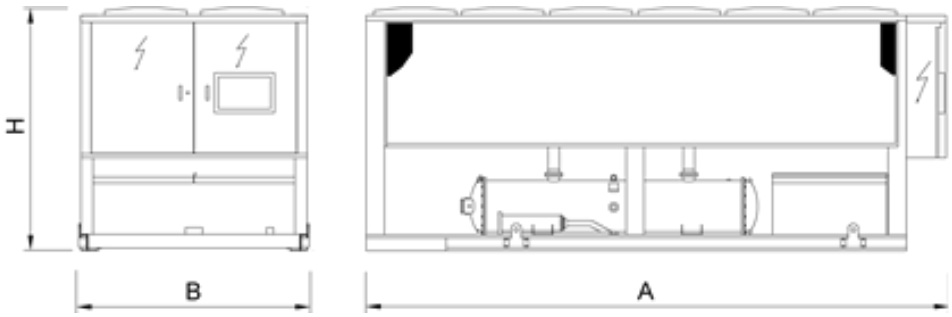
TECS2 HFO-Y / SL-CA-E			0351	0702	1053
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	339,2	678,5	1017
Total power input	(1)	kW	96,26	192,4	282,4
EER	(1)	kW/kW	3,522	3,527	3,601
ESEER	(1)	kW/kW	5,560	5,960	6,000
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	338,3	677,2	1014
EER	(1)(2)	kW/kW	3,480	3,500	3,550
ESEER	(1)(2)	kW/kW	5,360	5,750	5,640
Cooling energy class			A	A	A
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)					
Process refrigeration at high temperature					
Prated,c	(7)	kW	338,3	677,2	1014
SEPR	(7)(9)		6,97	7,15	6,82
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)					
Process refrigeration at medium temperature					
Prated,c	(8)	kW	-	-	-
SEPR	(8)(9)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	16,22	32,45	48,66
Pressure drop	(1)	kPa	27,4	23,1	45,7
REFRIGERANT CIRCUIT					
Compressors nr.		N°	1	2	3
No. Circuits		N°	1	1	2
Refrigerant charge		kg	130	310	450
NOISE LEVEL					
Sound Pressure	(3)	dB(A)	58	59	60
Sound power level in cooling	(4)(5)	dB(A)	90	92	93
SIZE AND WEIGHT					
A	(6)	mm	4000	7900	9700
B	(6)	mm	2260	2260	2260
H	(6)	mm	2430	2430	2430
Operating weight	(6)	kg	3130	6450	7610

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, outdoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

NX-C-Y

Chiller, air source for indoor installation

0072 - 1204 17,43-291,1 kW

Unit for indoor installation to produce chilled water with hermetic rotary Scroll compressors, centrifugal plug fans with EC motor, braze-welded plate-type exchanger and thermal expansion valve.
Structure and the external panelling made of hot-galvanised metal plate and painted with epoxy powder coat RAL 7035. The panels are easily removable for a quick and easy access to the inside components on either side of the unit.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. In alternative or in addition to Compact keyboard, the innovative user interface KIPlink allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans and the pumps (if present) and display and reset the possible alarms.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. Alternatively, the proportional or proportional-integral regulations are also available.
Complete alarm management system is available, with the “black-box” and the alarm history display functions. For multiple units’ systems, the regulation of the resources can be implemented via optional proprietary devices. Energy metering, for both consumption and capacity, can also be developed.
The built-in clock can create an operating profile up to 4 typical days and 10 time bands.
Supervision is available either using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal energy performance ration, SEPR, in accordance with the eco-sustainable design requirements for all products using energy.

PLUG FUN WITH EC MOTOR
More air flow by smaller diameter.
Energy cost saving by highest efficiency at the operating point.
Fan is directly coupling with motor, no energy lost due to the transmission (belts and pulleys). External rotor fitted with permanent magnets. Outstanding efficiency even at partial load range, due to the lack of brushes and lower consumption in every working condition in order to achieve a better seasonal efficiency in accordance with ErP Directive.

TOTAL VERSATILITY
Horizontal or vertical air flow.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Outside air temperature probe for plant water set point compensation.
- Horizontal or vertical air outflow
- Hydronic module available in different configurations with 1 or 2 pumps fixed speed or variable speed, for achieving both low or high head.
- VPF (Variable Primary Flow) system
- Electronic expansion valve

NX-C-Y / K			0072	0092	0102	0122	0152	0182	0202	0232	0272
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	17,76	22,48	26,53	30,29	38,46	45,45	51,78	58,09	66,80
Total power input	(1)	kW	6,230	8,289	9,536	11,33	12,88	14,85	17,72	20,49	23,63
EER	(1)	kW/kW	2,857	2,714	2,778	2,681	2,984	3,054	2,927	2,834	2,831
ESEER	(1)	kW/kW	4,350	4,210	4,330	4,190	4,310	4,340	4,210	4,140	4,200
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	17,70	22,40	26,40	30,10	38,30	45,30	51,60	57,80	66,50
EER	(1)(2)	kW/kW	2,850	2,710	2,780	2,680	2,990	3,060	2,930	2,830	2,830
ESEER	(1)(2)	kW/kW	4,200	4,090	4,210	4,050	4,200	4,240	4,130	4,050	4,100
Cooling energy class			A	B	A	B	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(6)	kW	17,70	22,40	26,40	30,10	38,30	45,30	51,60	57,80	66,50
SEPR	(6)(8)		5,37	5,23	5,41	4,95	5,34	5,23	5,12	4,92	4,92
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(7)	kW	9,760	12,40	15,20	17,70	22,40	26,60	30,80	34,70	39,70
SEPR	(7)(8)		3,20	3,25	3,40	3,28	3,37	3,41	3,42	3,34	3,31
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	0,849	1,075	1,269	1,449	1,839	2,173	2,476	2,778	3,194
Pressure drop	(1)	kPa	24,8	24,4	25,1	25,5	27,3	24,9	25,3	25,6	25,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,50	3,70	4,10	4,20	7,30	8,30	9,20	9,40	10,7
FANS											
Air flow		m³/s	2,08	2,50	3,33	3,47	4,44	5,42	5,69	5,97	7,50
Available static pressure		Pa	30	30	30	30	30	30	30	30	30
NOISE LEVEL											
Sound power level in cooling	(3)(4)	dB(A)	80	78	81	80	77	80	81	82	82
SIZE AND WEIGHT											
A	(5)	mm	1500	1500	1500	1500	2480	2480	2480	2480	2480
B	(5)	mm	900	900	900	900	1100	1100	1100	1100	1100
H	(5)	mm	1910	1910	1910	1910	2100	2100	2100	2100	2100
Operating weight	(5)	kg	380	380	400	410	680	710	720	740	800

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-C-Y

0072 - 1204 17,43-291,1 kW

Chiller, air source for indoor installation

NX-C-Y / K			0302	0352	0402	0452	0502	0552	0602	0702	0524
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	75,49	85,51	97,63	110,0	125,0	140,2	155,7	178,1	127,2
Total power input	(1)	kW	27,14	32,07	35,51	40,87	44,75	52,93	59,88	66,85	47,73
EER	(1)	kW/kW	2,786	2,664	2,749	2,689	2,790	2,650	2,599	2,662	2,667
ESEER	(1)	kW/kW	4,020	3,920	3,980	3,910	4,020	3,890	3,830	3,970	4,120
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	75,20	85,20	97,20	109,6	124,6	139,7	155,2	177,5	126,8
EER	(1)(2)	kW/kW	2,800	2,670	2,750	2,690	2,800	2,660	2,610	2,670	2,680
ESEER	(1)(2)	kW/kW	3,940	3,850	3,910	3,850	3,970	3,830	3,790	3,920	4,010
Cooling energy class			A	B	A	B	A	B	B	B	B
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(6)	kW	75,20	85,20	97,20	109,6	124,6	139,7	155,2	177,5	126,8
SEPR	(6)(8)		4,87	4,60	4,78	4,61	4,81	4,54	4,64	4,63	4,77
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(7)	kW	45,50	50,90	57,20	65,60	75,00	83,80	92,80	107,2	76,50
SEPR	(7)(8)		3,28	3,12	3,21	3,14	3,36	3,15	3,15	3,21	3,32
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	3,610	4,089	4,669	5,262	5,978	6,705	7,445	8,518	6,080
Pressure drop	(1)	kPa	25,9	25,7	25,3	25,4	25,4	25,8	25,6	26,3	25,6
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	1	2
Refrigerant charge		kg	11,1	12,0	14,1	14,8	18,6	19,2	20,0	23,5	21,0
FANS											
Air flow		m³/s	8,06	8,89	10,56	11,11	12,50	13,89	15,83	18,06	13,06
Available static pressure		Pa	30	30	30	30	30	30	30	30	30
NOISE LEVEL											
Sound power level in cooling	(3)(4)	dB(A)	82	84	87	80	87	88	89	94	88
SIZE AND WEIGHT											
A	(5)	mm	2480	2480	2980	2980	3970	3970	3970	4670	3970
B	(5)	mm	1100	1100	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	820	890	1080	1110	1290	1310	1380	1560	1250

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-C-Y / K			0604	0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	148,4	171,2	191,2	220,1	245,7	281,7	291,1
Total power input	(1)	kW	56,57	64,19	74,66	81,94	93,40	107,6	121,1
EER	(1)	kW/kW	2,622	2,667	2,560	2,687	2,631	2,618	2,404
ESEER	(1)	kW/kW	4,050	4,060	3,990	4,050	4,040	3,820	3,740
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	147,9	170,7	190,6	219,5	245,0	281,0	290,3
EER	(1)(2)	kW/kW	2,630	2,680	2,570	2,700	2,640	2,630	2,410
ESEER	(1)(2)	kW/kW	3,940	3,960	3,900	3,960	3,950	3,740	3,660
Cooling energy class			B	B	B	B	B	B	C
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(6)	kW	147,9	170,7	190,6	219,5	245,0	281,0	-
SEPR	(6)(8)		4,63	4,57	4,55	4,58	4,61	4,50	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(7)	kW	89,60	101,8	112,7	130,8	148,0	168,2	171,6
SEPR	(7)(8)		3,17	3,06	3,08	3,16	3,23	3,02	2,91
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,098	8,188	9,143	10,52	11,75	13,47	13,92
Pressure drop	(1)	kPa	27,0	25,7	26,1	26,1	26,1	23,5	25,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	3
Refrigerant charge		kg	22,3	26,3	28,4	32,3	34,6	86,0	86,0
FANS									
Air flow		m³/s	15,28	17,78	19,44	22,50	24,17	24,17	24,17
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	90	95	97	91	93	94	94
SIZE AND WEIGHT									
A	(5)	mm	3970	4670	4670	5670	5670	5670	5670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	1350	1640	1780	2060	2140	2530	2580

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-C-Y

0072 - 1204 17,43-291,1 kW

Chiller, air source for indoor installation

NX-C-Y / SL-K			0072	0092	0102	0122	0152	0182	0202	0232
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	17,43	21,89	25,62	29,28	37,48	44,40	51,20	56,83
Total power input	(1)	kW	6,087	8,016	9,112	10,83	12,64	14,49	17,34	20,02
EER	(1)	kW/kW	2,857	2,731	2,810	2,713	2,976	3,062	2,960	2,840
ESEER	(1)	kW/kW	4,360	4,250	4,350	4,430	4,280	4,370	4,260	4,290
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	17,30	21,80	25,50	29,10	37,30	44,20	51,00	56,60
EER	(1)(2)	kW/kW	2,870	2,720	2,830	2,720	2,960	3,070	2,970	2,840
ESEER	(1)(2)	kW/kW	4,250	4,150	4,250	4,300	4,180	4,290	4,190	4,220
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(6)	kW	17,30	21,80	25,50	29,10	37,30	44,20	51,00	56,60
SEPR	(6)(8)		5,53	5,38	5,61	5,28	5,34	5,37	5,25	5,09
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(7)	kW	9,590	12,10	14,80	17,20	22,00	26,10	30,30	34,00
SEPR	(7)(8)		3,36	3,41	3,67	3,63	3,48	3,56	3,53	3,51
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,834	1,047	1,225	1,400	1,792	2,123	2,448	2,718
Pressure drop	(1)	kPa	23,9	23,1	23,5	23,9	25,9	23,8	24,8	24,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,50	3,70	6,80	7,00	7,30	8,30	9,20	9,40
FANS										
Air flow		m³/s	1,81	2,08	2,22	2,36	3,61	4,44	4,86	5,14
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	68	70	70	72	70	76	73	74
SIZE AND WEIGHT										
A	(5)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(5)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(5)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	450	450	690	700	730	790	790	810

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio

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Certified data in EUROVENT

NX-C-Y / SL-K			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	65,37	73,49	82,99	94,78	106,9	122,4	136,4	150,5
Total power input	(1)	kW	22,77	26,43	31,05	34,34	39,50	43,82	51,51	57,78
EER	(1)	kW/kW	2,868	2,784	2,669	2,764	2,706	2,795	2,649	2,604
ESEER	(1)	kW/kW	4,410	4,000	4,070	4,000	4,060	4,030	3,920	4,080
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	65,10	73,20	82,70	94,50	106,5	122,0	136,0	150,0
EER	(1)(2)	kW/kW	2,870	2,780	2,670	2,770	2,710	2,800	2,660	2,610
ESEER	(1)(2)	kW/kW	4,330	3,950	4,010	3,960	4,020	3,970	3,870	4,040
Cooling energy class			A	A	B	A	A	A	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(6)	kW	65,10	73,20	82,70	94,50	106,5	122,0	136,0	150,0
SEPR	(6)(8)		5,18	4,92	4,76	4,90	4,81	4,87	4,69	4,66
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(7)	kW	39,00	44,60	49,80	56,10	64,40	73,90	82,30	89,80
SEPR	(7)(8)		3,52	3,41	3,31	3,37	3,34	3,46	3,31	3,28
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,126	3,514	3,969	4,533	5,111	5,852	6,521	7,196
Pressure drop	(1)	kPa	24,2	24,5	24,2	23,9	23,9	24,4	24,4	23,9
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	11,6	12,0	12,8	16,8	17,3	18,6	19,2	21,1
FANS										
Air flow		m³/s	6,11	6,39	6,94	8,06	8,61	10,83	11,67	12,22
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	76	76	77	76	77	82	83	86
SIZE AND WEIGHT										
A	(5)	mm	2980	2980	2980	3970	3970	3970	3970	4670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	930	980	1060	1220	1380	1400	1430	1610

Notes

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7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio

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Certified data in EUROVENT

NX-C-Y

0072 - 1204 17,43-291,1 kW

Chiller, air source for indoor installation

NX-C-Y / SL-K			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	172,2	124,0	144,5	166,2	185,1	222,3	243,4
Total power input	(1)	kW	65,36	46,62	54,98	62,74	71,80	79,56	91,00
EER	(1)	kW/kW	2,633	2,661	2,627	2,651	2,578	2,793	2,675
ESEER	(1)	kW/kW	3,880	4,130	4,120	4,200	3,990	4,220	4,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	171,7	123,6	144,0	165,7	184,6	221,6	242,7
EER	(1)(2)	kW/kW	2,640	2,670	2,630	2,660	2,590	2,800	2,680
ESEER	(1)(2)	kW/kW	3,830	4,010	4,000	4,090	3,900	4,110	3,960
Cooling energy class			B	B	B	B	B	A	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(6)	kW	171,7	123,6	144,0	165,7	184,6	221,6	242,7
SEPR	(6)(8)		4,60	4,97	4,80	4,80	4,69	4,81	4,75
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(7)	kW	104,7	75,00	88,00	99,60	110,1	131,8	146,5
SEPR	(7)(8)		3,29	3,46	3,30	3,33	3,23	3,25	3,26
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,237	5,929	6,911	7,946	8,851	10,63	11,64
Pressure drop	(1)	kPa	24,6	24,3	25,6	24,2	24,5	26,6	25,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg	25,3	21,0	23,1	27,6	29,7	82,6	84,3
FANS									
Air flow		m³/s	13,89	11,11	12,22	13,89	15,00	19,17	19,72
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	89	82	84	89	82	88	89
SIZE AND WEIGHT									
A	(5)	mm	5670	3970	4670	5670	5670	5670	5670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	1790	1370	1550	1960	2110	2550	2600

Notes

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NX-C-Y / A			0072	0092	0102	0122	0152	0182	0202	0232
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	18,11	22,91	27,39	31,64	38,83	46,00	53,05	59,17
Total power input	(1)	kW	5,936	7,831	8,561	10,22	12,55	14,39	17,18	19,81
EER	(1)	kW/kW	3,047	2,925	3,201	3,098	3,079	3,194	3,081	2,990
ESEER	(1)	kW/kW	4,560	4,490	4,830	4,830	4,440	4,490	4,390	4,390
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,00	22,80	27,20	31,40	38,60	45,80	52,80	58,90
EER	(1)(2)	kW/kW	3,060	2,930	3,210	3,100	3,090	3,230	3,110	3,000
ESEER	(1)(2)	kW/kW	4,470	4,410	4,730	4,680	4,330	4,440	4,310	4,300
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(6)	kW	18,00	22,80	27,20	31,40	38,60	45,80	52,80	58,90
SEPR	(6)(8)		5,73	5,68	6,18	5,79	5,52	5,48	5,36	5,21
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(7)	kW	9,910	12,60	15,60	18,20	22,60	26,80	31,20	35,10
SEPR	(7)(8)		3,39	3,47	3,81	3,71	3,49	3,56	3,54	3,50
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,866	1,096	1,310	1,513	1,857	2,200	2,537	2,830
Pressure drop	(1)	kPa	25,8	25,3	26,8	27,9	27,8	25,5	26,6	26,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,50	3,70	6,80	7,00	7,30	8,30	9,20	9,40
FANS										
Air flow		m³/s	2,50	2,92	3,75	4,17	4,86	6,11	6,53	6,94
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	74	77	82	84	86	83	84	84
SIZE AND WEIGHT										
A	(5)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(5)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(5)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	450	450	690	700	730	790	790	810

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
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Certified data in EUROVENT

NX-C-Y

0072 - 1204 17,43-291,1 kW

Chiller, air source for indoor installation

NX-C-Y / A			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	67,76	77,18	87,21	99,82	113,0	126,1	141,0	158,5
Total power input	(1)	kW	22,81	26,21	30,71	33,70	38,72	43,92	51,68	57,44
EER	(1)	kW/kW	2,974	2,947	2,840	2,961	2,920	2,872	2,727	2,761
ESEER	(1)	kW/kW	4,460	4,190	4,190	4,210	4,080	4,100	4,080	4,000
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	67,50	76,90	86,90	99,40	112,6	125,7	140,5	158,0
EER	(1)(2)	kW/kW	2,990	2,960	2,850	2,980	2,930	2,880	2,730	2,780
ESEER	(1)(2)	kW/kW	4,380	4,120	4,120	4,140	4,030	4,050	4,020	3,960
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(6)	kW	67,50	76,90	86,90	99,40	112,6	125,7	140,5	158,0
SEPR	(6)(8)		5,23	5,12	4,91	5,08	5,04	4,91	4,72	4,86
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(7)	kW	40,10	46,10	51,60	58,10	66,90	75,40	84,10	93,90
SEPR	(7)(8)		3,47	3,42	3,29	3,39	3,49	3,42	3,27	3,29
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,240	3,691	4,171	4,774	5,402	6,028	6,742	7,580
Pressure drop	(1)	kPa	26,0	27,1	26,7	26,5	26,7	25,9	26,1	26,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	11,6	12,0	12,8	16,8	17,3	18,6	19,2	21,1
FANS										
Air flow		m³/s	8,06	9,17	9,72	11,67	12,50	13,33	14,44	16,94
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(3)(4)	dB(A)	90	83	84	83	85	86	88	93
SIZE AND WEIGHT										
A	(5)	mm	2980	2980	2980	3970	3970	3970	3970	4670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	930	980	1060	1220	1380	1400	1430	1610

Notes

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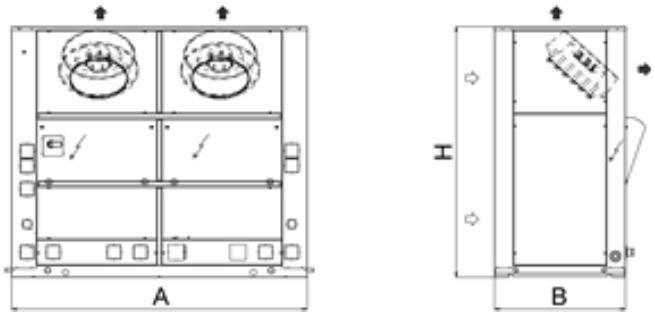
NX-C-Y / A			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	180,4	127,2	150,0	173,5	193,4	225,0	251,1
Total power input	(1)	kW	65,28	46,54	55,11	62,30	70,67	81,65	91,08
EER	(1)	kW/kW	2,763	2,735	2,722	2,785	2,736	2,757	2,756
ESEER	(1)	kW/kW	4,090	4,190	4,130	4,310	4,150	4,170	4,120
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	179,8	126,8	149,5	173,0	192,8	224,3	250,4
EER	(1)(2)	kW/kW	2,770	2,740	2,730	2,800	2,750	2,770	2,760
ESEER	(1)(2)	kW/kW	4,050	4,070	4,010	4,200	4,050	4,070	4,020
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(6)	kW	179,8	126,8	149,5	173,0	192,8	224,3	250,4
SEPR	(6)(8)		4,79	4,93	4,80	4,91	4,84	4,74	4,74
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(7)	kW	108,0	76,50	90,30	102,7	113,5	132,5	150,4
SEPR	(7)(8)		3,30	3,43	3,25	3,28	3,26	3,13	3,28
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,628	6,080	7,174	8,298	9,249	10,76	12,01
Pressure drop	(1)	kPa	27,0	25,6	27,6	26,4	26,7	27,3	27,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg	25,3	21,0	23,1	27,6	29,7	82,6	84,3
FANS									
Air flow		m³/s	18,61	13,06	15,56	19,72	19,72	21,94	21,94
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(3)(4)	dB(A)	96	86	89	88	88	91	91
SIZE AND WEIGHT									
A	(5)	mm	5670	3970	4670	5670	5670	5670	5670
B	(5)	mm	1260	1260	1260	1260	1260	1260	1260
H	(5)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(5)	kg	1790	1370	1550	1960	2110	2550	2600

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
4 Sound power level in cooling, outdoors.
5 Unit in standard configuration/execution, without optional accessories.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

NX-W-Y

Water cooled chiller

0122 - 1204 38,14-397,8 kW

Water to water indoor unit for the production of chilled water with hermetic rotary Scroll compressors, braze-welded plate-type exchanger and electronic expansion valve. Basement and frame in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted to assure total weather resistance, RAL 7035.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
The brand new W3000TE controller offers advanced functions and algorithms.
The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.
Diagnostics include complete alarm management, with “blackbox” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production.
Supervision is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

- Basic

Configurations

- Basic function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal energy performance ration, SEPR, in accordance with the eco-sustainable design requirements for all products using energy.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions. VPF (Variable Primary Flow) available for sizes 0604-1204.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low head, fixed or variable speed, available for user side and source side (up to 4 pumps).

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: pressure-controlled valve, two or three-way modulating valv, 0-10V signal for variable speed driven pumps.

TOTAL VERSATILITY
The units have been designed with a range of integrated accessories, keeping in mind the operation with open loop (well water or ground water), dry cooler or cooling tower and suitable for geothermal application so as to satisfy all service system and installation requirements.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and at different working conditions. It guaranteed energy saving due to efficiency optimization in various different working conditions. The electronic thermostatic valve allows you to obtain speed in reaching machine stability and an extension of the operating limits.

Accessories

- Touch Screen visual display
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Outside air temperature probe for plant water set point compensation.
- Integral acoustical enclosure (type base)
- Thicker soundproofing cladding
- User side and source side hydronic kit available in different configurations
- VPF (Variable Primary Flow) system
- Condensing control device: two or three-way modulating pressure-controlled valve and inverter on pumps

NX-W-Y			0122	0152	0182	0202	0252	0262	0302	0352
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	38,14	47,70	56,19	65,31	72,33	82,33	96,67	111,4
Total power input	(1)	kW	7,525	9,312	10,84	12,62	13,84	15,99	18,88	21,68
EER	(1)	kW/kW	5,060	5,124	5,204	5,183	5,239	5,144	5,116	5,134
ESEER	(1)	kW/kW	6,460	6,760	6,420	6,470	6,720	6,410	6,490	6,630
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	37,90	47,50	55,90	65,10	72,00	82,00	96,40	111,0
EER	(1)(2)	kW/kW	4,850	4,890	4,960	4,970	5,010	4,960	4,940	4,960
ESEER	(1)(2)	kW/kW	5,890	6,100	5,810	5,930	6,120	5,950	6,040	6,130
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	37,90	-	55,90	-	72,00	82,00	-	111,0
SEPR	(7)(9)		6,91	-	6,76	-	7,15	6,91	-	6,96
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	19,10	23,90	28,20	33,00	36,40	41,80	49,10	55,80
SEPR	(8)(9)		4,14	4,03	4,04	4,15	4,30	4,29	4,17	4,15
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,824	2,281	2,687	3,123	3,459	3,937	4,623	5,326
Pressure drop	(1)	kPa	21,6	26,6	26,7	21,8	21,6	21,8	22,7	22,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,175	2,716	3,194	3,713	4,106	4,684	5,505	6,339
Pressure drop	(1)	kPa	11,8	15,7	18,1	20,6	23,1	13,5	14,2	14,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,80	4,20	5,20	5,50	6,70	8,00	9,60	11,0
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	57	57	58	58	58	59	60	60
Sound power level in cooling	(4)(5)	dB(A)	73	73	74	74	74	75	76	77
SIZE AND WEIGHT										
A	(6)	mm	1225	1225	1225	1225	1225	1225	1225	1570
B	(6)	mm	885	885	885	885	885	885	885	885
H	(6)	mm	1495	1495	1495	1495	1495	1495	1495	1805
Operating weight	(6)	kg	360	360	390	410	440	480	520	660

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-W-Y

Water cooled chiller

0122 - 1204 38,14-397,8 kW

NX-W-Y			0402	0452	0502	0552	0602	0702	0802	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	126,1	141,8	157,5	181,1	204,4	230,5	254,3	191,8
Total power input	(1)	kW	24,48	27,68	30,88	35,20	39,59	45,24	51,16	38,29
EER	(1)	kW/kW	5,147	5,119	5,097	5,145	5,162	5,100	4,967	5,008
ESEER	(1)	kW/kW	6,340	6,470	6,320	6,420	6,420	6,500	6,060	6,600
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	125,7	141,4	157,0	180,6	203,8	229,8	253,4	191,4
EER	(1)(2)	kW/kW	4,990	4,960	4,930	4,990	5,000	4,930	4,790	4,880
ESEER	(1)(2)	kW/kW	5,950	6,040	5,920	6,000	6,010	6,030	5,630	6,140
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	-	-	157,0	-	203,8	-	-	191,4
SEPR	(7)(9)		-	-	6,79	-	6,90	-	-	7,10
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	62,60	71,00	79,40	90,90	102,3	117,1	131,0	97,80
SEPR	(8)(9)		4,08	4,11	4,13	4,18	4,24	4,27	4,26	4,18
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	6,030	6,780	7,532	8,659	9,777	11,02	12,16	9,174
Pressure drop	(1)	kPa	23,1	23,8	24,4	24,9	25,5	30,7	37,4	17,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	7,174	8,074	8,974	10,30	11,63	13,14	14,55	10,96
Pressure drop	(1)	kPa	15,4	15,9	18,5	18,3	21,0	23,5	28,8	16,2
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	2
Refrigerant charge		kg	12,5	13,9	14,8	18,1	21,4	21,9	22,0	19,3
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	60	61	61	62	62	65	66	69
Sound power level in cooling	(4)(5)	dB(A)	77	78	78	79	79	82	83	86
SIZE AND WEIGHT										
A	(6)	mm	1570	1570	1570	1570	1570	1570	1570	2210
B	(6)	mm	885	885	885	885	885	885	885	885
H	(6)	mm	1805	1805	1805	1805	1805	1805	1805	1805
Operating weight	(6)	kg	740	790	820	870	920	940	960	870

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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NX-W-Y			0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	221,0	250,0	281,3	312,7	359,3	397,8
Total power input	(1)	kW	43,95	49,61	56,09	62,55	71,34	79,96
EER	(1)	kW/kW	5,034	5,040	5,014	5,003	5,039	4,972
ESEER	(1)	kW/kW	6,640	6,580	6,640	6,530	6,610	6,570
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	220,5	249,4	280,6	311,9	358,4	396,6
EER	(1)(2)	kW/kW	4,910	4,910	4,880	4,860	4,880	4,800
ESEER	(1)(2)	kW/kW	6,160	6,120	6,130	6,020	6,030	5,960
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	220,5	249,4	280,6	311,9	358,4	396,6
SEPR	(7)(9)		7,01	6,88	6,86	6,77	6,82	6,76
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	111,3	124,8	141,5	158,3	181,2	201,5
SEPR	(8)(9)		4,14	4,11	4,13	4,14	4,19	4,20
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,57	11,96	13,45	14,95	17,18	19,02
Pressure drop	(1)	kPa	18,1	20,0	21,3	24,9	28,2	34,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,62	14,27	16,07	17,87	20,51	22,75
Pressure drop	(1)	kPa	17,4	19,6	22,0	24,8	30,0	36,1
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	23,1	25,5	29,9	37,7	44,5	44,6
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	70	71	72	73	74	74
Sound power level in cooling	(4)(5)	dB(A)	87	88	89	90	91	91
SIZE AND WEIGHT								
A	(6)	mm	2210	2650	2650	2650	2650	2650
B	(6)	mm	885	885	885	885	885	885
H	(6)	mm	1805	1805	1805	1805	1805	1805
Operating weight	(6)	kg	1050	1240	1330	1530	1630	1710

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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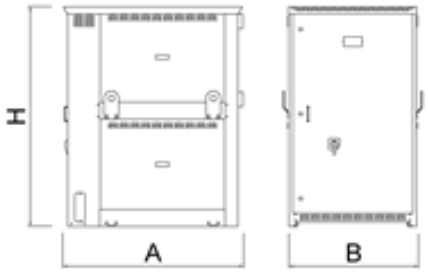
Dimensional drawing

Size 0122-802



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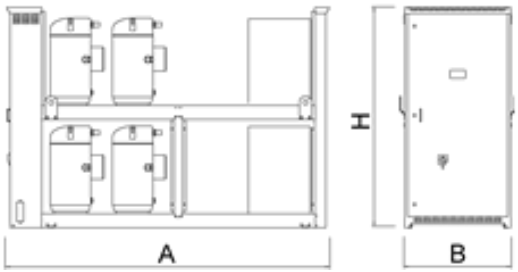


CHILLERS

FX-W-Y

Water cooled chiller

0551 - 1752 124,3-400,6 kW

Indoor unit for the production of chilled water featuring semihermetic screw compressors optimized to operate with low compression ratio and R134a, shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and shell and tube condenser and electronic expansion valve.
Base and supporting structure is made of polyester painted galvanized steel. Eurovent certification. The unit results extremely compact, thanks to the peculiar construction layout, without base frame and panels, and extremely flexible to easily adapts itself to different thermal load conditions thanks to the precise thermoregulation The high performance's level is achieved thanks to the accurate sizing of all internal components.

Refrigerant

R134a

Configurations

- Basic function
- D Partial condensing heat recovery function
- R Total condensing heat recovery function

Features

ErP READY
Thanks to the high level of efficiency at part load, the unit can meet and exceed the minimum energy efficiency threshold rated by the Seasonal Energy Performance Ratio SEPR HT and SEPR MT, in accordance with the eco-sustainable design requirements for all products using energy. The unit is already compliant with the minimum seasonal efficiency requirements that will start from 2021.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

ADAPTABILITY
Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variability of the source temperature. The electronic expansion valve guarantees speed in reaching machine stability and an extension of the operating limits.

Control

Electronic control W3000TE
W3000TE controller offers feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of the circuits. As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet.
Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible, and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with the remote keyboard managing up to 8 units. The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. The regulation operates on the water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Accessories

- VPF (Variable Primary Flow) system
- Several devices for condensation´s control
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Touch Screen visual display
- KIPlink user interface

FX-W-Y			0551	0651	0751	0851	0951	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	124,3	140,5	166,3	198,2	221,7	252,4
Total power input	(1)	kW	24,47	27,27	34,14	38,89	44,24	48,99
EER	(1)	kW/kW	5,073	5,147	4,877	5,095	5,016	5,151
ESEER	(1)	kW/kW	5,980	6,020	5,950	6,010	5,940	6,340
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	123,9	140,1	165,8	197,5	220,8	251,4
EER	(1)(2)	kW/kW	4,900	4,970	4,700	4,900	4,820	4,960
ESEER	(1)(2)	kW/kW	5,530	5,570	5,480	5,510	5,440	5,750
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	123,9	140,1	165,8	197,5	220,8	251,4
SEPR	(7)(9)		7,05	7,11	7,02	7,05	7,04	7,05
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	60,20	67,00	81,50	94,90	107,1	121,3
SEPR	(8)(9)		3,70	3,73	3,63	3,56	3,60	3,70
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,944	6,719	7,954	9,479	10,60	12,07
Pressure drop	(1)	kPa	19,8	19,7	27,6	33,0	41,2	41,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	7,087	7,993	9,546	11,29	12,67	14,36
Pressure drop	(1)	kPa	21,8	25,6	30,6	26,6	26,2	22,4
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	2
No. Circuits		N°	1	1	1	1	1	2
Refrigerant charge		kg	22,0	32,0	30,0	56,0	54,0	44,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	75	75	76	76	76	78
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	93	93	95
SIZE AND WEIGHT								
A	(6)	mm	2400	2600	2700	3000	3000	3000
B	(6)	mm	920	920	950	960	960	1100
H	(6)	mm	1500	1500	1500	1500	1500	1500
Operating weight	(6)	kg	1050	1110	1280	1450	1460	1710

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-W-Y

Water cooled chiller

0551 - 1752 124,3-400,6 kW

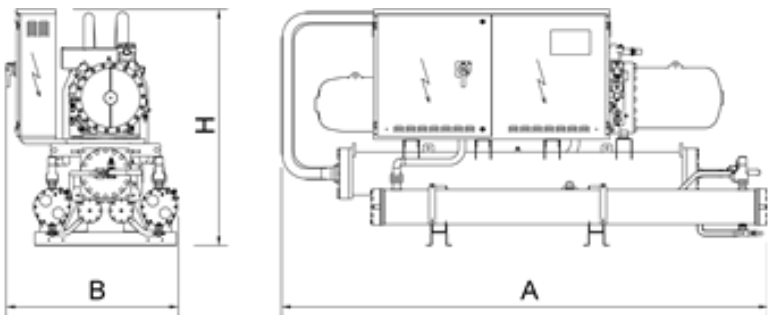
FX-W-Y			1302	1402	1502	1602	1752
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	285,1	311,9	345,2	366,2	400,6
Total power input	(1)	kW	54,57	61,46	68,38	72,99	83,17
EER	(1)	kW/kW	5,222	5,072	5,047	5,016	4,815
ESEER	(1)	kW/kW	6,310	6,300	6,190	6,120	6,090
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	284,1	310,7	344,2	365,1	399,2
EER	(1)(2)	kW/kW	5,030	4,880	4,880	4,860	4,660
ESEER	(1)(2)	kW/kW	5,750	5,700	5,690	5,630	5,590
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	284,1	310,7	344,2	365,1	399,2
SEPR	(7)(9)		7,11	7,08	7,08	7,03	7,01
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	134,9	149,9	166,4	177,4	195,8
SEPR	(8)(9)		3,70	3,67	3,60	3,60	3,63
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	13,63	14,91	16,51	17,51	19,16
Pressure drop	(1)	kPa	38,5	46,1	32,0	36,0	43,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	16,18	17,79	19,70	20,92	23,03
Pressure drop	(1)	kPa	26,3	28,9	32,5	28,5	24,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	64,0	62,0	60,0	86,0	110
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	77	78	78	78	78
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96
SIZE AND WEIGHT							
A	(6)	mm	3100	3100	3200	3200	3200
B	(6)	mm	1100	1100	1100	1200	1200
H	(6)	mm	1500	1500	1600	1600	1600
Operating weight	(6)	kg	1820	1990	2280	2430	2590

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FOCS2-W-Y

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

Unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

- \- Basic function
- D Partial condensing heat recovery function
- R Total condensing heat recovery function

Features

HIGH EFFICIENCY

The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

AHRI CERTIFICATION

Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W-Y /CA			1301	1401	1601	1801	2101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	306,0	348,3	421,8	477,4	537,7
Total power input	(1)	kW	60,47	68,70	83,36	94,38	106,0
EER	(1)	kW/kW	5,058	5,070	5,058	5,057	5,073
ESEER	(1)	kW/kW	5,940	5,950	5,730	5,840	5,940
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	304,9	347,0	420,0	475,8	535,8
EER	(1)(2)	kW/kW	4,860	4,870	4,850	4,870	4,890
ESEER	(1)(2)	kW/kW	5,450	5,450	5,250	5,410	5,500
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	304,9	347,0	-	-	-
SEPR	(7)(9)		6,84	6,85	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	151,3	172,2	206,7	234,2	262,7
SEPR	(8)(9)		3,97	3,97	3,93	3,99	4,13
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	14,64	16,66	20,17	22,83	25,71
Pressure drop	(1)	kPa	41,9	45,0	52,7	41,7	44,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	17,46	19,87	24,07	27,24	30,67
Pressure drop	(1)	kPa	35,9	35,0	34,8	34,6	34,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	42,0	43,0	62,0	62,0	65,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	79	79	79	79	79
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	97
SIZE AND WEIGHT							
A	(6)	mm	3830	3830	3860	3860	3860
B	(6)	mm	900	900	900	900	900
H	(6)	mm	1700	1700	1840	1840	1840
Operating weight	(6)	kg	2050	2110	2590	2810	2910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FOCS2-W-Y

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

FOCS2-W-Y /CA			2401	8103	9003	9004	9604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	606,8	2024	2236	2278	2416
Total power input	(1)	kW	119,7	400,4	442,0	450,7	478,2
EER	(1)	kW/kW	5,069	5,055	5,059	5,054	5,052
ESEER	(1)	kW/kW	5,920	6,090	6,140	6,240	6,170
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	604,2	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,860	4,900	4,890	4,920	4,910
ESEER	(1)(2)	kW/kW	5,420	5,610	5,600	5,800	5,710
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	-	-	-	-	-
SEPR	(7)(9)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	299,2	-	-	-	-
SEPR	(8)(9)		4,13	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	29,02	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	56,3	43,7	53,3	32,3	36,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	34,61	115,5	127,5	130,0	137,9
Pressure drop	(1)	kPa	36,2	34,6	35,8	35,0	37,0
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	3	3	4	4
No. Circuits		N°	1	3	3	4	4
Refrigerant charge		kg	55,0	269	261	267	260
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	79	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	97	102	102	102	102
SIZE AND WEIGHT							
A	(6)	mm	3860	4950	4950	4650	4650
B	(6)	mm	900	1700	1700	2250	2250
H	(6)	mm	1840	2150	2150	2230	2230
Operating weight	(6)	kg	2970	10170	10350	14330	14390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
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FOCS2-W-Y / CA-E			1301	1401	1601	1801	2101	7204	7804	8404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	2025	2157	2294
Total power input	(1)	kW	57,30	65,10	79,06	90,27	102,6	360,7	385,5	410,3
EER	(1)	kW/kW	5,597	5,602	5,587	5,607	5,592	5,614	5,595	5,591
ESEER	(1)	kW/kW	6,490	6,500	6,300	6,400	6,370	6,760	6,640	6,650
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	2019	2149	2286
EER	(1)(2)	kW/kW	5,320	5,330	5,300	5,320	5,310	5,400	5,350	5,350
ESEER	(1)(2)	kW/kW	5,830	5,830	5,650	5,720	5,720	6,130	5,940	5,970
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	319,5	363,3	-	-	-	-	-	-
SEPR	(7)(9)		7,47	7,46	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	152,0	172,9	208,2	238,5	271,1	-	-	-
SEPR	(8)(9)		4,15	4,17	4,07	4,10	4,19	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	96,82	103,2	109,7
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	41,3	59,3	54,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	18,02	20,49	24,84	28,44	32,24	113,7	121,2	128,9
Pressure drop	(1)	kPa	48,4	46,6	51,6	52,6	54,3	52,0	53,3	53,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	1	1	1	1	4	4	4
No. Circuits		N°	1	1	1	1	1	4	4	4
Refrigerant charge		kg	50,0	60,0	75,0	72,0	80,0	320	348	348
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	79	78	78	78	78	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	97	102	102	102
SIZE AND WEIGHT										
A	(6)	mm	4250	4250	4150	4150	4130	5220	4900	4900
B	(6)	mm	900	900	900	900	900	2250	2250	2250
H	(6)	mm	1815	1910	1990	1990	1990	2305	2455	2455
Operating weight	(6)	kg	2470	2770	3570	3750	3790	13720	15850	16100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
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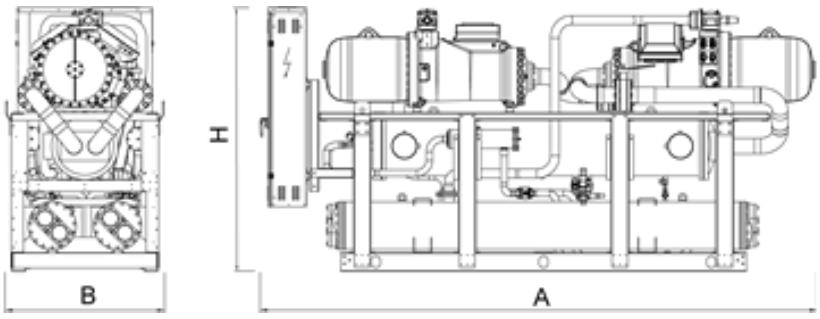
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FOCS3-W-Y

Water cooled chiller

0551 - 4752 188,2-1693 kW

High efficiency unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser, flooded evaporator and electronic expansion valve. High efficiency unit thanks to the innovative optimized compressors and the high performing heat exchangers.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ADAPTABILITY
Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

FOCS3-W-Y			0551	0701	0851	0951	1101	1301	1401
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	188,2	250,0	306,0	337,6	383,5	459,9	524,0
Total power input	(1)	kW	34,94	45,85	56,10	61,20	69,80	82,52	93,00
EER	(1)	kW/kW	5,393	5,447	5,455	5,516	5,494	5,575	5,634
ESEER	(1)	kW/kW	6,840	7,090	6,550	6,850	6,800	6,730	6,900
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	187,4	248,9	304,7	336,1	381,9	458,2	522,3
EER	(1)(2)	kW/kW	5,090	5,150	5,160	5,210	5,200	5,300	5,400
ESEER	(1)(2)	kW/kW	6,140	6,310	5,940	6,160	6,140	6,150	6,090
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	187,4	248,9	304,7	336,1	381,9	458,2	522,3
SEPR	(7)(9)		7,97	8,07	7,69	7,74	7,71	7,51	7,68
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	88,40	117,3	145,1	161,1	182,9	215,3	245,4
SEPR	(8)(9)		4,11	4,15	4,27	4,47	4,46	4,35	4,44
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,001	11,95	14,63	16,15	18,34	21,99	25,06
Pressure drop	(1)	kPa	42,0	48,7	49,1	52,4	52,8	47,5	39,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,64	14,10	17,26	19,01	21,61	25,86	29,42
Pressure drop	(1)	kPa	56,7	57,2	56,0	58,6	57,4	54,5	44,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	75,0	86,0	95,0	94,0	86,0	100	110
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	77	77	80	80	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	95	95	98	98	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	2920	2920	2920	2920	2920	2900	2900
B	(6)	mm	1180	1180	1180	1180	1180	1180	1180
H	(6)	mm	1870	1870	1870	1870	1870	1960	1970
Operating weight	(6)	kg	1740	1790	2170	2200	2260	2940	3020

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS3-W-Y

Water cooled chiller

0551 - 4752 188,2-1693 kW

FOCS3-W-Y			1651	1901	2101	2501	2602	3002	3152
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	591,8	681,6	741,3	837,0	915,9	1062	1140
Total power input	(1)	kW	103,9	121,9	133,1	149,3	164,1	186,9	196,0
EER	(1)	kW/kW	5,696	5,591	5,569	5,606	5,581	5,682	5,816
ESEER	(1)	kW/kW	7,000	6,900	6,890	6,940	7,350	7,430	7,460
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	589,5	679,4	738,9	834,3	913,2	1058	1137
EER	(1)(2)	kW/kW	5,410	5,330	5,340	5,370	5,370	5,420	5,630
ESEER	(1)(2)	kW/kW	6,350	6,100	6,190	6,230	6,440	6,560	6,800
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	589,5	679,4	738,9	834,3	913,2	1058	1137
SEPR	(7)(9)		7,53	7,53	7,85	7,86	7,61	7,57	7,96
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	278,0	320,7	347,3	392,2	429,0	497,3	533,5
SEPR	(8)(9)		4,46	4,48	4,46	4,49	4,37	4,41	4,57
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	28,30	32,59	35,45	40,03	43,80	50,79	54,53
Pressure drop	(1)	kPa	50,9	42,0	42,7	42,8	40,0	51,5	37,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	33,17	38,31	41,69	47,02	51,49	59,55	63,73
Pressure drop	(1)	kPa	55,2	59,7	45,3	47,6	44,0	53,8	31,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	2	2	2
Refrigerant charge		kg	112	121	147	182	210	249	270
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	80	80	82	82	81	81	81
Sound power level in cooling	(4)(5)	dB(A)	98	98	100	100	100	100	100
SIZE AND WEIGHT									
A	(6)	mm	2900	2930	2980	2990	4430	4430	4440
B	(6)	mm	1180	1180	1190	1280	1270	1270	1270
H	(6)	mm	1960	2050	2100	2200	2210	2210	2280
Operating weight	(6)	kg	3150	3270	3570	3960	6200	6430	7080

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Certified data in EUROVENT

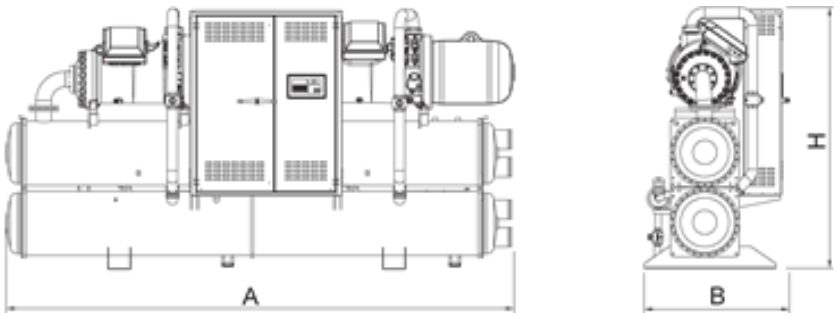
FOCS3-W-Y			3502	3652	4002	4102	4502	4602	4752
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1218	1303	1382	1450	1522	1614	1693
Total power input	(1)	kW	214,0	224,7	241,8	252,5	268,1	284,0	292,0
EER	(1)	kW/kW	5,692	5,799	5,715	5,743	5,677	5,683	5,798
ESEER	(1)	kW/kW	7,240	7,320	7,280	7,270	7,120	7,390	7,390
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1214	1299	1377	1445	1517	1609	1688
EER	(1)(2)	kW/kW	5,430	5,600	5,460	5,500	5,420	5,450	5,540
ESEER	(1)(2)	kW/kW	6,410	6,670	6,470	6,490	6,360	6,580	6,580
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1214	1299	1377	1445	1517	1609	1688
SEPR	(7)(9)		7,57	7,92	7,62	7,69	8,00	8,04	8,14
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	572,3	610,9	649,8	679,1	712,6	754,8	791,9
SEPR	(8)(9)		4,49	4,60	4,51	4,44	4,59	4,58	4,65
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	58,23	62,33	66,11	69,33	72,76	77,20	80,94
Pressure drop	(1)	kPa	51,4	39,8	50,4	46,7	51,5	42,5	46,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	68,26	72,87	77,45	81,18	85,33	90,51	94,64
Pressure drop	(1)	kPa	56,2	33,7	52,9	49,5	54,7	53,1	58,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	270	280	280	288	297	341	341
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	81	81	81	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	101	102	102	102
SIZE AND WEIGHT									
A	(6)	mm	4470	4470	4470	4565	4650	5270	5270
B	(6)	mm	1270	1320	1270	1320	1320	1320	1320
H	(6)	mm	2250	2330	2280	2380	2380	2380	2380
Operating weight	(6)	kg	7160	7560	7280	7850	7940	8420	8950

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX-W-G04-Y

Water cooled chiller

0551 - 2002 93,17-373,4 kW

Indoor unit for the production of chilled water featuring semihermetic screw compressors optimized to operate with low compression ratio, refrigerant HFO R1234ze, shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and shell and tube condenser and electronic expansion valve.
Base and supporting structure is made of polyester painted galvanized steel. Eurovent certification. The unit results extremely compact thanks to the peculiar construction layout, without base frame and panels, and extremely flexible to easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Refrigerant

r1234ze

Configurations

- Basic function
- R Total condensing heat recovery function

Features

HFO REFRIGERANT
4th generation refrigerant HFO 1234ze, with negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze < 1, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer.

ErP READY
Thanks to the high level of efficiency at part load, the unit can meet and exceed the minimum energy efficiency threshold rated by the Seasonal Energy Performance Ratio SEPR HT and SEPR MT, in accordance with the eco-sustainable design requirements for all products using energy. The unit is already compliant with the minimum seasonal efficiency requirements that will start from 2021.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

ADAPTABILITY
Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variability of the source temperature. The electronic expansion valve guarantees speed in reaching machine stability and an extension of the operating limits.

Control

Electronic control W3000TE
W3000TE controller offers feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of the circuits. As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet.
Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible, and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with the remote keyboard managing up to 8 units. The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. The regulation operates on the water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Accessories

- VPF (Variable Primary Flow) system
- Several devices for condensation´s control
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Touch Screen visual display
- KIPlink user interface
- Kit HWT, High Water Temperature
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover

FX-W-G04-Y			0551	0651	0751	0851	0951	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	93,17	103,0	125,9	143,6	166,0	188,3
Total power input	(1)	kW	18,52	20,89	26,21	29,65	33,88	37,05
EER	(1)	kW/kW	5,038	4,928	4,805	4,851	4,897	5,089
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	92,90	102,6	125,5	143,1	165,5	187,7
EER	(1)(2)	kW/kW	4,840	4,730	4,650	4,670	4,720	4,910
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	92,90	102,6	125,5	143,1	165,5	187,7
SEPR	(7)(9)		7,05	7,04	7,03	7,02	7,08	7,05
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,455	4,927	6,020	6,866	7,936	9,007
Pressure drop	(1)	kPa	23,3	28,5	20,3	27,6	27,7	30,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,320	5,902	7,242	8,249	9,517	10,74
Pressure drop	(1)	kPa	19,8	19,2	23,0	27,2	29,7	20,2
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	2
No. Circuits		N°	1	1	1	1	1	2
Refrigerant charge		kg	22,0	21,0	24,0	35,0	35,0	44,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	75	75	76	76	76	78
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	93	93	95
SIZE AND WEIGHT								
A	(6)	mm	2400	2400	2700	2700	2700	3000
B	(6)	mm	945	945	945	945	945	1100
H	(6)	mm	1500	1500	1500	1500	1500	1500
Operating weight	(6)	kg	930	940	1210	1290	1310	1690

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

FX-W-G04-Y

Water cooled chiller

0551 - 2002 93,17-373,4 kW

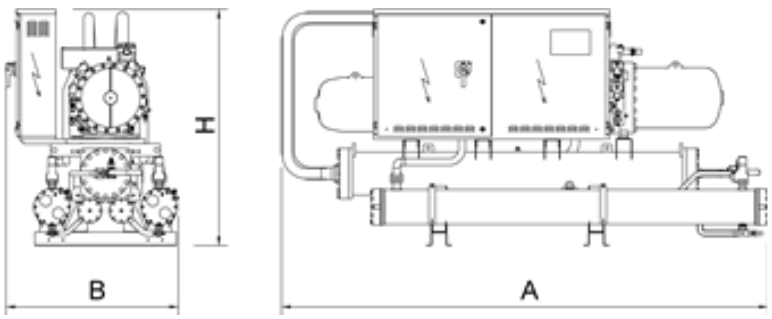
FX-W-G04-Y			1302	1402	1502	1702	1902	2002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	212,0	232,0	259,7	291,8	331,8	373,4
Total power input	(1)	kW	41,78	47,06	52,41	59,28	67,77	75,44
EER	(1)	kW/kW	5,072	4,926	4,956	4,921	4,894	4,952
ESEER	(1)	kW/kW						
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	211,3	231,2	258,9	290,8	330,7	371,9
EER	(1)(2)	kW/kW	4,910	4,760	4,790	4,750	4,720	4,770
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	211,3	231,2	258,9	290,8	330,7	371,9
SEPR	(7)(9)		7,13	7,06	7,15	7,10	7,06	7,07
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	-	-	-	-	-	-
SEPR	(8)(9)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,14	11,09	12,42	13,96	15,87	17,86
Pressure drop	(1)	kPa	30,5	36,5	31,6	39,9	38,8	49,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,09	13,29	14,87	16,72	19,03	21,38
Pressure drop	(1)	kPa	20,1	21,7	24,1	27,9	29,6	29,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	46,0	44,0	48,0	55,0	55,0	69,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	78	78	78	78	78	79
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96	98
SIZE AND WEIGHT								
A	(6)	mm	3000	3100	3100	3100	3100	3640
B	(6)	mm	1100	1100	1100	1100	1100	1240
H	(6)	mm	1500	1500	1500	1500	1500	2050
Operating weight	(6)	kg	1700	1860	2030	2170	2190	3270

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FX-W-G05-Y

Water cooled chiller

0551 - 1752 124,3-400,6 kW

Indoor unit for the production of chilled water featuring semihermetic screw compressors optimized to operate with low compression ratio and R513A, shell and tubes evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and shell and tube condenser and electronic expansion valve.
Base and supporting structure is made of polyester painted galvanized steel. Eurovent certification. The unit results extremely compact, thanks to the peculiar construction layout, without base frame and panels, and extremely flexible to easily adapts itself to different thermal load conditions thanks to the precise thermoregulation The high performance's level is achieved thanks to the accurate sizing of all internal components.

Refrigerant

R513A

Configurations

- \- Basic function
- D Partial condensing heat recovery function
- R Total condensing heat recovery function

Features

LOW GWP REFRIGERANT
New generation refrigerant R513A, with reduced greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of R513A = 572, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer. Not flammable (ASHRAE 34, ISO 817: class A1).

ErP READY
Thanks to the high level of efficiency at part load, the unit can meet and exceed the minimum energy efficiency threshold rated by the Seasonal Energy Performance Ratio SEPR HT and SEPR MT, in accordance with the eco-sustainable design requirements for all products using energy. The unit is already compliant with the minimum seasonal efficiency requirements that will start from 2021.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

ADAPTABILITY
Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variability of the source temperature. The electronic expansion valve guarantees speed in reaching machine stability and an extension of the operating limits.

Control

Electronic control W3000TE
W3000TE controller offers feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of the circuits. As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet.
Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible, and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with the remote keyboard managing up to 8 units. The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity. The regulation operates on the water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Accessories

- VPF (Variable Primary Flow) system
- Several devices for condensation´s control
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Touch Screen visual display
- KIPlink user interface
- Kit HWT, High Water Temperature
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover

FX-W-G05-Y			0551	0651	0751	0851	0951	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	124,3	140,5	166,3	198,2	221,7	252,4
Total power input	(1)	kW	25,50	28,41	35,57	40,52	46,10	51,04
EER	(1)	kW/kW	4,875	4,947	4,671	4,894	4,809	4,949
ESEER	(1)	kW/kW	5,970	5,950	5,960	5,940	5,930	6,320
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	123,9	140,1	165,8	197,5	220,8	251,4
EER	(1)(2)	kW/kW	4,710	4,780	4,510	4,720	4,630	4,770
ESEER	(1)(2)	kW/kW	5,530	5,510	5,480	5,460	5,440	5,730
Cooling energy class			B	B	C	B	C	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(7)	kW	123,9	140,1	165,8	197,5	220,8	251,4
SEPR	(7)(9)		7,00	7,04	7,00	7,02	7,00	7,01
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(8)	kW	60,20	67,00	81,50	94,90	107,1	121,4
SEPR	(8)(9)		3,66	3,70	3,63	3,55	3,58	3,70
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,944	6,719	7,954	9,479	10,60	12,07
Pressure drop	(1)	kPa	19,8	19,7	27,6	33,0	41,2	41,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	7,133	8,045	9,611	11,37	12,75	14,45
Pressure drop	(1)	kPa	22,1	25,9	31,0	27,0	26,5	22,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	2
No. Circuits		N°	1	1	1	1	1	2
Refrigerant charge		kg	24,0	34,0	32,0	59,0	57,0	47,0
NOISE LEVEL								
Sound Pressure	(3)	dB(A)	75	75	76	76	76	78
Sound power level in cooling	(4)(5)	dB(A)	92	92	93	93	93	95
SIZE AND WEIGHT								
A	(6)	mm	2400	2600	2700	3000	3000	3000
B	(6)	mm	920	920	950	960	960	1100
H	(6)	mm	1500	1500	1500	1500	1500	1500
Operating weight	(6)	kg	1050	1110	1280	1450	1460	1710

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FX-W-G05-Y

Water cooled chiller

0551 - 1752 124,3-400,6 kW

FX-W-G05-Y			1302	1402	1502	1602	1752
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	285,1	311,9	345,2	366,2	400,6
Total power input	(1)	kW	56,86	64,04	71,26	76,05	86,66
EER	(1)	kW/kW	5,011	4,873	4,842	4,812	4,621
ESEER	(1)	kW/kW	6,240	6,220	6,120	6,110	6,090
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	284,1	310,7	344,2	365,1	399,2
EER	(1)(2)	kW/kW	4,840	4,690	4,690	4,660	4,480
ESEER	(1)(2)	kW/kW	5,670	5,630	5,600	5,630	5,580
Cooling energy class			B	B	B	B	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	284,1	310,7	344,2	365,1	399,2
SEPR	(7)(9)		7,03	7,02	7,02	7,00	7,00
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	135,0	150,0	166,4	177,4	195,8
SEPR	(8)(9)		3,69	3,65	3,58	3,59	3,62
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	13,63	14,91	16,51	17,51	19,16
Pressure drop	(1)	kPa	38,5	46,1	32,0	36,0	43,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	16,29	17,90	19,83	21,06	23,19
Pressure drop	(1)	kPa	26,6	29,3	33,0	28,9	24,8
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	68,0	66,0	63,0	91,0	116
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	77	78	78	78	78
Sound power level in cooling	(4)(5)	dB(A)	95	96	96	96	96
SIZE AND WEIGHT							
A	(6)	mm	3100	3100	3200	3200	3200
B	(6)	mm	1100	1100	1100	1200	1200
H	(6)	mm	1500	1500	1600	1600	1600
Operating weight	(6)	kg	1820	1990	2280	2430	2590

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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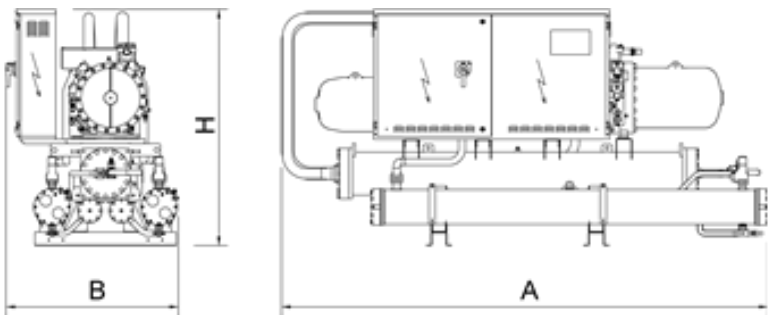
Dimensional drawing



CHILLERS

FOCS2-W-G05-Y

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

Unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R513A; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

- \- Basic function
- D Partial condensing heat recovery function
- R Total condensing heat recovery function

Features

HIGH EFFICIENCY

The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

AHRI CERTIFICATION

Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W-G05-Y /CA			1301	1401	1601	1801	2101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	306,0	348,3	421,8	477,4	537,7
Total power input	(1)	kW	63,01	71,59	86,86	98,34	110,5
EER	(1)	kW/kW	4,857	4,865	4,854	4,857	4,866
ESEER	(1)	kW/kW	5,820	5,830	5,620	5,720	5,820
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	304,9	347,0	420,0	475,8	535,8
EER	(1)(2)	kW/kW	4,670	4,680	4,660	4,690	4,690
ESEER	(1)(2)	kW/kW	5,340	5,350	5,160	5,300	5,380
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	304,9	347,0	-	-	-
SEPR	(7)(9)		6,63	6,64	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	151,3	172,2	206,7	234,2	262,7
SEPR	(8)(9)		3,84	3,84	3,81	3,87	4,00
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	14,64	16,66	20,17	22,83	25,71
Pressure drop	(1)	kPa	41,9	45,0	52,7	41,7	44,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	17,57	20,00	24,22	27,41	30,87
Pressure drop	(1)	kPa	36,4	35,4	35,2	35,1	34,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	45,0	46,0	66,0	66,0	69,0
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	79	79	79	79	79
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	97
SIZE AND WEIGHT							
A	(6)	mm	3830	3830	3860	3860	3860
B	(6)	mm	900	900	900	900	900
H	(6)	mm	1700	1700	1840	1840	1840
Operating weight	(6)	kg	2050	2110	2590	2810	2910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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FOCS2-W-G05-Y

High efficiency water cooled chiller

1301 - 9604 306,0-2416 kW

FOCS2-W-G05-Y /CA			2401	8103	9003	9004	9604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	606,8	2024	2236	2278	2416
Total power input	(1)	kW	124,7	417,3	460,6	469,7	498,3
EER	(1)	kW/kW	4,866	4,850	4,855	4,850	4,848
ESEER	(1)	kW/kW	5,810	5,970	6,010	6,110	6,050
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	604,2	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,670	4,710	4,700	4,730	4,720
ESEER	(1)(2)	kW/kW	5,320	5,500	5,500	5,680	5,600
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	-	-	-	-	-
SEPR	(7)(9)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	299,2	-	-	-	-
SEPR	(8)(9)		4,01	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	29,02	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	56,3	43,7	53,3	32,3	36,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	34,83	116,3	128,4	130,8	138,8
Pressure drop	(1)	kPa	36,6	35,0	36,3	35,5	37,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	3	3	4	4
No. Circuits		N°	1	3	3	4	4
Refrigerant charge		kg	58,0	283	275	281	273
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	79	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	97	102	102	102	102
SIZE AND WEIGHT							
A	(6)	mm	3860	4950	4950	4650	4650
B	(6)	mm	900	1700	1700	2250	2250
H	(6)	mm	1840	2150	2150	2230	2230
Operating weight	(6)	kg	2970	10170	10350	14330	14390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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FOCS2-W-G05-Y /CA-E			1301	1401	1601	1801	2101	7204	7804	8404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	2025	2157	2294
Total power input	(1)	kW	59,70	67,84	82,38	94,07	106,9	375,9	401,7	427,5
EER	(1)	kW/kW	5,372	5,379	5,363	5,380	5,367	5,387	5,370	5,366
ESEER	(1)	kW/kW	6,370	6,370	6,300	6,390	6,380	6,620	6,510	6,520
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	2019	2149	2286
EER	(1)(2)	kW/kW	5,110	5,120	5,090	5,110	5,100	5,190	5,140	5,140
ESEER	(1)(2)	kW/kW	5,710	5,720	5,630	5,720	5,710	6,020	5,830	5,860
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(7)	kW	319,5	363,3	-	-	-	-	-	-
SEPR	(7)(9)		7,21	7,23	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(8)	kW	152,0	172,9	208,2	238,5	271,1	-	-	-
SEPR	(8)(9)		4,03	4,04	4,02	4,05	4,14	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	96,82	103,2	109,7
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	41,3	59,3	54,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	18,13	20,62	24,99	28,62	32,44	114,4	121,9	129,7
Pressure drop	(1)	kPa	49,0	47,2	52,2	53,3	55,0	52,6	54,0	54,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	1	1	1	1	4	4	4
No. Circuits		N°	1	1	1	1	1	4	4	4
Refrigerant charge		kg	53,0	63,0	79,0	76,0	84,0	336	366	366
NOISE LEVEL										
Sound Pressure	(3)	dB(A)	79	78	78	78	78	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	97	97	97	97	97	102	102	102
SIZE AND WEIGHT										
A	(6)	mm	4250	4250	4150	4150	4130	5220	4900	4900
B	(6)	mm	900	900	900	900	900	2250	2250	2250
H	(6)	mm	1815	1910	1990	1990	1990	2305	2455	2455
Operating weight	(6)	kg	2470	2770	3570	3750	3790	13720	15850	16100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
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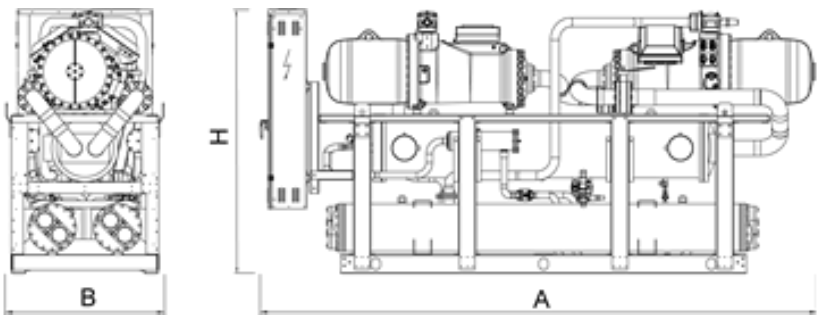
Certified data in EUROVENT

Dimensional drawing



CHILLERS

FOCS3-W-G05-Y

Water cooled chiller

0551 - 4752 188,2-1693 kW

High efficiency unit for indoor installation for chilled water production. Semihermetic screw compressors optimized to operate with low compression ratio and R513A; shell and tubes condenser, flooded evaporator and electronic expansion valve. High efficiency unit thanks to the innovative optimized compressors and the high performing heat exchangers.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ADAPTABILITY
Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

FOCS3-W-G05-Y			0551	0701	0851	0951	1101	1301	1401
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	188,2	250,0	306,0	337,6	383,5	459,9	524,0
Total power input	(1)	kW	36,40	47,78	58,45	63,77	72,73	85,99	96,90
EER	(1)	kW/kW	5,170	5,230	5,231	5,292	5,275	5,348	5,408
ESEER	(1)	kW/kW	6,910	7,150	6,560	6,830	6,800	6,730	7,250
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	187,4	248,9	304,7	336,1	381,9	458,2	522,3
EER	(1)(2)	kW/kW	4,890	4,950	4,960	5,010	5,000	5,090	5,190
ESEER	(1)(2)	kW/kW	6,180	6,370	5,950	6,150	6,140	6,140	6,670
Cooling energy class			B	B	B	B	B	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	187,4	248,9	304,7	336,1	381,9	458,2	522,3
SEPR	(7)(9)		7,74	7,82	7,46	7,50	7,48	7,50	7,52
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	88,40	117,3	145,1	161,1	182,9	215,3	245,4
SEPR	(8)(9)		3,97	4,00	4,14	4,33	4,33	4,34	4,36
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,001	11,95	14,63	16,15	18,34	21,99	25,06
Pressure drop	(1)	kPa	42,0	48,7	49,1	52,4	52,8	47,5	39,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	10,70	14,19	17,36	19,13	21,74	26,02	29,60
Pressure drop	(1)	kPa	57,4	57,9	56,7	59,3	58,1	55,2	44,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	83,0	95,0	105	104	95,0	110	121
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	77	77	80	80	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	95	95	98	98	98	98	98
SIZE AND WEIGHT									
A	(6)	mm	2920	2920	2920	2920	2920	2900	2900
B	(6)	mm	1180	1180	1180	1180	1180	1180	1180
H	(6)	mm	1870	1870	1870	1870	1870	1960	1970
Operating weight	(6)	kg	1740	1790	2170	2200	2260	2940	3020

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS3-W-G05-Y

Water cooled chiller

0551 - 4752 188,2-1693 kW

FOCS3-W-G05-Y			1651	1901	2101	2501	2602	3002	3152
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	591,8	681,6	741,3	837,0	915,9	1062	1140
Total power input	(1)	kW	108,2	127,0	138,7	155,6	171,0	194,8	204,3
EER	(1)	kW/kW	5,470	5,367	5,345	5,379	5,356	5,452	5,580
ESEER	(1)	kW/kW	6,960	7,020	6,920	6,800	7,060	7,330	7,530
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	589,5	679,4	738,9	834,3	913,2	1058	1137
EER	(1)(2)	kW/kW	5,200	5,120	5,130	5,160	5,160	5,210	5,400
ESEER	(1)(2)	kW/kW	6,310	6,390	6,400	6,280	6,400	6,480	6,870
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	589,5	679,4	738,9	834,3	913,2	1058	1137
SEPR	(7)(9)		7,51	7,51	7,70	7,65	7,62	7,50	7,71
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	278,0	320,7	347,3	392,2	429,0	497,3	533,5
SEPR	(8)(9)		4,45	4,47	4,37	4,37	4,37	4,37	4,43
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	28,30	32,59	35,45	40,03	43,80	50,79	54,53
Pressure drop	(1)	kPa	50,9	42,0	42,7	42,8	40,0	51,5	37,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	33,37	38,54	41,94	47,31	51,80	59,91	64,10
Pressure drop	(1)	kPa	55,8	60,4	45,8	48,1	44,5	54,4	32,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	2	2	2
Refrigerant charge		kg	124	134	162	201	231	274	297
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	80	80	82	82	81	81	81
Sound power level in cooling	(4)(5)	dB(A)	98	98	100	100	100	100	100
SIZE AND WEIGHT									
A	(6)	mm	2900	2930	2980	2990	4430	4430	4440
B	(6)	mm	1180	1180	1190	1280	1270	1270	1270
H	(6)	mm	1960	2050	2100	2200	2210	2210	2280
Operating weight	(6)	kg	3150	3270	3570	3960	6200	6430	7080

Notes

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8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

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Certified data in EUROVENT

FOCS3-W-G05-Y			3502	3652	4002	4102	4502	4602	4752
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	1218	1303	1382	1450	1522	1614	1693
Total power input	(1)	kW	222,9	234,1	251,9	263,1	279,3	295,9	304,3
EER	(1)	kW/kW	5,464	5,566	5,486	5,511	5,449	5,455	5,564
ESEER	(1)	kW/kW	7,150	7,400	7,130	7,200	7,190	7,230	7,500
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	1214	1299	1377	1445	1517	1609	1688
EER	(1)(2)	kW/kW	5,220	5,380	5,250	5,290	5,210	5,240	5,320
ESEER	(1)(2)	kW/kW	6,330	6,740	6,350	6,450	6,410	6,500	6,660
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(7)	kW	1214	1299	1377	1445	1517	1609	1688
SEPR	(7)(9)		7,50	7,68	7,50	7,59	8,00	8,00	8,00
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(8)	kW	572,3	610,9	649,8	679,1	712,6	754,8	791,9
SEPR	(8)(9)		4,44	4,46	4,43	4,38	4,59	4,56	4,57
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	58,23	62,33	66,11	69,33	72,76	77,20	80,94
Pressure drop	(1)	kPa	51,4	39,8	50,4	46,7	51,5	42,5	46,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION									
Water flow	(1)	l/s	68,67	73,30	77,91	81,66	85,84	91,05	95,19
Pressure drop	(1)	kPa	56,8	34,1	53,5	50,1	55,4	53,7	58,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	297	308	308	317	327	376	376
NOISE LEVEL									
Sound Pressure	(3)	dB(A)	81	81	81	82	82	82	82
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	101	102	102	102
SIZE AND WEIGHT									
A	(6)	mm	4470	4470	4470	4565	4650	5270	5270
B	(6)	mm	1270	1320	1270	1320	1320	1320	1320
H	(6)	mm	2250	2330	2280	2380	2380	2380	2380
Operating weight	(6)	kg	7160	7560	7280	7850	7940	8420	8950

Notes

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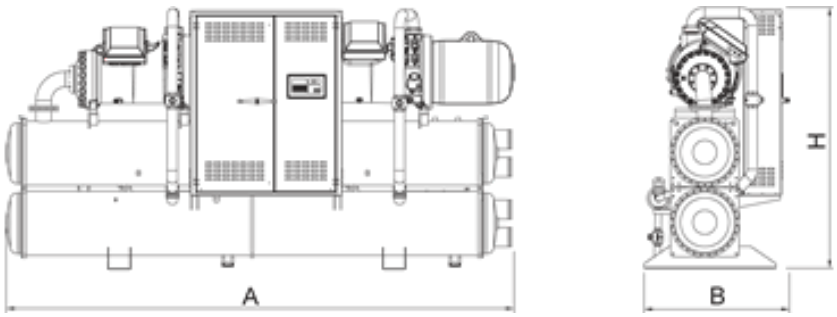
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

i-FX-W (1+i)-Y

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

Single circuit indoor unit for the production of chilled water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A.. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i)-Y			1402	1752	1902	2152	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	97,87	119,5	129,9	148,3	181,7
EER	(1)	kW/kW	5,437	5,565	5,550	5,525	5,496
ESEER	(1)	kW/kW	8,520	8,570	8,470	8,620	8,630
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,370	5,490	5,480	5,470	5,470
ESEER	(1)(2)	kW/kW	7,460	7,510	7,400	7,530	7,530
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	486,7	608,1	659,4	750,0	914,3
SEPR	(7)(9)		7,85	7,98	7,79	7,84	7,74
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	227,1	289,2	314,4	358,0	431,0
SEPR	(8)(9)		4,38	4,56	4,55	4,59	4,54
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,44	34,18	37,07	42,16	51,41
Pressure drop	(1)	kPa	37,4	35,4	41,7	41,5	38,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	118	160	164	177	258
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	82	82	81	83	83
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(6)	mm	2950	3310	3310	3310	4475
B	(6)	mm	1320	1425	1445	1480	1410
H	(6)	mm	1805	1935	2000	2150	2250
Operating weight	(6)	kg	3350	4280	4410	4830	6630

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-W (1+i)-Y

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

i-FX-W (1+i)-Y			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	207,3	233,3	264,5	291,6	329,6
EER	(1)	kW/kW	5,514	5,555	5,565	5,511	5,413
ESEER	(1)	kW/kW	8,550	8,560	8,600	8,440	8,390
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,520	5,580	5,620	5,520	5,470
ESEER	(1)(2)	kW/kW	7,590	7,650	7,740	7,490	7,440
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	1046	1186	1348	1482	-
SEPR	(7)(9)		7,88	7,98	8,04	7,92	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	496,1	564,2	643,1	704,8	784,3
SEPR	(8)(9)		4,62	4,75	4,78	4,68	4,64
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	58,76	66,56	75,57	83,27	91,86
Pressure drop	(1)	kPa	30,0	33,3	29,6	35,9	29,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	295	315	323	338	338
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	83	82	82	84	84
Sound power level in cooling	(4)(5)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(6)	mm	4475	4570	4650	4650	4850
B	(6)	mm	1405	1435	1495	1495	1495
H	(6)	mm	2250	2380	2500	2500	2500
Operating weight	(6)	kg	7470	8220	8800	8930	9340

Notes

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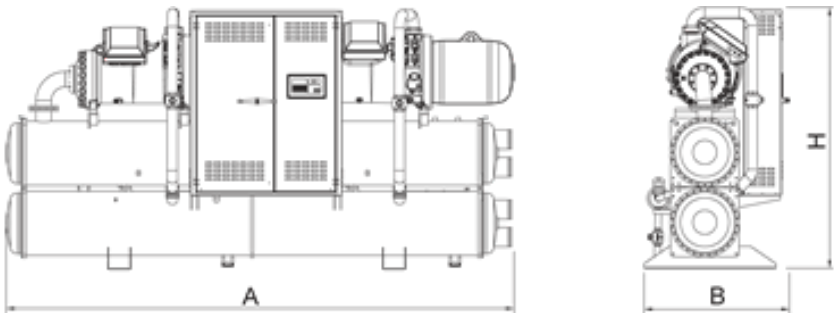
Dimensional drawing



CHILLERS

i-FX-W (1+i)-G05-Y

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

Single circuit indoor unit for the production of chilled water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R513A, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

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Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High energy efficiency units

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
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Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i)-G05-Y			1402	1752	1902	2152	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	102,0	124,6	135,4	154,6	189,4
EER	(1)	kW/kW	5,219	5,337	5,325	5,299	5,273
ESEER	(1)	kW/kW	8,360	8,410	8,310	8,450	8,440
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,160	5,270	5,260	5,260	5,260
ESEER	(1)(2)	kW/kW	7,340	7,380	7,270	7,390	7,400
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	486,7	608,1	659,4	750,0	914,3
SEPR	(7)(9)		7,70	7,83	7,64	7,69	7,59
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	227,0	289,1	314,4	357,8	431,0
SEPR	(8)(9)		4,29	4,47	4,47	4,51	4,46
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,61	34,39	37,29	42,42	51,72
Pressure drop	(1)	kPa	37,8	35,9	42,2	42,0	39,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	130	176	181	195	284
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	82	82	81	83	83
Sound power level in cooling	(4)(5)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(6)	mm	2950	3310	3310	3310	4475
B	(6)	mm	1320	1425	1445	1480	1410
H	(6)	mm	1805	1935	2000	2150	2250
Operating weight	(6)	kg	3350	4280	4410	4830	6630

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-W (1+i)-G05-Y

High efficiency water cooled chiller

1402 - 4652 532,3-1784 kW

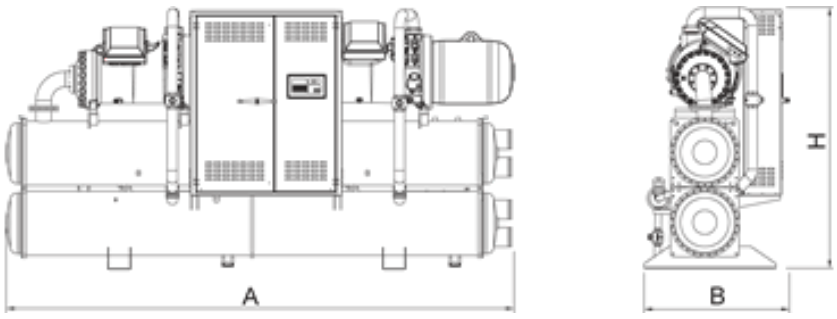
i-FX-W (1+i)-G05-Y			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	216,0	243,1	275,6	303,9	343,4
EER	(1)	kW/kW	5,292	5,331	5,341	5,288	5,195
ESEER	(1)	kW/kW	8,380	8,400	8,430	8,280	8,230
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,310	5,360	5,400	5,300	5,260
ESEER	(1)(2)	kW/kW	7,460	7,500	7,600	7,360	7,300
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(7)	kW	1046	1186	1348	1482	-
SEPR	(7)(9)		7,73	7,82	7,89	7,77	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(8)	kW	495,8	563,9	642,8	704,4	783,9
SEPR	(8)(9)		4,53	4,67	4,68	4,58	4,54
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	59,11	66,96	76,02	83,76	92,41
Pressure drop	(1)	kPa	30,3	33,7	30,0	36,4	29,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	325	347	356	372	372
NOISE LEVEL							
Sound Pressure	(3)	dB(A)	83	82	82	84	84
Sound power level in cooling	(4)(5)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(6)	mm	4475	4570	4650	4650	4850
B	(6)	mm	1405	1435	1495	1495	1495
H	(6)	mm	2250	2380	2500	2500	2500
Operating weight	(6)	kg	7470	8220	8800	8930	9340

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TECS2-W HFO-Y

High efficiency water cooled chiller

0351 - 1414 339,6-1364 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with refrigerant HFO (1234-ze), electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

r1234ze

Versions

HC High Condensing

Configurations

- Basic function

H Function with heat pump, reversible on hydraulic side

Features

HFO REFRIGERANT
4th generation refrigerant HFO 1234ze, with negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze < 1, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer.

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Several devices for condensation´s control
- Leak detector
- Set-up for remote connectivity with ModBus/Echelon protocol cards

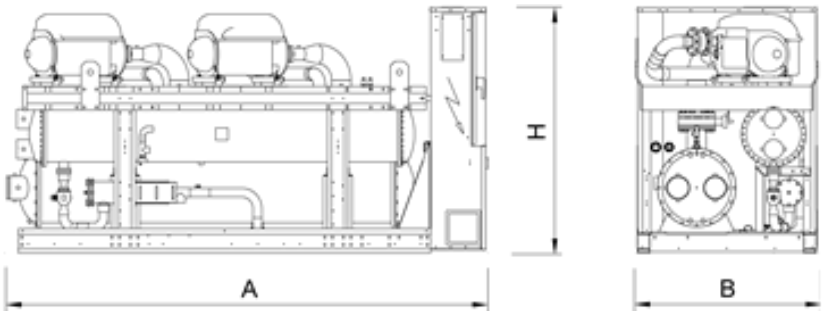
TECS2-W HFO-Y / HC			0351	0712	1053	1414
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING ONLY (GROSS VALUE)						
Cooling capacity	(1)	kW	339,6	676,1	1015	1364
Total power input	(1)	kW	62,97	126,6	189,8	251,1
EER	(1)	kW/kW	5,390	5,340	5,348	5,432
ESEER	(1)	kW/kW	9,010	9,400	9,320	9,510
COOLING ONLY (EN14511 VALUE)						
Cooling capacity	(1)(2)	kW	338,6	674,5	1013	1361
EER	(1)(2)	kW/kW	5,180	5,170	5,190	5,290
ESEER	(1)(2)	kW/kW	7,830	8,120	8,220	8,500
Cooling energy class			A	A	A	A
ENERGY EFFICIENCY						
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)						
Process refrigeration at high temperature						
Prated,c	(7)	kW	338,6	674,5	1013	1361
SEPR	(7)(9)		9,28	9,27	9,42	9,71
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)						
Process refrigeration at medium temperature						
Prated,c	(8)	kW	-	-	-	-
SEPR	(8)(9)		-	-	-	-
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1)	l/s	16,24	32,33	48,54	65,22
Pressure drop	(1)	kPa	32,9	29,0	31,1	33,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION						
Water flow	(1)	l/s	19,19	38,25	57,42	76,97
Pressure drop	(1)	kPa	40,8	39,6	32,0	23,0
REFRIGERANT CIRCUIT						
Compressors nr.		N°	1	2	3	4
No. Circuits		N°	1	1	1	1
Refrigerant charge		kg	100	200	420	410
NOISE LEVEL						
Sound Pressure	(3)	dB(A)	74	76	77	78
Sound power level in cooling	(4)(5)	dB(A)	92	94	96	97
SIZE AND WEIGHT						
A	(6)	mm	2990	3490	4990	5450
B	(6)	mm	950	1300	1300	1300
H	(6)	mm	1900	1800	1800	1990
Operating weight	(6)	kg	1570	3010	4380	5240

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
8 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
9 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC HFO-1234ze [GWP_{100} 7] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TX-W-Y

High efficiency water cooled chiller

1A00 - 6D00 246-4549 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with R134a, electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

CX4 electronic controller
CX4 controller offers advanced functions and algorithms.
When units are supplied with digital interface on the machine, it comes with a large touchscreen display 13 "colour.
The home page allows the immediate visualization of the status of the unit and its main operating parameters, while more specific screens allow a closer view of all the variables related to the compressors, the heat exchangers and the refrigerant circuit. It is possible the analysis in graphical form of the monitored and measured variables.
Secure access to data is guaranteed by three different password levels (user, service, manufacturer).
The controller allows easy assessment and operation on the unit by a multi-level menu, with selectable user's language.
The temperature control is characterized by the continuous capacity modulation, based on PID algorithms and related to the leaving water temperature, with adjustment on the neutral areas.
The diagnostics includes a complete alarm management, with the "black box" (via PC) and registration of alarms (via display or PC) for a better analysis of the unit performance.
Supervision is achievable through various options, with proprietary devices or with the integration in third party systems by means of the most common communication protocols (ModBus, BACnet-over-IP, Echelon LonWorks, BACnet MS / TP…, Konnex). Connection with remote touchscreen is available.
The presence of programmable timer allows the creation of an operating profile containing up to 7 days and 6 type bands, with automatic transmission from summer time to winter time.
For systems consisting of multiple units, the management of the resources is possible via optional proprietary devices.

Refrigerant

R134a

Configurations

- Basic function

Features

NO COMPROMISE
Large availability in the combinations of the compressors (up to 6 compressors on the same unit), plus the flexibility in the choice of the heat exchangers can satisfy each specific installation and design requirements: the highest full load efficiency, the best initial investment, an unrivaled seasonal efficiency, an operating range suitable for applications in systems operating at high or low condensation (dry coolers or cooling towers)

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

FLEXIBLE COMPOSITION
Choice between horizontal or diagonal arrangement of the heat exchangers, with dimensions that favor the compact overall dimensions in height or plant, water connections to the evaporator and condenser that can be deployed on the right or left, to fit for all applications

ADAPTABILITY
Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

AHRI CERTIFICATION
Certified in accordance with the AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, which is based on AHRI Standard 550/590 (I-P). Certified units may be found in the AHRI Directory at www.ahridirectory.org

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control
- Fast restart

TX-W-Y			1A00	1B00	1B1A	1B2A	1B3A	1C00	1C1A	1C1B	1C3B
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	246,1-356,6	346,0-494,3	586,6-850,1	828,9-1201	1096-1566	400,6-572,2	648,9-927,0	744,4-1063	1438-2054
EER	(1)	kW/kW	6,250	6,310	6,250	6,080	6,260	6,460	6,340	6,360	6,380
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	246,1	366,9	586,0	827,1	1157	464,0	649,0	746,0	1723
EER	(1)(2)	kW/kW	6,060	6,060	6,070	5,940	6,020	6,140	6,160	6,180	5,970
ESEER	(1)(2)	kW/kW	8,850	8,460	8,880	8,680	8,670	8,840	8,860	8,840	8,430
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	246,1	366,9	586,0	827,1	1157	464,0	649,0	746,0	1723
SEPR	(8)(10)		11,77	11,60	11,67	11,45	11,66	11,59	11,81	11,68	11,05
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,80	17,59	28,09	39,62	55,47	22,24	31,10	35,75	82,69
Pressure drop	(1)	kPa	19,2	22,1	26,1	21,6	35,1	24,6	26,2	26,3	53,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,66	20,35	32,51	46,03	64,24	25,69	35,93	41,29	95,77
Pressure drop	(1)	kPa	17,7	20,8	21,0	19,8	26,7	24,0	20,8	20,5	34,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	2	3	4	1	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	215	220	390	495	747	262	436	416	1078
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	75	76	76	78	78	77	77	77	79
Sound power level in cooling	(4)(5)	dB(A)	93	94	95	97	98	95	96	96	99
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	2910	3050	3710	4690	2910	3050	3050	4720
B	(6)(7)	mm	1000	1000	1620	1710	1890	1000	1620	1620	1890
H	(6)(7)	mm	1950	1950	2190	2260	2400	1950	2190	2190	2400
Operating weight	(6)(7)	kg	2690	2800	5200	7590	9320	2880	5280	5410	11010

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

TX-W-Y

High efficiency water cooled chiller

1A00 - 6D00 246-4549 kW

TX-W-Y			1D00	1D1A	1D1B	1D1C	1D2C	1D3C	1D4C	1D5C	2A00
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	595,5-744,4	757,5-1098	852,5-1235	1052-1315	1274-1901	1980-2475	2461-3076	2942-3677	499,4-713,5
EER	(1)	kW/kW	6,220	6,160	6,240	6,300	6,390	6,370	6,480	6,560	6,160
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	667,1	758,0	864,0	1077	1285	2160	2659	3153	526,0
EER	(1)(2)	kW/kW	5,970	5,970	6,040	6,040	6,200	6,010	6,090	6,190	5,940
ESEER	(1)(2)	kW/kW	8,120	8,570	8,710	8,700	8,940	8,470	8,470	8,580	8,870
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	667,1	758,0	864,0	1077	1285	-	-	-	526,0
SEPR	(8)(10)		11,70	11,68	11,61	11,59	12,04	-	-	-	11,62
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,00	36,34	41,42	51,66	61,59	103,7	127,7	151,4	25,21
Pressure drop	(1)	kPa	39,8	29,6	31,1	41,5	31,0	61,3	69,7	62,3	24,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	37,05	42,14	47,96	59,75	71,08	119,9	147,3	174,3	29,25
Pressure drop	(1)	kPa	39,1	24,2	24,7	32,9	25,5	39,1	45,0	51,2	24,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	2	2	2	3	4	5	6	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	253	422	400	450	814	1017	1319	1696	273
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	78	78	78	79	79	79	80	76
Sound power level in cooling	(4)(5)	dB(A)	96	97	97	97	99	99	100	101	95
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	3050	3050	3050	4690	4720	5700	6610	2910
B	(6)(7)	mm	1000	1620	1620	1620	1660	1890	2350	2400	1560
H	(6)(7)	mm	1950	2190	2190	2190	2260	2400	2400	2450	2190
Operating weight	(6)(7)	kg	2950	5350	5340	5420	8810	11410	15330	20580	4070

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
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3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TX-W-Y			2B00	2B1A	2B2A	2B3A	2C00	2C1A	2C1B	2D00	2D1B
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	681,1-987,1	938,5-1341	1191-1702	1444-2063	798,7-1141	1054-1506	1150-1642	994,7-1485	1451-1988
EER	(1)	kW/kW	6,290	6,100	6,300	6,330	6,430	6,440	6,460	6,060	6,330
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	685,1	987,1	1257	1685	925,1	1135	1237	993,1	1464
EER	(1)(2)	kW/kW	6,100	5,900	6,030	5,900	6,090	6,180	6,200	5,890	6,090
ESEER	(1)(2)	kW/kW	8,750	8,610	8,540	8,290	8,930	8,690	8,780	8,850	8,500
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	685,1	987,1	1257	1685	925,1	1135	1237	993,1	1464
SEPR	(8)(10)		11,60	11,34	11,56	11,51	11,42	11,68	11,69	11,69	11,67
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,83	47,29	60,29	80,94	44,35	54,42	59,31	47,60	70,22
Pressure drop	(1)	kPa	26,4	23,5	41,5	62,0	34,4	36,1	35,6	30,5	42,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	37,98	54,97	69,78	93,81	51,28	62,81	68,41	55,31	81,14
Pressure drop	(1)	kPa	20,8	21,9	27,1	38,8	26,9	28,1	27,3	25,4	33,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	3	4	5	2	3	3	2	3
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	433	640	1015	1303	411	751	795	429	814
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	77	78	78	78	78	78	78	79	79
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	99	97	98	98	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	3050	3710	4720	5700	3050	4690	4690	3050	4690
B	(6)(7)	mm	1620	1710	1890	2350	1620	1660	1660	1620	1660
H	(6)(7)	mm	2190	2260	2400	2400	2190	2260	2260	2190	2260
Operating weight	(6)(7)	kg	5340	7750	10610	13850	5330	8470	8700	5310	8810

Notes

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8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TX-W-Y

High efficiency water cooled chiller

1A00 - 6D00 246-4549 kW

TX-W-Y			2D1C	2D2B	2D2C	2D3C	2D4C	3A00	3B00	3B1A	3B2A
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1656-2070	1984-2479	2117-2646	2599-3249	3081-3852	733,1-1062	1036-1480	1288-1839	1540-2200
EER	(1)	kW/kW	6,370	6,330	6,390	6,490	6,580	6,060	6,130	6,320	6,360
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	1870	2203	2360	2856	3350	732,1	1091	1359	1812
EER	(1)(2)	kW/kW	5,990	5,950	6,000	6,080	6,190	5,910	5,920	6,060	5,930
ESEER	(1)(2)	kW/kW	8,320	8,230	8,370	8,380	8,530	8,770	8,700	8,530	8,290
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	1870	-	-	-	-	732,1	1091	1359	1812
SEPR	(8)(10)		11,34	-	-	-	-	11,48	11,35	11,57	11,56
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	89,77	105,8	113,3	137,2	160,8	35,07	52,27	65,17	86,97
Pressure drop	(1)	kPa	62,7	66,7	66,6	75,6	67,1	21,5	23,7	40,7	61,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	103,8	122,4	131,0	158,3	185,2	40,76	60,73	75,40	100,7
Pressure drop	(1)	kPa	48,9	44,7	42,3	48,7	53,3	19,6	22,5	26,5	39,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	3	4	4	5	6	3	3	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	812	1013	1094	1299	1667	501	598	985	1269
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	79	80	79	80	77	78	78	78
Sound power level in cooling	(4)(5)	dB(A)	99	99	100	100	101	96	97	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	4690	4720	4720	5700	6610	3710	3710	4720	5700
B	(6)(7)	mm	1660	1890	1890	2350	2400	1710	1710	1890	2350
H	(6)(7)	mm	2260	2400	2400	2400	2450	2260	2260	2400	2400
Operating weight	(6)(7)	kg	8880	11250	11450	15420	20750	7440	7370	10740	14050

Notes

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10 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TX-W-Y			3B3A	3C00	3C1A	3C1B	3C2B	3D00	3D1A	3D1C	3D2C
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1793-2562	1205-1721	1453-2076	1550-2214	1907-2724	1792-2240	2076-2594	2254-2817	2738-3423
EER	(1)	kW/kW	6,420	6,490	6,450	6,470	6,540	6,340	6,330	6,370	6,490
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2095	1310	1753	1877	2292	2068	2354	2559	3057
EER	(1)(2)	kW/kW	6,010	6,230	6,010	6,040	6,080	5,960	5,930	5,980	6,060
ESEER	(1)(2)	kW/kW	8,430	8,900	8,510	8,550	8,480	8,250	8,100	8,240	8,240
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	-	1310	1753	1877	-	-	-	-	-
SEPR	(8)(10)		-	11,81	11,13	11,21	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	100,5	62,81	84,10	90,04	110,1	99,34	113,1	122,9	146,9
Pressure drop	(1)	kPa	56,3	35,8	52,2	52,5	59,6	69,1	76,3	72,4	81,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	116,2	72,40	97,31	104,1	127,1	114,9	130,9	142,1	169,4
Pressure drop	(1)	kPa	43,8	28,5	34,4	33,7	41,8	56,4	48,8	47,1	55,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	3	4	4	5	3	4	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1677	795	1078	1013	1252	850	1059	1072	1400
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	78	79	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	100	98	99	99	100	99	100	100	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4690	4720	4720	5700	4690	4720	4720	5700
B	(6)(7)	mm	2400	1660	1890	1890	2350	1660	1890	1890	2350
H	(6)(7)	mm	2450	2260	2400	2400	2400	2260	2400	2400	2400
Operating weight	(6)(7)	kg	18670	8700	11010	11210	14910	9010	11250	11580	15500

Notes

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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TX-W-Y

High efficiency water cooled chiller

1A00 - 6D00 246-4549 kW

TX-W-Y			3D3C	4B00	4B1A	4B2A	4C00	4C1B	4D00	4D1C	4D2C
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	3221-4026	1384-1978	1636-2337	1890-2700	1376-2294	1964-2806	2388-2985	2877-3596	3360-4200
EER	(1)	kW/kW	6,590	6,350	6,390	6,450	6,440	6,560	6,330	6,480	6,600
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	3549	1462	1937	2218	1498	2370	2755	3255	3750
EER	(1)(2)	kW/kW	6,190	6,090	5,950	6,030	6,240	6,100	5,940	6,050	6,170
ESEER	(1)(2)	kW/kW	8,480	8,600	8,310	8,400	8,910	8,480	8,110	8,180	8,390
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	-	1462	1937	-	1498	-	-	-	-
SEPR	(8)(10)		-	11,59	11,64	-	12,05	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	170,4	70,11	92,98	106,4	71,80	113,8	132,4	156,5	180,1
Pressure drop	(1)	kPa	71,5	40,1	60,5	57,3	30,7	62,1	81,7	88,9	75,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	196,1	81,06	107,7	123,0	82,82	131,3	153,1	180,4	207,3
Pressure drop	(1)	kPa	54,8	26,4	39,1	45,1	20,4	42,4	54,7	54,9	61,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	4	5	6	4	5	4	5	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1626	1078	1233	1638	1050	1239	1072	1380	1767
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	80	78	78	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	101	98	99	100	99	100	100	101	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4720	5700	6610	4720	5700	4720	5700	6610
B	(6)(7)	mm	2400	1890	2350	2400	1890	2350	1890	2350	2400
H	(6)(7)	mm	2450	2400	2400	2450	2400	2400	2400	2400	2450
Operating weight	(6)(7)	kg	21010	10920	14300	18880	11250	15000	11580	15730	21180

Notes

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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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Certified data in EUROVENT

TX-W-Y			5B00	5B1A	5C00	5C1B	5D00	5D1C	6B00	6C00	6D00
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1732-2474	1986-2837	2021-2888	2381-3401	3016-3770	3500-4374	2082-2974	2440-3486	3639-4549
EER	(1)	kW/kW	6,420	6,470	6,600	6,640	6,470	6,590	6,490	6,660	6,580
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2062	2342	2448	2864	3453	3948	2466	2942	4147
EER	(1)(2)	kW/kW	5,970	6,050	6,130	6,200	6,040	6,170	6,070	6,220	6,160
ESEER	(1)(2)	kW/kW	8,340	8,390	8,590	8,580	8,130	8,360	8,400	8,670	8,300
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(10)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	99,01	112,4	117,5	137,4	166,0	189,7	118,4	141,2	199,2
Pressure drop	(1)	kPa	61,0	57,3	62,6	58,7	92,9	79,2	58,1	59,4	82,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	114,6	129,9	135,5	158,3	191,4	218,2	136,7	162,6	229,2
Pressure drop	(1)	kPa	39,1	45,9	40,4	45,5	61,7	61,7	46,0	44,5	68,1
REFRIGERANT CIRCUIT											
Compressors nr.		N°	5	6	5	6	5	6	6	6	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1317	1594	1343	1583	1355	1739	1722	1555	1699
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	79	79	80	80	81	79	80	81
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	101	101	102	100	101	102
SIZE AND WEIGHT											
A	(6)(7)	mm	5700	6610	5700	6610	5700	6610	6610	6610	6610
B	(6)(7)	mm	2350	2400	2350	2400	2350	2400	2400	2400	2400
H	(6)(7)	mm	2400	2450	2400	2450	2400	2450	2450	2450	2450
Operating weight	(6)(7)	kg	14550	19150	15180	20240	15890	21350	19400	20410	21560

Notes

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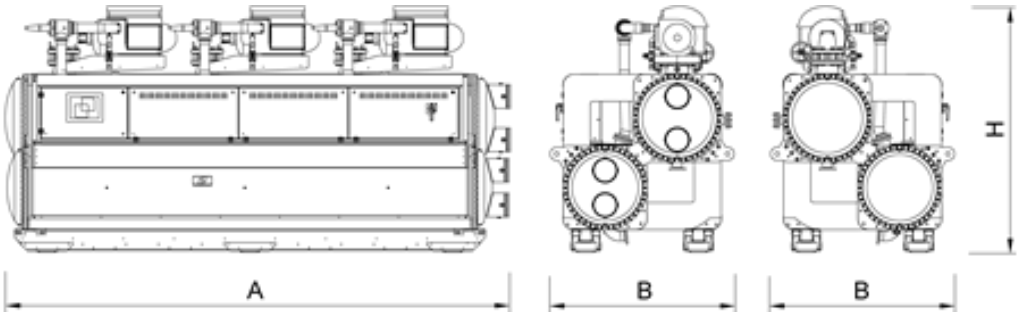
Certified data in EUROVENT

Dimensional drawing



CHILLERS

TX-W-G05-Y

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with R513A, electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

Control

W3000TE
For the TX-W family, dedicated control logics, named CX4, have been implemented to take full advantage from the variable speed centrifugal compressor, thus maximizing the unit performance in all working conditions.
The control is available through the innovative user interface KIPlink, which allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the components and reset the alarms. Secure access to data is guaranteed by three password levels (user, service, manufacturer).
The continuous capacity modulation is based on the PID algorithms and related to the leaving water temperature, with adjustment on the neutral areas. Complete alarm management system is available, with the “black-box” and the alarm history display functions. Supervision is achievable through various options, with proprietary devices or with the integration in third party systems by means of the most common communication protocols (ModBus, BACnet-over-IP, Echelon LonWorks, BACnet MS / TP). Connection with remote touchscreen is available.
A programmable timer allows the creation of an operating profile up to 4 days and 10 type bands, with automatic transmission from summer time to winter time.
For systems consisting of multiple units, the management of the resources is possible via optional proprietary devices. Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R513A

Configurations

- Basic function

Features

NO COMPROMISE
Large availability in the combinations of the compressors (up to 6 compressors on the same unit), plus the flexibility in the choice of the heat exchangers can satisfy each specific installation and design requirements: the highest full load efficiency, the best initial investment, an unrivaled seasonal efficiency, an operating range suitable for applications in systems operating at high or low condensation (dry coolers or cooling towers)

VERY HIGH EFFICIENCY
Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

FLEXIBLE COMPOSITION
Choice between horizontal or diagonal arrangement of the heat exchangers, with dimensions that favor the compact overall dimensions in height or plant, water connections to the evaporator and condenser that can be deployed on the right or left, to fit for all applications

ADAPTABILITY
Adaptability at the building’s heating request thanks to the continuous capacity regulation, assured by sophisticated control’s logic.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

Accessories

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control
- filters kit for conformity to EN 61000-6-3 (residential ambients)

TX-W-G05-Y			1A00	1B00	1B1A	1B2A	1B3A	1C00	1C1A	1C1B	1C3B
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	243,6-353,0	343,6-490,9	582,5-844,2	820,6-1189	1083-1547	396,2-565,9	642,4-917,7	735,4-1051	1425-2036
EER	(1)	kW/kW	6,150	6,290	6,230	6,040	6,200	6,390	6,290	6,290	6,320
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	243,7	364,4	581,9	818,9	1143	458,9	642,5	737,1	1708
EER	(1)(2)	kW/kW	5,970	6,050	6,060	5,910	5,970	6,080	6,110	6,120	5,910
ESEER	(1)(2)	kW/kW	8,760	8,460	8,850	8,670	8,590	8,770	8,810	8,770	8,370
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	243,7	364,4	581,9	818,9	1143	458,9	642,5	737,1	1708
SEPR	(8)(10)		11,62	11,56	11,64	11,41	11,57	11,49	11,75	11,58	10,96
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	11,68	17,46	27,89	39,23	54,81	21,99	30,79	35,32	81,94
Pressure drop	(1)	kPa	18,8	21,8	25,7	21,1	34,3	24,1	25,7	25,7	52,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	13,55	20,22	32,29	45,60	63,56	25,44	35,61	40,85	95,03
Pressure drop	(1)	kPa	17,5	20,5	20,7	19,4	26,2	23,5	20,4	20,1	33,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	2	3	4	1	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	215	220	390	495	747	262	436	416	1078
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	75	76	76	78	78	77	77	77	79
Sound power level in cooling	(4)(5)	dB(A)	93	94	95	97	98	95	96	96	99
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	2910	3050	3710	4690	2910	3050	3050	4720
B	(6)(7)	mm	1000	1000	1620	1710	1890	1000	1620	1620	1890
H	(6)(7)	mm	1950	1950	2190	2260	2400	1950	2190	2190	2400
Operating weight	(6)(7)	kg	2690	2800	5200	7590	9320	2880	5280	5410	11010

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

TX-W-G05-Y

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

TX-W-G05-Y			1D00	1D1A	1D1B	1D1C	1D2C	1D3C	1D4C	1D5C	2A00
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	587,8-734,7	736,8-1084	833,4-1226	1043-1303	1241-1880	1964-2455	2441-3051	2918-3648	495,9-708,5
EER	(1)	kW/kW	6,130	6,100	6,210	6,250	6,300	6,300	6,420	6,480	6,120
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	658,5	748,2	857,2	1067	1271	2143	2637	3128	522,3
EER	(1)(2)	kW/kW	5,890	5,910	6,020	5,990	6,100	5,940	6,040	6,120	5,900
ESEER	(1)(2)	kW/kW	8,060	8,530	8,700	8,640	8,800	8,400	8,420	8,500	8,800
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	658,5	748,2	857,2	1067	1271	-	-	-	522,3
SEPR	(8)(10)		11,55	11,60	11,58	11,51	11,88	-	-	-	11,55
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	31,59	35,86	41,09	51,19	60,91	102,9	126,6	150,1	25,03
Pressure drop	(1)	kPa	38,8	28,8	30,6	40,8	30,3	60,3	68,6	61,4	24,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	36,64	41,65	47,60	59,28	70,44	119,1	146,3	173,2	29,07
Pressure drop	(1)	kPa	38,3	23,6	24,4	32,3	25,1	38,6	44,4	50,5	24,6
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	2	2	2	3	4	5	6	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	253	422	400	450	814	1017	1319	1696	273
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	78	78	78	79	79	79	80	76
Sound power level in cooling	(4)(5)	dB(A)	96	97	97	97	99	99	100	101	95
SIZE AND WEIGHT											
A	(6)(7)	mm	2910	3050	3050	3050	4690	4720	5700	6610	2910
B	(6)(7)	mm	1000	1620	1620	1620	1660	1890	2350	2400	1560
H	(6)(7)	mm	1950	2190	2190	2190	2260	2400	2400	2450	2190
Operating weight	(6)(7)	kg	2950	5350	5340	5420	8810	11410	15330	20580	4070

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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TX-W-G05-Y			2B00	2B1A	2B2A	2B3A	2C00	2C1A	2C1B	2D00	2D1B
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	676,3-980,2	930,1-1329	1176-1680	1434-2049	791,5-1131	1042-1489	1135-1621	971,1-1471	1416-1966
EER	(1)	kW/kW	6,210	6,050	6,210	6,320	6,400	6,360	6,360	6,040	6,240
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	680,3	978,2	1240	1674	916,7	1123	1221	984,1	1448
EER	(1)(2)	kW/kW	6,040	5,850	5,960	5,890	6,060	6,100	6,110	5,850	6,010
ESEER	(1)(2)	kW/kW	8,700	8,530	8,470	8,300	8,910	8,600	8,640	8,780	8,410
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	680,3	978,2	1240	1674	916,7	1123	1221	984,1	1448
SEPR	(8)(10)		11,48	11,26	11,45	11,50	11,37	11,56	11,55	11,63	11,54
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,60	46,87	59,51	80,37	43,95	53,83	58,54	47,17	69,44
Pressure drop	(1)	kPa	26,0	23,1	40,4	61,1	33,8	35,3	34,6	30,0	41,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	37,77	54,55	68,99	93,18	50,86	62,22	67,66	54,87	80,40
Pressure drop	(1)	kPa	20,5	21,6	26,5	38,3	26,5	27,6	26,7	25,0	32,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	3	4	5	2	3	3	2	3
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	433	640	1015	1303	411	751	795	429	814
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	77	78	78	78	78	78	78	79	79
Sound power level in cooling	(4)(5)	dB(A)	96	97	98	99	97	98	98	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	3050	3710	4720	5700	3050	4690	4690	3050	4690
B	(6)(7)	mm	1620	1710	1890	2350	1620	1660	1660	1620	1660
H	(6)(7)	mm	2190	2260	2400	2400	2190	2260	2260	2190	2260
Operating weight	(6)(7)	kg	5340	7750	10610	13850	5330	8470	8700	5310	8810

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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TX-W-G05-Y

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

TX-W-G05-Y			2D1C	2D2B	2D2C	2D3C	2D4C	3A00	3B00	3B1A	3B2A
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1636-2045	1968-2460	2092-2614	2568-3210	3054-3817	724,3-1050	1009-1462	1273-1819	1522-2174
EER	(1)	kW/kW	6,300	6,270	6,320	6,400	6,510	5,970	6,070	6,220	6,250
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	1848	2185	2332	2823	3320	723,3	1078	1344	1790
EER	(1)(2)	kW/kW	5,920	5,890	5,950	6,010	6,130	5,830	5,850	5,970	5,830
ESEER	(1)(2)	kW/kW	8,250	8,170	8,320	8,300	8,480	8,650	8,610	8,430	8,190
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	1848	-	-	-	-	723,3	1078	1344	1790
SEPR	(8)(10)		11,25	-	-	-	-	11,33	11,24	11,42	11,42
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	88,69	104,9	112,0	135,6	159,4	34,65	51,64	64,46	85,92
Pressure drop	(1)	kPa	61,2	65,6	65,0	73,8	65,9	21,0	23,2	39,8	60,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	102,7	121,6	129,6	156,7	183,7	40,35	60,10	74,72	99,77
Pressure drop	(1)	kPa	47,9	44,1	41,4	47,7	52,5	19,2	22,0	26,1	38,7
REFRIGERANT CIRCUIT											
Compressors nr.		N°	3	4	4	5	6	3	3	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	812	1013	1094	1299	1667	501	598	985	1269
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	79	80	79	80	77	78	78	78
Sound power level in cooling	(4)(5)	dB(A)	99	99	100	100	101	96	97	98	99
SIZE AND WEIGHT											
A	(6)(7)	mm	4690	4720	4720	5700	6610	3710	3710	4720	5700
B	(6)(7)	mm	1660	1890	1890	2350	2400	1710	1710	1890	2350
H	(6)(7)	mm	2260	2400	2400	2400	2450	2260	2260	2400	2400
Operating weight	(6)(7)	kg	8880	11250	11450	15420	20750	7440	7370	10740	14050

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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TX-W-G05-Y			3B3A	3C00	3C1A	3C1B	3C2B	3D00	3D1A	3D1C	3D2C
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1772-2531	1196-1709	1442-2059	1531-2187	1894-2705	1771-2213	2051-2563	2233-2792	2711-3388
EER	(1)	kW/kW	6,320	6,430	6,360	6,390	6,470	6,240	6,220	6,350	6,440
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2070	1301	1738	1854	2277	2043	2326	2536	3027
EER	(1)(2)	kW/kW	5,920	6,170	5,940	5,970	6,030	5,870	5,840	5,960	6,010
ESEER	(1)(2)	kW/kW	8,330	8,820	8,420	8,480	8,410	8,160	7,990	8,240	8,210
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	-	1301	1738	1854	-	-	-	-	-
SEPR	(8)(10)		-	11,71	11,02	11,11	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	99,31	62,37	83,42	88,96	109,3	98,15	111,8	121,8	145,4
Pressure drop	(1)	kPa	55,0	35,3	51,4	51,3	58,8	67,4	74,5	71,1	79,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	115,1	71,99	96,69	103,0	126,3	113,7	129,6	140,9	167,9
Pressure drop	(1)	kPa	42,9	28,2	33,9	33,0	41,4	55,3	47,9	46,3	54,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	3	4	4	5	3	4	4	5
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1677	795	1078	1013	1252	850	1059	1072	1400
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	79	78	79	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	100	98	99	99	100	99	100	100	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4690	4720	4720	5700	4690	4720	4720	5700
B	(6)(7)	mm	2400	1660	1890	1890	2350	1660	1890	1890	2350
H	(6)(7)	mm	2450	2260	2400	2400	2400	2260	2400	2400	2400
Operating weight	(6)(7)	kg	18670	8700	11010	11210	14910	9010	11250	11580	15500

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

TX-W-G05-Y

High efficiency water cooled chiller

1A00 - 6D00 248-4466 kW

TX-W-G05-Y			3D3C	4B00	4B1A	4B2A	4C00	4C1B	4D00	4D1C	4D2C
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	3192-3990	1366-1952	1620-2314	1875-2679	1344-2277	1947-2781	2369-2961	2857-3571	3337-4171
EER	(1)	kW/kW	6,570	6,260	6,310	6,410	6,400	6,530	6,280	6,450	6,550
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	3518	1443	1918	2200	1488	2349	2733	3233	3724
EER	(1)(2)	kW/kW	6,170	6,020	5,880	6,000	6,190	6,080	5,890	6,020	6,130
ESEER	(1)(2)	kW/kW	8,480	8,510	8,240	8,370	8,860	8,460	8,070	8,160	8,350
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	-	1443	1918	-	1488	-	-	-	-
SEPR	(8)(10)		-	11,47	11,53	-	11,95	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	168,9	69,20	92,05	105,6	71,29	112,7	131,3	155,4	178,9
Pressure drop	(1)	kPa	70,2	39,1	59,3	56,3	30,3	60,9	80,4	87,6	74,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	194,5	80,15	106,8	122,1	82,33	130,2	152,0	179,3	206,0
Pressure drop	(1)	kPa	53,9	25,8	38,4	44,5	20,2	41,7	53,9	54,2	60,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	6	4	5	6	4	5	4	5	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1626	1078	1233	1638	1050	1239	1072	1380	1767
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	80	78	78	79	79	79	80	80	80
Sound power level in cooling	(4)(5)	dB(A)	101	98	99	100	99	100	100	101	101
SIZE AND WEIGHT											
A	(6)(7)	mm	6610	4720	5700	6610	4720	5700	4720	5700	6610
B	(6)(7)	mm	2400	1890	2350	2400	1890	2350	1890	2350	2400
H	(6)(7)	mm	2450	2400	2400	2450	2400	2400	2400	2400	2450
Operating weight	(6)(7)	kg	21010	10920	14300	18880	11250	15000	11580	15730	21180

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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Certified data in EUROVENT

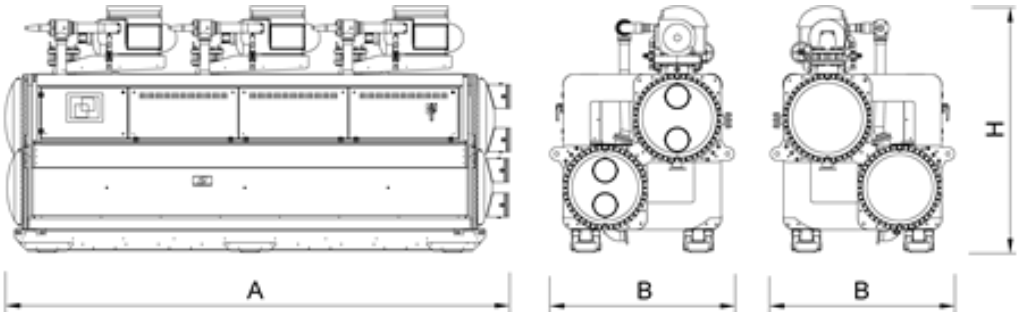
TX-W-G05-Y			5B00	5B1A	5C00	5C1B	5D00	5D1C	6B00	6C00	6D00
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	1718-2454	1966-2809	1999-2856	2357-3367	2991-3739	3458-4322	2055-2935	2420-3458	3592-4490
EER	(1)	kW/kW	6,340	6,430	6,540	6,580	6,450	6,540	6,430	6,580	6,520
ESEER (up to)	(1)	kW/kW									
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	2046	2319	2421	2835	3426	3901	2434	2919	4092
EER	(1)(2)	kW/kW	5,900	6,020	6,080	6,150	6,020	6,130	6,020	6,150	6,110
ESEER	(1)(2)	kW/kW	8,270	8,380	8,530	8,540	8,130	8,330	8,360	8,600	8,270
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	-	-	-	-	-	-	-	-	-
SEPR	(8)(10)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	98,21	111,3	116,2	136,0	164,7	187,4	116,8	140,1	196,6
Pressure drop	(1)	kPa	60,0	56,2	61,2	57,6	91,4	77,4	56,6	58,5	80,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	113,9	128,7	134,2	156,9	190,0	215,8	135,1	161,5	226,4
Pressure drop	(1)	kPa	38,6	45,1	39,7	44,7	60,8	60,4	44,9	43,9	66,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	5	6	5	6	5	6	6	6	6
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	1317	1594	1343	1583	1355	1739	1722	1555	1699
NOISE LEVEL											
Sound Pressure	(3)	dB(A)	78	79	79	80	80	81	79	80	81
Sound power level in cooling	(4)(5)	dB(A)	99	100	100	101	101	102	100	101	102
SIZE AND WEIGHT											
A	(6)(7)	mm	5700	6610	5700	6610	5700	6610	6610	6610	6610
B	(6)(7)	mm	2350	2400	2350	2400	2350	2400	2400	2400	2400
H	(6)(7)	mm	2400	2450	2400	2450	2400	2450	2450	2450	2450
Operating weight	(6)(7)	kg	14550	19150	15180	20240	15890	21350	19400	20410	21560

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Sound power level in cooling, indoors.
6 Unit in standard configuration/execution, without optional accessories.
7 Lay-out with diagonal exchangers in units with 1, 2, 3 and 4 compressors; lay-out with horizontal exchangers in units with 5 and 6 compressors.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



CHILLERS

HE-Y

Condenserless unit

0011 - 0121 4,700-32,40 kW

Refrigerant

R407C

Versions

FF Basic version, with built-in hydronic kit

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.
High efficiency, low pressure drop AISI 316 stainless steel plate heat exchangers, fitted with heating element to provide frost protection.
Control with foolproof device accessible from the outside.
Differential pressure switch.
The remote condenser may be installed up to a distance of 50 metres from the cooling unit.
The safety of the unit is guaranteed by a door lock isolator on the electrical power switchboard and by active protection devices on the main components.

This Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. range of cooling units is made of indoor units that may be combined with remote outdoor condensers to guarantee maximum flexibility and compliance with any architectural restriction. These units have hermetic Scroll compressors and Full Floating technology. The latter is an intelligent electronic unit providing the perfect answer to residential market requirements: compactness, ease of installation and quietness.

Control

Full Floating features
Once every 3 minutes an algorithm automatically optimises the water set point in relation to the compressor operating time and the temperatures of the water in the system. The water storage tank is no longer indispensable because it is compensated by the Floating
Set function, with resulting reduction in:
size;
weight;
installation times;
system setting-up times.

Accessories

- Buffer tank plus pump
- Hydronic kit plus pump
- Removable metal mesh water filter kit
- Modulating pump kit
- Control board for the modulating pump kit

HE-Y / FF			0011	0021	0025	0031	0021	0025	0031
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	4,700	6,100	7,000	8,200	6,100	7,000	8,200
Total power input	(1)	kW	1,600	2,100	2,500	2,900	2,100	2,400	2,900
EER	(1)	kW/kW	2,840	2,890	2,800	2,790	2,940	2,860	2,860
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,250	0,306	0,361	0,417	0,306	0,361	0,417
Available unit's head	(1)	kPa	22,0	24,0	26,0	27,0	24,0	26,0	27,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	43	43	48	48	43	48	48
Sound power level in cooling	(3)(4)	dB(A)	0	0	0	0	0	0	0
SIZE AND WEIGHT									
A	(5)	mm	450	450	450	450	450	450	450
B	(5)	mm	400	400	400	400	400	400	400
H	(5)	mm	960	960	960	960	960	960	960
Operating weight	(5)	kg	68	70	71	74	70	71	74

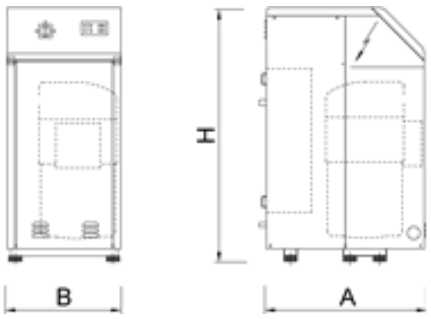
HE-Y / FF			0041	0051	0061	0071	0091	0101	0121
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	10,50	12,50	15,00	19,10	22,20	26,80	32,40
Total power input	(1)	kW	3,400	4,200	4,900	6,300	7,800	8,900	10,90
EER	(1)	kW/kW	3,060	2,970	3,070	3,030	2,860	3,000	2,960
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,528	0,639	0,778	0,944	1,139	1,333	1,639
Available unit's head	(1)	kPa	19,0	20,0	20,0	23,0	22,0	23,0	23,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	52	52	52	52	52	53	53
Sound power level in cooling	(3)(4)	dB(A)	0	0	0	0	0	0	0
SIZE AND WEIGHT									
A	(5)	mm	450	450	450	600	600	600	600
B	(5)	mm	400	400	400	600	600	600	600
H	(5)	mm	960	960	960	960	960	960	960
Operating weight	(5)	kg	85	87	90	177	180	187	190

Notes

1 Plant (side) cooling exchanger water (in/out) <10032>/<10033>; Condensation temperature <10111>.
2 Average sound pressure level at <10072> distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



CHILLERS

NECS-ME-Y

Condenserless unit

0152 - 1604 39,51-431,6 kW

Indoor unit for the production of chilled water that may be connected to a remote condenser with hermetic rotary scroll compressors working with R410A, braze-welded plate-type exchanger and thermal expansion valve. Panels and base in hot-dip galvanised sheet steel with paint finish.

Control

W3000 Base – W3000SE Compact

Two different versions of controllers are available:
W3000 Base: complete with keypad, easy-to-use interface and LCD display, menu with up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)
W3000SE Compact: complete with keypad, easy-to-use interface and LCD display, multi-language menu, with selectable language setting on site. Internal clock also included.
Both W3000 electronic controllers offer advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available. Complete alarm management, with the “black-box” and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).
For multiple units’ systems, the regulation of the resources via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed and supervision can be executed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

Refrigerant

R410A

Versions

B Basic

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

UNIT DESIGNED FOR COMBINATION WITH REMOTE CONDENSER
Compact units, designed for process cooling systems.

INTEGRAL CONTROL AND ADJUSTMENT
The condenserless unit comes complete with built-in microprocessor control with possible connection to the condenser.

INTEGRATED HYDRONIC GROUP
The built-in hydronic module already contains the main water circuit components; it is available with single or double pump configuration, with low or high head.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Acoustical enclosure to reduce the noise emissions.
- Rubber anti-vibration mounting kit

NECS-ME-Y / B			0152	0182	0202	0252	0262	0302	0352
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	39,51	45,83	53,60	60,53	67,35	80,23	92,78
Total power input	(1)	kW	12,03	13,47	15,74	18,08	19,97	23,44	26,87
EER	(1)	kW/kW	3,292	3,393	3,414	3,343	3,370	3,427	3,450
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,889	2,192	2,563	2,895	3,221	3,837	4,437
Pressure drop	(1)	kPa	48,0	41,3	41,0	39,1	48,4	29,4	27,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	42	43	43	43	44	44	45
Sound power level in cooling	(3)(4)	dB(A)	73	74	74	74	75	76	77
SIZE AND WEIGHT									
A	(5)	mm	1130	1130	1130	1130	1130	1310	1310
B	(5)	mm	669	669	669	669	669	893	893
H	(5)	mm	1255	1255	1255	1255	1255	1496	1496
Operating weight	(5)	kg	270	280	290	295	300	410	500

NECS-ME-Y / B			0412	0452	0512	0552	0612	0604	0704
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	104,5	117,4	131,4	150,7	169,9	160,8	185,6
Total power input	(1)	kW	30,29	33,93	37,58	43,25	48,92	46,89	53,75
EER	(1)	kW/kW	3,449	3,463	3,495	3,480	3,474	3,429	3,456
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	5,000	5,612	6,283	7,204	8,126	7,692	8,874
Pressure drop	(1)	kPa	35,0	33,1	32,2	28,9	36,8	32,5	31,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	4	4
No. Circuits		N°	1	1	1	1	1	2	2
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	45	46	46	47	47	54	55
Sound power level in cooling	(3)(4)	dB(A)	77	78	78	79	79	86	87
SIZE AND WEIGHT									
A	(5)	mm	1310	1310	1310	1310	1310	2227	2227
B	(5)	mm	893	893	893	893	893	1020	1020
H	(5)	mm	1496	1496	1496	1496	1496	1780	1780
Operating weight	(5)	kg	585	615	645	680	700	755	950

NECS-ME-Y / B			0804	0904	1004	1104	1204	1404	1604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	207,4	235,4	263,0	300,5	339,2	386,5	431,6
Total power input	(1)	kW	60,55	67,86	75,16	86,49	97,84	110,9	123,9
EER	(1)	kW/kW	3,422	3,467	3,497	3,474	3,468	3,485	3,483
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,918	11,26	12,58	14,37	16,22	18,48	20,64
Pressure drop	(1)	kPa	38,8	38,9	39,4	36,7	46,7	49,6	54,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	56	57	58	59	59	59	59
Sound power level in cooling	(3)(4)	dB(A)	88	89	90	91	91	91	91
SIZE AND WEIGHT									
A	(5)	mm	2227	2227	2227	2227	2227	2227	2227
B	(5)	mm	1020	1020	1020	1020	1020	1020	1020
H	(5)	mm	1780	1780	1780	1780	1780	1780	1780
Operating weight	(5)	kg	1125	1185	1250	1330	1370	1430	1480

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Condensation temperature 47°C.
2 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

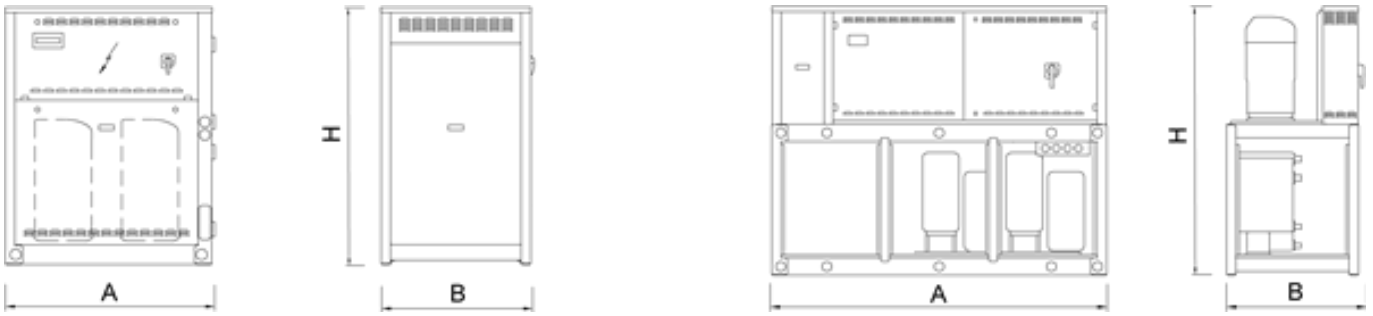
The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NECS-ME-Y

Condenserless unit

0152 - 1604 39,51-431,6 kW

Dimensional drawing



CHILLERS

FOCS-ME-Y

Condenserless unit

0401 - 1902 79,23-410,4 kW

Indoor unit for the production of chilled water combined with a remote condenser, with semi-hermetic screw compressors optimized for R134a, shell and tube evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and thermostatic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Refrigerant

R134a

Versions

B Basic

Features

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

ADAPTABILITY
Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

WIDE OPERATING RANGE
Extensive range of operation with remote condenser operating up to 46°C air temperature

SILENT OPERATION
Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Soft start
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)
- Electronic expansion valve
- Integral acoustical enclosure (type base or plus)

Control

W3000SE Large
The W3000 SE Large controller offers advanced functions and algorithms.
The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
Compatibility with the remote keyboard managing up to 10 units.
Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).
The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.

FOCS-ME-Y / B			0401	0501	0551	0651	0751	0802	0851
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	79,23	98,20	119,3	135,1	151,2	161,7	181,3
Total power input	(1)	kW	22,73	27,92	32,46	37,59	42,27	45,59	48,88
EER	(1)	kW/kW	3,489	3,520	3,671	3,593	3,574	3,546	3,708
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	3,789	4,696	5,706	6,459	7,230	7,731	8,668
Pressure drop	(1)	kPa	14,7	14,9	11,9	15,2	19,0	14,6	18,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	2	1
No. Circuits		N°	1	1	1	1	1	2	1
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	59	60	62	62	62	62	62
Sound power level in cooling	(3)(4)	dB(A)	91	92	94	94	94	94	94
SIZE AND WEIGHT									
A	(5)	mm	2024	2330	2400	2400	2400	2890	2947
B	(5)	mm	880	880	880	880	880	1081	880
H	(5)	mm	1300	1300	1490	1490	1490	1430	1490
Operating weight	(5)	kg	720	750	1040	1060	1060	1280	1130

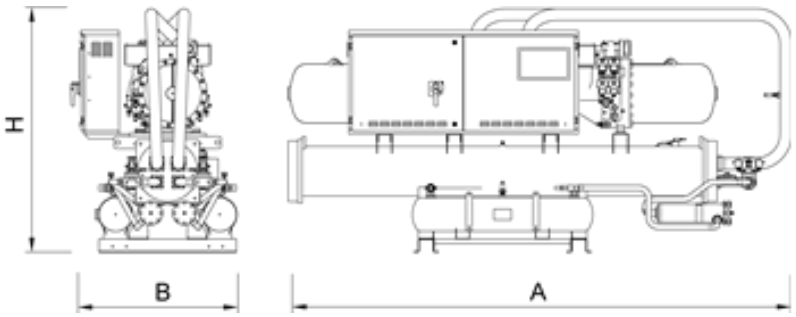
FOCS-ME-Y / B			0951	1002	1102	1302	1502	1702	1902
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING									
Cooling capacity	(1)	kW	203,1	199,8	229,9	273,0	312,2	360,3	410,4
Total power input	(1)	kW	56,47	56,00	64,62	75,29	85,01	97,66	113,2
EER	(1)	kW/kW	3,595	3,568	3,559	3,625	3,673	3,688	3,625
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	9,711	9,553	10,99	13,06	14,93	17,23	19,63
Pressure drop	(1)	kPa	34,8	33,7	44,6	38,7	35,0	46,5	25,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	2	2	2	2	2	2
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg							
NOISE LEVEL									
Sound Pressure	(2)	dB(A)	62	63	65	65	65	65	65
Sound power level in cooling	(3)(4)	dB(A)	94	95	97	97	97	97	97
SIZE AND WEIGHT									
A	(5)	mm	2947	2890	3016	3277	3277	3292	3362
B	(5)	mm	880	1081	1081	1081	1081	1081	1081
H	(5)	mm	1500	1430	1480	1580	1580	1590	1700
Operating weight	(5)	kg	1150	1290	1680	1970	1990	2010	2300

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Condensation temperature 47°C.
2 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Dimensional drawing



CHILLERS

FOCS-ME-Y

Condenserless unit

1001 - 9604 218,9-2240 kW

Indoor unit for the production of chilled water combined with a remote condenser, with semi-hermetic screw compressors optimized for R134a, shell and tube evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and thermostatic expansion valve.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Refrigerant

R134a

Versions

B Basic

Features

COMPACTNESS
Compactness in terms of overall size and weight, helping installation and working on site

ADAPTABILITY
Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

WIDE OPERATING RANGE
Extensive range of operation with remote condenser operating up to 46°C air temperature

SILENT OPERATION
Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Integral acoustical enclosure (type base or plus)
- Electronic expansion valve
- Soft start
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Remote control keyboard (distance to 200m and to 500m)

Control

W3000SE Large
The W3000 SE Large controller offers advanced functions and algorithms.
The keypad is generously sized with full operating status display. The commands and detailed LCD display make access to the unit's settings easy and safe. These resources allow to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
Compatibility with the remote keyboard managing up to 10 units.
Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).
The regulation features the continuous modulation of capacity, based on a dynamic dead band and referring to the leaving water temperature. As alternative, step-wise regulation is also available, referred to the return water temperature with selectable proportional- or proportional-integral logic.

FOCS-ME-Y / B			1001	1201	1301	1351	1601	1801	2002	2402	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	218,9	261,7	295,4	333,0	389,0	444,8	418,5	516,4	591,4
Total power input	(1)	kW	59,65	69,66	77,52	85,39	101,5	118,0	113,6	139,2	155,1
EER	(1)	kW/kW	3,667	3,755	3,812	3,899	3,833	3,769	3,684	3,710	3,813
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	10,47	12,52	14,13	15,93	18,60	21,27	20,01	24,70	28,28
Pressure drop	(1)	kPa	37,3	35,5	31,3	39,8	22,4	29,3	23,9	36,4	25,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	1	1	1	2	2	2
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg									
NOISE LEVEL											
Sound Pressure	(2)	dB(A)	62	65	65	65	65	65	65	65	67
Sound power level in cooling	(3)(4)	dB(A)	94	97	97	97	97	97	97	97	99
SIZE AND WEIGHT											
A	(5)	mm	2835	3120	3120	3120	3530	3530	3730	3730	4500
B	(5)	mm	900	900	900	900	900	900	1150	1150	1150
H	(5)	mm	1800	1800	1800	1800	1950	1950	2000	2000	2000
Operating weight	(5)	kg	1380	1870	1910	1920	2640	2650	2750	3420	3710

FOCS-ME-Y / B			2702	3202	3602	4202	4502	4802	5003	5203	5403
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	674,0	758,6	884,6	1000	1061	1120	1184	1251	1304
Total power input	(1)	kW	171,0	202,2	235,8	264,9	277,4	290,0	319,6	336,6	353,3
EER	(1)	kW/kW	3,942	3,752	3,751	3,775	3,825	3,862	3,705	3,717	3,691
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	32,23	36,28	42,31	47,84	50,72	53,56	56,60	59,82	62,36
Pressure drop	(1)	kPa	36,3	46,1	45,9	40,0	45,0	50,2	56,0	44,1	47,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	3	3	3
No. Circuits		N°	2	2	2	2	2	2	3	3	3
Refrigerant charge		kg									
NOISE LEVEL											
Sound Pressure	(2)	dB(A)	67	67	67	67	67	67	69	69	69
Sound power level in cooling	(3)(4)	dB(A)	99	99	99	99	99	99	101	101	101
SIZE AND WEIGHT											
A	(5)	mm	4500	4500	4500	4500	4500	4500	4425	4425	4425
B	(5)	mm	1150	1150	1150	1150	1150	1150	1700	1700	1700
H	(5)	mm	2000	2000	2000	2000	2000	2000	1900	1900	1900
Operating weight	(5)	kg	3730	4600	5050	5220	5250	5280	6810	6840	6850

FOCS-ME-Y / B			5414	5904	6404	6804	7204	7804	8404	9004	9604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING											
Cooling capacity	(1)	kW	1348	1433	1548	1660	1769	1886	2001	2121	2240
Total power input	(1)	kW	342,1	373,3	405,6	438,6	471,7	500,6	529,9	554,8	580,1
EER	(1)	kW/kW	3,940	3,839	3,817	3,785	3,750	3,767	3,776	3,823	3,861
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	64,46	68,55	74,04	79,37	84,61	90,17	95,68	101,4	107,1
Pressure drop	(1)	kPa	36,3	41,1	35,2	40,4	45,9	52,7	40,1	45,1	50,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	4	4	4	4	4	4	4	4	4
No. Circuits		N°	4	4	4	4	4	4	4	4	4
Refrigerant charge		kg									
NOISE LEVEL											
Sound Pressure	(2)	dB(A)	70	70	70	70	70	70	70	70	70
Sound power level in cooling	(3)(4)	dB(A)	102	102	102	102	102	102	102	102	102
SIZE AND WEIGHT											
A	(5)	mm	4500	4500	4500	4500	4500	4500	4500	4500	4500
B	(5)	mm	2250	2250	2250	2250	2250	2250	2250	2250	2250
H	(5)	mm	2000	2000	2000	2000	2000	2000	2000	2000	2000
Operating weight	(5)	kg	7560	8400	9980	10010	10020	10190	10350	10420	10480

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Condensation temperature 47°C.
2 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
3 Sound power on the basis of measurements made in compliance with ISO 9614.
4 Sound power level in cooling, indoors.
5 Unit in standard configuration/execution, without optional accessories.

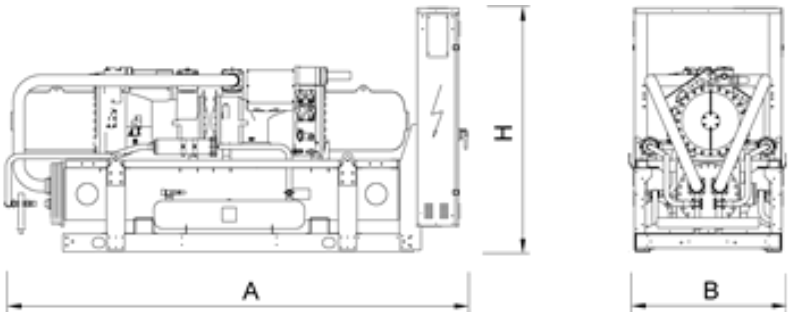
The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FOCS-ME-Y

Condenserless unit

1001 - 9604 218,9-2240 kW

Dimensional drawing



CHILLERS

NECS-FC-Y

Air cooled chiller with free-cooling

0152 - 1604 41,50-477,1 kW

Outdoor unit for the production of chilled water, equipped with hermetic scroll compressors, R410A refrigerant, axial-fans, condensing coil with copper tubes and aluminum fins, braze-welded plate evaporator and thermostatic expansion valve. External panels are of peraluman, base of galvanized epoxy powder coated steel. The unit is supplied with anti-freeze oil and refrigerant and has been factory tested. On-site installation therefore just involves making connections to the mains power and water supplies.
These chillers, fitted with free-cooling coils, are used when the cooling load is constant all-year-round or the outdoor air temperature is lower than the temperature of the liquid return line. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R410A

Versions

B	Basic
SL	Super-low noise version

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ELEVATED ENERGY EFFICIENCY
Average power saving of 30% compared with standard European consumption thanks to the dedicated coils for Free-Cooling, the R-410A optimised scroll compressors and the R-410A refrigerant.

MAXIMUM FLEXIBILITY
Flexibility is achieved by the continuous modulation of the capacity provided by the compressors. The three-way modulating valve (optional) on the water side offers improved leaving water temperature control also at low outdoor temperatures.

OUTSTANDING VERSATILITY
Units available in two different versions, B (basic) and SL (super low noise), in order to fully satisfy special requirements and comply with the most complex installation solutions.

CUSTOMISED CONTROL
Customised adjustment constantly guarantees the required temperature of the chilled water whilst fully exploiting all the available resources (compressors, fans and water coils) in relation to the temperature of the external air. This makes it possible to fully use the free-cooling system even when external air temperatures are close to zero.

INTEGRATED HYDRONIC GROUP
It consists of 1 or 2 pumps with 2-pole motor, with two head options.

Accessories

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- Automatic circuit breakers on loads
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)

NECS-FC-Y /B			0152	0182	0202	0252	0302	0352	0412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	43,64	51,05	61,90	68,01	88,49	104,2	114,9
Total power input	(1)	kW	14,10	15,40	19,40	22,40	28,10	30,70	35,70
EER	(1)	kW/kW	3,092	3,312	3,191	3,036	3,149	3,394	3,218
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	43,10	50,50	61,30	67,40	87,60	103,4	114,0
EER	(1)(2)	kW/kW	2,960	3,180	3,060	2,920	3,010	3,280	3,120
TOTAL FREE-COOLING (GROSS VALUE)									
Cooling capacity	(3)	kW	43,64	51,05	61,90	68,01	88,49	104,2	114,9
EER	(3)	kW/kW	29,07	34,00	14,74	16,19	21,07	24,81	27,36
Total free-cooling temperature	(3)	°C	1,4	1,1	0,8	0,0	-0,8	0,4	-0,7
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(8)	kW	38,10	45,20	54,60	59,80	78,30	92,20	101,4
SEPR	(8)(10)		5,57	6,01	4,64	4,57	4,92	5,41	5,42
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(9)	kW	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,312	2,704	3,280	3,603	4,688	5,522	6,089
Pressure drop	(1)	kPa	77,2	71,5	80,5	77,5	108	74,3	68,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	7,70	9,70	11,1	13,0	15,6	22,9	24,5
NOISE LEVEL									
Sound Pressure	(4)	dB(A)	55	55	58	58	59	59	60
Sound power level in cooling	(5)(6)	dB(A)	87	87	90	90	91	91	92
SIZE AND WEIGHT									
A	(7)	mm	2200	2200	2602	2602	2602	3602	3602
B	(7)	mm	920	920	1104	1104	1104	1104	1104
H	(7)	mm	1780	1780	2175	2175	2175	2175	2175
Operating weight	(7)	kg	670	710	870	880	1060	1310	1340

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NECS-FC-Y

Air cooled chiller with free-cooling

0152 - 1604 41,50-477,1 kW

NECS-FC-Y /B			0452	0512	0552	0612	0604	0704	0804
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	131,1	149,0	166,4	186,8	177,3	206,8	234,3
Total power input	(1)	kW	41,00	43,60	51,20	59,50	56,10	62,20	73,50
EER	(1)	kW/kW	3,198	3,417	3,250	3,139	3,160	3,325	3,188
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	130,0	147,7	164,9	185,1	175,5	204,4	231,5
EER	(1)(2)	kW/kW	3,090	3,290	3,130	3,020	3,030	3,170	3,030
TOTAL FREE-COOLING (GROSS VALUE)									
Cooling capacity	(3)	kW	131,1	149,0	166,4	186,8	177,3	206,8	234,3
EER	(3)	kW/kW	20,81	23,65	26,41	22,24	21,11	24,62	18,60
Total free-cooling temperature	(3)	°C	-0,4	0,2	-1,1	-1,1	1,6	-0,1	0,3
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(8)	kW	115,9	131,9	147,0	165,1	156,9	182,7	206,6
SEPR	(8)(10)		5,05	5,38	5,39	5,08	5,27	5,48	4,97
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(9)	kW	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	6,946	7,895	8,816	9,896	9,392	10,96	12,41
Pressure drop	(1)	kPa	89,7	94,9	100	102	114	136	149
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	4	4	4
No. Circuits		N°	1	1	1	1	2	2	2
Refrigerant charge		kg	25,0	33,5	34,2	37,0	29,6	39,6	41,0
NOISE LEVEL									
Sound Pressure	(4)	dB(A)	60	61	61	62	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	93	93	94	93	93	94
SIZE AND WEIGHT									
A	(7)	mm	3602	4602	4602	4602	4110	4110	4110
B	(7)	mm	1104	1104	1104	1104	2220	2220	2220
H	(7)	mm	2175	2175	2205	2205	2150	2150	2150
Operating weight	(7)	kg	1410	1650	1680	1740	2200	2330	2510

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NECS-FC-Y /B			0904	1004	1104	1204	1404	1604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	267,7	293,1	336,1	377,0	430,1	477,1
Total power input	(1)	kW	79,60	89,20	101,0	117,5	129,5	148,3
EER	(1)	kW/kW	3,363	3,286	3,328	3,209	3,321	3,217
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	264,9	290,0	332,3	372,5	426,3	472,8
EER	(1)(2)	kW/kW	3,220	3,140	3,170	3,050	3,200	3,100
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	267,7	293,1	336,1	377,0	430,1	477,1
EER	(3)	kW/kW	21,25	23,26	26,67	22,44	25,60	22,72
Total free-cooling temperature	(3)	°C	1,4	0,6	0,5	0,4	0,7	0,5
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	236,7	259,2	296,9	332,9	381,5	424,0
SEPR	(8)(10)		5,45	5,47	5,72	5,34	5,68	5,17
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	14,18	15,53	17,81	19,97	22,79	25,28
Pressure drop	(1)	kPa	128	130	146	158	114	119
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	47,0	49,0	59,4	59,5	76,0	80,4
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	62	62	63	64	63	64
Sound power level in cooling	(5)(6)	dB(A)	94	94	95	96	96	97
SIZE AND WEIGHT								
A	(7)	mm	5110	5110	5110	5110	6110	6110
B	(7)	mm	2220	2220	2220	2220	2220	2220
H	(7)	mm	2150	2150	2480	2480	2480	2480
Operating weight	(7)	kg	2880	2940	3260	3400	3810	3970

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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10 Seasonal energy efficiency ratio

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NECS-FC-Y

Air cooled chiller with free-cooling

0152 - 1604 41,50-477,1 kW

NECS-FC-Y /SL			0152	0182	0202	0252	0302	0352	0412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	41,50	49,82	56,91	63,84	84,22	97,87	111,7
Total power input	(1)	kW	14,22	16,10	19,00	21,72	27,82	32,18	35,48
EER	(1)	kW/kW	2,923	3,093	2,995	2,940	3,029	3,040	3,146
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	41,10	49,30	56,40	63,20	83,30	97,20	110,9
EER	(1)(2)	kW/kW	2,810	2,980	2,890	2,840	2,910	2,950	3,050
TOTAL FREE-COOLING (GROSS VALUE)									
Cooling capacity	(3)	kW	41,50	49,82	56,91	63,84	84,22	97,87	111,7
EER	(3)	kW/kW	66,94	33,20	37,93	37,09	48,95	37,95	43,29
Total free-cooling temperature	(3)	°C	-1,2	-1,5	-1,1	-1,3	-1,3	-1,2	-0,7
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(8)	kW	36,10	44,00	49,50	55,90	73,80	86,10	98,30
SEPR	(8)(10)		6,03	5,62	5,68	5,45	5,64	5,55	5,82
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(9)	kW	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,199	2,639	3,015	3,382	4,462	5,185	5,920
Pressure drop	(1)	kPa	69,8	68,1	68,0	68,3	97,7	65,5	65,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	9,40	10,6	14,1	15,0	20,7	23,4	33,0
NOISE LEVEL									
Sound Pressure	(4)	dB(A)	45	46	46	47	48	49	49
Sound power level in cooling	(5)(6)	dB(A)	77	78	78	79	80	81	81
SIZE AND WEIGHT									
A	(7)	mm	2200	2602	2602	2602	3602	3602	4602
B	(7)	mm	920	1104	1104	1104	1104	1104	1104
H	(7)	mm	1780	2175	2175	2175	2175	2175	2205
Operating weight	(7)	kg	680	860	920	940	1240	1350	1590

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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NECS-FC-Y /SL			0452	0512	0552	0612	0604	0704	0804
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	122,3	137,4	155,6	179,1	166,2	192,7	215,6
Total power input	(1)	kW	41,08	45,54	53,04	58,90	56,94	65,86	74,86
EER	(1)	kW/kW	2,976	3,020	2,936	3,041	2,921	2,924	2,879
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	121,3	136,3	154,3	177,6	164,7	190,7	213,3
EER	(1)(2)	kW/kW	2,890	2,930	2,840	2,940	2,820	2,810	2,760
TOTAL FREE-COOLING (GROSS VALUE)									
Cooling capacity	(3)	kW	122,3	137,4	155,6	179,1	166,2	192,7	215,6
EER	(3)	kW/kW	47,40	39,94	45,23	40,70	48,31	37,34	41,78
Total free-cooling temperature	(3)	°C	-1,5	-1,6	-1,7	-2,8	-1,6	-1,7	-3,3
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(8)	kW	107,5	121,0	136,9	157,7	145,5	168,9	188,7
SEPR	(8)(10)		5,69	5,55	5,61	5,55	5,88	5,67	5,59
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(9)	kW	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	6,482	7,280	8,245	9,487	8,806	10,21	11,42
Pressure drop	(1)	kPa	78,1	80,7	87,9	94,1	99,9	118	126
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	4	4	4
No. Circuits		N°	1	1	1	1	2	2	2
Refrigerant charge		kg	34,0	35,0	35,1	50,0	39,0	40,0	50,4
NOISE LEVEL									
Sound Pressure	(4)	dB(A)	50	51	52	53	50	51	51
Sound power level in cooling	(5)(6)	dB(A)	82	83	84	85	82	83	83
SIZE AND WEIGHT									
A	(7)	mm	4602	4602	4602	4602	4110	4110	4110
B	(7)	mm	1104	1104	1277	1277	2220	2220	2220
H	(7)	mm	2175	2205	2350	2350	2150	2150	2150
Operating weight	(7)	kg	1610	1690	1920	2000	2280	2410	2580

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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NECS-FC-Y

Air cooled chiller with free-cooling

0152 - 1604 41,50-477,1 kW

NECS-FC-Y /SL			0904	1004	1104	1204	1404	1604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	242,8	273,9	313,0	351,0	402,0	445,3
Total power input	(1)	kW	83,16	89,86	103,5	119,0	132,1	150,4
EER	(1)	kW/kW	2,918	3,047	3,024	2,950	3,043	2,961
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	240,6	271,3	309,8	347,3	398,4	441,2
EER	(1)(2)	kW/kW	2,820	2,930	2,900	2,830	2,940	2,860
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	242,8	273,9	313,0	351,0	402,0	445,3
EER	(3)	kW/kW	47,05	53,08	60,66	51,02	58,43	51,78
Total free-cooling temperature	(3)	°C	-1,6	-2,8	-3,0	-2,9	-2,8	-2,9
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	213,3	241,2	275,5	308,8	355,1	393,8
SEPR	(8)(10)		5,91	5,96	6,09	5,82	6,10	5,63
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,86	14,51	16,59	18,60	21,30	23,59
Pressure drop	(1)	kPa	105	113	127	137	113	119
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	50,5	60,9	70,5	77,0	97,8	98,9
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	52	52	53	54	53	54
Sound power level in cooling	(5)(6)	dB(A)	84	84	85	86	86	87
SIZE AND WEIGHT								
A	(7)	mm	5110	5110	5110	5110	6110	6110
B	(7)	mm	2220	2220	2220	2220	2220	2220
H	(7)	mm	2150	2150	2480	2480	2480	2480
Operating weight	(7)	kg	2880	3040	3380	3520	3960	4120

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
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NECS-FC-Y /NG /B			0152	0182	0302	0352	0412	0452	0512	0552	0612
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	44,82	52,43	90,88	107,0	118,0	134,7	153,0	170,9	191,8
Total power input	(1)	kW	14,10	15,50	28,30	30,90	35,80	41,10	43,80	51,50	59,80
EER	(1)	kW/kW	3,177	3,381	3,212	3,463	3,296	3,277	3,493	3,318	3,207
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	44,30	51,80	90,00	106,1	117,1	133,6	151,8	169,5	190,4
EER	(1)(2)	kW/kW	3,020	3,220	3,080	3,330	3,190	3,160	3,370	3,210	3,110
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	44,82	52,43	90,88	107,0	118,0	134,7	153,0	170,9	191,8
EER	(3)	kW/kW	17,23	20,15	17,15	18,77	20,70	17,27	18,00	21,91	18,09
Total free-cooling temperature	(3)	°C	-1,2	-1,5	-3,3	-2,1	-3,2	-2,9	-2,3	-3,6	-3,6
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	38,00	45,10	78,10	92,00	101,2	115,7	131,7	146,8	165,0
SEPR	(8)(10)		4,83	5,28	4,58	4,97	5,00	4,73	4,97	5,07	4,78
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,145	2,509	4,349	5,123	5,648	6,444	7,324	8,178	9,180
Pressure drop	(1)	kPa	102	94,5	108	91,5	83,9	96,9	95,9	94,5	86,3
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1	1
Refrigerant charge		kg	7,70	9,70	15,6	22,9	24,5	25,0	33,5	34,2	37,0
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	55	55	59	59	60	60	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	87	87	91	91	92	92	93	93	94
SIZE AND WEIGHT											
A	(7)	mm	2200	2200	2602	3602	3602	3602	4602	4602	4602
B	(7)	mm	920	920	1104	1104	1104	1104	1104	1104	1104
H	(7)	mm	1780	1780	2175	2175	2175	2175	2175	2205	2205
Operating weight	(7)	kg	710	760	1130	1410	1450	1530	1780	1810	1890

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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10 Seasonal energy efficiency ratio

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NECS-FC-Y

Air cooled chiller with free-cooling

0152 - 1604 41,50-477,1 kW

NECS-FC-Y /NG /B			0604	0704	0804	0904	1004	1104	1204	1404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	182,1	212,4	240,6	274,9	301,0	345,2	387,1	441,7
Total power input	(1)	kW	56,40	62,50	73,80	79,90	89,60	101,5	118,1	130,1
EER	(1)	kW/kW	3,229	3,398	3,260	3,441	3,359	3,401	3,278	3,395
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	180,5	210,3	238,2	272,3	298,2	341,9	383,4	437,7
EER	(1)(2)	kW/kW	3,110	3,260	3,130	3,300	3,230	3,260	3,150	3,260
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	182,1	212,4	240,6	274,9	301,0	345,2	387,1	441,7
EER	(3)	kW/kW	17,18	20,04	15,42	17,62	19,29	19,07	17,36	19,81
Total free-cooling temperature	(3)	°C	-1,0	-2,6	-2,2	-1,2	-2,0	-2,0	-2,2	-1,9
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	156,7	182,5	206,4	236,3	258,8	296,6	332,5	380,6
SEPR	(8)(10)		4,87	5,13	4,66	5,04	5,09	5,21	4,92	5,19
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	8,712	10,16	11,51	13,16	14,41	16,52	18,53	21,14
Pressure drop	(1)	kPa	112	125	131	125	124	131	137	131
REFRIGERANT CIRCUIT										
Compressors nr.		N°	4	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	29,6	39,6	41,0	47,0	49,0	59,4	59,5	76,0
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	61	61	62	62	62	63	64	63
Sound power level in cooling	(5)(6)	dB(A)	93	93	94	94	94	95	96	96
SIZE AND WEIGHT										
A	(7)	mm	4110	4110	4110	5110	5110	5110	5110	6110
B	(7)	mm	2220	2220	2220	2220	2220	2220	2220	2220
H	(7)	mm	2150	2150	2150	2150	2150	2480	2480	2480
Operating weight	(7)	kg	2510	2650	2840	3250	3320	3700	3850	4290

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NECS-FC-Y /NG /SL			0152	0182	0202	0252	0302	0352	0412
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	42,62	51,16	58,44	65,56	86,49	100,5	114,8
Total power input	(1)	kW	14,32	16,10	19,10	21,82	28,02	32,28	35,68
EER	(1)	kW/kW	2,979	3,180	3,058	3,009	3,089	3,111	3,216
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	42,10	50,70	57,80	65,00	85,70	99,70	113,9
EER	(1)(2)	kW/kW	2,850	3,040	2,940	2,900	2,970	3,010	3,120
TOTAL FREE-COOLING (GROSS VALUE)									
Cooling capacity	(3)	kW	42,62	51,16	58,44	65,56	86,49	100,5	114,8
EER	(3)	kW/kW	24,77	19,69	22,46	23,26	30,67	24,63	28,14
Total free-cooling temperature	(3)	°C	-3,7	-3,9	-3,6	-3,8	-3,8	-3,7	-3,2
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(8)	kW	35,90	43,90	49,40	55,80	73,70	85,90	98,10
SEPR	(8)(10)		5,19	5,00	5,12	4,97	5,24	5,09	5,36
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(9)	kW	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	2,039	2,448	2,797	3,137	4,139	4,810	5,491
Pressure drop	(1)	kPa	91,8	90,0	82,0	80,8	97,9	80,6	79,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	9,40	10,6	14,1	15,0	20,7	23,4	33,0
NOISE LEVEL									
Sound Pressure	(4)	dB(A)	46	47	47	48	49	50	50
Sound power level in cooling	(5)(6)	dB(A)	78	79	79	80	81	82	82
SIZE AND WEIGHT									
A	(7)	mm	2200	2602	2602	2602	3602	3602	4602
B	(7)	mm	920	1104	1104	1104	1104	1104	1104
H	(7)	mm	1780	2175	2175	2175	2175	2175	2205
Operating weight	(7)	kg	730	910	970	990	1300	1450	1690

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NECS-FC-Y

Air cooled chiller with free-cooling

0152 - 1604 41,50-477,1 kW

NECS-FC-Y /NG /SL			0452	0512	0552	0612	0604	0704	0804
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	125,7	141,1	159,8	183,9	170,7	197,9	221,4
Total power input	(1)	kW	41,28	45,84	53,24	59,20	57,14	66,16	75,26
EER	(1)	kW/kW	3,044	3,081	3,004	3,106	2,989	2,989	2,940
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	124,7	140,1	158,7	182,7	169,3	196,2	219,5
EER	(1)(2)	kW/kW	2,950	2,990	2,920	3,020	2,890	2,890	2,840
TOTAL FREE-COOLING (GROSS VALUE)									
Cooling capacity	(3)	kW	125,7	141,1	159,8	183,9	170,7	197,9	221,4
EER	(3)	kW/kW	30,81	28,56	32,35	27,86	30,27	26,89	27,13
Total free-cooling temperature	(3)	°C	-4,0	-4,1	-4,2	-5,3	-4,1	-4,2	-5,7
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(8)	kW	107,3	120,8	136,8	157,6	145,3	168,7	188,5
SEPR	(8)(10)		5,28	5,21	5,30	5,22	5,42	5,30	5,23
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(9)	kW	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	6,013	6,753	7,648	8,800	8,169	9,469	10,60
Pressure drop	(1)	kPa	84,3	81,6	82,6	79,3	98,7	109	111
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	4	4	4
No. Circuits		N°	1	1	1	1	2	2	2
Refrigerant charge		kg	34,0	35,0	35,1	50,0	39,0	40,0	50,4
NOISE LEVEL									
Sound Pressure	(4)	dB(A)	51	52	53	54	50	51	51
Sound power level in cooling	(5)(6)	dB(A)	83	84	85	86	82	83	83
SIZE AND WEIGHT									
A	(7)	mm	4602	4602	4602	4602	4110	4110	4110
B	(7)	mm	1104	1104	1277	1277	2220	2220	2220
H	(7)	mm	2175	2205	2350	2350	2150	2150	2150
Operating weight	(7)	kg	1730	1810	2060	2150	2590	2730	2910

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NECS-FC-Y /NG /SL			0904	1004	1104	1204	1404	1604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	249,3	281,3	321,5	360,5	412,9	457,4
Total power input	(1)	kW	83,56	90,26	104,1	119,6	132,8	151,2
EER	(1)	kW/kW	2,982	3,115	3,088	3,014	3,109	3,025
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	247,3	279,0	318,8	357,4	409,5	453,7
EER	(1)(2)	kW/kW	2,890	3,010	2,980	2,910	3,010	2,930
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	249,3	281,3	321,5	360,5	412,9	457,4
EER	(3)	kW/kW	30,55	34,47	30,05	29,07	33,30	28,41
Total free-cooling temperature	(3)	°C	-4,1	-5,3	-5,4	-5,3	-5,3	-5,3
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	213,0	240,9	275,2	308,5	354,5	393,2
SEPR	(8)(10)		5,47	5,57	5,56	5,38	5,61	5,16
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	11,93	13,46	15,39	17,25	19,76	21,89
Pressure drop	(1)	kPa	103	108	114	118	114	117
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	50,5	60,9	70,5	77,0	97,8	98,9
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	52	52	53	54	53	54
Sound power level in cooling	(5)(6)	dB(A)	84	84	85	86	86	87
SIZE AND WEIGHT								
A	(7)	mm	5110	5110	5110	5110	6110	6110
B	(7)	mm	2220	2220	2220	2220	2220	2220
H	(7)	mm	2150	2150	2480	2480	2480	2480
Operating weight	(7)	kg	3250	3420	3820	3970	4440	4630

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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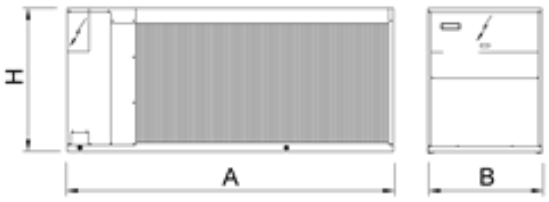
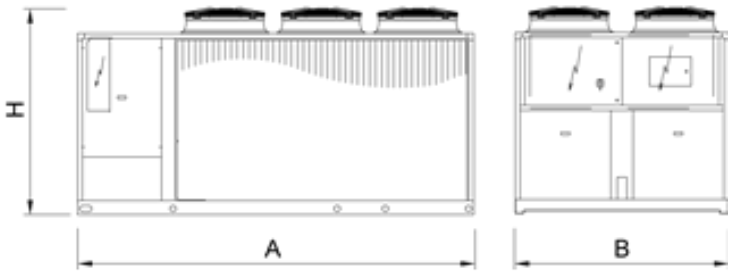
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing





CHILLERS

FX-FC-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

Outdoor unit for the production of chilled water, equipped with semi-hermetic screw compressors, R134a refrigerant, axial-fans, condensing coil with copper tubes and aluminum fins, shell and tube evaporator single pass and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with anti-freeze oil and refrigerant and has been factory tested. On-site installation therefore just involves making connections to the mains power and water supplies.
In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero; this occurs already at positive outdoor temperature (T+ versions and SL-T+).
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Refrigerant

R134a

Versions

T+	Version with positive free-cooling temperature 100%
SL-T+	Super low noise version with positive free-cooling temperature 100%

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

POSITIVE TEMPERATURE OF TOTAL FREE-COOLING
Big heat exchangers surfaces: 100% free-cooling cooling load satisfied at positive environment temperature

WIDE RANGE
Extended capacity range.

UNIQUE PROPOSAL - PATENT PENDING
Booster function to increase chiller efficiency

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Accessories

- EC fans with electronic DC brushless motor
- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)
- Noise reducer (only on not silenced versions)

FX-FC-Y /T+			1502	1702	1902	2002	2202	2602	2702	3002	3202
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	335,5	372,5	432,5	480,9	530,3	619,0	665,3	695,1	753,2
Total power input	(1)	kW	88,90	102,6	114,6	133,0	140,7	172,3	184,6	199,1	210,8
EER	(1)	kW/kW	3,774	3,631	3,774	3,616	3,769	3,593	3,604	3,491	3,573
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	333,5	369,9	429,7	477,6	527,6	615,3	661,9	691,3	749,5
EER	(1)(2)	kW/kW	3,670	3,520	3,660	3,500	3,680	3,500	3,520	3,410	3,490
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	335,5	372,5	432,5	480,9	530,3	619,0	665,3	695,1	753,2
EER	(3)	kW/kW	27,96	23,28	27,03	24,05	26,51	25,79	27,72	28,96	26,90
Total free-cooling temperature	(3)	°C	1,2	1,4	1,4	1,4	1,5	1,8	1,8	1,4	1,8
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	292,7	327,5	379,3	422,1	465,9	542,3	584,2	610,4	661,7
SEPR	(8)(10)		5,95	5,68	6,15	5,84	6,12	5,99	5,98	5,93	6,00
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	17,77	19,73	22,92	25,48	28,10	32,80	35,24	36,82	39,90
Pressure drop	(1)	kPa	68,7	84,7	78,3	86,3	63,2	77,5	65,2	71,1	62,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	82,0	98,0	120	122	144	156	160	164	180
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4880	4990	5520	5700	7000	7410	8270	8310	8750

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-FC-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-Y /T+			3402	3602	3902	4202	4502	4802	5402	6002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	826,3	881,4	944,2	1013	1093	1189	1325	1412
Total power input	(1)	kW	223,7	245,3	265,6	277,4	306,0	318,1	371,3	415,9
EER	(1)	kW/kW	3,694	3,593	3,555	3,652	3,572	3,738	3,569	3,395
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	821,6	876,4	937,8	1006	1086	1181	1317	1402
EER	(1)(2)	kW/kW	3,600	3,500	3,450	3,540	3,480	3,620	3,470	3,290
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	826,3	881,4	944,2	1013	1093	1189	1325	1412
EER	(3)	kW/kW	25,82	27,54	29,51	31,66	27,33	24,77	27,60	29,42
Total free-cooling temperature	(3)	°C	1,2	1,6	1,1	1,1	1,3	1,2	1,3	1,3
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	726,1	772,8	826,3	886,6	960,6	1049	1168	1240
SEPR	(8)(10)		6,00	5,91	5,75	5,80	5,75	5,92	5,89	5,69
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	43,78	46,70	50,03	53,65	57,91	62,98	70,20	74,78
Pressure drop	(1)	kPa	75,1	77,0	95,0	98,1	83,3	98,5	89,7	102
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	206	230	232	250	272	298	310	353
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	9600	10470	10570	12680	13180	13710	14930	15810

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-FC-Y /SL-T+			1502	1702	1902	2002	2202	2602	2702	3002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	331,7	372,1	426,4	476,0	521,6	625,0	656,2	712,0
Total power input	(1)	kW	89,80	98,81	115,7	130,1	142,4	166,7	186,1	192,6
EER	(1)	kW/kW	3,694	3,766	3,685	3,659	3,663	3,749	3,526	3,697
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	329,8	369,5	423,7	472,8	519,0	621,2	652,9	707,9
EER	(1)(2)	kW/kW	3,590	3,640	3,580	3,550	3,580	3,640	3,450	3,600
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	331,7	372,1	426,4	476,0	521,6	625,0	656,2	712,0
EER	(3)	kW/kW	34,55	38,76	35,53	39,67	36,22	37,20	39,06	37,08
Total free-cooling temperature	(3)	°C	0,6	0,7	0,6	0,6	0,7	0,5	0,9	0,7
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	288,9	326,7	373,1	416,9	457,5	547,2	575,5	625,2
SEPR	(8)(10)		6,02	5,88	6,26	6,30	6,24	6,26	6,18	6,24
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	17,57	19,71	22,59	25,22	27,64	33,11	34,77	37,72
Pressure drop	(1)	kPa	67,2	84,5	76,1	84,6	61,2	79,0	63,4	74,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	96,0	104	114	130	138	156	170	179
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5380	5950	6040	6600	7500	8250	9070	9550

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-FC-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-Y /SL-T+			3202	3402	3602	3902	4202	4502	4802	5402
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	745,0	787,2	878,0	938,3	983,7	1097	1139	1288
Total power input	(1)	kW	210,5	232,2	244,6	266,3	284,6	300,6	327,5	377,5
EER	(1)	kW/kW	3,539	3,390	3,590	3,523	3,456	3,649	3,478	3,412
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	741,4	783,1	873,4	932,4	977,2	1090	1132	1280
EER	(1)(2)	kW/kW	3,460	3,310	3,500	3,430	3,360	3,550	3,380	3,320
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	745,0	787,2	878,0	938,3	983,7	1097	1139	1288
EER	(3)	kW/kW	38,80	41,00	36,58	39,10	40,99	38,09	39,55	44,72
Total free-cooling temperature	(3)	°C	0,9	0,6	0,9	0,5	0,1	0,8	0,5	0,0
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	653,7	689,7	769,0	820,1	859,3	962,7	1003	1133
SEPR	(8)(10)		6,28	6,07	6,13	5,97	5,80	6,16	6,07	6,08
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	39,47	41,70	46,51	49,71	52,12	58,09	60,32	68,25
Pressure drop	(1)	kPa	61,0	68,2	69,8	86,2	92,6	83,8	90,4	84,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	186	208	218	232	243	273	284	321
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10040	10590	13020	13060	13560	14970	15060	16360

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-FC-Y /NG /T+			1502	1702	1902	2002	2202	2602	2702	3002	3202
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	344,5	382,6	444,2	493,9	544,6	635,8	683,2	713,8	773,5
Total power input	(1)	kW	89,50	103,0	115,1	133,6	141,6	173,2	185,5	200,2	211,8
EER	(1)	kW/kW	3,849	3,715	3,859	3,697	3,846	3,671	3,683	3,565	3,652
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	341,9	379,2	440,6	489,8	540,2	630,8	678,3	708,3	767,3
EER	(1)(2)	kW/kW	3,710	3,570	3,710	3,560	3,700	3,540	3,560	3,440	3,520
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	344,5	382,6	444,2	493,9	544,6	635,8	683,2	713,8	773,5
EER	(3)	kW/kW	22,97	16,28	20,66	17,96	19,80	18,17	19,52	20,39	17,99
Total free-cooling temperature	(3)	°C	-1,4	-1,2	-1,3	-1,2	-1,2	-0,8	-0,9	-1,2	-0,9
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	292,0	326,5	378,2	420,9	464,3	540,8	582,5	608,5	659,4
SEPR	(8)(10)		5,56	5,10	5,64	5,33	5,54	5,38	5,39	5,37	5,33
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,49	18,31	21,26	23,64	26,06	30,42	32,69	34,16	37,02
Pressure drop	(1)	kPa	100	123	113	121	117	118	107	116	123
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	93,0	101	117	130	140	167	180	188	204
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5270	5470	6020	6250	7520	8000	9020	9060	9420

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-FC-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-Y /NG /T+			3402	3602	3902	4202	4502	4802	5402	6002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	848,6	905,2	969,8	1040	1123	1221	1361	1450
Total power input	(1)	kW	224,7	246,5	267,0	278,7	307,5	319,3	373,1	418,2
EER	(1)	kW/kW	3,777	3,672	3,632	3,732	3,652	3,824	3,648	3,467
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	842,7	898,5	961,5	1030	1114	1210	1348	1434
EER	(1)(2)	kW/kW	3,650	3,550	3,490	3,570	3,520	3,660	3,490	3,310
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	848,6	905,2	969,8	1040	1123	1221	1361	1450
EER	(3)	kW/kW	18,06	19,26	20,63	20,59	18,11	18,36	19,44	20,71
Total free-cooling temperature	(3)	°C	-1,4	-1,0	-1,6	-1,6	-1,3	-1,4	-1,3	-1,3
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	724,3	770,8	823,8	883,3	957,6	1045	1163	1235
SEPR	(8)(10)		5,42	5,37	5,26	5,21	5,17	5,35	5,27	5,15
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	40,61	43,32	46,41	49,77	53,72	58,42	65,12	69,37
Pressure drop	(1)	kPa	107	114	137	157	131	155	165	187
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	224	238	254	273	296	324	360	382
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10300	11280	11370	13070	13570	14490	15760	16680

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-FC-Y /NG /SL-T+			1502	1702	1902	2002	2202	2602	2702	3002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	340,6	382,2	437,9	488,9	535,7	641,9	673,9	731,3
Total power input	(1)	kW	90,20	99,21	116,2	130,7	143,1	167,9	186,6	193,5
EER	(1)	kW/kW	3,776	3,853	3,769	3,741	3,744	3,823	3,611	3,779
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	338,1	378,8	434,5	484,9	531,5	636,8	669,2	725,4
EER	(1)(2)	kW/kW	3,650	3,690	3,630	3,600	3,610	3,680	3,500	3,640
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	340,6	382,2	437,9	488,9	535,7	641,9	673,9	731,3
EER	(3)	kW/kW	27,03	28,10	25,02	27,94	24,46	23,09	24,24	24,22
Total free-cooling temperature	(3)	°C	-2,0	-1,9	-2,0	-2,1	-2,0	-2,1	-1,7	-2,1
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	288,1	325,7	372,1	415,7	456,0	545,6	573,9	623,2
SEPR	(8)(10)		5,62	5,43	5,75	5,79	5,65	5,64	5,56	5,64
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	16,30	18,29	20,96	23,40	25,64	30,72	32,25	34,99
Pressure drop	(1)	kPa	97,8	123	110	118	113	120	104	122
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	91,0	102	117	131	144	178	180	196
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5770	6360	6520	7160	8020	8890	9590	10070

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-FC-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-Y /NG /SL-T+			3202	3402	3602	3902	4202	4502	4802	5402
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	765,1	808,4	901,7	963,7	1010	1126	1169	1323
Total power input	(1)	kW	211,7	233,7	245,9	267,0	285,5	302,0	329,4	379,8
EER	(1)	kW/kW	3,614	3,459	3,667	3,609	3,538	3,728	3,549	3,483
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	759,1	803,2	895,1	955,5	1001	1117	1159	1311
EER	(1)(2)	kW/kW	3,490	3,360	3,540	3,470	3,400	3,590	3,410	3,340
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	765,1	808,4	901,7	963,7	1010	1126	1169	1323
EER	(3)	kW/kW	25,33	23,64	23,12	24,71	23,76	23,81	24,71	26,04
Total free-cooling temperature	(3)	°C	-1,7	-2,0	-1,7	-2,2	-2,5	-1,8	-2,1	-2,6
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	651,4	688,1	766,8	817,5	856,2	959,7	999,2	1129
SEPR	(8)(10)		5,66	5,47	5,54	5,43	5,21	5,52	5,46	5,44
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	36,61	38,69	43,15	46,11	48,35	53,89	55,96	63,31
Pressure drop	(1)	kPa	120	97,0	113	135	148	132	142	156
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	204	215	240	255	267	300	313	354
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10570	11290	13810	13850	13970	15590	15680	17220

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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10 Seasonal energy efficiency ratio

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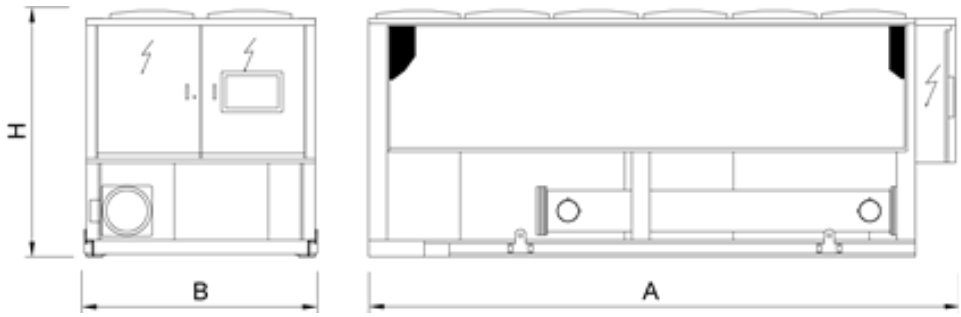
Dimensional drawing



R
HFC R-134a
COOLING
FREE COOLING
T
SHELL & TUBES
AXIAL
SCREW

CHILLERS

FX-FC-G05-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

Outdoor unit for the production of chilled water, equipped with semi-hermetic screw compressors, R513A refrigerant, axial-fans, condensing coil with copper tubes and aluminum fins, shell and tube evaporator single pass and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with anti-freeze oil and refrigerant and has been factory tested.
These chillers, fitted with free-cooling coils, are used when the cooling load is constant all-year-round or the outdoor air temperature is lower than the temperature of the liquid return line. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero; this occurs already at positive outdoor temperature (T+ versions and SL-T+).
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Refrigerant

R513A

Versions

T+	Version with positive free-cooling temperature 100%
SL-T+	Super low noise version with positive free-cooling temperature 100%

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

POSITIVE TEMPERATURE OF TOTAL FREE-COOLING
Big heat exchangers surfaces: 100% free-cooling cooling load satisfied at positive environment temperature

WIDE RANGE
Extended capacity range.

UNIQUE PROPOSAL - PATENT PENDING
Booster function to increase chiller efficiency

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Accessories

- EC fans with electronic DC brushless motor
- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)
- Noise reducer (only on not silenced versions)

FX-FC-G05-Y/T+			1502	1702	1902	2002	2202	2602	2702	3002	3202
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	335,5	372,5	432,5	480,9	530,3	619,0	665,3	695,1	753,2
Total power input	(1)	kW	92,40	106,4	119,0	138,1	146,1	178,9	191,7	206,9	218,9
EER	(1)	kW/kW	3,631	3,501	3,634	3,482	3,630	3,460	3,471	3,360	3,441
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	333,5	369,9	429,7	477,6	527,6	615,3	661,9	691,3	749,5
EER	(1)(2)	kW/kW	3,530	3,390	3,530	3,380	3,540	3,370	3,390	3,280	3,370
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	335,5	372,5	432,5	480,9	530,3	619,0	665,3	695,1	753,2
EER	(3)	kW/kW	27,96	23,28	27,03	24,05	26,51	25,79	27,72	28,96	26,90
Total free-cooling temperature	(3)	°C	1,2	1,4	1,4	1,4	1,5	1,8	1,8	1,4	1,8
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	292,7	327,5	379,3	422,1	465,9	542,3	584,2	610,4	661,7
SEPR	(8)(10)		5,79	5,52	5,97	5,69	5,96	5,83	5,81	5,76	5,83
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	17,77	19,73	22,92	25,48	28,10	32,80	35,24	36,82	39,90
Pressure drop	(1)	kPa	68,7	84,7	78,3	86,3	63,2	77,5	65,2	71,1	62,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	94,0	113	138	140	166	179	184	189	207
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4880	4990	5520	5700	7000	7410	8270	8310	8750

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

FX-FC-G05-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-G05-Y/T+			3402	3602	3902	4202	4502	4802	5402	6002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	826,3	881,4	944,2	1013	1093	1189	1325	1412
Total power input	(1)	kW	232,3	254,9	276,1	288,4	317,9	330,2	385,8	432,3
EER	(1)	kW/kW	3,557	3,458	3,420	3,512	3,438	3,601	3,434	3,266
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	821,6	876,4	937,8	1006	1086	1181	1317	1402
EER	(1)(2)	kW/kW	3,470	3,370	3,320	3,400	3,350	3,490	3,340	3,170
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	826,3	881,4	944,2	1013	1093	1189	1325	1412
EER	(3)	kW/kW	25,82	27,54	29,51	31,66	27,33	24,77	27,60	29,42
Total free-cooling temperature	(3)	°C	1,2	1,6	1,1	1,1	1,3	1,2	1,3	1,3
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	726,1	772,8	826,3	886,6	960,6	1049	1168	1240
SEPR	(8)(10)		5,84	5,75	5,59	5,64	5,59	5,75	5,72	5,53
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	43,78	46,70	50,03	53,65	57,91	62,98	70,20	74,78
Pressure drop	(1)	kPa	75,1	77,0	95,0	98,1	83,3	98,5	89,7	102
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	237	265	267	288	313	343	357	406
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	9600	10470	10570	12680	13180	13710	14930	15810

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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10 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

FX-FC-G05-Y/SL-T+			1502	1702	1902	2002	2202	2602	2702	3002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	331,7	372,1	426,4	476,0	521,6	625,0	656,2	712,0
Total power input	(1)	kW	93,40	102,8	120,4	135,4	148,2	173,5	193,7	200,5
EER	(1)	kW/kW	3,551	3,620	3,542	3,516	3,520	3,602	3,388	3,551
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	329,8	369,5	423,7	472,8	519,0	621,2	652,9	707,9
EER	(1)(2)	kW/kW	3,460	3,510	3,440	3,410	3,440	3,500	3,310	3,460
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	331,7	372,1	426,4	476,0	521,6	625,0	656,2	712,0
EER	(3)	kW/kW	34,55	38,76	35,53	39,67	36,22	37,20	39,06	37,08
Total free-cooling temperature	(3)	°C	0,6	0,7	0,6	0,6	0,7	0,5	0,9	0,7
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	288,9	326,7	373,1	416,9	457,5	547,2	575,5	625,2
SEPR	(8)(10)		5,85	5,71	6,08	6,12	6,07	6,08	6,00	6,07
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	17,57	19,71	22,59	25,22	27,64	33,11	34,77	37,72
Pressure drop	(1)	kPa	67,2	84,5	76,1	84,6	61,2	79,0	63,4	74,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	110	120	131	150	159	179	196	206
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5380	5950	6040	6600	7500	8250	9070	9550

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
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10 Seasonal energy efficiency ratio

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FX-FC-G05-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-G05-Y/SL-T+			3202	3402	3602	3902	4202	4502	4802	5402
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	745,0	787,2	878,0	938,3	983,7	1097	1139	1288
Total power input	(1)	kW	219,1	241,8	254,6	277,2	296,4	312,8	341,0	393,1
EER	(1)	kW/kW	3,400	3,256	3,449	3,385	3,319	3,507	3,340	3,277
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	741,4	783,1	873,4	932,4	977,2	1090	1132	1280
EER	(1)(2)	kW/kW	3,330	3,180	3,370	3,290	3,230	3,410	3,250	3,190
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	745,0	787,2	878,0	938,3	983,7	1097	1139	1288
EER	(3)	kW/kW	38,80	41,00	36,58	39,10	40,99	38,09	39,55	44,72
Total free-cooling temperature	(3)	°C	0,9	0,6	0,9	0,5	0,1	0,8	0,5	0,0
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	653,7	689,7	769,0	820,1	859,3	962,7	1003	1133
SEPR	(8)(10)		6,10	5,90	5,96	5,80	5,64	5,99	5,90	5,91
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	39,47	41,70	46,51	49,71	52,12	58,09	60,32	68,25
Pressure drop	(1)	kPa	61,0	68,2	69,8	86,2	92,6	83,8	90,4	84,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	214	239	251	267	279	314	327	369
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10040	10590	13020	13060	13560	14970	15060	16360

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

FX-FC-G05-Y/NG/T+			1502	1702	1902	2002	2202	2602	2702	3002	3202
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	344,5	382,6	444,2	493,9	544,6	635,8	683,2	713,8	773,5
Total power input	(1)	kW	93,00	106,9	119,5	138,7	147,1	179,8	192,7	208,1	220,0
EER	(1)	kW/kW	3,704	3,579	3,717	3,561	3,702	3,536	3,545	3,430	3,516
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	341,9	379,2	440,6	489,8	540,2	630,8	678,3	708,3	767,3
EER	(1)(2)	kW/kW	3,580	3,440	3,580	3,430	3,570	3,410	3,430	3,320	3,390
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	344,5	382,6	444,2	493,9	544,6	635,8	683,2	713,8	773,5
EER	(3)	kW/kW	22,97	16,28	20,66	17,96	19,80	18,17	19,52	20,39	17,99
Total free-cooling temperature	(3)	°C	-1,4	-1,2	-1,3	-1,2	-1,2	-0,8	-0,9	-1,2	-0,9
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	292,0	326,5	378,2	420,9	464,3	540,8	582,5	608,5	659,4
SEPR	(8)(10)		5,41	5,00	5,50	5,19	5,40	5,23	5,24	5,22	5,19
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,49	18,31	21,26	23,64	26,06	30,42	32,69	34,16	37,02
Pressure drop	(1)	kPa	100	123	113	121	117	118	107	116	123
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	107	116	135	150	161	192	207	216	235
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	67	68	68	68	69	70	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5270	5470	6020	6250	7520	8000	9020	9060	9420

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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FX-FC-G05-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-G05-Y/NG/T+			3402	3602	3902	4202	4502	4802	5402	6002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	848,6	905,2	969,8	1040	1123	1221	1361	1450
Total power input	(1)	kW	233,3	256,1	277,5	289,7	319,4	331,4	387,6	434,8
EER	(1)	kW/kW	3,637	3,535	3,495	3,590	3,516	3,684	3,511	3,335
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	842,7	898,5	961,5	1030	1114	1210	1348	1434
EER	(1)(2)	kW/kW	3,520	3,420	3,360	3,440	3,390	3,530	3,360	3,180
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	848,6	905,2	969,8	1040	1123	1221	1361	1450
EER	(3)	kW/kW	18,06	19,26	20,63	20,59	18,11	18,36	19,44	20,71
Total free-cooling temperature	(3)	°C	-1,4	-1,0	-1,6	-1,6	-1,3	-1,4	-1,3	-1,3
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	724,3	770,8	823,8	883,3	957,6	1045	1163	1235
SEPR	(8)(10)		5,27	5,23	5,12	5,07	5,03	5,21	5,13	5,00
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	40,61	43,32	46,41	49,77	53,72	58,42	65,12	69,37
Pressure drop	(1)	kPa	107	114	137	157	131	155	165	187
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	258	274	292	314	340	373	414	439
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10300	11280	11370	13070	13570	14490	15760	16680

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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6 Sound power level in cooling, outdoors.
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10 Seasonal energy efficiency ratio

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FX-FC-G05-Y/NG/SL-T+			1502	1702	1902	2002	2202	2602	2702	3002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	340,6	382,2	437,9	488,9	535,7	641,9	673,9	731,3
Total power input	(1)	kW	93,80	103,3	120,9	136,0	148,9	174,7	194,2	201,4
EER	(1)	kW/kW	3,631	3,700	3,622	3,595	3,598	3,674	3,470	3,631
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	338,1	378,8	434,5	484,9	531,5	636,8	669,2	725,4
EER	(1)(2)	kW/kW	3,510	3,550	3,490	3,460	3,470	3,540	3,360	3,500
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	340,6	382,2	437,9	488,9	535,7	641,9	673,9	731,3
EER	(3)	kW/kW	27,03	28,10	25,02	27,94	24,46	23,09	24,24	24,22
Total free-cooling temperature	(3)	°C	-2,0	-1,9	-2,0	-2,1	-2,0	-2,1	-1,7	-2,1
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	288,1	325,7	372,1	415,7	456,0	545,6	573,9	623,2
SEPR	(8)(10)		5,47	5,27	5,59	5,62	5,50	5,50	5,50	5,50
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	16,30	18,29	20,96	23,40	25,64	30,72	32,25	34,99
Pressure drop	(1)	kPa	97,8	123	110	118	113	120	104	122
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	105	117	135	151	166	205	207	225
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	57	57	57	58	59	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5770	6360	6520	7160	8020	8890	9590	10070

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
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4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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6 Sound power level in cooling, outdoors.
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10 Seasonal energy efficiency ratio

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FX-FC-G05-Y

Air cooled chiller with free-cooling

1502 - 6002 331,7-1450 kW

FX-FC-G05-Y/NG/SL-T+			3202	3402	3602	3902	4202	4502	4802	5402
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	765,1	808,4	901,7	963,7	1010	1126	1169	1323
Total power input	(1)	kW	220,4	243,4	256,0	278,0	297,3	314,3	343,0	395,6
EER	(1)	kW/kW	3,471	3,321	3,522	3,467	3,397	3,583	3,408	3,344
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	759,1	803,2	895,1	955,5	1001	1117	1159	1311
EER	(1)(2)	kW/kW	3,350	3,230	3,410	3,340	3,260	3,450	3,280	3,210
TOTAL FREE-COOLING (GROSS VALUE)										
Cooling capacity	(3)	kW	765,1	808,4	901,7	963,7	1010	1126	1169	1323
EER	(3)	kW/kW	25,33	23,64	23,12	24,71	23,76	23,81	24,71	26,04
Total free-cooling temperature	(3)	°C	-1,7	-2,0	-1,7	-2,2	-2,5	-1,8	-2,1	-2,6
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	651,4	688,1	766,8	817,5	856,2	959,7	999,2	1129
SEPR	(8)(10)		5,51	5,33	5,39	5,28	5,07	5,37	5,31	5,29
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	36,61	38,69	43,15	46,11	48,35	53,89	55,96	63,31
Pressure drop	(1)	kPa	120	97,0	113	135	148	132	142	156
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	235	247	276	293	307	345	360	407
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10570	11290	13810	13850	13970	15590	15680	17220

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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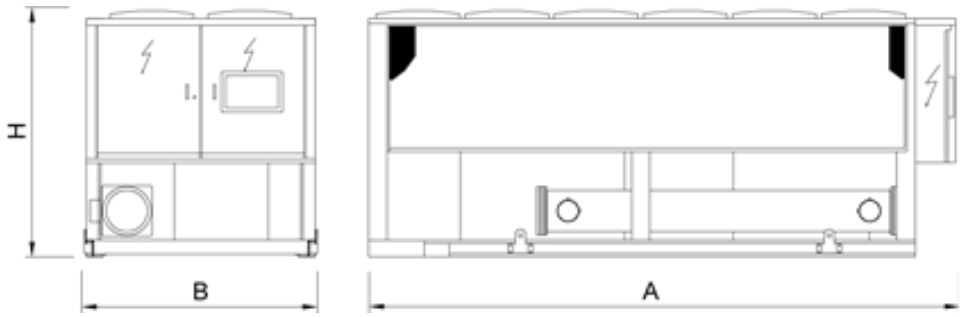
Dimensional drawing



CHILLERS

TECS-FC-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 302,2-1693 kW

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R134a refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel; the unit is supplied with refrigerant.
The rotor speed digital control allows an accurate and efficient thermoregulation in every operating condition.
In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

K	Key efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY
Top-level seasonal efficiency thanks to technlogical solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE
Extended capacity range.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC GROUP
It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy the different installation requirements.

Accessories

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)

TECS-FC-Y /K			0211	0351	0452	0552	0652	0712
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	302,2	482,7	594,2	689,0	943,4	980,2
Total power input	(1)	kW	87,10	140,9	178,6	181,0	285,2	275,2
EER	(1)	kW/kW	3,470	3,426	3,327	3,807	3,308	3,562
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	300,0	479,0	590,1	683,7	936,5	972,8
EER	(1)(2)	kW/kW	3,360	3,310	3,230	3,670	3,210	3,440
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	302,2	482,7	594,2	689,0	943,4	980,2
EER	(3)	kW/kW	59,25	50,28	49,52	67,55	56,15	51,05
Total free-cooling temperature	(3)	°C	-1,9	-2,5	-1,9	-1,4	-2,7	-1,4
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	260,8	414,1	507,2	607,7	800,0	850,9
SEPR	(8)(10)		6,66	6,54	6,39	6,64	6,43	6,58
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	16,01	25,57	31,48	36,50	49,98	51,93
Pressure drop	(1)	kPa	86,0	98,6	89,3	104	104	107
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3430	3850	5080	5820	6340	6900

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-FC-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 302,2-1693 kW

TECS-FC-Y /K			0903	0953	1003	1164	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1185	1253	1421	1578	1649
Total power input	(1)	kW	320,1	373,2	424,6	455,0	460,6
EER	(1)	kW/kW	3,702	3,357	3,347	3,468	3,580
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1177	1246	1411	1567	1637
EER	(1)(2)	kW/kW	3,590	3,280	3,250	3,360	3,460
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1185	1253	1421	1578	1649
EER	(3)	kW/kW	49,38	52,21	53,83	50,58	52,85
Total free-cooling temperature	(3)	°C	-1,2	-2,7	-2,5	-1,6	-1,8
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(8)	kW	1045	1069	1212	1361	1435
SEPR	(8)(10)		6,45	6,28	6,32	6,30	6,31
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(9)	kW	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	62,78	66,38	75,30	83,61	87,35
Pressure drop	(1)	kPa	91,8	80,2	103	106	115
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	9750	10260	10530	12290	12350

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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10 Seasonal energy efficiency ratio

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TECS-FC-Y /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	309,6	353,9	496,1	615,8	714,1	990,3	1068	1209	1446
Total power input	(1)	kW	85,40	89,80	134,3	173,2	177,2	268,3	266,8	308,4	412,3
EER	(1)	kW/kW	3,625	3,941	3,694	3,555	4,030	3,691	4,003	3,920	3,507
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	307,3	351,1	492,1	611,3	708,3	982,7	1062	1201	1436
EER	(1)(2)	kW/kW	3,500	3,790	3,560	3,440	3,870	3,560	3,900	3,800	3,400
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	309,6	353,9	496,1	615,8	714,1	990,3	1068	1209	1446
EER	(3)	kW/kW	60,71	52,04	58,36	60,37	52,51	58,25	52,35	54,71	65,43
Total free-cooling temperature	(3)	°C	-0,1	-0,2	-1,0	-0,5	0,4	-0,9	0,2	0,0	-1,6
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	270,8	319,4	434,1	534,6	650,2	866,7	971,8	1086	1244
SEPR	(8)(10)		6,97	6,90	7,13	6,80	6,88	6,94	6,88	6,88	6,65
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,40	18,75	26,28	32,63	37,83	52,47	56,60	64,05	76,60
Pressure drop	(1)	kPa	90,3	96,3	104	95,9	111	109	74,6	95,6	107
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3660	3790	4380	5720	6770	8870	10530	11370	11730

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
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10 Seasonal energy efficiency ratio

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TECS-FC-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 302,2-1693 kW

TECS-FC-Y /NG /K			0211	0351	0452	0552	0652	0712
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	310,4	495,7	610,2	707,6	968,9	1007
Total power input	(1)	kW	87,60	141,6	179,5	181,9	286,6	276,6
EER	(1)	kW/kW	3,543	3,501	3,399	3,890	3,381	3,641
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	308,1	491,3	605,5	701,3	960,7	998,8
EER	(1)(2)	kW/kW	3,430	3,370	3,290	3,730	3,260	3,510
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	310,4	495,7	610,2	707,6	968,9	1007
EER	(3)	kW/kW	38,32	32,83	31,29	39,98	30,47	29,44
Total free-cooling temperature	(3)	°C	-4,9	-5,5	-5,0	-4,5	-5,8	-4,5
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	260,3	413,0	506,1	605,9	798,0	849,0
SEPR	(8)(10)		6,20	6,06	5,87	6,14	5,84	6,02
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	14,85	23,72	29,20	33,86	46,37	48,17
Pressure drop	(1)	kPa	98,1	128	112	137	135	130
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4120	4620	6100	6990	7610	8280

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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TECS-FC-Y /NG /K			0903	0953	1003	1164	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1217	1287	1460	1621	1693
Total power input	(1)	kW	321,7	375,0	426,7	457,2	462,9
EER	(1)	kW/kW	3,783	3,432	3,422	3,545	3,657
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1208	1278	1448	1606	1677
EER	(1)(2)	kW/kW	3,660	3,330	3,300	3,410	3,500
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1217	1287	1460	1621	1693
EER	(3)	kW/kW	31,21	30,28	30,17	26,49	27,66
Total free-cooling temperature	(3)	°C	-4,3	-5,7	-5,6	-4,7	-4,9
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(8)	kW	1043	1067	1209	1357	1430
SEPR	(8)(10)		5,95	5,76	5,75	5,64	5,65
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(9)	kW	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	58,24	61,58	69,85	77,56	81,03
Pressure drop	(1)	kPa	113	110	140	154	169
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	11700	12320	12640	14750	14820

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
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TECS-FC-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 302,2-1693 kW

TECS-FC-Y /NG /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	318,0	363,5	509,5	632,4	733,4	1017	1097	1242	1485
Total power input	(1)	kW	85,90	90,30	134,9	174,1	178,1	269,7	268,1	310,0	414,4
EER	(1)	kW/kW	3,702	4,025	3,777	3,632	4,118	3,771	4,092	4,006	3,583
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	315,5	360,4	504,9	627,3	726,5	1009	1090	1233	1472
EER	(1)(2)	kW/kW	3,570	3,860	3,620	3,500	3,930	3,630	3,970	3,870	3,450
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	318,0	363,5	509,5	632,4	733,4	1017	1097	1242	1485
EER	(3)	kW/kW	39,26	29,55	36,39	40,28	29,81	31,78	30,99	30,59	33,67
Total free-cooling temperature	(3)	°C	-3,2	-3,2	-4,1	-3,6	-2,7	-4,0	-2,9	-3,1	-4,7
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	270,3	318,5	433,0	533,4	648,1	864,7	970,0	1084	1241
SEPR	(8)(10)		6,46	6,21	6,55	6,31	6,17	6,26	6,29	6,24	6,04
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,22	17,39	24,38	30,26	35,10	48,67	52,51	59,42	71,06
Pressure drop	(1)	kPa	103	120	131	120	147	133	92,2	117	145
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4400	4550	5260	6870	8130	10650	12640	13650	14080

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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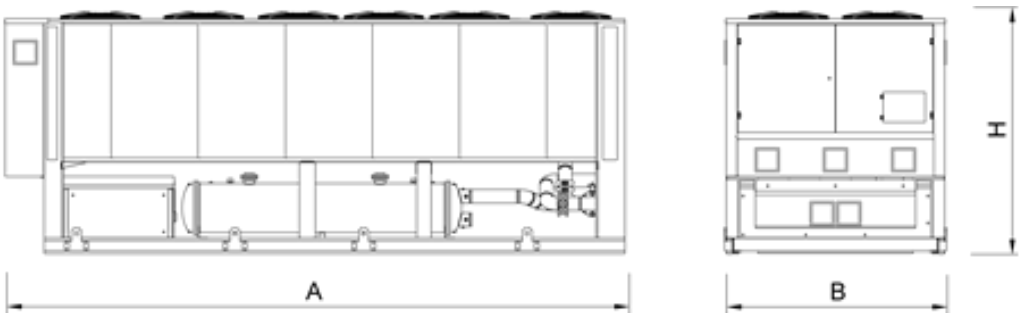
Dimensional drawing



CHILLERS

TECS-FC-G05-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 299,2-1671 kW

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R513A refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with refrigerant and has been factory tested.
In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Refrigerant

R513A

Versions

K	Key efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY
Top-level seasonal efficiency thanks to technlogical solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE
Extended capacity range.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC GROUP
It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy the different installation requirements.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Accessories

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)

TECS-FC-G05-Y/K			0211	0351	0452	0552	0652	0712
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	299,2	479,3	590,0	682,1	932,1	969,4
Total power input	(1)	kW	87,50	140,4	177,9	180,1	284,6	275,0
EER	(1)	kW/kW	3,419	3,414	3,316	3,787	3,275	3,525
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	297,1	475,7	586,0	677,0	925,4	962,2
EER	(1)(2)	kW/kW	3,310	3,300	3,220	3,650	3,180	3,410
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	299,2	479,3	590,0	682,1	932,1	969,4
EER	(3)	kW/kW	58,67	49,93	49,17	66,87	55,48	50,49
Total free-cooling temperature	(3)	°C	-1,8	-2,4	-1,8	-1,3	-2,5	-1,3
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	258,2	411,3	503,6	601,6	790,5	841,6
SEPR	(8)(10)		6,59	6,53	6,38	6,62	6,39	6,54
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	15,85	25,39	31,26	36,14	49,38	51,36
Pressure drop	(1)	kPa	84,3	97,2	88,0	102	101	105
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3430	3850	5080	5820	6340	6900

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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TECS-FC-G05-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 299,2-1671 kW

TECS-FC-G05-Y/K			0903	0953	1003	1164	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1173	1238	1409	1558	1627
Total power input	(1)	kW	319,5	372,8	425,0	456,2	459,3
EER	(1)	kW/kW	3,671	3,321	3,315	3,415	3,542
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1166	1231	1399	1547	1615
EER	(1)(2)	kW/kW	3,570	3,240	3,220	3,310	3,430
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1173	1238	1409	1558	1627
EER	(3)	kW/kW	48,88	51,58	53,37	49,94	52,15
Total free-cooling temperature	(3)	°C	-1,1	-2,5	-2,4	-1,5	-1,6
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(8)	kW	1035	1056	1201	1343	1416
SEPR	(8)(10)		6,41	6,23	6,27	6,23	6,27
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(9)	kW	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	62,16	65,59	74,62	82,52	86,21
Pressure drop	(1)	kPa	90,0	78,3	101	103	112
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	9750	10260	10530	12290	12350

Notes

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TECS-FC-G05-Y/CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	306,5	351,4	492,6	609,7	705,6	979,4	1058	1195	1433
Total power input	(1)	kW	85,80	89,50	133,8	172,4	176,9	268,1	266,3	308,1	412,7
EER	(1)	kW/kW	3,572	3,926	3,682	3,537	3,989	3,653	3,973	3,879	3,472
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	304,2	348,7	488,7	605,3	700,0	972,0	1052	1187	1423
EER	(1)(2)	kW/kW	3,450	3,780	3,550	3,420	3,840	3,530	3,870	3,760	3,370
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	306,5	351,4	492,6	609,7	705,6	979,4	1058	1195	1433
EER	(3)	kW/kW	60,10	51,68	57,95	59,77	51,88	57,61	51,86	54,07	64,84
Total free-cooling temperature	(3)	°C	0,0	-0,1	-0,9	-0,4	0,5	-0,8	0,3	0,1	-1,5
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	268,1	317,1	431,0	529,3	642,5	857,3	962,2	1073	1233
SEPR	(8)(10)		6,90	6,87	7,11	6,78	6,83	6,89	6,84	6,82	6,60
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,24	18,62	26,10	32,30	37,38	51,89	56,04	63,28	75,91
Pressure drop	(1)	kPa	88,5	94,9	103	94,0	109	107	73,1	93,3	105
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3660	3790	4380	5720	6770	8870	10530	11370	11730

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 30%.
2 Values in compliance with EN14511
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10 Seasonal energy efficiency ratio

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TECS-FC-G05-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 299,2-1671 kW

TECS-FC-G05-Y/NG/K			0211	0351	0452	0552	0652	0712
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	307,3	492,2	605,9	700,6	957,3	995,6
Total power input	(1)	kW	88,00	141,1	178,8	181,0	286,1	276,4
EER	(1)	kW/kW	3,492	3,488	3,389	3,871	3,346	3,602
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	305,0	487,9	601,3	694,5	949,4	987,6
EER	(1)(2)	kW/kW	3,380	3,360	3,280	3,710	3,230	3,470
TOTAL FREE-COOLING (GROSS VALUE)								
Cooling capacity	(3)	kW	307,3	492,2	605,9	700,6	957,3	995,6
EER	(3)	kW/kW	37,94	32,60	31,07	39,58	30,10	29,11
Total free-cooling temperature	(3)	°C	-4,8	-5,4	-4,9	-4,4	-5,6	-4,4
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	257,7	410,2	502,5	599,9	788,6	839,7
SEPR	(8)(10)		6,15	6,05	5,86	6,12	5,80	5,97
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	14,70	23,56	29,00	33,52	45,81	47,64
Pressure drop	(1)	kPa	96,2	126	111	135	132	127
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4120	4620	6100	6990	7610	8280

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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TECS-FC-G05-Y/NG/K			0903	0953	1003	1164	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1205	1271	1447	1600	1671
Total power input	(1)	kW	321,1	374,7	427,1	458,5	461,6
EER	(1)	kW/kW	3,753	3,392	3,388	3,490	3,620
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1197	1263	1435	1586	1655
EER	(1)(2)	kW/kW	3,630	3,290	3,270	3,360	3,470
TOTAL FREE-COOLING (GROSS VALUE)							
Cooling capacity	(3)	kW	1205	1271	1447	1600	1671
EER	(3)	kW/kW	30,90	29,91	29,90	26,14	27,30
Total free-cooling temperature	(3)	°C	-4,2	-5,5	-5,5	-4,5	-4,7
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(8)	kW	1033	1054	1198	1339	1412
SEPR	(8)(10)		5,91	5,71	5,71	5,58	5,61
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(9)	kW	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	57,66	60,84	69,22	76,55	79,97
Pressure drop	(1)	kPa	111	107	138	150	165
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	11700	12320	12640	14750	14820

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
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TECS-FC-G05-Y

High efficiency air cooled chiller with free-cooling

0211 - 1204 299,2-1671 kW

TECS-FC-G05-Y/NG/CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	314,8	360,9	505,9	626,1	724,6	1006	1086	1227	1472
Total power input	(1)	kW	86,30	89,90	134,4	173,3	177,8	269,4	267,6	309,7	414,8
EER	(1)	kW/kW	3,648	4,014	3,764	3,613	4,075	3,734	4,058	3,962	3,549
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	312,4	357,8	501,4	621,1	717,9	997,8	1080	1218	1460
EER	(1)(2)	kW/kW	3,520	3,850	3,610	3,480	3,890	3,590	3,940	3,830	3,420
TOTAL FREE-COOLING (GROSS VALUE)											
Cooling capacity	(3)	kW	314,8	360,9	505,9	626,1	724,6	1006	1086	1227	1472
EER	(3)	kW/kW	38,86	29,34	36,14	39,88	29,46	31,44	30,68	30,22	33,38
Total free-cooling temperature	(3)	°C	-3,1	-3,2	-4,0	-3,5	-2,6	-3,9	-2,8	-3,0	-4,6
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	267,6	316,3	429,9	528,1	640,5	855,4	960,4	1071	1230
SEPR	(8)(10)		6,39	6,20	6,53	6,29	6,13	6,21	6,25	6,18	5,99
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,06	17,27	24,21	29,96	34,68	48,13	51,98	58,71	70,42
Pressure drop	(1)	kPa	101	118	130	118	144	130	90,3	114	143
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4400	4550	5260	6870	8130	10650	12640	13650	14080

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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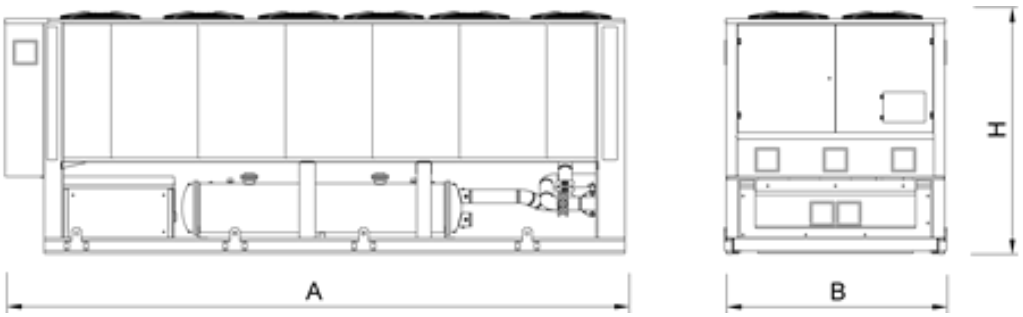
Dimensional drawing



CHILLERS

FX-EFC-Y

Air cooled chiller with evaporative free-cooling

1502 - 6002 329,5-1441 kW

Outdoor unit for the production of chilled water, equipped with semi-hermetic screw compressors, R134a refrigerant, axial-fans, condensing coil with copper tubes and aluminum fins, evaporative cooling system, shell and tube evaporator single pass and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with anti-freeze oil and refrigerant and has been factory tested.
These chillers, fitted with free-cooling coils and evaporative cooling system, are used when the cooling load is constant all-year-round.
In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero. The evaporative cooling system is made of treated cellulose pads and a water circulator that keeps the pads wet. It lowers the air temperature before it reaches unit's coils, thus increasing mechanical cooling efficiency and allowing free-cooling benefits to begin at higher outdoor temperatures.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Refrigerant

R134a

Versions

- Basic
- SL Super-low noise version

Configurations

- Basic function
- NG Function for free-cooling without use of glycole

Features

EXTENSION OF FREE-COOLING TEMPERATURE RANGE
Thanks to the evaporative cooling system that decreases the outdoor air temperature, the unit can take full advantage of the free-cooling benefit also in climatic conditions that normally don't permit it.

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

WIDE RANGE
Extended capacity range.

UNIQUE PROPOSAL - PATENT PENDING
Booster function to increase chiller efficiency

INTEGRATED HYDRONIC GROUP
The built-in hydronic group (optional) includes the main water circuit components. The 2 pumps are in twin configuration and available with 2 or 4-pole motor, fixed or variable speed, high or low head, to satisfy the different installation requirements.

Accessories

- EC fans with electronic DC brushless motor
- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)
- Noise reducer (only on not silenced versions)

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

FX-EFC-Y			1502	1702	1902	2002	2202	2602	2702	3002	3202
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
MECHANICAL COOLING (GROSS VALUE)											
Cooling capacity	(1)	kW	333,4	370,5	430,1	478,2	527,5	615,3	661,4	691,0	748,8
EER	(1)	kW/kW	4,263	4,085	4,284	4,108	4,282	4,166	4,147	4,046	4,112
EER (evaporative system OFF)	(1)	kW/kW	3,721	3,583	3,724	3,569	3,717	3,542	3,554	3,441	3,524
MECHANICAL COOLING (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	331,4	367,9	427,3	474,9	524,8	611,6	658,0	687,2	745,2
EER	(1)(2)	kW/kW	4,130	3,940	4,140	3,970	4,170	4,040	4,040	3,940	4,010
EER (evaporative system OFF)	(1)(2)	kW/kW	3,620	3,472	3,615	3,461	3,629	3,448	3,473	3,359	3,448
TOTAL FREE-COOLING (GROSS VALUE)											
Total free-cooling temperature	(3)	°C	0,8	1,0	0,9	1,0	1,0	1,4	1,3	1,0	1,3
Cooling capacity	(3)	kW	333,4	370,5	430,1	478,2	527,5	615,3	661,4	691,0	748,8
EER	(3)	kW/kW	27,78	23,16	26,88	23,91	26,38	25,64	27,56	28,79	26,74
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	356,4	392,8	456,4	507,5	559,3	656,2	704,6	736,9	797,6
EER	(1)	kW/kW	4,289	4,104	4,277	4,103	4,286	4,114	4,130	4,014	4,088
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	354,1	389,8	453,2	503,7	556,2	651,9	700,6	732,4	793,3
EER	(1)(2)	kW/kW	4,140	3,950	4,120	3,950	4,160	3,980	4,010	3,890	3,980
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	290,6	325,5	376,8	419,3	463,0	538,7	580,3	606,3	657,4
SEPR	(8)(10)		5,73	5,48	5,92	5,64	5,90	5,78	5,78	5,73	5,78
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	17,66	19,63	22,79	25,33	27,95	32,60	35,04	36,61	39,67
Pressure drop	(1)	kPa	68,7	84,7	78,3	86,2	63,1	77,3	65,2	71,1	62,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	85,0	90,0	108	119	128	141	145	175	180
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	67	68	68	68	68	69	69	69	69
Sound power level in cooling	(5)(6)	dB(A)	99	100	100	100	101	102	102	102	102
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	4900	5800	5800	6400	6400	7000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5210	5320	5930	6110	7490	7900	8810	8850	9350

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FX-EFC-Y

Air cooled chiller with evaporative free-cooling

1502 - 6002 329,5-1441 kW

FX-EFC-Y			3402	3602	3902	4202	4502	4802	5402	6002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
MECHANICAL COOLING (GROSS VALUE)										
Cooling capacity	(1)	kW	821,6	876,1	938,3	1006	1087	1183	1318	1403
EER	(1)	kW/kW	4,222	4,129	4,087	4,159	4,076	4,234	4,091	3,880
EER (evaporative system OFF)	(1)	kW/kW	3,642	3,543	3,505	3,599	3,525	3,690	3,521	3,349
MECHANICAL COOLING (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	817,0	871,1	931,9	999,0	1081	1175	1310	1393
EER	(1)(2)	kW/kW	4,100	4,010	3,950	4,010	3,960	4,090	3,960	3,750
EER (evaporative system OFF)	(1)(2)	kW/kW	3,549	3,453	3,401	3,488	3,432	3,576	3,425	3,252
TOTAL FREE-COOLING (GROSS VALUE)										
Total free-cooling temperature	(3)	°C	0,8	1,2	0,6	0,6	0,8	0,8	0,9	0,9
Cooling capacity	(3)	kW	821,6	876,1	938,3	1006	1087	1183	1318	1403
EER	(3)	kW/kW	25,67	27,38	29,32	31,44	27,17	24,65	27,46	29,23
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	873,9	935,0	1003	1074	1157	1252	1400	1493
EER	(1)	kW/kW	4,212	4,117	4,067	4,150	4,065	4,243	4,073	3,857
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	868,5	929,1	995,5	1066	1149	1243	1390	1482
EER	(1)(2)	kW/kW	4,080	3,990	3,920	3,990	3,930	4,080	3,940	3,720
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	721,3	767,6	820,3	880,4	954,3	1043	1160	1232
SEPR	(8)(10)		5,79	5,70	5,55	5,59	5,55	5,72	5,69	5,49
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	43,53	46,41	49,72	53,31	57,59	62,66	69,82	74,34
Pressure drop	(1)	kPa	75,0	76,7	94,6	97,8	83,1	98,4	89,6	102
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	190	199	220	244	290	295	310	330
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	69	70	70	70	72	73	73	73
Sound power level in cooling	(5)(6)	dB(A)	102	103	103	103	105	106	106	106
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	7900	10000	10000	11800	11800	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10280	11150	11250	13550	14050	14740	15960	16950

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
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10 Seasonal energy efficiency ratio

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FX-EFC-Y /SL			1502	1702	1902	2002	2202	2602	2702	3002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
MECHANICAL COOLING (GROSS VALUE)										
Cooling capacity	(1)	kW	329,5	370,0	423,8	473,2	518,6	621,2	652,2	707,8
EER	(1)	kW/kW	4,230	4,243	4,255	4,248	4,227	4,372	4,120	4,290
EER (evaporative system OFF)	(1)	kW/kW	3,641	3,711	3,632	3,609	3,609	3,695	3,475	3,643
MECHANICAL COOLING (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	327,6	367,4	421,2	470,0	516,0	617,4	648,9	703,7
EER	(1)(2)	kW/kW	4,100	4,090	4,120	4,100	4,120	4,230	4,020	4,160
EER (evaporative system OFF)	(1)(2)	kW/kW	3,545	3,593	3,530	3,501	3,527	3,593	3,399	3,549
TOTAL FREE-COOLING (GROSS VALUE)										
Total free-cooling temperature	(3)	°C	0,1	0,2	0,2	0,1	0,2	0,1	0,5	0,2
Cooling capacity	(3)	kW	329,5	370,0	423,8	473,2	518,6	621,2	652,2	707,8
EER	(3)	kW/kW	34,32	38,54	35,32	39,43	36,01	36,98	38,82	36,86
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	353,5	393,4	451,9	504,4	551,9	663,4	697,2	754,6
EER	(1)	kW/kW	4,228	4,295	4,215	4,200	4,207	4,308	4,068	4,249
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	351,2	390,4	448,8	500,7	548,9	658,9	693,3	749,9
EER	(1)(2)	kW/kW	4,090	4,130	4,070	4,040	4,090	4,160	3,960	4,110
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	286,7	324,6	370,4	414,0	454,6	543,4	571,6	621,0
SEPR	(8)(10)		5,80	5,66	6,03	6,07	6,02	6,02	5,96	6,03
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	17,46	19,60	22,45	25,07	27,48	32,91	34,55	37,50
Pressure drop	(1)	kPa	67,2	84,6	76,0	84,5	61,0	78,8	63,4	74,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	98,0	104	124	137	147	162	167	201
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	57	57	57	57	58	58	58	59
Sound power level in cooling	(5)(6)	dB(A)	89	89	89	90	91	91	91	92
SIZE AND WEIGHT										
A	(7)	mm	4000	4900	4900	5800	5800	7000	7000	7900
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	5710	6360	6450	7090	7990	8850	9670	10230

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

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FX-EFC-Y

Air cooled chiller with evaporative free-cooling

1502 - 6002 329,5-1441 kW

FX-EFC-Y /SL			3202	3402	3602	3902	4202	4502	4802	5402
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
MECHANICAL COOLING (GROSS VALUE)										
Cooling capacity	(1)	kW	740,4	782,1	872,4	932,1	976,9	1090	1132	1280
EER	(1)	kW/kW	4,148	3,998	4,168	4,099	4,017	4,213	4,052	4,003
EER (evaporative system OFF)	(1)	kW/kW	3,486	3,339	3,535	3,472	3,406	3,597	3,426	3,363
MECHANICAL COOLING (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	736,9	778,0	867,8	926,3	970,4	1083	1125	1272
EER	(1)(2)	kW/kW	4,050	3,900	4,060	3,970	3,890	4,090	3,920	3,890
EER (evaporative system OFF)	(1)(2)	kW/kW	3,413	3,266	3,453	3,377	3,310	3,501	3,332	3,278
TOTAL FREE-COOLING (GROSS VALUE)										
Total free-cooling temperature	(3)	°C	0,5	0,1	0,5	0,0	-0,3	0,4	0,1	-0,4
Cooling capacity	(3)	kW	740,4	782,1	872,4	932,1	976,9	1090	1132	1280
EER	(3)	kW/kW	38,56	40,73	36,35	38,84	40,70	37,85	39,31	44,44
COOLING ONLY - maximum cooling capacity (GROSS VALUE)										
Cooling capacity	(1)	kW	791,2	838,4	933,7	1000	1051	1163	1206	1367
EER	(1)	kW/kW	4,085	3,931	4,135	4,052	3,971	4,179	3,997	3,930
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	787,0	833,6	928,3	993,1	1043	1155	1198	1358
EER	(1)(2)	kW/kW	3,980	3,820	4,010	3,910	3,830	4,040	3,860	3,810
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(8)	kW	649,2	684,7	763,5	814,0	852,5	956,0	996,2	1125
SEPR	(8)(10)		6,05	5,86	5,90	5,75	5,59	5,94	5,86	5,87
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(9)	kW	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	39,22	41,43	46,22	49,39	51,76	57,75	59,98	67,82
Pressure drop	(1)	kPa	61,0	67,9	69,5	85,8	92,2	83,6	90,2	84,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	207	219	229	253	281	334	339	357
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	59	59	59	59	59	61	61	62
Sound power level in cooling	(5)(6)	dB(A)	92	92	92	92	92	94	94	95
SIZE AND WEIGHT										
A	(7)	mm	7900	7900	10000	10000	10000	11800	11800	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10720	11270	13890	13930	14430	16000	16090	17500

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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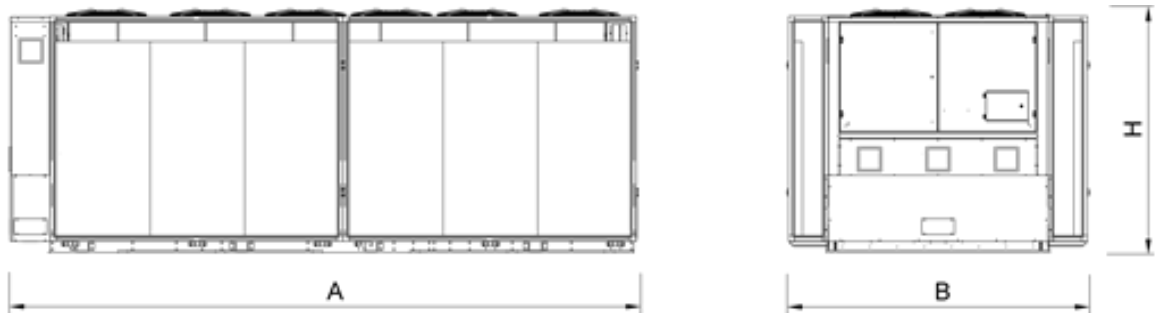
Dimensional drawing



CHILLERS

TECS-EFC-Y

High efficiency air cooled chiller with evaporative free-cooling

0211 - 1204 300,2-1682 kW

Outdoor unit for the production of chilled water, equipped with oil-free centrifugal compressors, R134a refrigerant, axial EC fans, condensing coil with copper tubes and aluminum fins, shell and tube flooded evaporator, evaporative cooling system and electronic expansion valve. Base, supporting structure and panels are of galvanized epoxy powder coated steel. The unit is supplied with refrigerant and has been factory tested. In free cooling mode, the liquid is cooled by outdoor air, thus lowering the load of the compressors until it is reduced to zero. The evaporative cooling system is made of treated cellulose pads and a water circulator that keeps the pads wet. It lowers the air temperature before it reaches unit's coils, thus increasing mechanical cooling efficiency and allowing free-cooling benefits to begin at higher outdoor temperatures.
The NG configuration complies with applications where it is not allowed or desired the use of ethylene glycol.

Refrigerant

R134a

Versions

K	Key efficiency, compact version
CA	High energy efficiency units

Configurations

-	Basic function
NG	Function for free-cooling without use of glycole

Features

EXTENSION OF FREE-COOLING TEMPERATURE RANGE
Thanks to the evaporative cooling system that decreases the outdoor air temperature, the unit can take full advantage of the free-cooling benefit also in climatic conditions that normally don't permit it.

ENERGY SAVING
Energy saving guaranteed by free-cooling, which exploits the low external air temperatures; free-cooling control with optional modulating valve.

VERY HIGH EFFICIENCY
Top-level seasonal efficiency thanks to technlogical solutions at the forefront: magnetic levitation centrifugal compressors, flooded evaporator, EC fans and advanced control algorithms.

WIDE RANGE
Extended capacity range.

LOW INRUSH CURRENTS
Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

EXTREMELY SILENT OPERATION
Extremely silent operation in line with the best on the market, and highly reduced vibrations

INTEGRATED HYDRONIC GROUP
It consists of 2 pumps with 4-pole motor, fixed or variable speed, with high or low head options to satisfy the different installation requirements.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Accessories

- Modulating valve for water temperature control in Free-Cooling mode
- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Fast restart
- Double power supply with automatic changeover (ATS) or motorized changeover
- Compressor power factor correction
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Touch Screen visual display
- Remote control keyboard (distance to 200m and to 500m)

TECS-EFC-Y /K			0211	0351	0452	0552	0652	0712
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
MECHANICAL COOLING (GROSS VALUE)								
Cooling capacity	(1)	kW	300,2	479,1	589,5	684,8	935,0	974,2
EER	(1)	kW/kW	4,057	4,229	3,983	4,334	4,248	4,288
EER (evaporative system OFF)	(1)	kW/kW	3,431	3,374	3,291	3,773	3,253	3,508
MECHANICAL COOLING (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	298,0	475,5	585,5	679,6	928,2	966,9
EER	(1)(2)	kW/kW	3,910	4,070	3,850	4,160	4,090	4,120
EER (evaporative system OFF)	(1)(2)	kW/kW	3,324	3,265	3,198	3,640	3,155	3,393
TOTAL FREE-COOLING (GROSS VALUE)								
Total free-cooling temperature	(3)	°C	-2,3	-2,8	-2,3	-1,8	-3,1	-1,9
Cooling capacity	(3)	kW	300,2	479,1	589,5	684,8	935,0	974,2
EER	(3)	kW/kW	58,86	49,91	49,12	67,14	55,65	50,74
COOLING ONLY - maximum cooling capacity (GROSS VALUE)								
Cooling capacity	(1)	kW	317,5	506,8	631,3	717,6	1004	1016
EER	(1)	kW/kW	3,816	3,956	3,685	4,162	3,856	4,097
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	315,0	502,6	626,5	711,7	995,8	1008
EER	(1)(2)	kW/kW	3,680	3,800	3,560	3,990	3,710	3,940
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	257,9	408,7	500,8	601,3	788,0	841,0
SEPR	(8)(10)		6,37	6,31	6,16	6,42	6,20	6,34
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	15,91	25,38	31,23	36,28	49,54	51,62
Pressure drop	(1)	kPa	85,1	97,4	88,1	103	102	106
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3760	4180	5490	6360	6940	7580

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC-Y

High efficiency air cooled chiller with evaporative free-cooling

0211 - 1204 300,2-1682 kW

TECS-EFC-Y /K			0903	0953	1003	1164	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
MECHANICAL COOLING (GROSS VALUE)							
Cooling capacity	(1)	kW	1179	1243	1409	1567	1638
EER	(1)	kW/kW	4,262	4,180	4,238	4,168	4,242
EER (evaporative system OFF)	(1)	kW/kW	3,661	3,309	3,292	3,422	3,534
MECHANICAL COOLING (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1171	1236	1399	1556	1626
EER	(1)(2)	kW/kW	4,120	4,060	4,090	4,020	4,080
EER (evaporative system OFF)	(1)(2)	kW/kW	3,555	3,231	3,197	3,319	3,417
TOTAL FREE-COOLING (GROSS VALUE)							
Total free-cooling temperature	(3)	°C	-1,7	-3,0	-2,9	-2,1	-2,2
Cooling capacity	(3)	kW	1179	1243	1409	1567	1638
EER	(3)	kW/kW	49,12	51,79	53,37	50,22	52,50
COOLING ONLY - maximum cooling capacity (GROSS VALUE)							
Cooling capacity	(1)	kW	1225	1328	1505	1653	1721
EER	(1)	kW/kW	4,119	3,848	3,893	3,928	4,033
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1217	1320	1493	1640	1707
EER	(1)(2)	kW/kW	3,980	3,730	3,750	3,790	3,870
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(8)	kW	1034	1054	1195	1344	1418
SEPR	(8)(10)		6,23	6,07	6,10	6,08	6,10
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(9)	kW	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	62,46	65,84	74,63	83,03	86,79
Pressure drop	(1)	kPa	91,1	79,1	102	105	114
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	10670	11240	11510	13430	13540

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC-Y /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
MECHANICAL COOLING (GROSS VALUE)											
Cooling capacity	(1)	kW	308,0	352,6	493,5	612,1	712,1	985,1	1065	1205	1436
EER	(1)	kW/kW	4,157	4,348	4,375	4,144	4,428	4,374	4,415	4,406	4,317
EER (evaporative system OFF)	(1)	kW/kW	3,586	3,905	3,642	3,518	3,994	3,636	3,968	3,878	3,453
MECHANICAL COOLING (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	305,7	349,8	489,6	607,7	706,3	977,6	1059	1197	1426
EER	(1)(2)	kW/kW	4,000	4,170	4,190	4,000	4,240	4,200	4,290	4,250	4,160
EER (evaporative system OFF)	(1)(2)	kW/kW	3,465	3,760	3,511	3,406	3,838	3,512	3,864	3,756	3,346
TOTAL FREE-COOLING (GROSS VALUE)											
Total free-cooling temperature	(3)	°C	-0,6	-0,6	-1,4	-0,9	-0,1	-1,3	-0,2	-0,5	-2,0
Cooling capacity	(3)	kW	308,0	352,6	493,5	612,1	712,1	985,1	1065	1205	1436
EER	(3)	kW/kW	60,39	51,85	58,06	60,01	52,36	57,95	52,21	54,52	64,98
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	320,8	360,3	509,7	642,5	720,6	1018	1081	1226	1513
EER	(1)	kW/kW	3,990	4,279	4,233	3,937	4,391	4,231	4,368	4,344	4,055
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	318,2	357,4	505,4	637,5	714,7	1010	1075	1218	1501
EER	(1)(2)	kW/kW	3,840	4,100	4,050	3,790	4,200	4,060	4,240	4,190	3,900
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	268,2	316,8	429,5	529,1	645,6	857,5	964,7	1077	1229
SEPR	(8)(10)		6,66	6,62	6,87	6,54	6,62	6,66	6,62	6,62	6,41
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	16,32	18,68	26,14	32,43	37,72	52,18	56,41	63,86	76,09
Pressure drop	(1)	kPa	89,6	95,8	103	95,0	111	108	74,2	95,2	106
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	3990	4120	4790	6260	7450	9740	11590	12510	12870

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 30%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 30%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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7 Unit in standard configuration/execution, without optional accessories.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC-Y

High efficiency air cooled chiller with evaporative free-cooling

0211 - 1204 300,2-1682 kW

TECS-EFC-Y /NG /K			0211	0351	0452	0552	0652	0712
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
MECHANICAL COOLING (GROSS VALUE)								
Cooling capacity	(1)	kW	308,3	492,0	605,4	703,3	960,2	1001
EER	(1)	kW/kW	4,149	4,320	4,071	4,429	4,341	4,383
EER (evaporative system OFF)	(1)	kW/kW	3,507	3,445	3,363	3,856	3,325	3,587
MECHANICAL COOLING (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	306,0	487,7	600,8	697,1	952,2	992,9
EER	(1)(2)	kW/kW	4,000	4,130	3,920	4,220	4,150	4,200
EER (evaporative system OFF)	(1)(2)	kW/kW	3,394	3,316	3,256	3,696	3,208	3,458
TOTAL FREE-COOLING (GROSS VALUE)								
Total free-cooling temperature	(3)	°C	-5,3	-5,9	-5,4	-4,9	-6,2	-4,9
Cooling capacity	(3)	kW	308,3	492,0	605,4	703,3	960,2	1001
EER	(3)	kW/kW	38,06	32,58	31,05	39,73	30,19	29,27
COOLING ONLY - maximum cooling capacity (GROSS VALUE)								
Cooling capacity	(1)	kW	326,1	520,5	648,3	737,0	1031	1044
EER	(1)	kW/kW	3,901	4,041	3,765	4,253	3,940	4,189
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	323,5	515,6	642,8	730,0	1021	1035
EER	(1)(2)	kW/kW	3,750	3,850	3,620	4,050	3,760	4,010
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(8)	kW	257,4	407,6	499,8	599,6	786,1	839,1
SEPR	(8)(10)		5,98	5,86	5,69	5,96	5,65	5,82
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(9)	kW	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	14,75	23,54	28,97	33,66	45,95	47,89
Pressure drop	(1)	kPa	97,1	126	111	136	133	129
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	120	140	260	260	320	320
NOISE LEVEL								
Sound Pressure	(4)	dB(A)	56	61	62	58	63	63
Sound power level in cooling	(5)(6)	dB(A)	88	93	94	91	96	96
SIZE AND WEIGHT								
A	(7)	mm	4000	4000	4900	6400	7000	7900
B	(7)	mm	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4450	4950	6510	7530	8210	8960

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC-Y /NG /K			0903	0953	1003	1164	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
MECHANICAL COOLING (GROSS VALUE)							
Cooling capacity	(1)	kW	1210	1276	1448	1610	1682
EER	(1)	kW/kW	4,359	4,270	4,325	4,258	4,338
EER (evaporative system OFF)	(1)	kW/kW	3,739	3,380	3,367	3,498	3,611
MECHANICAL COOLING (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1202	1267	1436	1596	1666
EER	(1)(2)	kW/kW	4,200	4,120	4,140	4,070	4,120
EER (evaporative system OFF)	(1)(2)	kW/kW	3,619	3,283	3,249	3,363	3,457
TOTAL FREE-COOLING (GROSS VALUE)							
Total free-cooling temperature	(3)	°C	-4,7	-6,1	-6,0	-5,1	-5,3
Cooling capacity	(3)	kW	1210	1276	1448	1610	1682
EER	(3)	kW/kW	31,03	30,02	29,92	26,31	27,48
COOLING ONLY - maximum cooling capacity (GROSS VALUE)							
Cooling capacity	(1)	kW	1258	1364	1545	1698	1768
EER	(1)	kW/kW	4,209	3,933	3,976	4,015	4,123
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1249	1354	1531	1682	1750
EER	(1)(2)	kW/kW	4,050	3,790	3,800	3,830	3,910
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(8)	kW	1032	1052	1192	1340	1414
SEPR	(8)(10)		5,77	5,58	5,57	5,47	5,49
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(9)	kW	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	57,90	61,07	69,29	77,05	80,49
Pressure drop	(1)	kPa	112	108	138	153	168
REFRIGERANT CIRCUIT							
Compressors nr.		N°	3	3	3	4	4
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	430	520	520	540	540
NOISE LEVEL							
Sound Pressure	(4)	dB(A)	64	64	65	65	65
Sound power level in cooling	(5)(6)	dB(A)	97	97	98	98	98
SIZE AND WEIGHT							
A	(7)	mm	10600	11200	11200	13000	13600
B	(7)	mm	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500
Operating weight	(7)	kg	12620	13300	13620	15890	16010

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
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9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

TECS-EFC-Y

High efficiency air cooled chiller with evaporative free-cooling

0211 - 1204 300,2-1682 kW

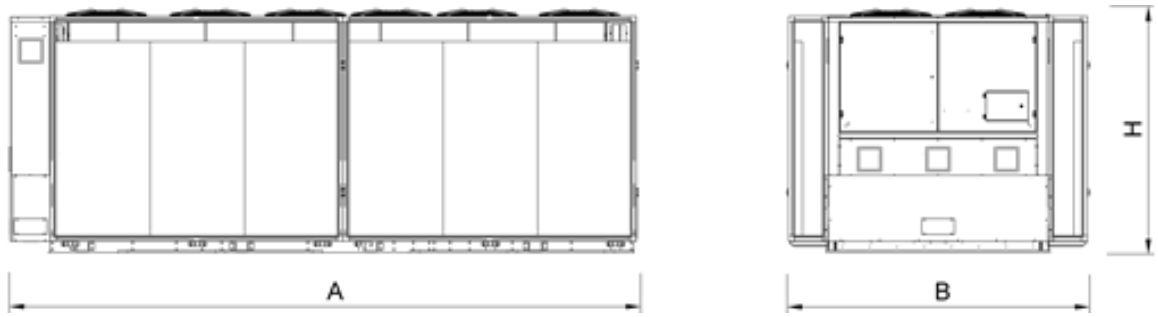
TECS-EFC-Y /NG /CA			0211	0251	0351	0452	0552	0712	0803	0903	1003
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
MECHANICAL COOLING (GROSS VALUE)											
Cooling capacity	(1)	kW	316,3	362,1	506,8	628,7	731,3	1012	1094	1237	1474
EER	(1)	kW/kW	4,251	4,438	4,473	4,237	4,525	4,466	4,509	4,508	4,416
EER (evaporative system OFF)	(1)	kW/kW	3,665	3,992	3,721	3,595	4,081	3,718	4,056	3,962	3,526
MECHANICAL COOLING (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	313,9	359,0	502,3	623,7	724,4	1004	1088	1228	1461
EER	(1)(2)	kW/kW	4,090	4,240	4,260	4,060	4,300	4,270	4,370	4,330	4,220
EER (evaporative system OFF)	(1)(2)	kW/kW	3,538	3,827	3,570	3,466	3,893	3,578	3,938	3,825	3,395
TOTAL FREE-COOLING (GROSS VALUE)											
Total free-cooling temperature	(3)	°C	-3,7	-3,7	-4,5	-4,1	-3,2	-4,4	-3,3	-3,6	-5,1
Cooling capacity	(3)	kW	316,3	362,1	506,8	628,7	731,3	1012	1094	1237	1474
EER	(3)	kW/kW	39,05	29,44	36,20	40,04	29,73	31,62	30,90	30,47	33,42
COOLING ONLY - maximum cooling capacity (GROSS VALUE)											
Cooling capacity	(1)	kW	329,5	370,0	523,5	659,9	740,0	1045	1110	1260	1554
EER	(1)	kW/kW	4,078	4,368	4,326	4,024	4,488	4,322	4,463	4,443	4,145
COOLING ONLY - maximum cooling capacity (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	326,8	366,7	518,6	654,2	732,9	1036	1103	1251	1540
EER	(1)(2)	kW/kW	3,910	4,170	4,120	3,860	4,260	4,130	4,320	4,270	3,950
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(8)	kW	267,7	316,0	428,3	527,9	643,6	855,6	963,0	1075	1225
SEPR	(8)(10)		6,21	6,00	6,32	6,10	5,97	6,04	6,09	6,03	5,84
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(9)	kW	-	-	-	-	-	-	-	-	-
SEPR	(9)(10)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	15,14	17,33	24,25	30,08	35,00	48,43	52,34	59,18	70,55
Pressure drop	(1)	kPa	102	119	130	119	147	132	91,8	116	144
REFRIGERANT CIRCUIT											
Compressors nr.		N°	1	1	1	2	2	2	3	3	3
No. Circuits		N°	1	1	1	1	1	1	2	2	2
Refrigerant charge		kg	120	120	140	260	280	320	430	430	520
NOISE LEVEL											
Sound Pressure	(4)	dB(A)	56	57	58	58	59	60	61	61	61
Sound power level in cooling	(5)(6)	dB(A)	88	89	90	91	92	93	94	94	94
SIZE AND WEIGHT											
A	(7)	mm	4000	4000	4900	6400	7900	10000	12100	13000	13000
B	(7)	mm	3060	3060	3060	3060	3060	3060	3060	3060	3060
H	(7)	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500
Operating weight	(7)	kg	4730	4880	5670	7410	8810	11520	13700	14790	15220

Notes

1 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Source (side) heat exchanger air (in) 30°C - 50% R.H.; Ethylene glycol 0%.
2 Values in compliance with EN14511
3 Plant (side) cooling exchanger water (in/out) 15°C/10°C; Ethylene glycol 0%.
4 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in cooling, outdoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
9 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
10 Seasonal energy efficiency ratio

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

i-BX-N-Y	004M - 035T
i-KIR-MTD-Y	0075t - 0151t
AWR-HT-Y	0122 - 0302
AWR-HT-Y	0404 - 0604
i-NX-N-Y	0151P - 0502P
NX-N-Y	0152P - 0812P
NX-N-Y	0604P - 1204P
NECS-N-Y	0202T - 0612T
NX-N-Y	0604T - 1204T
NECS-N-Y	1314 - 2116
FOCS-N-Y	2022 - 4822
FOCS-N-G05-Y	2022 - 4822
NX-CN-Y	0072 - 1104
i-KI-MTD-Y	0075t - 0151t
AW-HT-Y	0122 - 0302
AW-HT-Y	0404 - 0604
WWR MTD2-Y	0011ms - 0121ts
NX-WN-Y	0122 - 1204
WW-HT-Y	0071 - 0302
EW-HT-Y	0152 - 0612
NX-W-Y /H	0122 - 1204
FOCS-W-Y /H	0401 - 1302
FOCS2-W-Y /H	1301 - 9604
FOCS2-W-G05-Y /H	1301 - 9604
i-FX-W (1+i)-Y /H	1402 - 4652
i-FX-W (1+i)-G05-Y/H	1402 - 4652

HEAT PUMPS

i-BX-N-Y

004M - 035T 4,200-35,10 kW

Reversible heat pump, air source for outdoor installation

Outdoor unit for the production of chilled/hot water with variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, condensing coil with copper tubes and aluminum fins, plate heat exchanger on water side and electronic expansion valve as standard equipment. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of variable speed (inverter) motor.
The units provide heating, cooling and domestic hot water production. Particular care is taken for winter mode, that thanks to the Inverter technology is guaranteed beyond traditional units working limits.

Refrigerant

R410A

Versions

- Basic

Features

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP according with the eco-sustainable design requirements for all products using energy.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the installation. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump and the modulating the fans speed as standard equipments.

EXTENSIVE OPERATING LIMITS
Particular care is taken for winter mode, that thanks to inverter technology is guaranteed beyond traditional units working limits, supplying hot water up to 60°C and down to -20°external air.

INTEGRATED HYDRONIC MODULE
The integrated hydronic include all the water circuit components (anti-freeze electrical heater on plate heat exchanger, air vents, flow switch, water filter, safety valve, EC water pumps, expansion tank) so as to optimize installation space, times and costs.

Control

NADISYSTEM
The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu. The electronic board allows you to manage:
-Wired remote keypad, backlit display complete with remote temperature
-outdoor air temperature sensor on board for climatic curve
- hot water production by external three-way valve (accessory)
-electric heater for possible integration for HW tank
-gas boiler or electric heater in substitution or in addition for space heating
-night mode to limit the noise level of the units. Noise level is reduced limiting the maximum speed of the compressor and fans.
-up to 4 heat pumps in cascade (with the accessories N-CM)
-the defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Accessories

- Remote keyboard
- Wired room terminal with backlit display, and with temperature and umidity probe
- Cascade management kit
- DHW temperature probe and Buffer temperature probe
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Copper-Copper heat exchanger coils
- Buffer tank
- Domestic hot water storage tank
- Electric heater for the base and for condensate collecting tray to avoid freezing
- Serial card RS485 for ModBus
- Rubber anti-vibration mounting kit

i-BX-N-Y M			004M	006M	008M	010	013
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	4,200	5,900	7,500	9,900	12,40
Total power input	(1)	kW	1,548	2,080	2,720	3,640	4,540
EER	(1)	kW/kW	2,710	2,837	2,757	2,720	2,731
ESEER	(1)	kW/kW	4,240	4,320	4,450	4,210	4,240
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	4,200	5,900	7,510	9,910	12,40
EER	(1)(2)	kW/kW	2,760	2,880	2,810	2,730	2,750
ESEER	(1)(2)	kW/kW	4,610	4,560	4,830	4,260	4,370
Cooling energy class			C	C	C	C	C
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	4,628	6,365	8,508	10,99	14,34
Total power input	(3)	kW	1,509	2,026	2,651	3,649	4,529
COP	(3)	kW/kW	3,066	3,133	3,211	3,014	3,157
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	4,620	6,370	8,500	11,00	14,30
COP	(3)(2)	kW/kW	3,120	3,190	3,260	3,020	3,190
Cooling energy class			B	B	A	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	3,40	4,80	6,02	8,18	10,4
SCOP	(7)(8)		3,59	3,89	4,15	3,54	3,81
Performance ηs	(7)(9)	%	140	153	163	139	149
Seasonal efficiency class	(7)		A+	A++	A++	A+	A+
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	0,201	0,282	0,359	0,473	0,593
Available unit's head	(1)	kPa	51,4	39,8	66,5	57,7	56,6
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	0,223	0,307	0,411	0,531	0,692
Available unit's head	(3)	kPa	47,9	35,4	57,9	54,1	51,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	1,47	2,20	3,70	3,95	4,45
NOISE LEVEL							
Sound power level in cooling	(10)(11)	dB(A)	64	65	66	69	70
Sound power level in heating	(10)(12)	dB(A)	64	65	66	69	70
Sound Pressure	(13)	dB(A)	50	51	51	54	55
SIZE AND WEIGHT							
A	(14)	mm	900	900	900	900	900
B	(14)	mm	370	370	420	420	420
H	(14)	mm	940	940	1240	1240	1390
Operating weight	(14)	kg	80	85	100	115	135

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, outdoors.
12 Sound power level in heating, outdoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-BX-N-Y

004M - 035T 4,200-35,10 kW

Reversible heat pump, air source for outdoor installation

i-BX-N-Y T			010T	013T	015T	020T	025T	030T	035T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	10,50	12,80	14,70	18,70	24,70	29,40	35,10
Total power input	(1)	kW	3,640	4,540	5,240	7,000	8,990	10,50	12,70
EER	(1)	kW/kW	2,885	2,819	2,805	2,671	2,747	2,800	2,764
ESEER	(1)	kW/kW	4,240	4,490	4,310	3,880	3,930	3,890	3,930
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	10,50	12,80	14,70	18,70	24,70	29,50	35,20
EER	(1)(2)	kW/kW	2,890	2,840	2,820	2,700	2,770	2,840	2,790
ESEER	(1)(2)	kW/kW	4,290	4,580	4,380	3,990	4,030	4,000	4,010
Cooling energy class			C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	11,40	14,67	17,22	21,70	26,14	32,28	38,07
Total power input	(3)	kW	3,662	4,548	5,149	6,904	8,313	10,34	11,98
COP	(3)	kW/kW	3,115	3,231	3,340	3,145	3,141	3,136	3,175
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	11,40	14,70	17,20	21,70	26,10	32,20	38,00
COP	(3)(2)	kW/kW	3,120	3,250	3,360	3,160	3,160	3,130	3,190
Cooling energy class			B	A	A	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	8,48	10,9	12,3	16,5	21,9	24,7	28,1
SCOP	(7)(8)		3,64	3,99	3,66	3,56	3,77	3,80	3,70
Performance ηs	(7)(9)	%	142	157	144	139	148	149	145
Seasonal efficiency class	(7)		A+	A++	A+	A+	A+	A+	A+
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,502	0,612	0,703	0,894	1,181	1,406	1,679
Available unit's head	(1)	kPa	53,3	53,0	78,7	74,6	61,5	91,3	73,5
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	0,550	0,708	0,831	1,047	1,262	1,558	1,838
Available unit's head	(3)	kPa	50,2	47,1	71,5	60,3	55,0	80,5	61,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	3,95	4,45	5,10	6,70	8,10	10,0	11,0
NOISE LEVEL									
Sound power level in cooling	(10)(11)	dB(A)	69	70	74	74	75	76	77
Sound power level in heating	(10)(12)	dB(A)	69	70	74	74	75	76	77
Sound Pressure	(13)	dB(A)	54	55	59	59	59	60	61
SIZE AND WEIGHT									
A	(14)	mm	900	900	1450	1450	1450	1450	1700
B	(14)	mm	420	420	550	550	550	550	650
H	(14)	mm	1240	1390	1200	1200	1700	1700	1700
Operating weight	(14)	kg	115	135	180	205	265	290	325

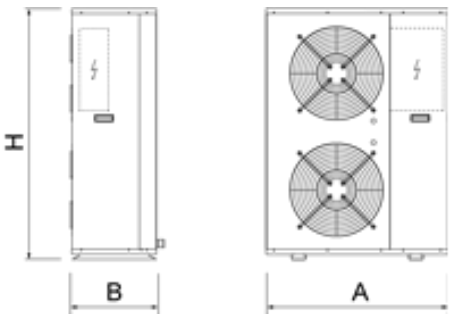
Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, outdoors.
12 Sound power level in heating, outdoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-KIR-MTD-Y

0075t - 0151t 15,59-40,50 kW

Air cooled reversible heat pump, with axial fans and inverter driven compressor, for heating water up to 60°C

The system is based on an packaged external units with integrated hydronic module and by an internal unit with the electronic regulation. The heat pumps provide heating, cooling and domestic hot water production. Particular care is taken for winter mode, that thanks to the Inverter technology is guaranteed beyond traditional units working limits, water production up to 60°C.
The reverse-cycle heat pumps feature high seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the installation.
The unit can be coupled with traditional systems or radiant panels, guaranteeing always very high energy efficiency. Intallation is strongly simplified thanks to the integrated hydronic module (optional).

Control

NADISYSTEM
Electronic control Nadisystem provides great application flexibility. The remote keyboard kit wired and outdoor air temperature sensors allow dynamic control of delivery temperature water, increasing the energy efficiency. The electronic board allows you to manage:
-Wired remote control, backlit display and with remote temperature and humidity probe
-outdoor temperature sensor for water plant side modular set point compensation
-a zone of direct heating for radiator, floor heating or fan coil
-a zone with mix valve for floor heating
-Electrical heating element for possible integration and anti-legionella cycle for cylinder
-boiler or electric heater in substitution or in addition
-the room controller can customise up to six time bands. The presence of the programmable timer allows the creation of an operating profile containing up to 6 time bands
-up to 4 heat pump in cascade (with N-CM component)
-several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zone

Refrigerant

R410A

Versions

B Basic

Features

WIDE RANGE
Extended capacity range.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the installation. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump (optional) and the modulating the fans speed.

EXTENSIVE OPERATING LIMITS
Particular care is taken for winter mode, that thanks to inverter technology is guaranteed beyond traditional units working limits, supplying hot water up to 60°C and down to -20°external air.

Accessories

- Integrated hydronic module with on/off pump or high efficiency inverter pump
- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump
- Copper-Copper heat exchanger coils
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Electric heater for the base and for condensate collecting tray to avoid freezing

APPLICATION HYDRONIC TERMINAL

i-KIR-MTD-Y			0075t	0091t	0095t	0101t	0121t	0135t	0151t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	15,59	19,35	22,13	23,95	26,45	28,68	30,45
Total power input	(1)	kW	6,540	6,929	8,838	10,24	10,10	12,53	12,61
EER	(1)	kW/kW	2,385	2,785	2,500	2,353	2,614	2,296	2,421
ESEER	(1)	kW/kW	4,300	4,440	4,370	4,280	4,690	4,650	4,650
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	15,50	19,20	22,00	23,90	26,30	28,60	30,40
EER	(1)(2)	kW/kW	2,350	2,750	2,460	2,320	2,590	2,270	2,390
ESEER	(1)(2)	kW/kW	4,080	4,250	4,140	4,040	4,520	4,450	4,450
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	21,62	30,35	32,86	35,63	35,85	39,19	44,39
Total power input	(3)	kW	8,297	9,448	10,92	12,33	11,43	13,01	14,67
COP	(3)	kW/kW	2,602	3,217	3,018	2,894	3,140	3,015	3,020
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	20,50	24,00	27,80	30,30	32,10	35,20	38,30
COP	(3)(2)	kW/kW	2,760	3,340	3,070	2,940	3,390	3,260	3,270
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(7)(8)		3,58	4,05	4,00	3,94	4,13	4,12	4,28
Performance ηs	(7)(9)	%	140	159	157	155	162	162	168
Seasonal efficiency class	(7)		A+	A++	A++	A++	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,745	0,925	1,059	1,145	1,265	1,371	1,456
Pressure drop	(1)	kPa	13,3	12,2	16,0	18,7	10,4	12,2	13,7
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	0,983	1,155	1,333	1,455	1,546	1,692	1,839
Pressure drop	(3)	kPa	23,2	19,0	25,3	30,2	15,5	18,6	21,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in cooling	(10)(11)	dB(A)	71	72	74	75	76	77	77
Sound power level in heating	(10)(12)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(13)	dB(A)	55	56	58	59	60	61	61
SIZE AND WEIGHT									
A	(14)	mm	1470	1470	1470	1470	1720	1720	1720
B	(14)	mm	570	570	570	570	670	670	670
H	(14)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(14)	kg	220	285	285	285	330	330	330

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, outdoors.
12 Sound power level in heating, outdoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-KIR-MTD-Y

0075t - 0151t 15,59-40,50 kW

Air cooled reversible heat pump, with axial fans and inverter driven compressor, for heating water up to 60°C

APPLICATION FLOOR HEATING

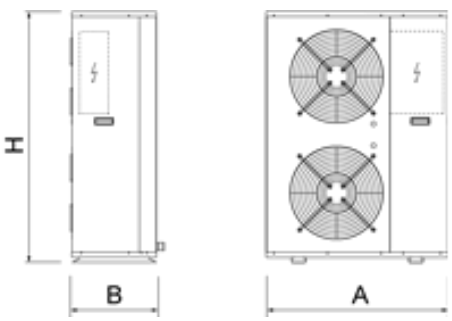
i-KIR-MTD-Y			0075t	0091t	0095t	0101t	0121t	0135t	0151t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	20,78	26,29	29,85	32,15	35,42	38,14	40,50
Total power input	(1)	kW	6,915	7,215	9,304	10,85	10,64	13,32	13,41
EER	(1)	kW/kW	3,010	3,648	3,215	2,945	3,340	2,865	3,022
ESEER	(1)	kW/kW	4,300	4,440	4,370	4,280	4,690	4,650	4,650
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	19,30	24,30	27,50	30,20	30,40	34,30	36,20
EER	(1)(2)	kW/kW	3,210	3,880	3,590	3,320	3,880	3,690	3,510
ESEER	(1)(2)	kW/kW	4,080	4,250	4,140	4,040	4,520	4,450	4,450
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	21,74	30,93	33,27	35,96	36,75	40,06	45,35
Total power input	(3)	kW	6,833	7,866	9,073	10,22	9,357	10,72	12,08
COP	(3)	kW/kW	3,177	3,926	3,671	3,529	3,932	3,748	3,752
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(3)(2)	kW	19,80	24,60	28,30	31,10	32,30	35,60	39,40
COP	(3)(2)	kW/kW	3,570	4,090	3,830	3,690	4,060	3,840	3,990
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(7)(8)		3,58	4,05	4,00	3,94	4,13	4,12	4,28
Performance ηs	(7)(9)	%	140	159	157	155	162	162	168
Seasonal efficiency class	(7)		A+	A++	A++	A++	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	0,932	1,168	1,329	1,456	1,461	1,649	1,746
Pressure drop	(1)	kPa	20,8	19,4	25,2	30,2	13,8	17,6	19,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	0,947	1,180	1,353	1,485	1,549	1,710	1,884
Pressure drop	(3)	kPa	21,5	19,8	26,1	31,4	15,5	19,0	23,0
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in cooling	(10)(11)	dB(A)	71	72	74	75	76	77	77
Sound power level in heating	(10)(12)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(13)	dB(A)	55	56	58	59	60	61	61
SIZE AND WEIGHT									
A	(14)	mm	1470	1470	1470	1470	1720	1720	1720
B	(14)	mm	570	570	570	570	670	670	670
H	(14)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(14)	kg	220	285	285	285	330	330	330

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, outdoors.
12 Sound power level in heating, outdoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

AWR-HT-Y

0122 - 0302 34,00-91,70 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

AWR-HT-Y units represent the best solution for systems in which there is the need to produce chilled water and hot water, even for DHW production. The EVI compressor technology with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A (in heating). CA-E and LN-CA-E versions guarantee premium levels of efficiency, making this range the best solution for both cooling and heating process applications.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

AWR-HT-Y / CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	34,10	43,80	60,30	76,40	91,70
Total power input	(1)	kW	11,60	14,70	20,40	25,80	31,30
EER	(1)	kW/kW	2,940	2,980	2,956	2,961	2,930
ESEER	(1)	kW/kW	3,400	3,340	3,400	3,380	3,350
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	34,00	43,70	60,20	76,20	91,40
EER	(1)(2)	kW/kW	2,910	2,950	2,940	2,930	2,890
ESEER	(1)(2)	kW/kW	3,340	3,260	3,330	3,300	3,270
Cooling energy class			B	B	B	B	B
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	38,00	51,30	68,80	84,90	102,0
Total power input	(3)	kW	10,70	14,40	19,40	23,60	27,70
COP	(3)	kW/kW	3,551	3,562	3,546	3,597	3,682
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	38,10	51,40	69,00	85,20	102,3
COP	(2)(3)	kW/kW	3,530	3,540	3,520	3,560	3,650
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	28,4	33,8	47,5	58,5	70,6
SCOP	(7)(8)		3,24	3,16	3,22	3,26	3,35
Performance ηs	(7)(9)	%	127	124	126	127	131
Seasonal efficiency class	(7)		A+	A+	A+	A+	-
PDesign	(10)	kW	30,5	36,8	50,7	63,3	74,7
SCOP	(10)(8)		3,00	2,98	3,01	3,05	3,12
Performance ηs	(10)(9)	%	117	116	117	119	122
Seasonal efficiency class	(10)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	1,631	2,095	2,884	3,654	4,385
Pressure drop	(1)	kPa	8,10	9,21	11,0	14,5	18,2
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	1,834	2,476	3,321	4,098	4,924
Pressure drop	(3)	kPa	10,2	12,9	14,6	18,3	22,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	13,0	22,0	27,6	35,0	42,0
NOISE LEVEL							
Sound power level in cooling	(11)(12)	dB(A)	84	86	87	87	87
Sound power level in heating	(11)(13)	dB(A)	84	86	87	87	87
Sound Pressure	(14)	dB(A)	67	69	70	69	69
SIZE AND WEIGHT							
A	(15)	mm	1695	2195	2745	2745	2745
B	(15)	mm	1120	1120	1120	1120	1120
H	(15)	mm	1465	1465	1465	1665	1665
Operating weight	(15)	kg	510	750	870	940	1030

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.
Certified data in EUROVENT

AWR-HT-Y

0122 - 0302 34,00-91,70 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

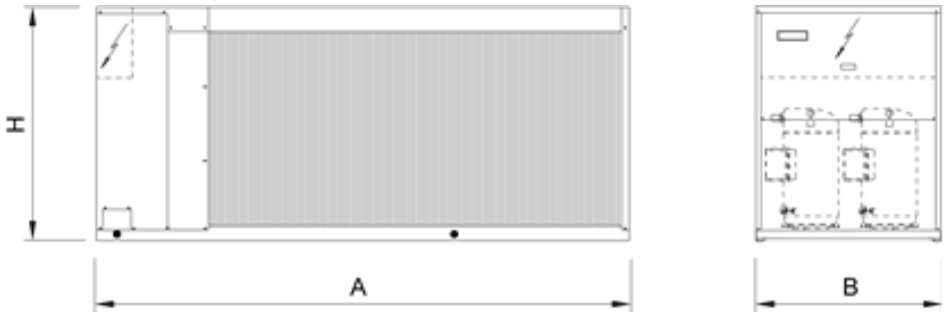
AWR-HT-Y / LN-CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	34,00	44,46	60,20	76,20	90,40
Total power input	(1)	kW	11,60	14,90	20,50	26,10	32,90
EER	(1)	kW/kW	2,931	2,987	2,937	2,920	2,748
ESEER	(1)	kW/kW	3,380	3,310	3,360	3,340	3,180
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	33,90	44,30	60,10	76,00	90,10
EER	(1)(2)	kW/kW	2,900	2,940	2,910	2,890	2,720
ESEER	(1)(2)	kW/kW	3,330	3,220	3,290	3,280	3,100
Cooling energy class			B	B	B	C	C
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	38,40	50,43	69,40	85,80	100,3
Total power input	(3)	kW	10,70	14,30	19,40	23,70	27,60
COP	(3)	kW/kW	3,589	3,524	3,577	3,620	3,634
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	38,50	50,60	69,60	86,10	100,6
COP	(2)(3)	kW/kW	3,560	3,490	3,550	3,590	3,600
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	26,8	34,5	47,8	59,3	70,3
SCOP	(7)(8)		3,26	3,14	3,24	3,29	3,35
Performance ηs	(7)(9)	%	127	123	127	128	131
Seasonal efficiency class	(7)		A+	A+	A+	A+	-
PDesign	(10)	kW	28,8	37,1	50,9	63,3	75,2
SCOP	(10)(8)		3,00	2,97	3,02	3,05	3,11
Performance ηs	(10)(9)	%	117	116	118	119	121
Seasonal efficiency class	(10)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	1,626	2,126	2,879	3,644	4,323
Pressure drop	(1)	kPa	8,05	17,7	11,0	14,5	17,7
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	1,854	2,434	3,350	4,142	4,842
Pressure drop	(3)	kPa	10,5	23,2	14,8	18,7	22,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	16,0	25,3	35,3	44,1	52,0
NOISE LEVEL							
Sound power level in cooling	(11)(12)	dB(A)	80	82	83	83	84
Sound power level in heating	(11)(13)	dB(A)	82	84	85	85	86
Sound Pressure	(14)	dB(A)	48	50	51	51	52
SIZE AND WEIGHT							
A	(15)	mm	1695	2195	2745	2745	2745
B	(15)	mm	1120	1120	1120	1120	1120
H	(15)	mm	1465	1465	1465	1665	1665
Operating weight	(15)	kg	550	780	940	1010	1060

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

AWR-HT-Y

0404 - 0604 116,3-181,2 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

AWR-HT-Y units represent the best solution for systems in which there is the need to produce chilled water and hot water, even for DHW production. The EVI compressor technology with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A (in heating). CA-E and LN-CA-E versions guarantee premium levels of efficiency, making this range the best solution for both cooling and heating process applications.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 1000 kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

AWR-HT-Y / CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	119,7	146,5	181,2
Total power input	(1)	kW	43,80	53,30	65,80
EER	(1)	kW/kW	2,733	2,749	2,754
ESEER	(1)	kW/kW	3,340	3,420	3,310
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	119,4	146,1	180,7
EER	(1)(2)	kW/kW	2,710	2,720	2,730
ESEER	(1)(2)	kW/kW	3,250	3,330	3,230
Cooling energy class			C	C	C
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(3)	kW	134,9	171,0	204,8
Total power input	(3)	kW	39,60	48,10	58,90
COP	(3)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(2)(3)	kW	135,4	171,6	205,5
COP	(2)(3)	kW/kW	3,380	3,520	3,450
Cooling energy class			A	A	A
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)					
Process refrigeration at high temperature					
Prated,c	(4)	kW	-	-	-
SEPR	(4)(6)		-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)					
Process refrigeration at medium temperature					
Prated,c	(5)	kW	-	-	-
SEPR	(5)(6)		-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(7)	kW	92,6	117	139
SCOP	(7)(8)		3,23	3,40	3,29
Performance ηs	(7)(9)	%	126	133	129
Seasonal efficiency class	(7)		-	-	-
PDesign	(10)	kW	98,9	126	148
SCOP	(10)(8)		3,02	3,19	3,08
Performance ηs	(10)(9)	%	118	125	120
Seasonal efficiency class	(10)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	5,724	7,006	8,665
Pressure drop	(1)	kPa	19,6	20,6	24,0
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(3)	l/s	6,512	8,254	9,886
Pressure drop	(3)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	66,0	108	108
NOISE LEVEL					
Sound power level in cooling	(11)(12)	dB(A)	92	93	94
Sound power level in heating	(11)(13)	dB(A)	92	93	94
Sound Pressure	(14)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(15)	mm	3110	4110	4110
B	(15)	mm	2220	2220	2220
H	(15)	mm	2150	2150	2150
Operating weight	(15)	kg	1950	2400	2530

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.
Certified data in EUROVENT

AWR-HT-Y

0404 - 0604 116,3-181,2 kW

High efficiency reversible heat pump, air source for outdoor installation, high water temperature

AWR-HT-Y / LN-CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)					
Cooling capacity	(1)	kW	116,3	144,7	175,8
Total power input	(1)	kW	42,00	52,20	63,20
EER	(1)	kW/kW	2,769	2,772	2,782
ESEER	(1)	kW/kW	3,390	3,470	3,370
COOLING ONLY (EN14511 VALUE)					
Cooling capacity	(1)(2)	kW	116,0	144,3	175,3
EER	(1)(2)	kW/kW	2,740	2,740	2,750
ESEER	(1)(2)	kW/kW	3,310	3,370	3,280
Cooling energy class			C	C	C
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(3)	kW	134,9	171,0	204,8
Total power input	(3)	kW	39,60	48,10	58,90
COP	(3)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(2)(3)	kW	135,4	171,6	205,5
COP	(2)(3)	kW/kW	3,380	3,520	3,450
Cooling energy class			A	A	A
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)					
Process refrigeration at high temperature					
Prated,c	(4)	kW	-	-	-
SEPR	(4)(6)		-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)					
Process refrigeration at medium temperature					
Prated,c	(5)	kW	-	-	-
SEPR	(5)(6)		-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(7)	kW	92,6	117	139
SCOP	(7)(8)		3,23	3,40	3,29
Performance ηs	(7)(9)	%	126	133	129
Seasonal efficiency class	(7)		-	-	-
PDesign	(10)	kW	98,9	126	148
SCOP	(10)(8)		3,02	3,19	3,08
Performance ηs	(10)(9)	%	118	125	120
Seasonal efficiency class	(10)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN REFRIGERATION					
Water flow	(1)	l/s	5,562	6,920	8,407
Pressure drop	(1)	kPa	18,5	20,1	22,6
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(3)	l/s	6,512	8,254	9,886
Pressure drop	(3)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	70,0	110	110
NOISE LEVEL					
Sound power level in cooling	(11)(12)	dB(A)	86	86	87
Sound power level in heating	(11)(13)	dB(A)	88	88	89
Sound Pressure	(14)	dB(A)	67	66	67
SIZE AND WEIGHT					
A	(15)	mm	3110	4110	4110
B	(15)	mm	2220	2220	2220
H	(15)	mm	2150	2150	2150
Operating weight	(15)	kg	1960	2410	2540

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
15 Unit in standard configuration/execution, without optional accessories.

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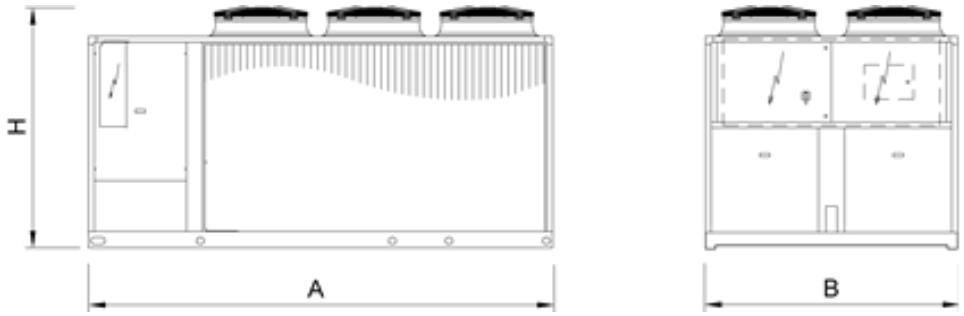
Dimensional drawing



HEAT PUMPS

i-NX-N-Y

Reversible unit, air source for outdoor installation

0151P - 0502P 43,87-128,3 kW

Outdoor unit for the production of chilled/hot water with fixed speed and variable speed (Inverter Driven) Scroll compressors, optimized for R410A in a single-circuit configuration, axial-flow fans, condensing coil with copper tubes and aluminum fins and electronic expansion valve as standard equipment.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise temperature control together with the use of inverter technology. The high performance's level, both full and partial load, is achieved thanks to the accurate unit's design and to the use of fixed speed motor together with variable speed (inverter) motor.

Refrigerant

R410A

Versions

- Basic
- SL Super-low noise version

Configurations

- Basic function
- D Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

VARIABLE PRIMARY FLOW
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed and buffer tank.

TWO SOUND EMISSION LEVELS
Two different acustic versions are available to fit specific application requirements.

Control

Electronic control W3000+
The brand new W3000+ controller offers advanced functions and algorithms. The Compact keypad, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. In addition to or as an alternative, the KIPlink is available - Keyboard In Your Pocket - is the innovative user interface based on WiFi technology that allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor in detail the status of the refrigerant circuits, the compressors, the fans and the pumps (if present) and display and reset the possible alarms. The regulation features the continuous modulation of capacity, based on sequential adjustment + DIP referring to the leaving water temperature (neutral zone adjustment + DIP on outlet temperature probe, for the 0151 size). Diagnostics include complete alarm management, with "blackbox" functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well. The variable primary flow control is always available as per standard (VPF.E function). Supervision is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Compressor power factor correction
- Soft start
- Hydronic kit available in different configurations with 1 or 2 pumps fixed speed or variable speed and buffer tank
- VPF (Variable Primary Flow) system
- EC fans with electronic DC brushless motor
- LOW NOISE KIT (only on no silenced versions)
- User Limit Control (U.L.C.) allows the safe startup of the unit in critical conditions of water and air temperature.
- Night mode is a system setting to limit maximum noise level of the unit.
- Traditional coils with copper tubes and alluminium fins, also available with prepainted fins or Fin Guard Silver protective treatment.

i-NX-N-Y			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	43,87	50,90	62,09	74,40	85,27	104,7	113,8	128,3
Total power input	(1)	kW	15,79	18,34	22,11	26,13	30,40	37,39	41,10	46,15
EER	(1)	kW/kW	2,778	2,781	2,810	2,851	2,806	2,799	2,769	2,783
ESEER	(1)	kW/kW	4,270	4,300	4,140	4,350	4,260	4,450	4,380	4,470
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	43,60	50,60	61,70	74,00	84,90	104,2	113,3	127,7
EER	(1)(2)	kW/kW	2,710	2,720	2,750	2,790	2,760	2,750	2,720	2,730
ESEER	(1)(2)	kW/kW	4,000	4,000	3,860	4,060	4,010	4,160	4,100	4,200
Cooling energy class			C	C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	46,80	53,82	66,60	79,72	90,60	111,6	119,5	138,0
Total power input	(3)	kW	14,85	17,09	21,08	24,83	28,81	35,54	37,97	42,95
COP	(3)	kW/kW	3,141	3,146	3,156	3,214	3,146	3,144	3,145	3,209
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	47,10	54,10	67,00	80,20	91,10	112,2	120,1	138,7
COP	(2)(3)	kW/kW	3,100	3,100	3,110	3,170	3,110	3,110	3,110	3,170
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	34,7	41,4	45,9	61,2	68,9	85,4	85,2	106
SCOP	(7)(8)		3,73	3,80	3,68	3,83	3,84	4,02	3,98	3,97
Performance ηs	(7)(9)	%	146	149	144	150	151	158	156	156
Seasonal efficiency class	(7)		A+	A+	A+	A++	A++	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,098	2,434	2,969	3,558	4,078	5,008	5,442	6,137
Pressure drop	(1)	kPa	37,2	38,2	40,9	42,0	36,2	39,0	38,8	38,4
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,259	2,598	3,215	3,848	4,373	5,387	5,768	6,659
Pressure drop	(3)	kPa	43,1	43,6	48,0	49,1	41,6	45,1	43,6	45,2
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	14,4	19,5	22,9	27,1	26,8	38,7	39,2	50,9
NOISE LEVEL										
Sound Pressure	(10)	dB(A)	66	66	68	69	68	70	70	70
Sound power level in cooling	(11)(12)	dB(A)	84	84	86	87	87	89	89	89
Sound power level in heating	(11)(13)	dB(A)	84	84	85	86	87	89	89	89
SIZE AND WEIGHT										
Operating weight	(14)	kg	650	730	820	880	1030	1190	1210	1340
A	(14)	mm	2000	2000	2625	2625	3250	3250	3250	3875
B	(14)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(14)	mm	2070	2070	2070	2070	2170	2170	2170	2170

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

i-NX-N-Y

0151P - 0502P 43,87-128,3 kW

Reversible unit, air source for outdoor installation

i-NX-N-Y /SL			0151P	0182P	0202P	0262P	0302P	0352P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	40,96	48,39	59,30	72,40	81,36	98,56	111,7	125,7
Total power input	(1)	kW	14,76	17,30	21,37	25,36	28,32	35,56	40,19	43,83
EER	(1)	kW/kW	2,770	2,798	2,771	2,850	2,876	2,770	2,779	2,870
ESEER	(1)	kW/kW	4,360	4,300	4,230	4,380	4,450	4,500	4,580	4,520
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	40,80	48,10	59,00	72,00	81,00	98,20	111,2	125,1
EER	(1)(2)	kW/kW	2,720	2,740	2,720	2,790	2,820	2,730	2,730	2,820
ESEER	(1)(2)	kW/kW	4,110	4,020	3,970	4,080	4,180	4,250	4,320	4,250
Cooling energy class			C	C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	45,67	54,94	66,62	81,40	90,40	110,8	124,4	139,5
Total power input	(3)	kW	13,89	16,82	20,35	24,94	27,68	33,96	38,08	42,74
COP	(3)	kW/kW	3,288	3,268	3,281	3,269	3,264	3,259	3,265	3,267
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	46,00	55,30	67,00	81,90	90,90	111,4	125,1	140,2
COP	(2)(3)	kW/kW	3,240	3,220	3,230	3,220	3,220	3,220	3,220	3,230
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	34,4	41,3	50,0	57,0	67,8	77,4	94,1	105
SCOP	(7)(8)		3,77	3,76	3,68	3,82	3,96	3,93	4,02	4,04
Performance ηs	(7)(9)	%	148	147	144	150	155	154	158	158
Seasonal efficiency class	(7)		A+	A+	A+	A++	A++	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,959	2,314	2,836	3,462	3,891	4,713	5,341	6,010
Pressure drop	(1)	kPa	32,4	34,6	37,3	39,8	33,0	34,6	37,3	36,8
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,205	2,652	3,216	3,929	4,364	5,348	6,004	6,732
Pressure drop	(3)	kPa	41,1	45,4	48,0	51,2	41,5	44,5	47,2	46,2
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	18,8	25,4	26,2	26,6	37,6	37,0	49,9	61,0
NOISE LEVEL										
Sound Pressure	(10)	dB(A)	60	60	61	61	61	63	63	63
Sound power level in cooling	(11)(12)	dB(A)	78	78	79	80	80	82	82	82
Sound power level in heating	(11)(13)	dB(A)	78	78	79	80	80	82	82	82
SIZE AND WEIGHT										
Operating weight	(14)	kg	670	830	860	1010	1080	1260	1320	1460
A	(14)	mm	2000	2625	2625	3250	3250	3875	3875	4500
B	(14)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(14)	mm	2070	2070	2070	2170	2170	2170	2170	2170

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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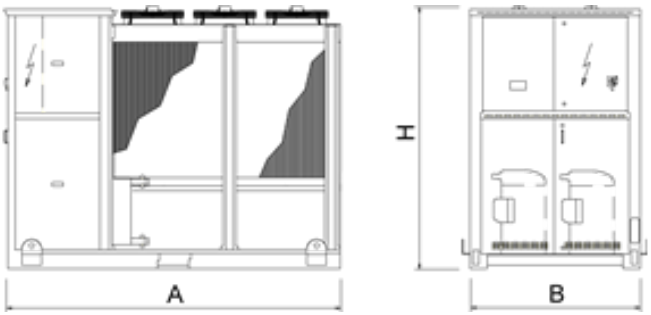
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NX-N-Y

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

Outdoor unit with heat pump for the production of chilled/hot water with hermetic rotary scroll compressors dedicated to the use of R410A, axial fans, plate heat exchanger, condensing coil with copper tubes and aluminum fins and thermostatic or electronic expansion valve, according to the version. The range is composed by units equipped with two compressors in a single-circuit configuration.

Control

W3000 Base – W3000SE Compact

Two different versions of controllers are available:
W3000 Base: complete with keypad, easy-to-use interface and LCD display, menu with up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)
W3000SE Compact: complete with keypad, easy-to-use interface and LCD display, multi-language menu, with selectable language setting on site. Internal clock also included.
Both W3000 electronic controllers offer advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available. Complete alarm management, with the “black-box” and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).
For multiple units’ systems, the regulation of the resources via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed and supervision can be executed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

Refrigerant

R410A

Versions

K	Key efficiency, compact version	CA	Class A of efficiency
LN-K	Low Noise, Key efficiency and compact version	LN-CA	Low Noise, Class A of efficiency

Configurations

- Basic function
- D Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version.

CLASS A EFFICIENCY
The full range is also available with the Class A efficiency rating (in heating). CA version guarantees within all the noise configurations premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans.

WIDE OPERATING RANGE
Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 46 °C during summer.

COMPLIANCE WITH THE STRICTEST EUROPEAN STANDARDS
The main new feature that distinguishes the new NX-N-Y units regards the calculation methods used to define the energy efficiency values.
These values are in fact now calculated not only based on the capacity delivered and power consumed by the unit, but also taking into account heat exchanger pressure drop, or the available pressure head if the unit is installed with pumps, as required by European standard EN14511.
In this way, energy efficiency is no longer an index for evaluating the unit alone, but rather extends the assessment by considering the unit within the system, consequently taking into account the energy required to pump the refrigerant or heat carrier fluid used in the system.

TWO SOUND EMISSION LEVELS
Two different sound emission levels available. This means the best unit can be identified based on requirements, according to the system where it will be installed and the application.

INTEGRATED HYDRONIC GROUP
The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)

NX-N-Y /K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	38,74	43,77	51,01	58,34	64,63	74,11	84,40
Total power input	(1)	kW	13,72	15,79	18,40	20,55	23,26	28,18	32,15
EER	(1)	kW/kW	2,825	2,772	2,772	2,844	2,773	2,628	2,629
ESEER	(1)	kW/kW	4,010	4,030	4,180	3,940	3,960	3,890	4,030
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	38,50	43,50	50,70	58,00	64,30	73,80	83,90
EER	(1)(2)	kW/kW	2,770	2,710	2,710	2,790	2,720	2,590	2,570
ESEER	(1)(2)	kW/kW	3,830	3,850	4,000	3,780	3,820	3,770	3,840
Cooling energy class			C	C	C	C	C	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	42,92	47,38	55,34	65,03	70,69	80,07	92,14
Total power input	(3)	kW	14,03	15,46	18,04	21,30	22,78	25,97	29,56
COP	(3)	kW/kW	3,064	3,058	3,072	3,052	3,101	3,081	3,111
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	43,20	47,70	55,60	65,40	71,10	80,50	92,70
COP	(2)(3)	kW/kW	3,020	3,020	3,030	3,010	3,060	3,050	3,070
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	31,0	34,3	42,1	47,9	51,8	59,1	72,2
SCOP	(7)(8)		3,42	3,42	3,55	3,40	3,44	3,42	3,55
Performance ηs	(7)(9)	%	134	134	139	133	135	134	139
Seasonal efficiency class	(7)		A+	A+	A+	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,853	2,093	2,440	2,790	3,091	3,544	4,036
Pressure drop	(1)	kPa	35,4	33,3	35,0	32,8	32,8	30,9	49,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,072	2,287	2,671	3,139	3,412	3,865	4,448
Pressure drop	(3)	kPa	44,2	39,8	42,0	41,5	40,0	36,8	59,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	12,0	13,3	15,6	17,1	17,2	18,1	26,0
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	67	67	67	67	67	67	68
Sound power level in cooling	(11)(12)	dB(A)	84	84	84	85	85	85	86
Sound power level in heating	(11)(13)	dB(A)	84	84	84	85	85	85	86
SIZE AND WEIGHT									
Operating weight	(14)	kg	510	550	570	640	650	660	790
A	(14)	mm	1825	1825	1825	2395	2395	2395	2395
B	(14)	mm	1195	1195	1195	1195	1195	1195	1195
H	(14)	mm	1865	1865	1865	1865	1865	1865	1865

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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9 Seasonal space heating energy efficiency
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12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

NX-N-Y /K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	100,2	112,5	125,0	138,2	161,9	179,7	198,8
Total power input	(1)	kW	35,65	40,65	45,16	52,25	58,23	67,64	77,66
EER	(1)	kW/kW	2,807	2,764	2,765	2,642	2,782	2,658	2,559
ESEER	(1)	kW/kW	3,730	3,820	3,870	3,870	3,780	3,800	3,690
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	99,60	111,9	124,4	137,5	161,1	178,9	197,8
EER	(1)(2)	kW/kW	2,740	2,710	2,720	2,590	2,730	2,620	2,510
ESEER	(1)(2)	kW/kW	3,580	3,670	3,740	3,720	3,650	3,670	3,560
Cooling energy class			C	C	C	D	C	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	108,3	119,5	133,9	150,1	174,6	193,2	211,4
Total power input	(3)	kW	35,52	39,23	42,92	48,57	57,01	63,19	69,48
COP	(3)	kW/kW	3,051	3,048	3,121	3,088	3,063	3,057	3,042
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	109,0	120,2	134,7	150,9	175,5	194,1	212,6
COP	(2)(3)	kW/kW	3,010	3,010	3,080	3,050	3,030	3,030	3,010
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	80,1	92,5	103	119	133	157	183
SCOP	(7)(8)		3,22	3,23	3,26	3,36	3,24	3,28	3,22
Performance ηs	(7)(9)	%	126	126	127	131	126	128	126
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,790	5,381	5,977	6,611	7,740	8,594	9,506
Pressure drop	(1)	kPa	48,2	49,5	47,2	47,9	47,0	44,8	54,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,226	5,767	6,465	7,244	8,426	9,328	10,20
Pressure drop	(3)	kPa	57,3	56,9	55,3	57,5	55,8	52,8	63,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	30,5	35,1	46,8	47,2	48,9	50,4	52,8
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	70	70	70	72	71	71	72
Sound power level in cooling	(11)(12)	dB(A)	88	88	88	90	90	90	91
Sound power level in heating	(11)(13)	dB(A)	88	88	88	90	90	90	91
SIZE AND WEIGHT									
Operating weight	(14)	kg	970	1020	1150	1210	1330	1360	1380
A	(14)	mm	2825	2825	3360	3360	3980	3980	3980
B	(14)	mm	1195	1195	1195	1195	1195	1195	1195
H	(14)	mm	1980	1980	1980	1980	1980	1980	1980

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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NX-N-Y /LN-K			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	35,79	39,83	46,78	53,44	60,38	69,88	77,90
Total power input	(1)	kW	15,18	17,57	19,87	22,43	25,78	29,89	34,94
EER	(1)	kW/kW	2,355	2,261	2,352	2,384	2,341	2,338	2,232
ESEER	(1)	kW/kW	3,910	3,750	4,070	3,820	3,840	3,850	3,920
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	35,60	39,60	46,60	53,10	60,10	69,60	77,50
EER	(1)(2)	kW/kW	2,310	2,220	2,320	2,350	2,300	2,300	2,200
ESEER	(1)(2)	kW/kW	3,750	3,620	3,910	3,680	3,710	3,720	3,770
Cooling energy class			E	F	E	E	E	E	F
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	42,92	47,38	55,34	65,03	70,69	80,07	92,14
Total power input	(3)	kW	14,03	15,46	18,04	21,30	22,78	25,97	29,56
COP	(3)	kW/kW	3,064	3,058	3,072	3,052	3,101	3,081	3,111
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	43,20	47,70	55,60	65,40	71,10	80,50	92,70
COP	(2)(3)	kW/kW	3,020	3,020	3,030	3,010	3,060	3,050	3,070
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	31,0	34,3	42,1	47,9	51,8	59,1	72,2
SCOP	(7)(8)		3,42	3,42	3,55	3,40	3,44	3,42	3,55
Performance ηs	(7)(9)	%	134	134	139	133	135	134	139
Seasonal efficiency class	(7)		A+	A+	A+	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,712	1,905	2,237	2,556	2,887	3,342	3,725
Pressure drop	(1)	kPa	30,2	27,6	29,4	27,5	28,6	27,5	41,9
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,072	2,287	2,671	3,139	3,412	3,865	4,448
Pressure drop	(3)	kPa	44,2	39,8	42,0	41,5	40,0	36,8	59,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	12,0	13,3	15,6	17,1	17,2	18,1	26,0
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	60	60	60	60	61	62	64
Sound power level in cooling	(11)(12)	dB(A)	77	77	77	78	79	80	82
Sound power level in heating	(11)(13)	dB(A)	78	78	78	79	80	81	83
SIZE AND WEIGHT									
Operating weight	(14)	kg	510	560	580	650	660	670	800
A	(14)	mm	1825	1825	1825	2395	2395	2395	2395
B	(14)	mm	1195	1195	1195	1195	1195	1195	1195
H	(14)	mm	1865	1865	1865	1865	1865	1865	1865

Notes

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2 Values in compliance with EN14511
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NX-N-Y

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

NX-N-Y /LN-K			0402P	0452P	0502P	0552P	0602P	0702P	0802P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	94,49	103,6	113,9	131,6	154,3	168,3	179,5
Total power input	(1)	kW	36,72	42,46	47,78	54,13	60,50	71,63	83,80
EER	(1)	kW/kW	2,575	2,438	2,383	2,433	2,550	2,351	2,142
ESEER	(1)	kW/kW	3,890	3,890	3,850	3,990	3,960	3,910	3,620
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	94,00	103,1	113,4	131,0	153,6	167,6	178,7
EER	(1)(2)	kW/kW	2,530	2,400	2,350	2,390	2,510	2,320	2,110
ESEER	(1)(2)	kW/kW	3,750	3,750	3,730	3,850	3,820	3,780	3,500
Cooling energy class			D	E	E	E	D	E	F
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	108,3	119,5	133,9	150,1	174,6	193,2	211,4
Total power input	(3)	kW	35,52	39,23	42,92	48,57	57,01	63,19	69,48
COP	(3)	kW/kW	3,051	3,048	3,121	3,088	3,063	3,057	3,042
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	109,0	120,2	134,7	150,9	175,5	194,1	212,6
COP	(2)(3)	kW/kW	3,010	3,010	3,080	3,050	3,030	3,030	3,010
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	80,1	92,5	103	119	133	157	183
SCOP	(7)(8)		3,31	3,41	3,46	3,51	3,41	3,48	3,38
Performance ηs	(7)(9)	%	130	133	136	137	134	136	132
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,519	4,955	5,447	6,294	7,379	8,047	8,586
Pressure drop	(1)	kPa	42,9	42,0	39,2	43,4	42,8	39,3	44,7
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,226	5,767	6,465	7,244	8,426	9,328	10,20
Pressure drop	(3)	kPa	57,3	56,9	55,3	57,5	55,8	52,8	63,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	30,5	35,1	46,8	47,2	48,9	50,4	52,8
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	65	65	65	66	65	65	67
Sound power level in cooling	(11)(12)	dB(A)	83	83	83	84	84	84	86
Sound power level in heating	(11)(13)	dB(A)	84	84	84	85	85	85	87
SIZE AND WEIGHT									
Operating weight	(14)	kg	1010	1100	1200	1250	1360	1410	1430
A	(14)	mm	2825	2825	3360	3360	3980	3980	3980
B	(14)	mm	1195	1195	1195	1195	1195	1195	1195
H	(14)	mm	1980	1980	1980	1980	1980	1980	1980

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y /CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	40,00	45,28	51,24	59,61	66,85	80,91	91,97
Total power input	(1)	kW	13,05	14,98	18,03	19,90	22,45	27,02	30,81
EER	(1)	kW/kW	3,077	3,020	2,844	2,995	2,969	2,996	2,987
ESEER	(1)	kW/kW	4,190	4,240	4,220	4,050	4,120	4,010	4,120
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	39,70	45,00	50,90	59,30	66,50	80,50	91,40
EER	(1)(2)	kW/kW	3,000	2,950	2,780	2,940	2,920	2,940	2,910
ESEER	(1)(2)	kW/kW	3,970	4,030	4,030	3,880	3,960	3,850	3,890
Cooling energy class			B	B	C	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	46,11	50,95	59,03	69,51	74,54	86,77	98,61
Total power input	(3)	kW	14,11	15,52	18,10	21,35	22,90	26,67	30,27
COP	(3)	kW/kW	3,270	3,290	3,260	3,263	3,253	3,251	3,254
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	46,40	51,30	59,40	69,90	74,90	87,30	99,30
COP	(2)(3)	kW/kW	3,210	3,240	3,210	3,220	3,210	3,210	3,200
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	33,5	37,2	43,9	51,5	55,6	64,9	73,1
SCOP	(7)(8)		3,77	3,77	3,89	3,76	3,76	3,55	3,56
Performance ηs	(7)(9)	%	148	148	153	147	147	139	140
Seasonal efficiency class	(7)		A+	A+	A++	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,913	2,165	2,450	2,851	3,197	3,869	4,398
Pressure drop	(1)	kPa	37,7	35,7	35,3	34,2	35,1	36,9	58,4
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,226	2,459	2,849	3,355	3,598	4,189	4,760
Pressure drop	(3)	kPa	51,0	46,0	47,8	47,4	44,5	43,2	68,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	14,3	15,0	15,0	16,5	16,9	20,0	27,6
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	66	66	66	67	67	70	70
Sound power level in cooling	(11)(12)	dB(A)	84	84	84	85	85	88	88
Sound power level in heating	(11)(13)	dB(A)	84	84	84	85	85	88	88
SIZE AND WEIGHT									
Operating weight	(14)	kg	590	640	640	670	670	800	990
A	(14)	mm	2395	2395	2395	2395	2395	2825	3360
B	(14)	mm	1195	1195	1195	1195	1195	1195	1195
H	(14)	mm	1865	1865	1865	1865	1865	1980	1980

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

NX-N-Y /CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	102,2	116,2	130,9	152,5	169,7	197,7	219,5
Total power input	(1)	kW	34,37	39,11	43,52	51,30	56,48	66,46	72,23
EER	(1)	kW/kW	2,971	2,972	3,009	2,973	3,004	2,973	3,040
ESEER	(1)	kW/kW	4,130	4,170	4,050	4,040	4,050	3,930	3,860
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	101,6	115,5	130,2	151,6	168,8	196,7	218,3
EER	(1)(2)	kW/kW	2,900	2,900	2,950	2,900	2,940	2,910	2,970
ESEER	(1)(2)	kW/kW	3,940	3,960	3,880	3,840	3,890	3,770	3,700
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	110,4	122,2	138,2	161,4	180,6	209,2	232,2
Total power input	(3)	kW	33,87	37,61	42,39	49,67	55,59	64,39	71,18
COP	(3)	kW/kW	3,257	3,250	3,259	3,247	3,248	3,248	3,261
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	111,1	123,0	139,0	162,4	181,6	210,3	233,7
COP	(2)(3)	kW/kW	3,210	3,200	3,220	3,200	3,210	3,210	3,210
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	81,1	92,2	104	115	134	154	179
SCOP	(7)(8)		3,58	3,65	3,56	3,45	3,55	3,39	3,34
Performance ηs	(7)(9)	%	140	143	139	135	139	133	131
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,885	5,558	6,260	7,294	8,117	9,453	10,50
Pressure drop	(1)	kPa	50,1	52,8	51,8	58,3	51,7	54,2	66,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,328	5,898	6,670	7,791	8,719	10,10	11,21
Pressure drop	(3)	kPa	59,6	59,5	58,8	66,5	59,7	61,9	76,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	31,3	33,6	38,5	46,3	54,1	60,3	70,9
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	71	71	71	71	71	72	73
Sound power level in cooling	(11)(12)	dB(A)	89	89	90	91	91	92	93
Sound power level in heating	(11)(13)	dB(A)	89	89	90	91	91	92	93
SIZE AND WEIGHT									
Operating weight	(14)	kg	1120	1170	1290	1790	1890	2150	2260
A	(14)	mm	3360	3360	3980	4110	4110	5110	5110
B	(14)	mm	1195	1195	1195	2220	2220	2220	2220
H	(14)	mm	1980	1980	1980	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y /LN-CA			0152P	0182P	0202P	0252P	0262P	0302P	0352P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	36,27	40,93	47,54	54,33	59,83	79,38	87,12
Total power input	(1)	kW	14,64	16,94	19,49	21,98	25,21	26,81	31,17
EER	(1)	kW/kW	2,486	2,420	2,436	2,468	2,373	2,963	2,792
ESEER	(1)	kW/kW	3,980	3,900	4,140	3,890	3,830	4,120	4,080
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	36,10	40,70	47,30	54,00	59,50	79,00	86,60
EER	(1)(2)	kW/kW	2,440	2,380	2,400	2,430	2,330	2,900	2,730
ESEER	(1)(2)	kW/kW	3,810	3,760	3,970	3,750	3,700	3,960	3,880
Cooling energy class			E	E	E	E	E	B	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	46,11	50,95	59,03	69,51	74,54	86,77	98,61
Total power input	(3)	kW	14,11	15,52	18,10	21,35	22,90	26,67	30,27
COP	(3)	kW/kW	3,270	3,290	3,260	3,263	3,253	3,251	3,254
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	46,40	51,30	59,40	69,90	74,90	87,30	99,30
COP	(2)(3)	kW/kW	3,210	3,240	3,210	3,220	3,210	3,210	3,200
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	33,5	37,2	43,9	51,5	55,6	64,9	73,1
SCOP	(7)(8)		3,77	3,77	3,89	3,76	3,76	3,55	3,56
Performance ηs	(7)(9)	%	148	148	153	147	147	139	140
Seasonal efficiency class	(7)		A+	A+	A++	A+	A+	A+	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	1,734	1,957	2,274	2,598	2,861	3,796	4,166
Pressure drop	(1)	kPa	31,0	29,1	30,4	28,4	28,1	35,5	52,4
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	2,226	2,459	2,849	3,355	3,598	4,189	4,760
Pressure drop	(3)	kPa	51,0	46,0	47,8	47,4	44,5	43,2	68,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	14,3	15,0	15,0	16,5	16,9	20,0	27,6
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	59	59	59	60	61	64	65
Sound power level in cooling	(11)(12)	dB(A)	77	77	77	78	79	82	83
Sound power level in heating	(11)(13)	dB(A)	78	78	78	79	80	83	84
SIZE AND WEIGHT									
Operating weight	(14)	kg	600	640	650	710	720	840	1000
A	(14)	mm	2395	2395	2395	2395	2395	2825	3360
B	(14)	mm	1195	1195	1195	1195	1195	1195	1195
H	(14)	mm	1865	1865	1865	1865	1865	1980	1980

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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NX-N-Y

Reversible unit, air source for outdoor installation

0152P - 0812P 35,79-219,5 kW

NX-N-Y /LN-CA			0402P	0452P	0502P	0562P	0612P	0712P	0812P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	98,99	109,9	124,9	144,3	165,3	188,9	212,4
Total power input	(1)	kW	34,53	39,69	43,65	50,06	55,75	63,77	70,06
EER	(1)	kW/kW	2,870	2,768	2,858	2,880	2,968	2,961	3,030
ESEER	(1)	kW/kW	4,090	4,120	4,040	4,010	4,120	3,950	3,910
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	98,40	109,3	124,3	143,5	164,5	188,0	211,3
EER	(1)(2)	kW/kW	2,800	2,710	2,810	2,820	2,910	2,910	2,970
ESEER	(1)(2)	kW/kW	3,900	3,930	3,890	3,820	3,970	3,800	3,760
Cooling energy class			C	C	C	C	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	110,4	122,2	138,2	161,4	180,6	209,2	232,2
Total power input	(3)	kW	33,87	37,61	42,39	49,67	55,59	64,39	71,18
COP	(3)	kW/kW	3,257	3,250	3,259	3,247	3,248	3,248	3,261
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	111,1	123,0	139,0	162,4	181,6	210,3	233,7
COP	(2)(3)	kW/kW	3,210	3,200	3,220	3,200	3,210	3,210	3,210
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	81,1	92,2	104	115	134	154	179
SCOP	(7)(8)		3,58	3,65	3,56	3,45	3,55	3,39	3,34
Performance ηs	(7)(9)	%	140	143	139	135	139	133	131
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	4,734	5,256	5,971	6,900	7,906	9,034	10,16
Pressure drop	(1)	kPa	47,0	47,3	47,1	52,1	49,1	49,5	62,6
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	5,328	5,898	6,670	7,791	8,719	10,10	11,21
Pressure drop	(3)	kPa	59,6	59,5	58,8	66,5	59,7	61,9	76,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	31,3	33,6	38,5	46,3	54,1	60,3	70,9
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	66	66	65	65	65	66	67
Sound power level in cooling	(11)(12)	dB(A)	84	84	84	85	85	86	87
Sound power level in heating	(11)(13)	dB(A)	85	85	85	86	86	87	88
SIZE AND WEIGHT									
Operating weight	(14)	kg	1130	1190	1300	1800	1900	2160	2270
A	(14)	mm	3360	3360	3980	4110	4110	5110	5110
B	(14)	mm	1195	1195	1195	2220	2220	2220	2220
H	(14)	mm	1980	1980	1980	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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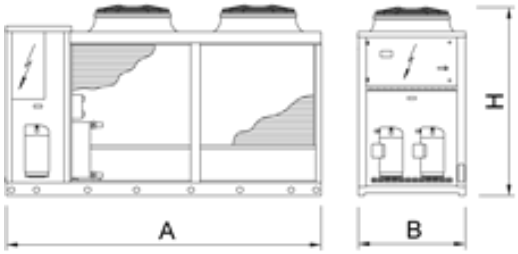
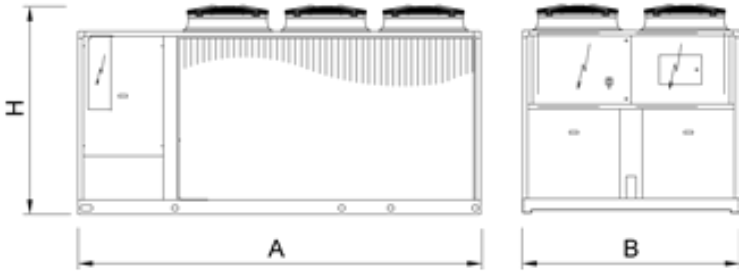
Certified data in EUROVENT

Dimensional drawing





HEAT PUMPS

NX-N-Y

Reversible unit, air source for outdoor installation

0604P - 1204P 148,0-319,3 kW

Outdoor reversible unit for the production of chilled/hot water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, copper tubes aluminum fins air coils, braze-welded plate-type exchanger and thermostatic expansion valve. External panels in pre-clad sheet steel and base in galvanised steel with paint finish. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigerant circuits.

Refrigerant

R410A

Versions

K	Key efficiency, compact version
LN-K	Low Noise, Key efficiency and compact version
SL-K	Super Low noise, Key efficiency and compact version

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Rubber anti-vibration mounting kit. Spring anti-vibration mounting kit (4 compressors models only)

Control

W3000SE Compact

W3000SE Compact offers advanced functions and algorithms.
The keypad features an easy-to-use interface and a LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

NX-N-Y / K			0604P	0704P	0804P	0904P	1004P	1104P	1204P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	160,1	185,8	211,0	245,2	274,1	298,0	319,3
Total power input	(1)	kW	56,89	67,41	75,89	88,76	99,42	106,4	115,9
EER	(1)	kW/kW	2,814	2,757	2,780	2,761	2,758	2,801	2,755
ESEER	(1)	kW/kW	3,870	4,010	4,070	3,950	3,990	4,050	4,040
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,4	185,0	210,1	244,1	272,9	296,9	318,0
EER	(1)(2)	kW/kW	2,770	2,710	2,740	2,720	2,710	2,760	2,710
ESEER	(1)(2)	kW/kW	3,700	3,830	3,890	3,770	3,810	3,880	3,870
Cooling energy class			C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	173,5	201,7	230,4	271,3	299,5	324,0	344,6
Total power input	(3)	kW	56,39	66,40	75,45	89,20	98,31	105,7	112,8
COP	(3)	kW/kW	3,076	3,038	3,056	3,041	3,047	3,065	3,055
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	174,4	202,6	231,5	272,7	301,0	325,4	346,3
COP	(2)(3)	kW/kW	3,040	3,010	3,030	3,010	3,020	3,040	3,020
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	127	148	172	200	226	242	260
SCOP	(7)(8)		3,23	3,27	3,27	3,21	3,24	3,26	3,21
Performance ηs	(7)(9)	%	126	128	128	125	126	127	125
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,655	8,885	10,09	11,73	13,11	14,25	15,27
Pressure drop	(1)	kPa	42,5	43,2	44,9	49,2	49,2	43,7	50,1
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,375	9,738	11,12	13,09	14,45	15,64	16,64
Pressure drop	(3)	kPa	50,9	51,9	54,5	61,3	59,8	52,6	59,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	35,8	55,6	79,1	79,2	82,8	104	104
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	73	72	73	74	75	75	75
Sound power level in cooling	(11)(12)	dB(A)	92	92	93	94	95	95	95
Sound power level in heating	(11)(13)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
Operating weight	(14)	kg	1640	1990	2120	2360	2500	2850	2880
A	(14)	mm	3110	4110	4110	4110	4110	5110	5110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y

Reversible unit, air source for outdoor installation

0604P - 1204P 148,0-319,3 kW

NX-N-Y / LN-K			0604P	0704P	0804P	0904P	1004P	1104P	1204P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	152,7	174,4	200,7	234,3	258,2	282,8	303,1
Total power input	(1)	kW	56,90	68,54	78,32	90,02	101,4	108,7	119,2
EER	(1)	kW/kW	2,684	2,546	2,563	2,603	2,546	2,602	2,543
ESEER	(1)	kW/kW	3,960	4,080	4,120	4,080	4,020	4,060	4,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	152,0	173,7	199,9	233,4	257,2	281,8	301,9
EER	(1)(2)	kW/kW	2,640	2,510	2,530	2,570	2,510	2,570	2,510
ESEER	(1)(2)	kW/kW	3,780	3,900	3,950	3,900	3,860	3,910	3,880
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	165,4	192,2	221,4	255,0	283,8	310,1	329,1
Total power input	(3)	kW	52,69	62,99	71,89	83,89	92,88	100,4	107,3
COP	(3)	kW/kW	3,139	3,051	3,079	3,039	3,055	3,089	3,067
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	166,2	193,1	222,4	256,2	285,1	311,4	330,6
COP	(2)(3)	kW/kW	3,110	3,020	3,050	3,010	3,030	3,060	3,040
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	126	132	170	196	223	239	257
SCOP	(7)(8)		3,34	3,30	3,51	3,37	3,38	3,42	3,43
Performance ηs	(7)(9)	%	130	129	137	132	132	134	134
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,304	8,339	9,597	11,20	12,35	13,52	14,49
Pressure drop	(1)	kPa	38,7	38,0	40,6	44,9	43,7	39,3	45,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,982	9,279	10,69	12,31	13,70	14,97	15,88
Pressure drop	(3)	kPa	46,2	47,1	50,3	54,2	53,7	48,2	54,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	35,8	55,6	79,1	79,2	82,8	104	104
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	67	66	67	68	69	70	70
Sound power level in cooling	(11)(12)	dB(A)	86	86	87	88	89	90	90
Sound power level in heating	(11)(13)	dB(A)	87	87	88	89	90	91	91
SIZE AND WEIGHT									
Operating weight	(14)	kg	1690	2040	2170	2410	2550	2900	2930
A	(14)	mm	3110	4110	4110	4110	4110	5110	5110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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6 Seasonal energy efficiency ratio
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9 Seasonal space heating energy efficiency
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12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
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NX-N-Y / SL-K			0604P	0704P	0804P	0904P	1004P	1104P	1204P
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	148,0	175,5	201,7	232,0	255,7	281,1	303,4
Total power input	(1)	kW	57,83	68,54	78,93	88,21	100,4	110,5	119,3
EER	(1)	kW/kW	2,561	2,562	2,556	2,630	2,547	2,544	2,543
ESEER	(1)	kW/kW	4,070	4,070	4,110	4,120	4,120	4,090	4,090
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	147,4	174,8	200,9	231,1	254,7	280,1	302,2
EER	(1)(2)	kW/kW	2,520	2,530	2,520	2,590	2,510	2,510	2,510
ESEER	(1)(2)	kW/kW	3,900	3,890	3,930	3,930	3,950	3,940	3,920
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	160,2	193,0	223,2	256,8	282,7	307,3	330,1
Total power input	(3)	kW	51,18	63,61	72,49	82,20	91,24	100,2	108,2
COP	(3)	kW/kW	3,129	3,035	3,079	3,124	3,100	3,067	3,051
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	160,9	193,9	224,2	258,0	284,0	308,5	331,6
COP	(2)(3)	kW/kW	3,100	3,010	3,050	3,090	3,070	3,040	3,020
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	125	135	172	197	219	239	258
SCOP	(7)(8)		3,45	3,24	3,47	3,54	3,46	3,40	3,41
Performance ηs	(7)(9)	%	135	127	136	139	136	133	133
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,079	8,392	9,645	11,10	12,23	13,44	14,51
Pressure drop	(1)	kPa	36,4	38,5	41,0	44,0	42,8	38,9	45,3
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,734	9,316	10,78	12,40	13,65	14,83	15,93
Pressure drop	(3)	kPa	43,4	47,5	51,2	55,0	53,3	47,3	54,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	35,8	59,6	79,1	79,2	82,8	104	104
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	63	63	63	64	65	66	67
Sound power level in cooling	(11)(12)	dB(A)	82	83	83	84	85	86	87
Sound power level in heating	(11)(13)	dB(A)	83	84	84	85	86	87	88
SIZE AND WEIGHT									
Operating weight	(14)	kg	1690	2130	2260	2690	2830	3020	3040
A	(14)	mm	3110	4110	4110	5110	5110	5110	5110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
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12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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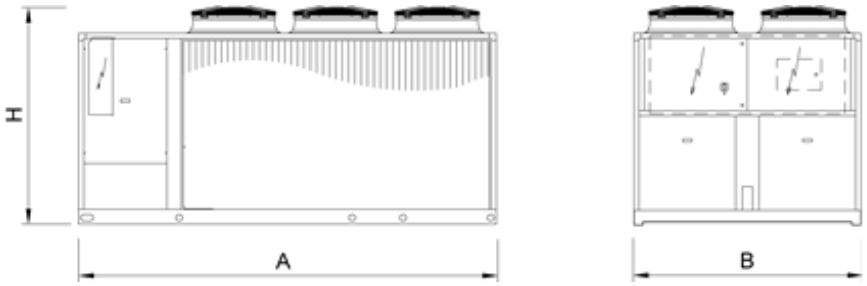
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NECS-N-Y

0202T - 0612T 48,00-150,5 kW

Reversible unit, air source for outdoor installation

Outdoor reversible heat pump for the production of chilled/hot water with hermetic rotary Scroll compressors, axial-flow fans, shell and tubes heat exchanger and thermostatic expansion valve. External panels in Peraluman and structure in aluminium sections. The range is equipped with two compressors on two independent refrigerant circuits.

Control

W3000 Base – W3000SE Compact

Two different versions of controllers are available:
W3000 Base: complete with keypad, easy-to-use interface and LCD display, menu with up to three languages (Italian and English come standard, a further language can be chosen within French, Spanish, German, Russian and Swedish)
W3000SE Compact: complete with keypad, easy-to-use interface and LCD display, multi-language menu, with selectable language setting on site. Internal clock also included.
Both W3000 electronic controllers offer advanced functions and algorithms. The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available. Complete alarm management, with the “black-box” and alarm logging functions for enhanced analysis of the unit operation (available on W3000SE Compact only).
For multiple units’ systems, the regulation of the resources via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed and supervision can be executed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks. Compatibility with the remote keyboard managing up to 10 units. The internal real time clock allows to manage a weekly schedule operating on 4-day profiles with 10 hour belts (available on W3000SE Compact only, optional on W3000 Base controller).

Refrigerant

R410A

Versions

B Basic

LN Low noise

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the units installation, keeping the efficiency at the maximum level. For this reason, NECS-N-Y represents the best choice for all the process cooling applications.

INTEGRATED HYDRONIC GROUP

The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

MAXIMUM RELIABILITY

Unit with two independent refrigerant circuit, designed to ensure maximum efficiency at full load, ensuring uninterrupted operation even in the event of temporary stop of one of the two circuits.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Rubber anti-vibration mounting kit
- Compact keyboard with LCD display and multi-language user interface (referred to the shown picture)

NECS-N-Y / B			0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	50,26	57,51	72,05	82,47	93,87	106,6	120,1	137,6	150,5
Total power input	(1)	kW	18,42	20,40	28,03	32,01	35,96	39,84	43,96	50,37	58,90
EER	(1)	kW/kW	2,734	2,819	2,571	2,578	2,608	2,678	2,730	2,730	2,555
ESEER	(1)	kW/kW	3,520	3,590	3,310	3,300	3,310	3,390	3,450	3,460	3,260
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	50,20	57,40	71,80	82,30	93,70	106,3	119,8	137,2	150,0
EER	(1)(2)	kW/kW	2,710	2,800	2,550	2,560	2,590	2,650	2,700	2,700	2,530
ESEER	(1)(2)	kW/kW	3,480	3,530	3,250	3,250	3,260	3,330	3,390	3,380	3,180
Cooling energy class			C	C	D	D	D	D	C	C	D
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	55,10	65,16	81,04	93,45	105,4	120,7	135,7	156,5	172,5
Total power input	(3)	kW	18,47	21,23	26,10	29,77	33,91	37,89	42,29	48,36	54,39
COP	(3)	kW/kW	2,978	3,075	3,103	3,138	3,109	3,185	3,208	3,233	3,171
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	55,20	65,30	81,20	93,80	105,7	121,1	136,1	157,0	173,1
COP	(2)(3)	kW/kW	2,970	3,060	3,090	3,120	3,090	3,160	3,190	3,210	3,150
Cooling energy class			C	B	B	B	B	B	B	A	B
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	42,2	47,8	60,6	71,7	76,5	91,3	97,5	117	132
SCOP	(7)(8)		3,22	3,24	3,22	3,27	3,21	3,30	3,29	3,36	3,31
Performance ηs	(7)(9)	%	126	127	126	128	125	129	129	131	129
Seasonal efficiency class	(7)		A+	A+	A+	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,404	2,750	3,445	3,944	4,489	5,100	5,744	6,580	7,199
Pressure drop	(1)	kPa	5,60	7,29	11,6	15,1	11,9	15,4	14,1	19,6	23,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	2,660	3,145	3,912	4,511	5,089	5,824	6,551	7,556	8,329
Pressure drop	(3)	kPa	6,86	9,54	14,9	19,8	15,3	20,0	18,4	25,8	31,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	17,4	20,4	20,5	23,0	23,1	27,5	30,9	35,6	41,2
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	68	68	68	69	69	69	69	69	69
Sound power level in cooling	(11)(12)	dB(A)	85	85	85	86	86	86	87	87	87
Sound power level in heating	(11)(13)	dB(A)	85	85	85	86	86	86	87	87	87
SIZE AND WEIGHT											
Operating weight	(14)	kg	645	670	710	800	985	1030	1175	1220	1265
A	(14)	mm	2195	2195	2195	2195	2745	2745	3245	3245	3245
B	(14)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(14)	mm	1465	1465	1465	1465	1465	1465	1665	1665	1665

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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NECS-N-Y

0202T - 0612T 48,00-150,5 kW

Reversible unit, air source for outdoor installation

NECS-N-Y / LN			0202T	0252T	0302T	0352T	0412T	0452T	0512T	0552T	0612T
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	48,00	54,63	73,17	83,52	93,89	103,2	118,9	131,7	143,1
Total power input	(1)	kW	19,05	21,35	27,18	31,94	35,95	41,59	44,56	53,33	62,75
EER	(1)	kW/kW	2,526	2,563	2,691	2,618	2,608	2,481	2,666	2,471	2,282
ESEER	(1)	kW/kW	3,520	3,310	3,460	3,330	3,330	3,170	3,380	3,160	2,930
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	47,90	54,50	73,00	83,30	93,70	102,9	118,6	131,4	142,7
EER	(1)(2)	kW/kW	2,510	2,550	2,660	2,600	2,590	2,460	2,640	2,450	2,260
ESEER	(1)(2)	kW/kW	3,260	3,260	3,390	3,270	3,270	3,110	3,320	3,110	2,880
Cooling energy class			D	D	D	D	D	E	D	E	F
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	54,05	63,60	84,07	96,18	108,9	120,6	137,5	153,9	169,4
Total power input	(3)	kW	18,07	20,63	26,05	30,42	34,10	37,89	42,38	48,27	54,25
COP	(3)	kW/kW	2,989	3,087	3,222	3,164	3,194	3,182	3,243	3,186	3,120
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	54,20	63,70	84,30	96,50	109,2	121,0	137,9	154,4	170,0
COP	(2)(3)	kW/kW	2,980	3,070	3,200	3,140	3,170	3,160	3,220	3,160	3,100
Cooling energy class			C	B	A	B	B	B	A	B	B
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	38,3	45,3	59,2	66,7	79,5	90,6	103	116	130
SCOP	(7)(8)		3,32	3,37	3,44	3,33	3,47	3,45	3,51	3,32	3,27
Performance ηs	(7)(9)	%	130	132	135	130	136	135	138	130	128
Seasonal efficiency class	(7)		A+	A+	A+	A+	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,295	2,613	3,499	3,994	4,490	4,937	5,686	6,298	6,842
Pressure drop	(1)	kPa	5,11	6,58	11,9	15,5	11,9	14,4	13,8	17,9	21,2
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	2,609	3,070	4,058	4,643	5,257	5,824	6,636	7,429	8,176
Pressure drop	(3)	kPa	6,60	9,09	16,1	20,9	16,4	20,0	18,8	25,0	30,2
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	17,4	20,4	20,5	29,9	33,9	27,5	41,2	41,2	41,2
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	63	63	64	65	65	65	66	66	66
Sound power level in cooling	(11)(12)	dB(A)	80	80	81	83	83	83	84	84	84
Sound power level in heating	(11)(13)	dB(A)	81	81	82	84	84	84	85	85	85
SIZE AND WEIGHT											
Operating weight	(14)	kg	645	670	795	935	1060	1065	1230	1220	1265
A	(14)	mm	2195	2195	2745	2745	2745	2745	3245	3245	3245
B	(14)	mm	1120	1120	1120	1120	1120	1120	1120	1120	1120
H	(14)	mm	1465	1465	1465	1665	1665	1665	1665	1665	1665

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

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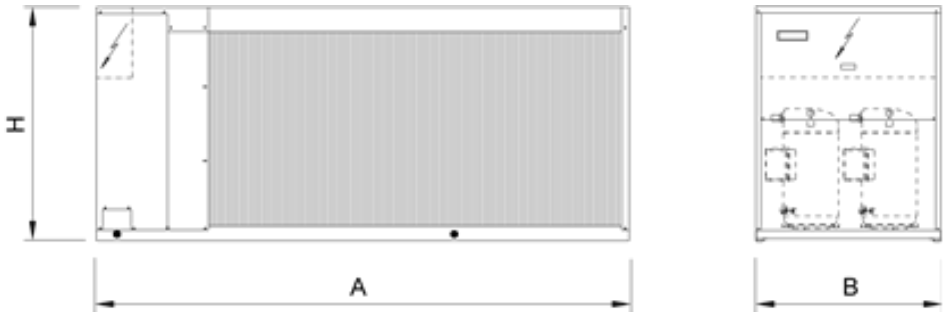
Dimensional drawing



HEAT PUMPS

NX-N-Y

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

Outdoor reversible unit for the production of chilled/hot water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, copper tubes aluminum fins air coils, shell and tubes heat exchanger, and thermostatic or electronic expansion valve, according to the model. External panels in pre-clad sheet steel and base in galvanised steel with paint finish. The range is composed by units equipped with four compressors in tandem configuration on two independent refrigerant circuits.

Control

W3000SE Compact

W3000SE Compact offers advanced functions and algorithms. The keypad features an easy-to-use interface and a LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

K	Key efficiency, compact version
LN-K	Low Noise, Key efficiency and compact version
SL-K	Super Low noise, Key efficiency and compact version
CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It has been introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions. The electronic expansion valve comes standard in the high-efficieny CA version, optional for the compact K versions.

CLASS A EFFICIENCY

The full range is also available with the Class A efficiency rating (in heating). CA version guarantees within all the noise configurations premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans.

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit's installation, keeping at the minimum level the pressure drops on the hydronic side, thus representing the best choice for all the hydronic applications on the process market.

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Electronic expansion valve

NX-N-Y / K			0604T	0704T	0804T	0904T	1004T	1104T	1204T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	160,1	185,8	211,0	245,2	274,1	298,0	319,3
Total power input	(1)	kW	56,89	67,41	75,89	88,76	99,42	106,4	115,9
EER	(1)	kW/kW	2,814	2,757	2,780	2,761	2,758	2,801	2,755
ESEER	(1)	kW/kW	3,870	4,010	4,070	3,950	3,990	4,050	4,040
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	159,6	185,2	210,1	244,2	272,8	297,0	318,2
EER	(1)(2)	kW/kW	2,780	2,720	2,740	2,720	2,710	2,770	2,720
ESEER	(1)(2)	kW/kW	3,770	3,860	3,870	3,780	3,800	3,910	3,890
Cooling energy class			C	C	C	C	C	C	C
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	173,5	201,7	230,4	271,3	299,5	324,0	344,6
Total power input	(3)	kW	56,39	66,40	75,45	89,20	98,31	105,7	112,8
COP	(3)	kW/kW	3,076	3,038	3,056	3,041	3,047	3,065	3,055
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	174,0	202,4	231,6	272,6	301,1	325,2	346,0
COP	(2)(3)	kW/kW	3,060	3,010	3,020	3,010	3,010	3,040	3,030
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	127	148	172	200	226	241	260
SCOP	(7)(8)		3,27	3,29	3,26	3,21	3,22	3,27	3,22
Performance ηs	(7)(9)	%	128	129	127	125	126	128	126
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,655	8,885	10,09	11,73	13,11	14,25	15,27
Pressure drop	(1)	kPa	22,0	29,7	47,8	44,4	55,5	35,5	40,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,375	9,738	11,12	13,09	14,45	15,64	16,64
Pressure drop	(3)	kPa	26,4	35,6	58,0	55,3	67,4	42,8	48,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	36,0	56,2	77,2	77,3	77,4	99,1	99,2
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	73	72	73	74	75	75	75
Sound power level in cooling	(11)(12)	dB(A)	92	92	93	94	95	95	95
Sound power level in heating	(11)(13)	dB(A)	92	92	93	94	95	95	95
SIZE AND WEIGHT									
Operating weight	(14)	kg	1810	2180	2340	2560	2650	3150	3190
A	(14)	mm	3110	4110	4110	4110	4110	5110	5110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

NX-N-Y / LN-K			0604T	0704T	0804T	0904T	1004T	1104T	1204T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	152,7	174,4	200,7	234,3	258,2	282,8	303,1
Total power input	(1)	kW	56,90	68,54	78,32	90,02	101,4	108,7	119,2
EER	(1)	kW/kW	2,684	2,546	2,563	2,603	2,546	2,602	2,543
ESEER	(1)	kW/kW	3,960	4,080	4,120	4,080	4,020	4,060	4,050
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	152,3	173,9	199,9	233,4	257,1	281,9	302,1
EER	(1)(2)	kW/kW	2,660	2,520	2,530	2,570	2,510	2,570	2,510
ESEER	(1)(2)	kW/kW	3,850	3,940	3,940	3,910	3,840	3,930	3,910
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	165,4	192,2	221,4	255,0	283,8	310,1	329,1
Total power input	(3)	kW	52,69	62,99	71,89	83,89	92,88	100,4	107,3
COP	(3)	kW/kW	3,139	3,051	3,079	3,039	3,055	3,089	3,067
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	165,9	192,9	222,5	256,1	285,2	311,2	330,3
COP	(2)(3)	kW/kW	3,120	3,030	3,050	3,010	3,020	3,070	3,040
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	126	132	170	196	223	239	257
SCOP	(7)(8)		3,38	3,33	3,50	3,39	3,36	3,43	3,45
Performance ηs	(7)(9)	%	132	130	137	132	131	134	135
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,304	8,339	9,597	11,20	12,35	13,52	14,49
Pressure drop	(1)	kPa	20,1	26,1	43,2	40,5	49,2	32,0	36,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,982	9,279	10,69	12,31	13,70	14,97	15,88
Pressure drop	(3)	kPa	23,9	32,4	53,6	48,9	60,5	39,2	44,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	36,0	56,2	77,2	77,3	77,4	99,1	99,2
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	67	66	67	68	69	70	70
Sound power level in cooling	(11)(12)	dB(A)	86	86	87	88	89	90	90
Sound power level in heating	(11)(13)	dB(A)	87	87	88	89	90	91	91
SIZE AND WEIGHT									
Operating weight	(14)	kg	1860	2230	2390	2610	2700	3200	3240
A	(14)	mm	3110	4110	4110	4110	4110	5110	5110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y / SL-K			0604T	0704T	0804T	0904T	1004T	1104T	1204T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	148,0	175,5	201,7	232,0	255,7	281,1	303,4
Total power input	(1)	kW	57,83	68,54	78,93	88,21	100,4	110,5	119,3
EER	(1)	kW/kW	2,561	2,562	2,556	2,630	2,547	2,544	2,543
ESEER	(1)	kW/kW	4,070	4,070	4,110	4,120	4,120	4,090	4,090
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	147,6	174,9	200,8	231,1	254,6	280,2	302,4
EER	(1)(2)	kW/kW	2,540	2,530	2,520	2,590	2,510	2,520	2,510
ESEER	(1)(2)	kW/kW	3,960	3,940	3,930	3,950	3,940	3,960	3,940
Cooling energy class			D	D	D	D	D	D	D
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	160,2	193,0	223,2	256,8	282,7	307,3	330,1
Total power input	(3)	kW	51,18	63,61	72,49	82,20	91,24	100,2	108,2
COP	(3)	kW/kW	3,129	3,035	3,079	3,124	3,100	3,067	3,051
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	160,7	193,7	224,3	257,9	284,1	308,4	331,4
COP	(2)(3)	kW/kW	3,110	3,010	3,050	3,100	3,070	3,040	3,030
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	124	134	172	196	220	238	257
SCOP	(7)(8)		3,49	3,28	3,46	3,55	3,44	3,41	3,43
Performance ηs	(7)(9)	%	136	128	135	139	135	134	134
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,079	8,392	9,645	11,10	12,23	13,44	14,51
Pressure drop	(1)	kPa	18,8	26,5	43,6	39,7	48,2	31,6	36,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,734	9,316	10,78	12,40	13,65	14,83	15,93
Pressure drop	(3)	kPa	22,5	32,6	54,5	49,6	60,1	38,5	44,4
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	36,0	56,2	77,2	77,3	77,4	99,1	99,2
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	63	63	63	64	65	66	67
Sound power level in cooling	(11)(12)	dB(A)	82	83	83	84	85	86	87
Sound power level in heating	(11)(13)	dB(A)	83	84	84	85	86	87	88
SIZE AND WEIGHT									
Operating weight	(14)	kg	1860	2310	2470	2870	2980	3320	3370
A	(14)	mm	3110	4110	4110	5110	5110	5110	5110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N-Y

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

NX-N-Y / CA			0604T	0704T	0804T	0904T	1004T	1104T	1204T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	164,1	190,8	222,4	253,3	283,2	310,1	335,3
Total power input	(1)	kW	55,71	64,57	73,83	85,32	95,97	104,8	113,3
EER	(1)	kW/kW	2,946	2,954	3,014	2,970	2,950	2,959	2,959
ESEER	(1)	kW/kW	4,130	4,250	4,220	4,250	4,220	4,160	4,180
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	163,6	190,1	221,4	252,2	282,3	309,1	334,0
EER	(1)(2)	kW/kW	2,910	2,910	2,960	2,920	2,910	2,920	2,910
ESEER	(1)(2)	kW/kW	4,000	4,080	4,010	4,050	4,080	4,010	4,010
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	171,5	199,0	237,6	265,8	292,9	329,0	349,7
Total power input	(3)	kW	52,96	61,51	73,10	81,95	90,60	101,5	108,0
COP	(3)	kW/kW	3,236	3,236	3,250	3,241	3,233	3,241	3,238
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	172,0	199,7	238,9	267,0	293,9	330,2	351,2
COP	(2)(3)	kW/kW	3,210	3,210	3,210	3,210	3,210	3,210	3,210
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	120	150	176	199	223	246	264
SCOP	(7)(8)		3,65	3,86	3,76	3,83	3,79	3,71	3,74
Performance ηs	(7)(9)	%	143	151	147	150	149	145	147
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,848	9,122	10,63	12,11	13,54	14,83	16,03
Pressure drop	(1)	kPa	23,1	31,3	53,1	47,4	32,1	38,5	45,0
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,276	9,607	11,47	12,83	14,14	15,88	16,88
Pressure drop	(3)	kPa	25,7	34,7	61,7	53,1	35,0	44,1	49,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	45,0	69,8	90,4	90,5	90,6	115	115
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	72	72	74	74	75	77	77
Sound power level in cooling	(11)(12)	dB(A)	92	92	94	94	95	97	97
Sound power level in heating	(11)(13)	dB(A)	92	92	94	94	95	97	97
SIZE AND WEIGHT									
Operating weight	(14)	kg	2070	2360	2750	2870	3150	3640	3660
A	(14)	mm	4110	4110	5110	5110	5110	6110	6110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-N-Y / LN-CA			0604T	0704T	0804T	0904T	1004T	1104T	1204T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	158,6	187,4	216,0	247,9	276,5	300,4	324,7
Total power input	(1)	kW	53,77	62,45	70,77	82,25	93,65	100,7	109,2
EER	(1)	kW/kW	2,948	2,998	3,051	3,012	2,951	2,983	2,973
ESEER	(1)	kW/kW	4,300	4,310	4,320	4,310	4,280	4,300	4,260
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	158,2	186,8	215,0	246,9	275,7	299,4	323,5
EER	(1)(2)	kW/kW	2,920	2,960	2,990	2,960	2,920	2,940	2,930
ESEER	(1)(2)	kW/kW	4,160	4,150	4,110	4,100	4,140	4,150	4,080
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	170,0	207,4	238,7	274,8	303,9	328,7	358,3
Total power input	(3)	kW	51,90	64,10	73,20	84,73	93,91	101,3	110,5
COP	(3)	kW/kW	3,276	3,236	3,261	3,244	3,236	3,245	3,243
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	170,5	208,2	240,0	276,1	304,9	329,9	359,8
COP	(2)(3)	kW/kW	3,250	3,210	3,220	3,210	3,210	3,220	3,210
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	119	153	177	203	227	245	266
SCOP	(7)(8)		3,85	3,88	3,93	3,91	3,84	3,87	3,84
Performance ηs	(7)(9)	%	151	152	154	153	151	152	150
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,585	8,960	10,33	11,85	13,22	14,37	15,53
Pressure drop	(1)	kPa	21,6	30,2	50,1	45,3	30,6	36,1	42,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,204	10,01	11,52	13,27	14,67	15,87	17,30
Pressure drop	(3)	kPa	25,3	37,7	62,3	56,8	37,6	44,1	52,3
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	45,0	69,8	90,4	90,5	90,6	115	115
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	66	67	68	69	70	70	71
Sound power level in cooling	(11)(12)	dB(A)	86	87	88	89	90	90	91
Sound power level in heating	(11)(13)	dB(A)	87	88	89	90	91	91	92
SIZE AND WEIGHT									
Operating weight	(14)	kg	2070	2440	2750	2970	3250	3610	3740
A	(14)	mm	4110	4110	5110	5110	5110	6110	6110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-N-Y

Reversible unit, air source for outdoor installation

0604T - 1204T 148,0-335,3 kW

NX-N-Y / SL-CA			0604T	0704T	0804T	0904T	1004T	1104T	1204T
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	157,7	185,5	215,6	244,7	274,8	298,6	324,2
Total power input	(1)	kW	53,51	62,89	71,03	82,67	92,84	100,9	109,7
EER	(1)	kW/kW	2,948	2,949	3,037	2,959	2,961	2,959	2,955
ESEER	(1)	kW/kW	4,340	4,410	4,380	4,400	4,340	4,320	4,280
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	157,3	184,9	214,6	243,7	274,0	297,6	323,0
EER	(1)(2)	kW/kW	2,920	2,910	2,980	2,910	2,930	2,920	2,910
ESEER	(1)(2)	kW/kW	4,190	4,230	4,150	4,190	4,200	4,170	4,110
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	169,3	202,8	237,7	268,3	299,5	325,1	355,9
Total power input	(3)	kW	51,20	62,61	73,20	82,71	92,12	100,6	109,6
COP	(3)	kW/kW	3,307	3,240	3,247	3,244	3,252	3,232	3,247
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	169,8	203,6	239,0	269,5	300,5	326,3	357,4
COP	(2)(3)	kW/kW	3,280	3,210	3,210	3,210	3,230	3,210	3,220
Cooling energy class			A	A	A	A	A	A	A
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	117	152	176	201	224	243	266
SCOP	(7)(8)		3,75	3,91	3,85	3,94	3,86	3,87	3,85
Performance ηs	(7)(9)	%	147	153	151	155	151	152	151
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,541	8,871	10,31	11,70	13,14	14,28	15,50
Pressure drop	(1)	kPa	21,4	29,6	49,9	44,2	30,2	35,7	42,0
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,170	9,791	11,47	12,95	14,46	15,69	17,18
Pressure drop	(3)	kPa	25,1	36,0	61,8	54,1	36,6	43,1	51,6
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	45,0	69,8	90,4	90,5	106	115	115
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	63	63	64	65	66	67	68
Sound power level in cooling	(11)(12)	dB(A)	83	83	84	85	86	87	88
Sound power level in heating	(11)(13)	dB(A)	84	84	85	86	87	88	89
SIZE AND WEIGHT									
Operating weight	(14)	kg	2150	2440	2850	2970	3550	3610	3740
A	(14)	mm	4110	4110	5110	5110	6110	6110	6110
B	(14)	mm	2220	2220	2220	2220	2220	2220	2220
H	(14)	mm	2150	2150	2150	2150	2150	2150	2150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
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11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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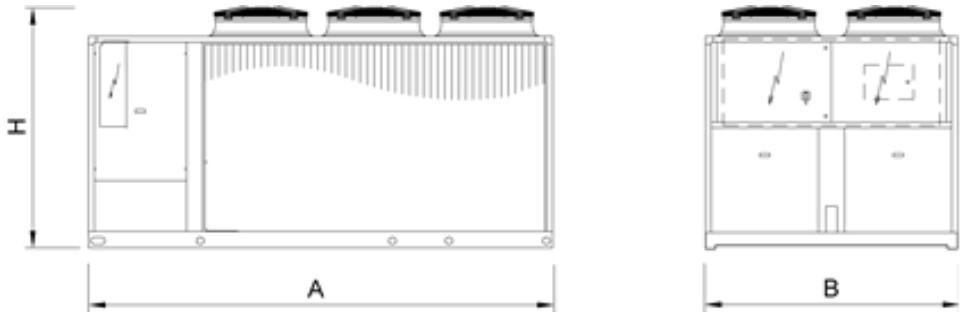
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NECS-N-Y

1314 - 2116 319,6-515,8 kW

Reversible unit, air source for outdoor installation

Outdoor heat pump for the production of chilled/hot water with hermetic rotary Scroll compressors, ozone-friendly refrigerant R410A, axial-flow fans, shell and tubes exchanger and electronic expansion valve. The range is composed by units equipped with four, six and eight compressors in multi-circuit configuration.

Control

W3000SE Compact

W3000SE Compact offers advanced functions and algorithms. The keypad features an easy-to-use interface and a LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional-integral regulations are also available.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
- Compatibility with the remote keyboard managing up to 10 units.
- Internal real time clock available for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

B Basic
SL Super-low noise version
CA High efficiency version

Configurations

- Basic function
D Partial condensing heat recovery function

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

EXCHANGER

The shell and tube exchanger allows to achieve the highest flexibility on the unit's installation, keeping on the hydronic side the pressure drops at the minimum level. For this reason, NECS-N-Y represents the best choice for all the hydronic applications on the process market.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

INTEGRATED HYDRONIC GROUP

The optional built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line, for achieving both low or high head.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Remote control keyboard (distance to 200m and to 500m)
- LT kit for extending the operating limits in heat pump mode down to -10 °C (/SL-CA versions) and -12 °C (/CA versions)

NECS-N-Y / B			1314	1414	1614	1716	1816
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	339,4	363,4	396,4	434,9	477,8
Total power input	(1)	kW	126,4	132,0	151,4	164,6	177,8
EER	(1)	kW/kW	2,685	2,753	2,618	2,642	2,687
ESEER	(1)	kW/kW	3,800	3,880	3,790	3,880	3,780
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	338,0	362,1	394,7	433,6	476,2
EER	(1)(2)	kW/kW	2,640	2,720	2,580	2,610	2,650
ESEER	(1)(2)	kW/kW	3,640	3,730	3,640	3,740	3,640
Cooling energy class			D	C	D	D	D
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	371,0	398,0	435,7	472,9	514,6
Total power input	(3)	kW	122,4	129,7	142,7	157,2	170,6
COP	(3)	kW/kW	3,031	3,069	3,053	3,008	3,016
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	372,8	399,7	437,9	474,5	516,6
COP	(2)(3)	kW/kW	3,000	3,040	3,020	2,990	2,990
Cooling energy class			B	B	B	C	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	274	311	358	373	387
SCOP	(7)(8)		3,47	3,54	3,44	3,59	3,49
Performance ηs	(7)(9)	%	136	139	134	141	137
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	16,23	17,38	18,95	20,80	22,85
Pressure drop	(1)	kPa	49,5	43,4	51,7	35,3	42,6
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	17,91	19,21	21,03	22,83	24,84
Pressure drop	(3)	kPa	60,3	53,1	63,6	42,5	50,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	4	4	4	6	6
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	72,0	76,0	76,0	93,0	97,0
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	76	76	76	76	76
Sound power level in cooling	(11)(12)	dB(A)	96	96	96	96	97
Sound power level in heating	(11)(13)	dB(A)	96	96	96	96	97
SIZE AND WEIGHT							
Operating weight	(14)	kg	3170	3250	3280	4220	4610
A	(14)	mm	3905	3905	3905	4515	5690
B	(14)	mm	2260	2260	2260	2260	2260
H	(14)	mm	2450	2450	2450	2450	2450

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
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11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NECS-N-Y

1314 - 2116 319,6-515,8 kW

Reversible unit, air source for outdoor installation

NECS-N-Y / SL			1314	1414	1614	1716	1816	2016	2116
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	319,6	343,2	382,8	412,6	444,5	493,1	515,8
Total power input	(1)	kW	131,2	138,1	154,5	170,4	185,0	199,5	207,3
EER	(1)	kW/kW	2,436	2,485	2,478	2,421	2,403	2,472	2,488
ESEER	(1)	kW/kW	3,990	4,000	3,970	4,050	3,990	4,070	4,060
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	318,4	342,1	381,3	411,5	443,1	491,7	514,2
EER	(1)(2)	kW/kW	2,400	2,460	2,440	2,400	2,380	2,450	2,460
ESEER	(1)(2)	kW/kW	3,830	3,870	3,810	3,920	3,840	3,930	3,910
Cooling energy class			E	E	E	E	E	E	E
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	368,3	390,5	441,8	474,3	512,9	564,1	585,9
Total power input	(3)	kW	117,3	125,3	139,1	152,3	164,5	179,8	187,5
COP	(3)	kW/kW	3,140	3,117	3,176	3,114	3,118	3,137	3,125
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	370,1	392,1	444,0	476,0	514,9	566,1	588,1
COP	(2)(3)	kW/kW	3,110	3,090	3,140	3,090	3,090	3,110	3,100
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	221	254	350	282	390	352	380
SCOP	(7)(8)		3,54	3,58	3,65	3,55	3,77	3,61	3,59
Performance ηs	(7)(9)	%	139	140	143	139	148	141	140
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	15,28	16,41	18,31	19,73	21,26	23,58	24,66
Pressure drop	(1)	kPa	43,9	38,7	48,2	31,8	36,9	34,6	37,8
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	17,78	18,85	21,33	22,90	24,76	27,23	28,28
Pressure drop	(3)	kPa	59,4	51,1	65,4	42,8	50,0	46,1	49,8
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	6	6	6	6
No. Circuits		N°	2	2	2	3	3	3	3
Refrigerant charge		kg	79,9	82,3	94,7	107	118	125	126
NOISE LEVEL									
Sound Pressure	(10)	dB(A)	68	68	68	68	68	69	69
Sound power level in cooling	(11)(12)	dB(A)	88	88	88	89	89	90	90
Sound power level in heating	(11)(13)	dB(A)	89	89	89	90	90	91	91
SIZE AND WEIGHT									
Operating weight	(14)	kg	3400	3530	3680	4720	4860	5160	5270
A	(14)	mm	4515	5080	5080	5690	5690	6865	7430
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2450	2450	2450	2450	2450	2450	2450

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
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9 Seasonal space heating energy efficiency
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NECS-N-Y / CA			1314	1414	1614	1716	1816
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	351,7	371,8	416,8	453,2	504,4
Total power input	(1)	kW	121,2	127,8	143,4	155,5	172,6
EER	(1)	kW/kW	2,902	2,909	2,907	2,914	2,922
ESEER	(1)	kW/kW	4,120	4,200	4,070	4,190	4,080
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	350,2	370,4	414,9	451,8	502,5
EER	(1)(2)	kW/kW	2,850	2,870	2,860	2,880	2,880
ESEER	(1)(2)	kW/kW	3,930	4,020	3,870	4,030	3,900
Cooling energy class			C	C	C	C	C
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	383,2	409,4	449,2	496,7	533,2
Total power input	(3)	kW	119,5	127,8	139,8	154,8	166,2
COP	(3)	kW/kW	3,207	3,203	3,213	3,209	3,208
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	385,1	411,2	451,5	498,6	535,4
COP	(2)(3)	kW/kW	3,170	3,170	3,180	3,180	3,180
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	275	309	353	368	381
SCOP	(7)(8)		3,65	3,73	3,63	3,78	3,68
Performance ηs	(7)(9)	%	143	146	142	148	144
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	16,82	17,78	19,93	21,67	24,12
Pressure drop	(1)	kPa	53,2	45,5	57,1	38,4	47,5
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	18,50	19,76	21,68	23,98	25,74
Pressure drop	(3)	kPa	64,3	56,2	67,6	46,9	54,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	4	4	4	6	6
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	90,0	96,0	96,5	121	125
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	77	77	77	76	77
Sound power level in cooling	(11)(12)	dB(A)	97	97	97	97	98
Sound power level in heating	(11)(13)	dB(A)	97	97	97	97	98
SIZE AND WEIGHT							
Operating weight	(14)	kg	3490	3580	3610	4840	5120
A	(14)	mm	5080	5080	5080	6255	7430
B	(14)	mm	2260	2260	2260	2260	2260
H	(14)	mm	2450	2450	2450	2450	2450

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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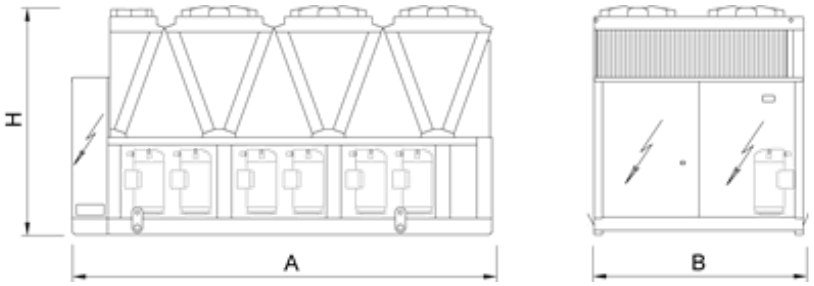
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

FOCS-N-Y

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

Outdoor heat pump unit for the production of chilled/hot water with semi-hermetic screw compressors optimized for R134a, axial-flow fans, external coil with copper tubes and aluminium fines, shell and tubes heat exchanger designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are galvanized epoxy powder coated steel with increased thickness.
These units are designed for two-pipes systems and are able to produce hot or cold water according to the selected operation mode; the precise thermoregulation guarantees an optimal response to load´s changes, in every operating conditions.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

B	Basic
CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit in Class A as per Eurovent (in heating). High efficiency for low energy consumption during the operating hours.

SMART DEFROST
The advanced self-adaptive proprietary defrosting logics take into account all the operating parameters and the external conditions: the number and duration of the defrost cycles are therefore reduced to the minimum necessary ensuring an increase in efficiency and net heating capacity of the units.

COMPACTNESS
Reduced dimensions, for easy installation even in sites with space´ constraints

WIDE OPERATING RANGE
Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 50 °C during summer.

HOT WATER SUPPLY
Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Soft start

FOCS-N-Y / B			2022	2222	2422	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	449,7	494,0	530,9	662,8	790,9	916,2	1029	1146
Total power input	(1)	kW	163,0	177,2	186,6	224,6	267,4	292,7	336,8	381,6
EER	(1)	kW/kW	2,759	2,788	2,845	2,951	2,958	3,130	3,055	3,003
ESEER	(1)	kW/kW	3,710	3,750	3,810	4,180	4,060	4,080	4,200	4,130
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	448,5	492,6	529,3	661,1	788,7	913,9	1026	1143
EER	(1)(2)	kW/kW	2,730	2,760	2,810	2,920	2,930	3,100	3,020	2,970
ESEER	(1)(2)	kW/kW	3,610	3,640	3,690	4,060	3,940	3,980	4,060	4,010
Cooling energy class			C	C	C	B	B	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	478,6	523,7	566,5	698,6	823,9	945,9	1073	1195
Total power input	(3)	kW	152,4	166,1	178,0	210,5	247,1	277,0	315,7	355,8
COP	(3)	kW/kW	3,140	3,153	3,183	3,319	3,334	3,415	3,399	3,359
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	480,0	525,3	568,5	700,6	826,4	948,5	1077	1199
COP	(2)(3)	kW/kW	3,120	3,130	3,160	3,300	3,310	3,390	3,370	3,340
Cooling energy class			B	B	B	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	661,1	788,7	913,9	1026	1143
SEPR	(4)(6)		-	-	-	5,10	5,25	5,10	5,12	5,05
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	352,7	418,4	-	550,3	614,1
SEPR	(5)(6)		-	-	-	3,23	3,23	-	3,28	3,23
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	336	362	399	-	-	-	-	-
SCOP	(7)(8)		3,20	3,20	3,20	-	-	-	-	-
Performance ηs	(7)(9)	%	125	125	125	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	21,50	23,62	25,39	31,69	37,82	43,81	49,20	54,80
Pressure drop	(1)	kPa	30,0	33,3	38,4	32,5	36,7	33,3	42,3	37,0
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	23,10	25,28	27,35	33,72	39,77	45,66	51,78	57,69
Pressure drop	(3)	kPa	34,6	38,1	44,6	36,8	40,6	36,2	46,9	41,0
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	160	185	200	224	270	335	380	420
NOISE LEVEL										
Sound Pressure	(10)	dB(A)	79	80	80	80	81	80	82	81
Sound power level in cooling	(11)(12)	dB(A)	99	101	101	101	102	102	104	104
Sound power level in heating	(11)(13)	dB(A)	99	101	101	101	102	102	104	104
SIZE AND WEIGHT										
Operating weight	(14)	kg	5900	6330	6420	7290	9390	10400	10700	11310
A	(14)	mm	4900	5800	5800	7000	7900	10000	10000	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N-Y

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

FOCS-N-Y / CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	459,6	502,8	537,8	586,0	671,6	802,9	928,9	1041	1162
Total power input	(1)	kW	157,8	169,6	181,0	201,6	217,8	259,3	285,0	335,5	370,4
EER	(1)	kW/kW	2,913	2,965	2,971	2,907	3,084	3,096	3,259	3,103	3,137
ESEER	(1)	kW/kW	3,890	3,930	3,930	3,960	4,370	4,220	4,240	4,250	4,280
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	458,4	501,4	536,1	584,7	669,8	800,6	926,5	1038	1159
EER	(1)(2)	kW/kW	2,880	2,930	2,930	2,880	3,050	3,060	3,220	3,060	3,100
ESEER	(1)(2)	kW/kW	3,790	3,820	3,800	3,870	4,230	4,080	4,120	4,100	4,150
Cooling energy class			C	B	B	C	B	B	A	B	A
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	470,2	520,1	553,2	589,7	682,5	804,4	922,8	1051	1166
Total power input	(3)	kW	143,4	156,2	167,3	177,2	197,3	231,9	258,2	300,2	332,8
COP	(3)	kW/kW	3,279	3,330	3,307	3,328	3,459	3,469	3,574	3,501	3,504
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	471,5	521,7	555,1	591,1	684,4	806,8	925,2	1054	1169
COP	(2)(3)	kW/kW	3,260	3,310	3,280	3,310	3,440	3,440	3,550	3,470	3,480
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	669,8	800,6	926,5	1038	1159
SEPR	(4)(6)		-	-	-	-	5,28	5,43	5,38	5,25	5,32
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	356,2	423,2	489,0	554,8	620,5
SEPR	(5)(6)		-	-	-	-	3,43	3,42	3,33	3,45	3,50
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	339	368	400	390	-	-	-	-	-
SCOP	(7)(8)		3,44	3,46	3,50	3,61	-	-	-	-	-
Performance ηs	(7)(9)	%	134	135	137	141	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,98	24,05	25,72	28,02	32,11	38,39	44,42	49,77	55,59
Pressure drop	(1)	kPa	31,3	34,5	39,4	26,5	33,4	37,8	34,3	43,3	38,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,70	25,11	26,70	28,47	32,95	38,83	44,55	50,74	56,29
Pressure drop	(3)	kPa	33,4	37,6	42,5	27,3	35,2	38,7	34,5	45,0	39,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	203	223	220	240	250	340	430	450	537
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	79	80	80	80	80	81	80	81	81
Sound power level in cooling	(11)(12)	dB(A)	99	101	101	101	101	102	102	104	104
Sound power level in heating	(11)(13)	dB(A)	99	101	101	101	101	102	102	104	104
SIZE AND WEIGHT											
Operating weight	(14)	kg	6050	6630	6710	6950	7480	9620	10650	11260	11690
A	(14)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS-N-Y / LN-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	444,3	492,0	524,2	564,0	654,5	779,5	903,5	1013	1130
Total power input	(1)	kW	160,1	169,3	182,4	205,4	219,1	261,5	283,2	333,8	371,8
EER	(1)	kW/kW	2,775	2,906	2,874	2,746	2,987	2,981	3,190	3,035	3,039
ESEER	(1)	kW/kW	3,850	3,920	3,920	3,930	4,330	4,200	4,220	4,230	4,270
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	443,2	490,6	522,6	562,8	652,8	777,4	901,3	1010	1127
EER	(1)(2)	kW/kW	2,750	2,870	2,840	2,720	2,960	2,950	3,160	3,000	3,010
ESEER	(1)(2)	kW/kW	3,760	3,810	3,800	3,850	4,210	4,080	4,110	4,100	4,140
Cooling energy class			C	C	C	C	B	B	A	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	466,9	520,1	553,2	585,6	682,5	804,4	922,8	1051	1166
Total power input	(3)	kW	143,4	156,2	167,3	177,2	197,3	231,9	258,2	300,2	332,8
COP	(3)	kW/kW	3,256	3,330	3,307	3,305	3,459	3,469	3,574	3,501	3,504
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	468,2	521,7	555,1	586,9	684,4	806,8	925,2	1054	1169
COP	(2)(3)	kW/kW	3,240	3,310	3,280	3,290	3,440	3,440	3,550	3,470	3,480
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	652,8	777,4	901,3	1010	1127
SEPR	(4)(6)		-	-	-	-	5,33	5,43	5,39	5,27	5,34
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	349,5	414,0	480,1	544,3	608,0
SEPR	(5)(6)		-	-	-	-	3,47	3,41	3,34	3,46	3,50
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	336	368	400	387	-	-	-	-	-
SCOP	(7)(8)		3,41	3,46	3,50	3,58	-	-	-	-	-
Performance ηs	(7)(9)	%	134	135	137	140	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,25	23,53	25,07	26,97	31,30	37,28	43,21	48,44	54,04
Pressure drop	(1)	kPa	29,3	33,0	37,5	24,5	31,7	35,7	32,4	41,1	36,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,54	25,11	26,70	28,27	32,95	38,83	44,55	50,74	56,29
Pressure drop	(3)	kPa	32,9	37,6	42,5	26,9	35,2	38,7	34,5	45,0	39,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	210	232	247	266	275	340	470	465	518
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	73	74	74	74	74	75	74	75	75
Sound power level in cooling	(11)(12)	dB(A)	93	95	95	95	95	96	96	98	98
Sound power level in heating	(11)(13)	dB(A)	94	96	96	96	96	97	97	99	99
SIZE AND WEIGHT											
Operating weight	(14)	kg	6120	6610	6700	6930	7580	9730	10800	11400	11860
A	(14)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
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9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS-N-Y

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

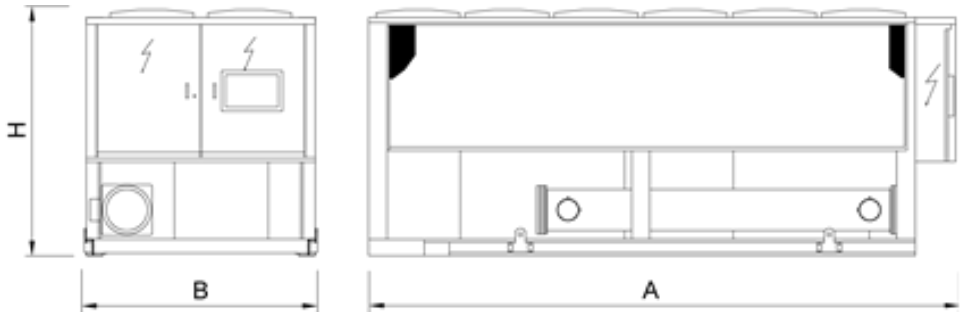
FOCS-N-Y / SL-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	440,7	487,9	519,6	558,6	648,7	771,5	895,0	1004	1119
Total power input	(1)	kW	162,6	171,6	184,8	208,7	221,5	264,5	285,2	336,2	375,4
EER	(1)	kW/kW	2,710	2,843	2,812	2,677	2,929	2,917	3,138	2,986	2,981
ESEER	(1)	kW/kW	3,840	3,910	3,910	3,930	4,360	4,200	4,240	4,270	4,290
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	439,6	486,6	518,0	557,4	647,1	769,4	892,8	1001	1116
EER	(1)(2)	kW/kW	2,690	2,810	2,780	2,660	2,900	2,890	3,110	2,950	2,950
ESEER	(1)(2)	kW/kW	3,740	3,810	3,790	3,840	4,240	4,080	4,130	4,130	4,160
Cooling energy class			D	C	C	D	B	C	A	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	461,0	514,4	546,4	578,1	674,3	794,3	910,8	1039	1151
Total power input	(3)	kW	141,8	154,5	165,5	175,3	194,5	228,6	254,3	295,6	327,9
COP	(3)	kW/kW	3,251	3,329	3,302	3,298	3,467	3,475	3,582	3,515	3,510
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	462,3	516,0	548,2	579,4	676,1	796,6	913,1	1042	1154
COP	(2)(3)	kW/kW	3,230	3,310	3,280	3,280	3,440	3,450	3,560	3,490	3,490
Cooling energy class			A	A	A	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	647,1	769,4	892,8	1001	1116
SEPR	(4)(6)		-	-	-	-	5,35	5,43	5,40	5,30	5,35
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	347,2	410,9	477,2	541,0	603,9
SEPR	(5)(6)		-	-	-	-	3,52	3,44	3,37	3,50	3,54
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	337	368	361	389	-	-	-	-	-
SCOP	(7)(8)		3,44	3,49	3,46	3,61	-	-	-	-	-
Performance ηs	(7)(9)	%	135	137	135	142	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,08	23,33	24,85	26,71	31,02	36,90	42,80	48,01	53,53
Pressure drop	(1)	kPa	28,8	32,5	36,8	24,0	31,2	34,9	31,8	40,3	35,3
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,25	24,83	26,37	27,90	32,55	38,34	43,96	50,17	55,56
Pressure drop	(3)	kPa	32,1	36,8	41,5	26,2	34,3	37,7	33,6	44,0	38,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	211	233	248	267	276	340	470	466	520
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	69	70	70	70	70	71	70	71	71
Sound power level in cooling	(11)(12)	dB(A)	89	91	91	91	91	92	92	94	94
Sound power level in heating	(11)(13)	dB(A)	90	92	92	92	92	93	93	95	95
SIZE AND WEIGHT											
Operating weight	(14)	kg	6190	6680	6770	7010	7650	9820	10890	11510	11950
A	(14)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

FOCS-N-G05-Y

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

Outdoor heat pump unit for the production of chilled/hot water with semi-hermetic screw compressors optimized for R513A, axial-flow fans, external coil with copper tubes and aluminium fines, shell and tubes heat exchanger designed by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. and electronic expansion valve.
Base and supporting structure and panels are galvanized epoxy powder coated steel with increased thickness.
These units are designed for two-pipes systems and are able to produce hot or cold water according to the selected operation mode; the precise thermoregulation guarantees an optimal response to load´s changes, in every operating condition.

Control

Electronic control W3000 TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

B	Basic
CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Unit in Class A as per Eurovent (in heating). High efficiency for low energy consumption during the operating hours.

LOW GWP REFRIGERANT
New generation refrigerant R513A, with reduced greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of R513A = 572, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer. Not flammable (ASHRAE 34, ISO 817: class A1).

SMART DEFROST
The advanced self-adaptive proprietary defrosting logics take into account all the operating parameters and the external conditions: the number and duration of the defrost cycles are therefore reduced to the minimum necessary ensuring an increase in efficiency and net heating capacity of the units.

COMPACTNESS
Reduced dimensions, for easy installation even in sites with space´ constraints

WIDE OPERATING RANGE
Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 50 °C during summer.

HOT WATER SUPPLY
Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Soft start

FOCS-N-G05-Y/B			2022	2222	2422	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	449,7	494,0	530,9	662,8	790,9	916,2	1029	1146
Total power input	(1)	kW	169,5	184,1	193,9	233,6	278,2	304,4	350,4	396,9
EER	(1)	kW/kW	2,653	2,683	2,738	2,837	2,843	3,010	2,937	2,887
ESEER	(1)	kW/kW	3,640	3,680	3,740	4,130	4,020	4,000	4,120	4,040
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	448,5	492,6	529,3	661,1	788,7	913,9	1026	1143
EER	(1)(2)	kW/kW	2,630	2,660	2,710	2,810	2,810	2,980	2,900	2,860
ESEER	(1)(2)	kW/kW	3,540	3,580	3,620	4,020	3,910	3,900	3,980	3,930
Cooling energy class			D	D	C	C	C	B	B	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	483,4	528,9	568,2	705,5	832,1	955,4	1083	1207
Total power input	(3)	kW	158,4	172,5	185,0	218,9	257,0	288,0	328,4	369,9
COP	(3)	kW/kW	3,052	3,066	3,071	3,223	3,238	3,317	3,298	3,263
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	484,8	530,6	570,2	707,6	834,7	958,0	1087	1211
COP	(2)(3)	kW/kW	3,030	3,050	3,050	3,200	3,220	3,300	3,270	3,240
Cooling energy class			B	B	B	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	661,1	788,7	913,9	1026	1143
SEPR	(4)(6)		-	-	-	5,09	5,23	5,00	5,03	5,04
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	352,7	418,4	-	550,3	614,1
SEPR	(5)(6)		-	-	-	3,22	3,22	-	3,22	3,22
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	339	366	400	-	-	-	-	-
SCOP	(7)(8)		3,19	3,20	3,19	-	-	-	-	-
Performance ηs	(7)(9)	%	125	125	125	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	21,50	23,62	25,39	31,69	37,82	43,81	49,20	54,80
Pressure drop	(1)	kPa	30,0	33,3	38,4	32,5	36,7	33,3	42,3	37,0
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	23,33	25,53	27,43	34,06	40,17	46,12	52,30	58,27
Pressure drop	(3)	kPa	35,3	38,9	44,8	37,6	41,4	36,9	47,9	41,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	184	213	230	258	311	385	437	483
NOISE LEVEL										
Sound Pressure	(10)	dB(A)	79	80	80	80	81	80	82	81
Sound power level in cooling	(11)(12)	dB(A)	99	101	101	101	102	102	104	104
Sound power level in heating	(11)(13)	dB(A)	99	101	101	101	102	102	104	104
SIZE AND WEIGHT										
Operating weight	(14)	kg	5900	6330	6420	7290	9390	10400	10700	11310
A	(14)	mm	4900	5800	5800	7000	7900	10000	10000	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS-N-G05-Y

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

FOCS-N-G05-Y/CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	459,6	502,8	537,8	586,0	671,6	802,9	928,9	1041	1162
Total power input	(1)	kW	164,0	176,2	188,1	209,6	226,5	269,8	296,3	348,8	385,2
EER	(1)	kW/kW	2,802	2,854	2,859	2,796	2,965	2,976	3,135	2,985	3,017
ESEER	(1)	kW/kW	3,820	3,850	3,850	3,880	4,290	4,130	4,150	4,160	4,190
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	458,4	501,4	536,1	584,7	669,8	800,6	926,5	1038	1159
EER	(1)(2)	kW/kW	2,770	2,820	2,820	2,770	2,930	2,940	3,100	2,950	2,980
ESEER	(1)(2)	kW/kW	3,720	3,750	3,730	3,800	4,150	4,000	4,040	4,020	4,070
Cooling energy class			C	C	C	C	B	B	A	B	B
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	474,9	525,3	558,7	595,6	689,4	812,5	932,0	1062	1178
Total power input	(3)	kW	149,3	162,5	174,2	184,5	205,6	241,7	269,1	312,8	346,9
COP	(3)	kW/kW	3,181	3,233	3,207	3,228	3,353	3,362	3,463	3,395	3,396
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	476,3	526,9	560,6	597,0	691,4	814,9	934,5	1065	1181
COP	(2)(3)	kW/kW	3,160	3,210	3,180	3,210	3,330	3,340	3,440	3,370	3,370
Cooling energy class			B	A	B	A	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	669,8	800,6	926,5	1038	1159
SEPR	(4)(6)		-	-	-	-	5,11	5,26	5,21	5,09	5,15
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	356,2	423,2	489,0	554,8	620,5
SEPR	(5)(6)		-	-	-	-	3,31	3,31	3,23	3,35	3,39
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	342	372	361	393	-	-	-	-	-
SCOP	(7)(8)		3,38	3,41	3,38	3,56	-	-	-	-	-
Performance ηs	(7)(9)	%	132	133	132	139	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,98	24,05	25,72	28,02	32,11	38,39	44,42	49,77	55,59
Pressure drop	(1)	kPa	31,3	34,5	39,4	26,5	33,4	37,8	34,3	43,3	38,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,92	25,36	26,97	28,75	33,28	39,22	44,99	51,24	56,85
Pressure drop	(3)	kPa	34,1	38,3	43,4	27,9	35,9	39,5	35,2	45,9	39,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	233	256	253	276	288	391	495	518	618
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	79	80	80	80	80	81	80	81	81
Sound power level in cooling	(11)(12)	dB(A)	99	101	101	101	101	102	102	104	104
Sound power level in heating	(11)(13)	dB(A)	99	101	101	101	101	102	102	104	104
SIZE AND WEIGHT											
Operating weight	(14)	kg	6050	6630	6710	6950	7480	9620	10650	11260	11690
A	(14)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS-N-G05-Y/LN-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	444,3	492,0	524,2	564,0	654,5	779,5	903,5	1013	1130
Total power input	(1)	kW	166,8	176,3	189,9	214,0	228,4	272,7	295,2	347,9	387,6
EER	(1)	kW/kW	2,664	2,791	2,760	2,636	2,866	2,858	3,061	2,912	2,915
ESEER	(1)	kW/kW	3,780	3,850	3,840	3,860	4,250	4,110	4,140	4,150	4,190
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	443,2	490,6	522,6	562,8	652,8	777,4	901,3	1010	1127
EER	(1)(2)	kW/kW	2,640	2,760	2,730	2,620	2,840	2,830	3,030	2,880	2,890
ESEER	(1)(2)	kW/kW	3,680	3,740	3,730	3,780	4,130	4,000	4,030	4,020	4,070
Cooling energy class			D	C	C	D	C	C	B	C	C
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	471,6	525,3	558,7	591,5	689,4	812,5	932,0	1062	1178
Total power input	(3)	kW	149,3	162,5	174,2	184,5	205,6	241,7	269,1	312,8	346,9
COP	(3)	kW/kW	3,159	3,233	3,207	3,206	3,353	3,362	3,463	3,395	3,396
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	472,9	526,9	560,6	592,9	691,4	814,9	934,5	1065	1181
COP	(2)(3)	kW/kW	3,140	3,210	3,180	3,190	3,330	3,340	3,440	3,370	3,370
Cooling energy class			B	A	B	B	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	652,8	777,4	901,3	1010	1127
SEPR	(4)(6)		-	-	-	-	5,16	5,26	5,22	5,11	5,17
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	349,5	414,0	480,1	544,3	608,0
SEPR	(5)(6)		-	-	-	-	3,36	3,30	3,23	3,35	3,40
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	340	372	361	391	-	-	-	-	-
SCOP	(7)(8)		3,36	3,41	3,38	3,53	-	-	-	-	-
Performance ηs	(7)(9)	%	131	133	132	138	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,25	23,53	25,07	26,97	31,30	37,28	43,21	48,44	54,04
Pressure drop	(1)	kPa	29,3	33,0	37,5	24,5	31,7	35,7	32,4	41,1	36,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,77	25,36	26,97	28,55	33,28	39,22	44,99	51,24	56,85
Pressure drop	(3)	kPa	33,6	38,3	43,4	27,5	35,9	39,5	35,2	45,9	39,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	242	267	284	306	316	391	541	535	596
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	73	74	74	74	74	75	74	75	75
Sound power level in cooling	(11)(12)	dB(A)	93	95	95	95	95	96	96	98	98
Sound power level in heating	(11)(13)	dB(A)	94	96	96	96	96	97	97	99	99
SIZE AND WEIGHT											
Operating weight	(14)	kg	6120	6610	6700	6930	7580	9730	10800	11400	11860
A	(14)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
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8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS-N-G05-Y

Reversible unit, air source for outdoor installation

2022 - 4822 440,7-1162 kW

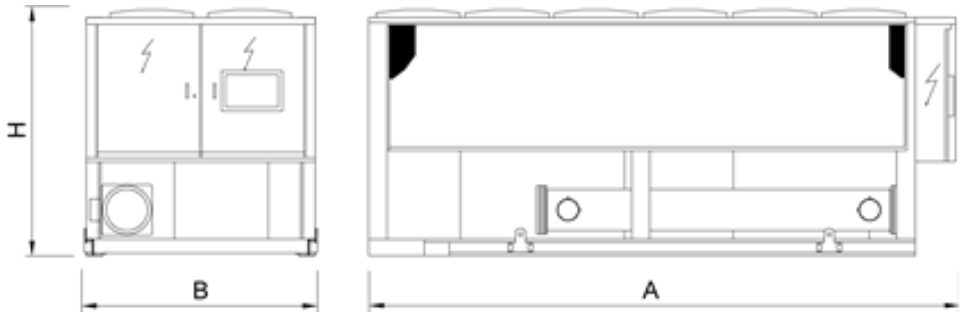
FOCS-N-G05-Y/SL-CA			2022	2222	2422	2622	2722	3222	3622	4222	4822
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	440,7	487,9	519,6	558,6	648,7	771,5	895,0	1004	1119
Total power input	(1)	kW	169,4	178,7	192,6	217,5	231,0	275,9	297,4	350,6	391,5
EER	(1)	kW/kW	2,602	2,730	2,698	2,568	2,808	2,796	3,009	2,864	2,858
ESEER	(1)	kW/kW	3,760	3,840	3,830	3,850	4,270	4,110	4,150	4,180	4,200
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	439,6	486,6	518,0	557,4	647,1	769,4	892,8	1001	1116
EER	(1)(2)	kW/kW	2,580	2,700	2,670	2,550	2,780	2,770	2,980	2,830	2,830
ESEER	(1)(2)	kW/kW	3,670	3,740	3,710	3,770	4,160	3,990	4,040	4,040	4,080
Cooling energy class			D	C	D	D	C	C	B	C	C
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	465,6	519,6	551,8	583,9	681,1	802,2	919,9	1050	1162
Total power input	(3)	kW	147,7	160,8	172,4	182,6	202,8	238,4	265,1	308,1	341,9
COP	(3)	kW/kW	3,152	3,231	3,201	3,198	3,358	3,365	3,470	3,408	3,399
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	466,9	521,2	553,7	585,2	683,0	804,6	922,3	1053	1165
COP	(2)(3)	kW/kW	3,130	3,210	3,180	3,180	3,340	3,340	3,450	3,380	3,380
Cooling energy class			B	A	B	B	A	A	A	A	A
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(4)	kW	-	-	-	-	647,1	769,4	892,8	1001	1116
SEPR	(4)(6)		-	-	-	-	5,18	5,26	5,23	5,14	5,19
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(5)	kW	-	-	-	-	347,2	410,9	477,2	541,0	603,9
SEPR	(5)(6)		-	-	-	-	3,40	3,33	3,27	3,39	3,43
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(7)	kW	340	371	365	393	-	-	-	-	-
SCOP	(7)(8)		3,39	3,44	3,41	3,56	-	-	-	-	-
Performance ηs	(7)(9)	%	132	135	134	139	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	21,08	23,33	24,85	26,71	31,02	36,90	42,80	48,01	53,53
Pressure drop	(1)	kPa	28,8	32,5	36,8	24,0	31,2	34,9	31,8	40,3	35,3
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	22,47	25,08	26,64	28,18	32,88	38,72	44,40	50,67	56,11
Pressure drop	(3)	kPa	32,7	37,5	42,3	26,8	35,0	38,5	34,2	44,9	38,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	243	268	285	307	317	391	541	536	598
NOISE LEVEL											
Sound Pressure	(10)	dB(A)	69	70	70	70	70	71	70	71	71
Sound power level in cooling	(11)(12)	dB(A)	89	91	91	91	91	92	92	94	94
Sound power level in heating	(11)(13)	dB(A)	90	92	92	92	92	93	93	95	95
SIZE AND WEIGHT											
Operating weight	(14)	kg	6190	6680	6770	7010	7650	9820	10890	11510	11950
A	(14)	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
B	(14)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(14)	mm	2430	2430	2430	2430	2430	2430	2430	2430	2430

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, outdoors.
13 Sound power level in heating, outdoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

NX-CN-Y

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

Heat pump for indoor installation to produce chilled/hot water with hermetic rotary Scroll compressors, centrifugal plug fans with EC motor, braze-welded plate-type exchanger and thermal expansion valve. Structure and the external paneling made from hot-galvanised metal plate and painted with epoxy powder coat RAL 7035. The panels are easy to remove for quick and easy access to the inside components from either side of the unit.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
W3000TE Compact features function controls and LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet. The controller provides water temperature control for the heating systems, cooling systems (only for reversible units), as well as for domestic hot water (only for reversible units). These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Regulation based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives, the proportional- or proportional- integral regulations are also available. Complete alarm management system is available, with the “black-box” and the alarm history display functions.
For multiple units’ systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Built-in clock can create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production and fundamental for managing the Legionella prevention cycles. Supervision is available either using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols. A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

K	Standard efficiency
SL-K	Super low noise, standard efficiency
A	High efficiency

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP according with the eco-sustainable design requirements for all products using energy.

PLUG FUN WITH EC MOTOR
More air flow by smaller diameter.
Energy cost saving by highest efficiency at the operating point.
Fan is directly coupling with motor, no energy lost due to the transmission (belts and pulleys). External rotor fitted with permanent magnets. Outstanding efficiency even at partial load range, due to the lack of brushes and lower consumption in every working condition in order to achieve a better seasonal efficiency in accordance with ErP Directive.

TOTAL VERSATILITY
Horizontal or vertical air flow.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low or high head, fixed or variable speed.

Accessories

- Soft starters
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Outside air temperature probe for plant water set point compensation.
- Horizontal or vertical air outflow
- Hydronic module available in different configurations with 1 or 2 pumps fixed speed or variable speed, for achieving both low or high head.
- VPF (Variable Primary Flow) system
- Electronic expansion valve

NX-CN-Y /K			0072	0092	0102	0122	0152	0182	0202	0232
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	18,37	22,60	25,76	30,34	37,95	44,87	51,74	57,71
Total power input	(1)	kW	6,265	8,327	9,752	11,60	12,81	14,82	17,67	20,36
EER	(1)	kW/kW	2,935	2,713	2,646	2,612	2,969	3,034	2,921	2,828
ESEER	(1)	kW/kW	4,410	4,190	4,100	3,180	4,250	4,260	4,180	4,100
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,30	22,50	25,70	30,20	37,80	44,70	51,50	57,50
EER	(1)(2)	kW/kW	2,940	2,710	2,660	2,630	2,980	3,060	2,940	2,850
ESEER	(1)(2)	kW/kW	4,290	4,090	4,030	3,140	4,170	4,210	4,140	4,050
Cooling energy class			A	A	B	B	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	19,16	23,87	28,02	31,79	41,48	48,41	55,64	61,74
Total power input	(3)	kW	6,864	8,851	10,57	12,08	13,78	15,96	18,58	21,11
COP	(3)	kW/kW	2,799	2,701	2,642	2,628	3,007	3,025	2,989	2,924
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	19,30	24,00	28,10	31,90	41,70	48,60	55,80	61,90
COP	(2)(3)	kW/kW	2,830	2,720	2,670	2,650	3,040	3,060	3,020	2,950
Cooling energy class			B	C	C	C	A	A	A	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	14,5	17,9	21,4	24,5	32,1	37,5	43,0	47,9
SCOP	(7)(8)		3,56	3,53	3,52	3,46	3,71	3,71	3,67	3,64
Performance ηs	(7)(9)	%	140	138	138	136	145	145	144	142
Seasonal efficiency class	(7)		A+	A+	A+	A+	A+	A+	A+	A+
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,878	1,081	1,232	1,451	1,815	2,146	2,474	2,760
Pressure drop	(1)	kPa	16,7	18,2	16,6	18,3	19,1	16,6	17,3	17,1
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	0,925	1,152	1,352	1,535	2,002	2,337	2,686	2,980
Pressure drop	(3)	kPa	18,6	20,7	20,1	20,4	23,2	19,6	20,4	19,9
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	8,20	8,50	8,90	9,10	19,0	20,2	21,1	21,5
FANS										
Air flow		m³/s	2,08	2,50	3,33	3,47	4,44	5,42	5,69	5,97
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(10)(11)(12)	dB(A)	80	81	82	82	81	84	85	86
Sound power level in heating	(10)(12)(13)	dB(A)	70	70	70	70	80	80	80	80
Sound power level in heating	(10)(12)(14)	dB(A)	80	81	82	82	81	84	85	86
SIZE AND WEIGHT										
A	(15)	mm	1500	1500	1500	1500	2480	2480	2480	2480
B	(15)	mm	900	900	900	900	1100	1100	1100	1100
H	(15)	mm	1910	1910	1910	1910	2100	2100	2100	2100
Operating weight	(15)	kg	430	440	460	470	810	840	840	860

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
11 Sound power level in cooling, outdoors.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in heating, indoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-CN-Y

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

NX-CN-Y /K			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	66,12	74,94	85,04	94,47	106,8	121,1	135,9	151,4
Total power input	(1)	kW	23,80	27,29	32,31	35,39	40,67	44,20	52,32	59,85
EER	(1)	kW/kW	2,777	2,744	2,632	2,669	2,624	2,740	2,598	2,532
ESEER	(1)	kW/kW	4,090	3,930	3,820	3,830	3,780	3,910	3,760	3,700
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	65,90	74,70	84,80	94,30	106,6	120,8	135,6	151,1
EER	(1)(2)	kW/kW	2,790	2,770	2,650	2,690	2,650	2,760	2,620	2,550
ESEER	(1)(2)	kW/kW	4,060	3,920	3,790	3,830	3,760	3,900	3,740	3,680
Cooling energy class			A	A	B	B	B	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	70,72	79,49	89,35	102,2	114,6	131,1	146,9	162,9
Total power input	(3)	kW	24,29	28,02	32,71	36,57	41,21	45,16	52,95	60,43
COP	(3)	kW/kW	2,909	2,839	2,734	2,792	2,782	2,900	2,777	2,697
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	70,90	79,70	89,60	102,5	114,9	131,4	147,3	163,3
COP	(2)(3)	kW/kW	2,940	2,870	2,760	2,820	2,810	2,930	2,810	2,730
Cooling energy class			B	B	C	B	B	B	B	C
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	54,9	61,7	69,1	78,7	88,2	101	113	126
SCOP	(7)(8)		3,55	3,49	3,40	3,42	3,40	3,56	3,47	3,33
Performance ηs	(7)(9)	%	139	137	133	134	133	139	136	130
Seasonal efficiency class	(7)		A+	A+	A+	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,162	3,584	4,067	4,518	5,107	5,791	6,500	7,240
Pressure drop	(1)	kPa	12,9	12,6	13,5	13,2	13,5	13,3	14,3	14,9
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	3,414	3,837	4,313	4,932	5,532	6,328	7,091	7,864
Pressure drop	(3)	kPa	15,1	14,4	15,2	15,7	15,8	15,9	17,0	17,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	27,1	23,6	24,6	32,2	33,0	38,9	39,9	40,8
FANS										
Air flow		m³/s	7,50	8,06	8,89	10,56	11,11	12,50	13,89	15,83
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(10)(11)(12)	dB(A)	84	85	87	87	84	90	92	90
Sound power level in heating	(10)(12)(13)	dB(A)	80	80	80	82	83	83	84	85
Sound power level in heating	(10)(12)(14)	dB(A)	84	85	87	87	84	90	92	90
SIZE AND WEIGHT										
A	(15)	mm	2480	2480	2480	2980	2980	3970	3970	3970
B	(15)	mm	1100	1100	1100	1260	1260	1260	1260	1260
H	(15)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	920	960	1020	1260	1280	1510	1530	1610

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
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13 Sound power level in heating, indoors.
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15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-CN-Y /K			0702	0524	0604	0704	0804	0904	1004	1104
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	173,1	124,8	144,0	167,2	186,9	216,9	241,1	265,3
Total power input	(1)	kW	66,44	47,29	56,52	63,94	74,42	81,79	93,22	108,2
EER	(1)	kW/kW	2,607	2,638	2,549	2,617	2,512	2,652	2,587	2,452
ESEER	(1)	kW/kW	3,790	4,050	3,920	4,070	3,890	4,060	3,960	3,920
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	172,7	124,4	143,6	166,8	186,4	216,4	240,5	264,7
EER	(1)(2)	kW/kW	2,620	2,650	2,560	2,640	2,530	2,670	2,600	2,460
ESEER	(1)(2)	kW/kW	3,770	3,960	3,830	4,000	3,820	3,990	3,890	3,860
Cooling energy class			B	B	B	B	B	B	B	C
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	187,1	135,0	156,7	179,9	199,1	231,1	256,0	283,1
Total power input	(3)	kW	65,32	48,20	57,36	65,09	74,79	82,87	93,29	105,0
COP	(3)	kW/kW	2,865	2,801	2,730	2,763	2,662	2,788	2,744	2,696
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	187,6	135,4	157,2	180,4	199,6	231,7	256,7	283,8
COP	(2)(3)	kW/kW	2,900	2,830	2,760	2,790	2,690	2,820	2,770	2,720
Cooling energy class			B	B	C	C	C	B	C	C
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	144	105	122	139	153	178	196	218
SCOP	(7)(8)		3,46	3,62	3,51	3,56	3,44	3,55	3,55	3,52
Performance ηs	(7)(9)	%	135	142	137	139	135	139	139	138
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	8,277	5,966	6,887	7,998	8,935	10,37	11,53	12,69
Pressure drop	(1)	kPa	15,5	19,6	19,6	19,9	19,9	20,4	20,5	19,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	9,034	6,518	7,564	8,685	9,613	11,16	12,36	13,67
Pressure drop	(3)	kPa	18,5	23,4	23,7	23,5	23,0	23,5	23,5	22,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	4	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2	2
Refrigerant charge		kg	51,4	43,0	44,3	51,5	53,5	68,5	71,0	72,8
FANS										
Air flow		m³/s	18,06	13,06	15,28	17,78	19,44	22,50	24,17	24,17
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(10)(11)(12)	dB(A)	94	91	90	94	96	91	93	93
Sound power level in heating	(10)(12)(13)	dB(A)	85	85	85	86	86	88	90	90
Sound power level in heating	(10)(12)(14)	dB(A)	94	91	90	94	96	91	93	93
SIZE AND WEIGHT										
A	(15)	mm	4670	3970	3970	4670	4670	5670	5670	5670
B	(15)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(15)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	1820	1490	1590	1910	2060	2430	2490	2540

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
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Certified data in EUROVENT

NX-CN-Y

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

NX-CN-Y /SL-K			0072	0092	0102	0122	0152	0182	0202	0232
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	18,03	22,02	24,45	28,64	37,03	43,88	50,75	56,21
Total power input	(1)	kW	6,123	8,027	9,278	11,11	12,49	14,36	17,16	19,76
EER	(1)	kW/kW	2,941	2,740	2,640	2,577	2,960	3,049	2,953	2,838
ESEER	(1)	kW/kW	4,470	4,240	4,130	4,270	4,240	4,310	4,230	4,250
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	17,90	21,90	24,40	28,50	36,90	43,70	50,60	56,00
EER	(1)(2)	kW/kW	2,950	2,740	2,660	2,590	2,980	3,070	2,970	2,840
ESEER	(1)(2)	kW/kW	4,390	4,160	4,090	4,200	4,200	4,270	4,190	4,210
Cooling energy class			A	A	B	B	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	18,92	23,48	27,08	30,78	40,70	47,57	54,82	60,97
Total power input	(3)	kW	6,526	8,199	9,203	10,53	12,96	14,98	17,50	19,90
COP	(3)	kW/kW	2,894	2,866	2,946	2,933	3,131	3,173	3,131	3,065
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	19,00	23,60	27,20	30,90	40,90	47,80	55,00	61,20
COP	(2)(3)	kW/kW	2,920	2,890	2,990	2,960	3,170	3,210	3,160	3,090
Cooling energy class			B	B	B	B	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	14,3	17,6	20,6	23,6	31,4	36,7	42,4	47,2
SCOP	(7)(8)		3,73	3,75	3,90	3,88	3,86	3,87	3,84	3,84
Performance ηs	(7)(9)	%	146	147	153	152	151	152	151	150
Seasonal efficiency class	(7)		A+	A+	A++	A++	A++	A++	A++	A++
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,862	1,053	1,169	1,370	1,771	2,098	2,427	2,688
Pressure drop	(1)	kPa	16,1	17,3	15,0	16,3	18,2	15,8	16,7	16,2
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	0,913	1,133	1,307	1,486	1,964	2,296	2,646	2,943
Pressure drop	(3)	kPa	18,1	20,0	18,7	19,2	22,3	19,0	19,8	19,4
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	8,20	8,50	18,3	18,5	19,0	20,2	21,1	21,5
FANS										
Air flow		m³/s	1,81	2,08	2,22	2,36	3,61	4,44	4,86	5,14
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(10)(11)(12)	dB(A)	70	72	71	72	79	76	78	79
Sound power level in heating	(10)(12)(13)	dB(A)	60	61	59	60	73	72	74	73
Sound power level in heating	(10)(12)(14)	dB(A)	70	72	71	72	79	76	78	79
SIZE AND WEIGHT										
A	(15)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(15)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(15)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	480	490	820	830	860	920	920	940

Notes

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NX-CN-Y /SL-K			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	64,42	72,59	82,03	91,09	102,9	118,8	132,6	145,7
Total power input	(1)	kW	22,59	26,26	30,86	34,70	38,98	43,05	50,48	56,85
EER	(1)	kW/kW	2,850	2,760	2,654	2,625	2,638	2,763	2,626	2,561
ESEER	(1)	kW/kW	4,350	3,970	4,020	3,830	3,940	3,960	3,960	3,760
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	64,20	72,40	81,80	90,90	102,7	118,5	132,3	145,4
EER	(1)(2)	kW/kW	2,870	2,770	2,660	2,640	2,650	2,780	2,640	2,570
ESEER	(1)(2)	kW/kW	4,340	3,970	3,990	3,820	3,910	3,930	3,930	3,740
Cooling energy class			A	A	B	B	B	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	69,20	77,93	87,39	99,80	111,9	129,4	144,6	159,1
Total power input	(3)	kW	22,82	25,75	29,62	33,98	37,33	42,76	49,29	54,28
COP	(3)	kW/kW	3,035	3,019	2,953	2,935	3,000	3,023	2,933	2,930
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	69,40	78,10	87,60	100,1	112,2	129,7	145,0	159,5
COP	(2)(3)	kW/kW	3,070	3,050	2,980	2,960	3,030	3,050	2,960	2,960
Cooling energy class			A	A	B	B	A	A	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	53,7	60,3	67,3	76,5	85,8	99,2	111	122
SCOP	(7)(8)		3,86	3,69	3,67	3,56	3,67	3,69	3,66	3,57
Performance ηs	(7)(9)	%	151	145	144	139	144	145	143	140
Seasonal efficiency class	(7)		A++	A+	A+	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,081	3,471	3,923	4,356	4,922	5,682	6,342	6,967
Pressure drop	(1)	kPa	12,3	11,8	12,5	12,2	12,5	12,8	13,6	13,8
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	3,340	3,762	4,218	4,818	5,403	6,246	6,982	7,680
Pressure drop	(3)	kPa	14,4	13,9	14,5	15,0	15,1	15,5	16,5	16,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	34,1	29,9	31,1	32,2	37,7	38,9	39,9	49,0
FANS										
Air flow		m³/s	6,11	6,39	6,94	8,06	8,61	10,83	11,67	12,22
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(10)(11)(12)	dB(A)	83	77	78	81	78	83	84	86
Sound power level in heating	(10)(12)(13)	dB(A)	75	72	71	76	77	76	76	81
Sound power level in heating	(10)(12)(14)	dB(A)	83	77	78	81	78	83	84	86
SIZE AND WEIGHT										
A	(15)	mm	2980	2980	2980	2980	3970	3970	3970	4670
B	(15)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(15)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	1090	1160	1230	1320	1610	1630	1650	1880

Notes

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Certified data in EUROVENT

NX-CN-Y

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

NX-CN-Y /SL-K			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	166,5	121,9	139,6	161,4	179,8	212,2	234,1
Total power input	(1)	kW	64,25	45,91	54,26	61,38	70,85	80,14	90,90
EER	(1)	kW/kW	2,593	2,656	2,571	2,629	2,540	2,649	2,575
ESEER	(1)	kW/kW	3,920	4,140	4,000	4,210	3,990	4,160	4,020
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	166,1	121,6	139,2	161,0	179,4	211,7	233,6
EER	(1)(2)	kW/kW	2,610	2,670	2,580	2,640	2,550	2,660	2,590
ESEER	(1)(2)	kW/kW	3,900	4,050	3,920	4,130	3,920	4,070	3,950
Cooling energy class			B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	181,8	133,1	153,7	175,9	194,3	227,8	251,1
Total power input	(3)	kW	61,22	45,27	52,59	59,23	67,03	78,57	86,97
COP	(3)	kW/kW	2,971	2,938	2,922	2,971	2,900	2,898	2,886
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	182,2	133,5	154,2	176,4	194,8	228,4	251,7
COP	(2)(3)	kW/kW	3,000	2,960	2,950	3,000	2,920	2,920	2,910
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	140	103	118	135	148	175	191
SCOP	(7)(8)		3,67	3,79	3,70	3,82	3,66	3,70	3,71
Performance ηs	(7)(9)	%	144	148	145	150	144	145	145
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,963	5,832	6,675	7,721	8,596	10,15	11,19
Pressure drop	(1)	kPa	14,4	18,7	18,4	18,5	18,4	19,5	19,3
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,777	6,427	7,420	8,491	9,379	10,99	12,12
Pressure drop	(3)	kPa	17,5	22,7	22,8	22,4	21,9	22,9	22,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg	56,9	43,0	44,3	51,5	53,5	68,5	71,0
FANS									
Air flow		m³/s	13,89	11,11	12,22	13,89	15,00	19,17	19,72
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(10)(11)(12)	dB(A)	89	83	85	81	83	88	88
Sound power level in heating	(10)(12)(13)	dB(A)	80	77	80	73	73	85	85
Sound power level in heating	(10)(12)(14)	dB(A)	89	83	85	81	83	88	88
SIZE AND WEIGHT									
A	(15)	mm	5670	3970	4670	5670	5670	5670	5670
B	(15)	mm	1260	1260	1260	1260	1260	1260	1260
H	(15)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	2120	1610	1840	2310	2460	2550	2610

Notes

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NX-CN-Y /A			0072	0092	0102	0122	0152	0182	0202	0232
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	18,74	23,01	26,05	30,93	38,29	45,37	52,47	58,35
Total power input	(1)	kW	6,090	8,036	8,822	10,59	12,51	14,50	17,28	19,89
EER	(1)	kW/kW	3,071	2,861	2,948	2,915	3,064	3,131	3,035	2,930
ESEER	(1)	kW/kW	4,610	4,370	4,520	4,600	4,370	4,380	4,290	4,270
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	18,60	22,90	25,90	30,80	38,10	45,20	52,30	58,10
EER	(1)(2)	kW/kW	3,090	2,870	2,980	2,930	3,090	3,170	3,060	2,950
ESEER	(1)(2)	kW/kW	4,550	4,290	4,510	4,530	4,290	4,340	4,240	4,230
Cooling energy class			A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	19,42	24,20	28,26	32,28	41,76	48,86	56,28	62,60
Total power input	(3)	kW	6,883	8,795	9,828	11,43	13,67	15,91	18,60	21,23
COP	(3)	kW/kW	2,820	2,753	2,879	2,833	3,051	3,075	3,027	2,953
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	19,50	24,30	28,40	32,40	42,00	49,10	56,50	62,80
COP	(2)(3)	kW/kW	2,860	2,790	2,930	2,870	3,090	3,130	3,070	2,990
Cooling energy class			B	C	B	B	A	A	A	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	14,8	18,2	21,7	24,9	32,4	37,8	43,6	48,6
SCOP	(7)(8)		3,65	3,60	3,86	3,80	3,76	3,76	3,74	3,69
Performance ηs	(7)(9)	%	143	141	151	149	147	147	147	145
Seasonal efficiency class	(7)		A+	A+	A++	A+	A+	A+	A+	A+
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	0,896	1,100	1,246	1,479	1,831	2,170	2,509	2,790
Pressure drop	(1)	kPa	17,4	18,9	17,0	19,0	19,4	16,9	17,8	17,4
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	0,937	1,168	1,364	1,558	2,016	2,358	2,717	3,022
Pressure drop	(3)	kPa	19,1	21,3	20,4	21,1	23,5	20,0	20,9	20,5
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	8,20	8,50	18,3	18,5	19,0	20,2	21,1	21,5
FANS										
Air flow		m³/s	2,50	2,92	3,75	4,17	4,86	6,11	6,53	6,94
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(10)(11)(12)	dB(A)	76	79	82	84	86	83	84	85
Sound power level in heating	(10)(12)(13)	dB(A)	66	68	70	66	76	79	80	79
Sound power level in heating	(10)(12)(14)	dB(A)	76	79	82	84	86	83	84	85
SIZE AND WEIGHT										
A	(15)	mm	1500	1500	2480	2480	2480	2480	2480	2480
B	(15)	mm	900	900	1100	1100	1100	1100	1100	1100
H	(15)	mm	1910	1910	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	480	490	820	830	860	920	920	940

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
11 Sound power level in cooling, outdoors.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in heating, indoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-CN-Y

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

NX-CN-Y /A			0272	0302	0352	0402	0452	0502	0552	0602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	66,63	76,02	85,95	94,75	108,3	122,0	136,6	152,7
Total power input	(1)	kW	22,87	26,54	31,09	36,00	39,03	43,81	51,52	57,66
EER	(1)	kW/kW	2,908	2,868	2,762	2,633	2,777	2,785	2,652	2,646
ESEER	(1)	kW/kW	4,350	4,090	4,080	3,880	4,020	3,970	3,930	3,830
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	66,40	75,80	85,70	94,60	108,0	121,7	136,3	152,4
EER	(1)(2)	kW/kW	2,940	2,890	2,780	2,660	2,810	2,810	2,670	2,670
ESEER	(1)(2)	kW/kW	4,330	4,080	4,070	3,870	4,010	3,960	3,900	3,830
Cooling energy class			A	A	A	A	A	A	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	70,87	80,28	90,06	103,0	115,8	131,7	147,5	164,0
Total power input	(3)	kW	24,27	27,82	31,97	37,35	40,38	45,26	52,51	58,92
COP	(3)	kW/kW	2,918	2,888	2,816	2,761	2,866	2,907	2,810	2,784
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	71,10	80,50	90,30	103,3	116,1	132,0	147,9	164,4
COP	(2)(3)	kW/kW	2,960	2,930	2,850	2,790	2,900	2,940	2,840	2,820
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	55,1	62,4	69,7	79,4	89,2	101	114	127
SCOP	(7)(8)		3,69	3,55	3,50	3,39	3,52	3,57	3,51	3,43
Performance ηs	(7)(9)	%	144	139	137	132	138	140	137	134
Seasonal efficiency class	(7)		A+	A+	A+	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	3,186	3,635	4,110	4,531	5,178	5,835	6,532	7,301
Pressure drop	(1)	kPa	13,1	13,0	13,8	13,3	13,9	13,5	14,4	15,1
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	3,421	3,875	4,347	4,974	5,589	6,356	7,120	7,918
Pressure drop	(3)	kPa	15,2	14,7	15,4	16,0	16,2	16,1	17,1	17,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	34,1	29,9	31,1	32,2	37,7	38,9	39,9	49,0
FANS										
Air flow		m³/s	8,06	9,17	9,72	11,11	12,50	13,33	14,44	16,94
Available static pressure		Pa	30	30	30	30	30	30	30	30
NOISE LEVEL										
Sound power level in cooling	(10)(11)(12)	dB(A)	89	84	85	88	86	87	89	93
Sound power level in heating	(10)(12)(13)	dB(A)	76	79	78	79	79	80	81	82
Sound power level in heating	(10)(12)(14)	dB(A)	89	84	85	88	86	87	89	93
SIZE AND WEIGHT										
A	(15)	mm	2980	2980	2980	2980	3970	3970	3970	4670
B	(15)	mm	1260	1260	1260	1260	1260	1260	1260	1260
H	(15)	mm	2100	2100	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	1090	1160	1230	1320	1610	1630	1650	1880

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
11 Sound power level in cooling, outdoors.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in heating, indoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-CN-Y /A			0702	0524	0604	0704	0804	0904	1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	173,7	124,8	144,3	169,3	187,2	216,9	238,0
Total power input	(1)	kW	64,96	46,32	55,18	62,04	70,82	81,01	91,54
EER	(1)	kW/kW	2,672	2,695	2,614	2,731	2,644	2,678	2,601
ESEER	(1)	kW/kW	3,950	4,120	4,000	4,210	4,060	4,080	3,990
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	173,3	124,4	143,9	168,8	186,7	216,4	237,4
EER	(1)(2)	kW/kW	2,700	2,710	2,630	2,750	2,660	2,690	2,610
ESEER	(1)(2)	kW/kW	3,940	4,030	3,920	4,130	3,990	4,010	3,920
Cooling energy class			B	A	B	A	B	B	B
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	186,8	134,8	156,8	181,2	199,6	230,8	253,9
Total power input	(3)	kW	65,86	47,22	56,14	64,22	71,33	82,01	89,80
COP	(3)	kW/kW	2,835	2,856	2,795	2,822	2,799	2,815	2,827
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	187,3	135,2	157,3	181,7	200,2	231,4	254,6
COP	(2)(3)	kW/kW	2,870	2,880	2,820	2,860	2,830	2,840	2,850
Cooling energy class			B	B	B	B	B	B	B
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(4)	kW	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(7)	kW	145	106	124	142	154	180	194
SCOP	(7)(8)		3,52	3,68	3,55	3,60	3,56	3,55	3,59
Performance ηs	(7)(9)	%	138	144	139	141	139	139	141
Seasonal efficiency class	(7)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	8,308	5,966	6,903	8,094	8,952	10,37	11,38
Pressure drop	(1)	kPa	15,7	19,6	19,7	20,4	19,9	20,4	20,0
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	9,019	6,508	7,570	8,749	9,635	11,14	12,26
Pressure drop	(3)	kPa	18,4	23,3	23,7	23,8	23,1	23,5	23,2
REFRIGERANT CIRCUIT									
Compressors nr.		N°	2	4	4	4	4	4	4
No. Circuits		N°	1	2	2	2	2	2	2
Refrigerant charge		kg	56,9	43,0	48,4	64,1	66,3	68,5	71,0
FANS									
Air flow		m³/s	18,61	13,06	15,56	19,72	19,72	21,94	21,94
Available static pressure		Pa	30	30	30	30	30	30	30
NOISE LEVEL									
Sound power level in cooling	(10)(11)(12)	dB(A)	95	87	90	88	88	91	91
Sound power level in heating	(10)(12)(13)	dB(A)	85	81	85	80	81	88	88
Sound power level in heating	(10)(12)(14)	dB(A)	95	87	90	88	88	91	91
SIZE AND WEIGHT									
A	(15)	mm	5670	3970	4670	5670	5670	5670	5670
B	(15)	mm	1260	1260	1260	1260	1260	1260	1260
H	(15)	mm	2100	2100	2100	2100	2100	2100	2100
Operating weight	(15)	kg	2120	1610	1840	2310	2460	2550	2610

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Total sound power of fans, as declared by the maker, at the rated speed of rotation and a useful static head of nominal on the delivery side.
11 Sound power level in cooling, outdoors.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in heating, indoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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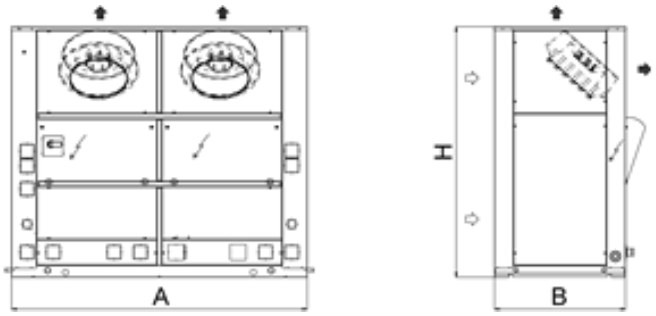
Certified data in EUROVENT

NX-CN-Y

0072 - 1104 18,03-265,3 kW

Reversible unit, air source for indoor installation

Dimensional drawing



HEAT PUMPS

i-KI-MTD-Y

0075t - 0151t 21,62-44,39 kW

Air cooled heat pump only heating, with axial fans and inverter driven compressor, for heating water up to 60°C.

The system is based on a packaged external units with integrated hydronic module and an internal unit with the electronic regulation. The heat pump provides chilled and domestic hot water production. Particular care is taken of winter mode, that thanks to the Inverter technology is guaranteed beyond traditional units working limits, water production up to 60°C.
The heating only heat pump features high seasonal efficiency in heating, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the installation.
The units can be coupled with traditional systems or radiant panels, guaranteeing always a very high energy efficiency. Intallation is strongly simplified thanks to the integrated hydronic module.

Refrigerant

R410A

Versions

B Basic

Features

WIDE RANGE
Extended capacity range.

SYSTEM EFFICIENCY
The unit is designed as a system: all components are regulated using proprietary control's logic for the highest efficiency.

HIGH EFFICIENCY AT PARTIAL LOAD
High seasonal efficiency in both heating and cooling mode, using DC inverter technology to modulate compressor operation and deliver the exact amount of energy based on the actual needs of the installation. High efficiency for low energy consumption during the operating hours.

HIGH EFFICIENCY COMPONENTS
In terms of improving performance and reducing power consumption, the electronic thermostatic valve is an important component that maximises system efficiency, same for the choise the hydronic kit with inverter water pump (optional) and the modulating the fans speed.

EXTENSIVE OPERATING LIMITS
Particular care is taken for winter mode, that thanks to inverter technology is guaranteed beyond traditional units working limits, supplying hot water up to 60°C and down to -20°external air.

Control

NADISYSTEM
Electronic control that provides great application flexibility and dynamic control of delivery temperature water, optimizing indoor comfort and increasing the energy efficiency. The electronic board allows you to manage: -Wired remote control, backlit display and with temperature probe and humidity probe -Outdoor temperature sensor for water plant side modular set point compensation -A zone of direct heating for radiator, floor heating or fan coil and a zone with mix valve for floor heating -Electrical heating element for possible integration and anti-legionella cycle for cylinder -Boiler or electric heater in substitution or in addition -Up to 6 time bands can be programmed
-Up to 4 heat pump in cascade (with N-CM component)
-Several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zones.

Accessories

- Integrated hydronic module with on/off pump or high efficiency inverter pump
- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump
- Copper-Copper heat exchanger coils
- Copper-Aluminum heat exchanger coils with epoxy treatment
- Electric heater for the base and for condensate collecting tray to avoid freezing

APPLICATION HYDRONIC TERMINAL

i-KI-MTD-Y 0075-0151			0075t	0091t	0095t	0101t	0121t	0135t	0151t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(1)	kW	21,62	30,35	32,86	35,63	35,85	39,19	44,39
Total power input	(1)	kW	8,297	9,448	10,92	12,33	11,43	13,01	14,67
COP	(1)	kW/kW	2,602	3,217	3,018	2,894	3,140	3,015	3,020
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(1)(2)	kW	21,70	30,60	33,10	35,90	36,00	39,40	44,60
COP	(1)(2)	kW/kW	2,570	3,180	2,980	2,860	3,110	2,990	2,990
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(3)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(3)(9)		3,50	3,98	3,93	3,88	4,06	4,06	4,22
Performance ηs	(3)(10)	%	137	156	154	152	159	159	166
Seasonal efficiency class	(11)		A+	A++	A++	A++	A++	A++	A++
PDesign	(4)	kW	16,6	22,5	24,7	27,2	25,8	28,7	32,5
SCOP	(4)(9)		2,82	3,21	3,21	3,18	3,27	3,28	3,37
Performance ηs	(4)(10)	%	110	125	125	124	128	128	132
Seasonal efficiency class	(12)		A+	A++	A++	A+	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(1)	l/s	1,044	1,465	1,586	1,720	1,731	1,892	2,143
Pressure drop	(1)	kPa	26,1	30,6	35,9	42,2	19,4	23,2	29,7
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in heating	(5)(6)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(7)	dB(A)	56	57	59	60	61	62	62
SIZE AND WEIGHT									
A	(8)	mm	1470	1470	1470	1470	1720	1720	1720
B	(8)	mm	570	570	570	570	670	670	670
H	(8)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(8)	kg	220	285	285	285	330	330	330

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

i-KI-MTD-Y

0075t - 0151t 21,62-44,39 kW

Air cooled heat pump only heating, with axial fans and inverter driven compressor, for heating water up to 60°C.

APPLICATION FLOOR HEATING

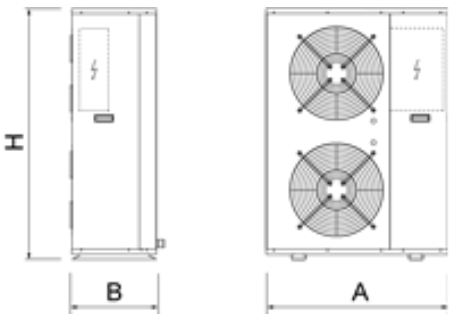
i-KI-MTD-Y 0075-0151			0075t	0091t	0095t	0101t	0121t	0135t	0151t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(1)	kW	21,74	30,93	33,27	35,96	36,75	40,06	45,35
Total power input	(1)	kW	6,833	7,866	9,073	10,22	9,357	10,72	12,08
COP	(1)	kW/kW	3,177	3,926	3,671	3,529	3,932	3,748	3,752
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(1)(2)	kW	21,80	31,10	33,50	36,30	37,00	40,30	45,60
COP	(1)(2)	kW/kW	3,130	3,850	3,610	3,470	3,890	3,700	3,700
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(3)	kW	16,0	23,1	25,2	27,4	25,8	28,4	32,4
SCOP	(3)(9)		3,50	3,98	3,93	3,88	4,06	4,06	4,22
Performance ηs	(3)(10)	%	137	156	154	152	159	159	166
Seasonal efficiency class	(11)		A+	A++	A++	A++	A++	A++	A++
PDesign	(4)	kW	16,6	22,5	24,7	27,2	25,8	28,7	32,5
SCOP	(4)(9)		2,82	3,21	3,21	3,18	3,27	3,28	3,37
Performance ηs	(4)(10)	%	110	125	125	124	128	128	132
Seasonal efficiency class	(12)		A+	A++	A++	A+	A++	A++	A++
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(1)	l/s	1,046	1,488	1,600	1,730	1,768	1,927	2,182
Pressure drop	(1)	kPa	26,2	31,6	36,5	42,7	20,3	24,1	30,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	1	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1	1
Refrigerant charge		kg	5,90	9,30	9,30	9,30	10,8	10,8	10,8
NOISE LEVEL									
Sound power level in heating	(5)(6)	dB(A)	72	73	75	76	77	78	78
Sound Pressure	(7)	dB(A)	56	57	59	60	61	62	62
SIZE AND WEIGHT									
A	(8)	mm	1470	1470	1470	1470	1720	1720	1720
B	(8)	mm	570	570	570	570	670	670	670
H	(8)	mm	1200	1700	1700	1700	1700	1700	1700
Operating weight	(8)	kg	220	285	285	285	330	330	330

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

AW-HT-Y

0122 - 0302 38,00-102,0 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

AW-HT-Y represents the best solution for systems in which there is the need to produce high temperature hot water. The EVI technology compressor with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A (in heating). CA-E and LN-CA-E versions guarantee premium levels of efficiency, making this range the best solution for both cooling and heating process applications.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

APPLICATION HYDRONIC TERMINAL

AW-HT-Y / CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38,00	51,30	68,80	84,90	102,0
Total power input	(1)	kW	10,70	14,40	19,40	23,60	27,70
COP	(1)	kW/kW	3,551	3,562	3,546	3,597	3,682
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	38,10	51,40	69,00	85,20	102,3
COP	(1)(2)	kW/kW	3,530	3,540	3,520	3,570	3,650
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,4	33,8	47,5	58,5	70,6
SCOP	(3)(9)		3,12	3,07	3,14	3,20	3,30
Performance ηs	(3)(10)	%	122	120	123	125	129
Seasonal efficiency class	(11)		A	A	A+	A+	-
PDesign	(4)	kW	30,5	36,8	50,7	63,3	74,7
SCOP	(4)(9)		2,90	2,90	2,95	3,00	3,07
Performance ηs	(4)(10)	%	113	113	115	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,834	2,476	3,321	4,098	4,924
Pressure drop	(1)	kPa	10,2	12,9	14,6	18,3	22,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	13,0	22,0	27,6	35,0	42,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	84	86	87	87	87
Sound Pressure	(7)	dB(A)	67	69	70	69	69
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	510	750	870	940	1030

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
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10 Seasonal space heating energy efficiency
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The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AW-HT-Y

0122 - 0302 38,00-102,0 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

AW-HT-Y / CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	37,60	50,60	67,90	83,70	100,7
Total power input	(1)	kW	8,900	12,20	16,30	19,90	23,20
COP	(1)	kW/kW	4,225	4,148	4,166	4,206	4,341
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	37,70	50,70	68,10	84,00	101,0
COP	(1)(2)	kW/kW	4,190	4,110	4,130	4,170	4,290
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,4	33,8	47,5	58,5	70,6
SCOP	(3)(9)		3,12	3,07	3,14	3,20	3,30
Performance ηs	(3)(10)	%	122	120	123	125	129
Seasonal efficiency class	(11)		A	A	A+	A+	-
PDesign	(4)	kW	30,5	36,8	50,7	63,3	74,7
SCOP	(4)(9)		2,90	2,90	2,95	3,00	3,07
Performance ηs	(4)(10)	%	113	113	115	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,809	2,434	3,267	4,027	4,845
Pressure drop	(1)	kPa	9,97	12,4	14,1	17,7	22,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	13,0	22,0	27,6	35,0	42,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	84	86	87	87	87
Sound Pressure	(7)	dB(A)	67	69	70	69	69
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	510	750	870	940	1030

Notes

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APPLICATION HYDRONIC TERMINAL

AW-HT-Y / LN-CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38,40	51,00	69,40	85,80	100,3
Total power input	(1)	kW	10,70	14,30	19,40	23,70	27,60
COP	(1)	kW/kW	3,589	3,566	3,577	3,620	3,634
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	38,50	51,10	69,60	86,10	100,6
COP	(1)(2)	kW/kW	3,560	3,540	3,550	3,590	3,600
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,7	34,4	47,8	59,3	70,3
SCOP	(3)(9)		3,15	3,07	3,17	3,23	3,30
Performance ηs	(3)(10)	%	123	120	124	126	129
Seasonal efficiency class	(11)		A+	A	A+	A+	-
PDesign	(4)	kW	30,7	37,0	50,9	63,3	75,2
SCOP	(4)(9)		2,92	2,91	2,97	3,00	3,07
Performance ηs	(4)(10)	%	114	113	116	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,854	2,462	3,350	4,142	4,842
Pressure drop	(1)	kPa	10,5	12,7	14,8	18,7	22,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	15,0	24,3	33,3	42,1	50,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	82	84	85	85	86
Sound Pressure	(7)	dB(A)	65	67	68	67	68
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	530	760	910	980	1030

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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AW-HT-Y

0122 - 0302 38,00-102,0 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

AW-HT-Y / LN-CA-E			0122	0152	0202	0262	0302
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(1)	kW	38,00	50,20	68,50	84,70	99,00
Total power input	(1)	kW	8,900	12,10	16,30	20,00	23,00
COP	(1)	kW/kW	4,270	4,149	4,202	4,235	4,304
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(1)(2)	kW	38,10	50,30	68,70	85,00	99,30
COP	(1)(2)	kW/kW	4,230	4,110	4,170	4,190	4,260
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(3)	kW	28,7	34,4	47,8	59,3	70,3
SCOP	(3)(9)		3,15	3,07	3,17	3,23	3,30
Performance ηs	(3)(10)	%	123	120	124	126	129
Seasonal efficiency class	(11)		A+	A	A+	A+	-
PDesign	(4)	kW	30,7	37,0	50,9	63,3	75,2
SCOP	(4)(9)		2,92	2,91	2,97	3,00	3,07
Performance ηs	(4)(10)	%	114	113	116	117	120
Seasonal efficiency class	(12)		A+	A+	A+	A+	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(1)	l/s	1,828	2,415	3,296	4,075	4,763
Pressure drop	(1)	kPa	10,2	12,2	14,4	18,1	21,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	15,0	24,3	33,3	42,1	50,0
NOISE LEVEL							
Sound power level in heating	(5)(6)	dB(A)	82	84	85	85	86
Sound Pressure	(7)	dB(A)	65	67	68	67	68
SIZE AND WEIGHT							
A	(8)	mm	1695	2195	2745	2745	2745
B	(8)	mm	1120	1120	1120	1120	1120
H	(8)	mm	1465	1465	1465	1665	1665
Operating weight	(8)	kg	530	760	910	980	1030

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
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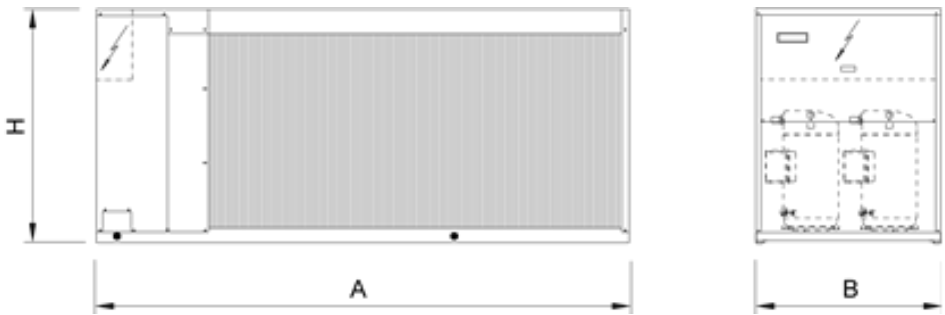
The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

AW-HT-Y

0404 - 0604 134,9-204,8 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

AW-HT-Y represents the best solution for systems in which there is the need to produce both chilled water and high temperature hot water. The EVI technology compressor with additional steam injection in the compressing cycle assures a water temperature of 65°C and operating limits as low as -20°C. Neither probes nor connections pipes to wells are needed; the installation is simple, this is a suitable solution for all applications.

Control

W3000SE

W3000SE controller dedicated to heat pump applications features a incorporated logic for high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit via a multilevel menu, with settable language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “black-box” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For multiple units' systems, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, thus ensuring more efficient energy distribution and simultaneous water delivery to the different distribution systems.

- Built-in clock to create operating profiles up to 4 typical days and 10 time bands, essential for efficient programming of energy production and for managing the Legionella prevention cycles.
- Proprietary self-adaptive logic for defrost involving monitoring of multiple operating and climate parameters. This reduces the number and duration of defrosts, consequently increasing overall energy efficiency.
- Supervision available using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
- Dedicated wall-mounted keypad for remote control of all the functions.

Refrigerant

R407C

Versions

CA-E	Premium efficiency version: Class A enhanced
LN-CA-E	Premium efficiency version, Class A enhanced, low-noise

Configurations

-	Basic function
D	Partial condensing heat recovery function

Features

PREMIUM ´CLASS A' EFFICIENCY

The full range is available with a premium efficiency rating, over the Class A (in heating). CA-E and LN-CA-E versions guarantee premium levels of efficiency, making this range the best solution for both cooling and heating process applications.

WIDE OPERATING RANGE

Production of high temperature hot water up to 65°C for space heating and sanitary purposes. The unit can operate as standard down to -20°C outdoor temperature.

MAXIMUM RELIABILITY

Maximum operating reliability, thanks to two main features:
- two independent circuits for all sizes;
- system to prevent formation of ice on the coil, ensuring shorter and more efficient defrost cycles.

MODULAR CONFIGURATION

Modular configuration with capacity extension up to 1000 kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

APPLICATION HYDRONIC TERMINAL

AW-HT-Y / CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	134,9	171,0	204,8
Total power input	(1)	kW	39,60	48,10	58,90
COP	(1)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	135,4	171,6	205,5
COP	(1)(2)	kW/kW	3,380	3,520	3,450
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,512	8,254	9,886
Pressure drop	(1)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	66,0	108	108
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	92	93	94
Sound Pressure	(7)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1950	2400	2530

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AW-HT-Y

0404 - 0604 134,9-204,8 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

AW-HT-Y / CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	132,9	168,7	202,2
Total power input	(1)	kW	33,50	40,70	49,70
COP	(1)	kW/kW	3,967	4,145	4,068
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	133,3	169,3	202,9
COP	(1)(2)	kW/kW	3,930	4,100	4,030
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,394	8,116	9,728
Pressure drop	(1)	kPa	24,5	27,7	30,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	66,0	108	108
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	92	93	94
Sound Pressure	(7)	dB(A)	73	73	74
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1950	2400	2530

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

APPLICATION HYDRONIC TERMINAL

AW-HT-Y / LN-CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	134,9	171,0	204,8
Total power input	(1)	kW	39,60	48,10	58,90
COP	(1)	kW/kW	3,407	3,555	3,477
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	135,4	171,6	205,5
COP	(1)(2)	kW/kW	3,380	3,520	3,450
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,512	8,254	9,886
Pressure drop	(1)	kPa	25,4	28,6	31,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	70,0	110	110
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	88	88	89
Sound Pressure	(7)	dB(A)	69	68	69
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1960	2410	2540

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

AW-HT-Y

0404 - 0604 134,9-204,8 kW

High efficiency heat pump, air source for outdoor installation, high water temperature

APPLICATION FLOOR HEATING

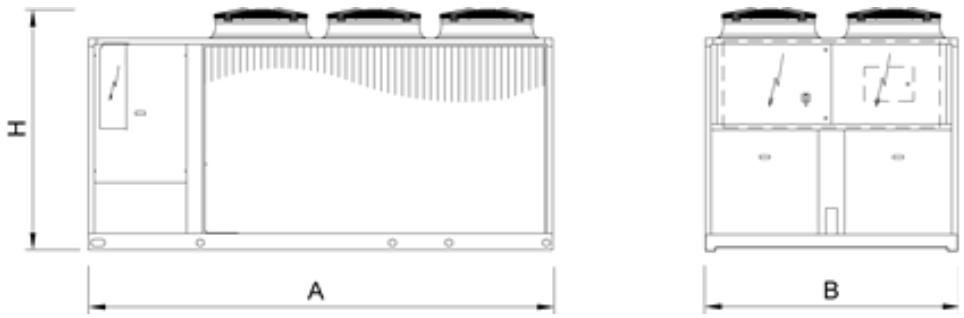
AW-HT-Y / LN-CA-E			0404	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(1)	kW	132,9	168,7	202,2
Total power input	(1)	kW	33,50	40,70	49,70
COP	(1)	kW/kW	3,967	4,145	4,068
HEATING ONLY (EN14511 VALUE)					
Total heating capacity	(1)(2)	kW	133,3	169,3	202,9
COP	(1)(2)	kW/kW	3,930	4,100	4,030
ENERGY EFFICIENCY					
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)					
PDesign	(3)	kW	92,6	117	139
SCOP	(3)(9)		3,15	3,32	3,22
Performance ηs	(3)(10)	%	123	130	126
Seasonal efficiency class	(11)		-	-	-
PDesign	(4)	kW	98,9	126	148
SCOP	(4)(9)		2,95	3,13	3,02
Performance ηs	(4)(10)	%	115	122	118
Seasonal efficiency class	(12)		-	-	-
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN HEATING					
Water flow	(1)	l/s	6,394	8,116	9,728
Pressure drop	(1)	kPa	24,5	27,7	30,3
REFRIGERANT CIRCUIT					
Compressors nr.		N°	4	4	4
No. Circuits		N°	2	2	2
Refrigerant charge		kg	70,0	110	110
NOISE LEVEL					
Sound power level in heating	(5)(6)	dB(A)	88	88	89
Sound Pressure	(7)	dB(A)	69	68	69
SIZE AND WEIGHT					
A	(8)	mm	3110	4110	4110
B	(8)	mm	2220	2220	2220
H	(8)	mm	2150	2150	2150
Operating weight	(8)	kg	1960	2410	2540

Notes

1 Plant (side) heat exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, outdoors.
7 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

WWR MTD2-Y

Reversible heat pump, water source

0011ms - 0121ts 5,200-33,40 kW

The MTD2-Y water-cooled heat pumps are reversible units for heating, cooling and domestic hot water by external three-way valve (accessory). The installation is greatly simplified through the integration of the group simply by connecting the unit the water plant and the electricity so that it can be put into operation.

Control

NADISYSTEM

Electronic control Nadisystem provides great application flexibility. The remote keyboard kit wired indoor and outdoor temperature sensors allow dynamic control of delivery temperature water, increasing the energy efficiency. The electronic board allows you to manage:

-wired remote control, backlit display complete with remote temperature and humidity probe

-outdoor temperature sensor for water plant side modular set point compensation

-domestic hot water production by external three-way valve (accessory)

-electrical heating element for possible integration and anti-legionella cycle for cylinder

-boiler or electric heater in substitution or in addition

-the room controller can customise up to six time bands. The presence of the programmable timer allows the creation of an operating profile containing up to 6 time bands.

-up to 4 heat pump in cascade (with N-CM component)

-several solutions through appropriate configurations of the controller and use of dedicated extension modules (accessorie), up to 5 zone.

Refrigerant

R410A

Versions

- Basic

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish.

High efficiency, low pressure drop AISI 316 stainless steel plate heat exchangers, fitted with heating element to provide frost protection.

Hermetic scroll type compressors, equipped with the crankcase heater and thermal protection

Case panels are insulated within low noise material for further improvement of silence

Rubber vibration damper.

Soft starter for 230V/1/50Hz units (ms)

Phase sequence control relay for three phase models

The water circuit comes complete with:

- Variable flow circulator for 0011÷0061 models and centrifugal variable flow pump for 0071 ÷ 0121 models, plant side
- Modulating valve to reduce water consumption (source side).
- Safety valve
- Expansion tank
- Manual filling assembly
- Pressure gauge
- Air vent valve
- Drain valve on both the plant and the source circuits.
- Differential pressure switch on source side and system side

Accessories

- Wired room terminal with backlit display, and with temperature and umidity probe
- Extension module for system configuration
- Three-way valve for domestic hot water
- Electric heater of integration for the heating system
- Electric heater for hot water cylinder, of integration and for anti-legionellosis
- Cascade management kit
- Serial card RS485 for ModBus
- Buffer tank 35,100,200 liters
- Hot water cylinder 300,500 liters
- 300 liters thermal store for domestic hot water, for DOMH2O kit
- 300,500,1000 liters thermal store for domestic hot water with solar heat exchanger, for DOMH2O kit
- DOMH2O15 e DOMH2O24 kit for domestic hot water with external plate heat exchanger and pump

APPLICATION HYDRONIC TERMINAL

WWR MTD2-Y			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	5,200	7,200	8,800	11,30	7,300	8,900
Total power input	(1)	kW	1,500	2,000	2,600	3,200	1,900	2,400
EER	(1)	kW/kW	3,467	3,600	3,385	3,531	3,842	3,708
ESEER	(1)	kW/kW	3,810	4,210	3,940	3,950	4,540	4,180
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	5,210	7,210	8,830	11,30	7,310	8,930
EER	(1)(2)	kW/kW	3,160	3,360	3,020	3,220	3,570	3,280
ESEER	(1)(2)	kW/kW	3,430	3,850	3,420	3,530	4,150	3,610
Cooling energy class			F	F	G	F	E	F
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	7,200	9,800	12,20	15,40	9,600	12,10
Total power input	(3)	kW	1,700	2,300	3,000	3,600	2,200	2,800
COP	(3)	kW/kW	4,235	4,261	4,067	4,278	4,364	4,321
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	7,200	9,800	12,20	15,40	9,600	12,10
COP	(3)(2)	kW/kW	3,850	3,920	3,600	3,830	4,020	3,780
Cooling energy class			D	D	E	D	C	D
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(4)	kW	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(7)	kW	8,76	11,5	14,5	18,4	11,9	14,6
SCOP	(7)(8)		4,70	4,86	4,42	4,51	5,20	4,58
Performance ηs	(7)(9)	%	180	186	169	172	200	175
Seasonal efficiency class	(7)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,249	0,344	0,421	0,540	0,349	0,426
Available unit's head	(1)	kPa	61,5	67,1	96,2	91,8	66,7	95,7
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,348	0,473	0,589	0,743	0,463	0,584
Available unit's head	(3)	kPa	52,2	54,6	77,3	70,8	55,6	77,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,318	0,437	0,541	0,688	0,437	0,537
Pressure drop	(1)	kPa	12,3	18,3	27,5	30,8	18,3	27,1
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,446	0,609	0,747	0,957	0,600	0,754
Pressure drop	(3)	kPa	24,2	35,5	52,5	59,5	34,6	53,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,10	1,15	1,24	1,55	1,15	1,24
NOISE LEVEL								
Sound power level in cooling	(10)(11)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(10)(12)	dB(A)	52	53	53	58	53	53
Sound Pressure	(13)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(14)	mm	845	845	845	845	845	845
B	(14)	mm	680	680	680	680	680	680
H	(14)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(14)	kg	188	190	195	210	190	195

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, indoors.
12 Sound power level in heating, indoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

WWR MTD2-Y

Reversible heat pump, water source

0011ms - 0121ts 5,200-33,40 kW

APPLICATION HYDRONIC TERMINAL

WWR MTD2-Y			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	11,80	15,70	19,80	22,90	26,00	33,40
Total power input	(1)	kW	3,200	4,000	5,100	5,800	6,800	8,400
EER	(1)	kW/kW	3,688	3,925	3,882	3,948	3,824	3,976
ESEER	(1)	kW/kW	4,190	4,330	4,380	4,440	4,310	4,300
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	11,80	15,70	19,90	23,00	26,20	33,60
EER	(1)(2)	kW/kW	3,350	3,640	3,500	3,620	3,460	3,680
ESEER	(1)(2)	kW/kW	3,740	3,970	3,870	4,000	3,830	3,920
Cooling energy class			F	E	E	E	E	E
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	16,10	21,20	26,20	30,50	34,90	44,00
Total power input	(3)	kW	3,700	4,600	5,900	6,500	7,700	9,600
COP	(3)	kW/kW	4,351	4,609	4,441	4,692	4,532	4,583
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	16,10	21,20	26,10	30,40	34,70	43,80
COP	(3)(2)	kW/kW	3,880	4,170	3,910	4,180	3,990	4,130
Cooling energy class			C	B	C	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(4)	kW	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(7)	kW	19,1	25,4	31,4	36,6	41,8	52,2
SCOP	(7)(8)		4,68	4,88	4,64	4,91	4,74	4,76
Performance ηs	(7)(9)	%	179	187	177	188	182	182
Seasonal efficiency class	(7)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,564	0,751	0,947	1,095	1,243	1,597
Available unit's head	(1)	kPa	89,7	85,0	159	151	184	172
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,777	1,023	1,265	1,472	1,685	2,124
Available unit's head	(3)	kPa	66,7	59,7	117	105	147	129
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,712	0,936	1,183	1,364	1,558	1,987
Pressure drop	(1)	kPa	32,9	33,5	37,0	31,7	43,2	44,0
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	1,006	1,345	1,646	1,944	2,204	2,787
Pressure drop	(3)	kPa	65,7	69,1	71,5	64,4	86,5	86,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,55	1,70	2,65	3,10	3,50	3,70
NOISE LEVEL								
Sound power level in cooling	(10)(11)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(10)(12)	dB(A)	58	59	66	66	70	70
Sound Pressure	(13)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(14)	mm	845	845	845	845	845	845
B	(14)	mm	680	680	680	680	680	680
H	(14)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(14)	kg	210	225	230	245	250	270

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, indoors.
12 Sound power level in heating, indoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

APPLICATION FLOOR HEATING

WWR MTD2-Y			0011ms	0025ms	0031ms	0041ms	0025t	0031t
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	7,100	9,800	12,00	15,10	9,500	12,00
Total power input	(1)	kW	1,600	2,000	2,500	3,300	1,800	2,500
EER	(1)	kW/kW	4,438	4,900	4,800	4,576	5,278	4,800
ESEER	(1)	kW/kW	3,810	4,210	3,940	3,950	4,540	4,180
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	7,110	9,800	12,00	15,10	9,510	12,00
EER	(1)(2)	kW/kW	4,040	4,500	4,190	4,100	4,830	4,190
ESEER	(1)(2)	kW/kW	3,430	3,850	3,420	3,530	4,150	3,610
Cooling energy class			F	F	G	F	E	F
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	7,700	10,20	12,80	16,20	10,40	12,80
Total power input	(3)	kW	1,400	1,800	2,300	2,900	1,700	2,200
COP	(3)	kW/kW	5,500	5,667	5,565	5,586	6,118	5,818
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	7,700	10,20	12,80	16,20	10,40	12,80
COP	(3)(2)	kW/kW	4,840	5,050	4,670	4,790	5,380	4,830
Cooling energy class			D	D	E	D	C	D
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(4)	kW	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(7)	kW	8,76	11,5	14,5	18,4	11,9	14,6
SCOP	(7)(8)		4,70	4,86	4,42	4,51	5,20	4,58
Performance ηs	(7)(9)	%	180	186	169	172	200	175
Seasonal efficiency class	(7)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,340	0,470	0,575	0,724	0,456	0,575
Available unit's head	(1)	kPa	52,9	54,9	79,0	73,1	56,5	79,0
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,370	0,491	0,616	0,779	0,500	0,616
Available unit's head	(3)	kPa	49,6	52,6	73,7	66,5	51,4	73,7
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,414	0,562	0,690	0,876	0,538	0,690
Pressure drop	(1)	kPa	20,8	30,3	44,8	49,8	27,8	44,8
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	0,509	0,678	0,848	1,074	0,701	0,855
Pressure drop	(3)	kPa	31,4	44,1	67,5	74,8	47,2	68,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,10	1,15	1,24	1,55	1,15	1,24
NOISE LEVEL								
Sound power level in cooling	(10)(11)	dB(A)	52	53	53	58	53	53
Sound power level in heating	(10)(12)	dB(A)	52	53	53	58	53	53
Sound Pressure	(13)	dB(A)	37	38	38	43	38	38
SIZE AND WEIGHT								
A	(14)	mm	845	845	845	845	845	845
B	(14)	mm	680	680	680	680	680	680
H	(14)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(14)	kg	188	190	195	210	190	195

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, indoors.
12 Sound power level in heating, indoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

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WWR MTD2-Y

Reversible heat pump, water source

0011ms - 0121ts 5,200-33,40 kW

APPLICATION FLOOR HEATING

WWR MTD2-Y			0041t	0061t	0071t	0091t	0101t	0121t
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	15,70	21,30	26,90	30,70	34,80	44,80
Total power input	(1)	kW	3,300	4,100	5,200	6,000	7,000	8,800
EER	(1)	kW/kW	4,758	5,195	5,173	5,117	4,971	5,091
ESEER	(1)	kW/kW	4,190	4,330	4,380	4,440	4,310	4,300
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	15,70	21,30	27,00	30,80	35,00	45,00
EER	(1)(2)	kW/kW	4,250	4,710	4,550	4,590	4,430	4,620
ESEER	(1)(2)	kW/kW	3,740	3,970	3,870	4,000	3,830	3,920
Cooling energy class			F	E	E	E	E	E
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	16,80	22,40	27,80	32,30	37,00	46,20
Total power input	(3)	kW	2,900	3,700	4,700	5,200	6,100	7,700
COP	(3)	kW/kW	5,793	6,054	5,915	6,212	6,066	6,000
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	16,80	22,40	27,70	32,20	36,80	46,00
COP	(3)(2)	kW/kW	4,930	5,240	4,950	5,280	5,080	5,170
Cooling energy class			C	B	C	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(4)	kW	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(7)	kW	19,1	25,4	31,4	36,6	41,8	52,2
SCOP	(7)(8)		4,68	4,88	4,64	4,91	4,74	4,76
Performance ηs	(7)(9)	%	179	187	177	188	182	182
Seasonal efficiency class	(7)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,753	1,021	1,290	1,472	1,669	2,148
Available unit's head	(1)	kPa	69,7	59,9	113	105	148	127
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	0,808	1,078	1,338	1,554	1,780	2,223
Available unit's head	(3)	kPa	62,8	53,8	106	94,2	137	120
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	0,905	1,210	1,529	1,748	1,991	2,553
Pressure drop	(1)	kPa	53,1	56,0	61,7	52,1	70,5	72,7
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	1,121	1,508	1,863	2,184	2,491	3,105
Pressure drop	(3)	kPa	81,6	86,9	91,6	81,4	110	107
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	1,55	1,70	2,65	3,10	3,50	3,70
NOISE LEVEL								
Sound power level in cooling	(10)(11)	dB(A)	58	59	66	66	70	70
Sound power level in heating	(10)(12)	dB(A)	58	59	66	66	70	70
Sound Pressure	(13)	dB(A)	43	44	51	51	55	55
SIZE AND WEIGHT								
A	(14)	mm	845	845	845	845	845	845
B	(14)	mm	680	680	680	680	680	680
H	(14)	mm	1105	1105	1105	1105	1105	1105
Operating weight	(14)	kg	210	225	230	245	250	270

Notes

1 Plant (side) cooling exchanger water (in/out) 23°C/18°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 30°C/35°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Sound power on the basis of measurements made in compliance with ISO 9614.
11 Sound power level in cooling, indoors.
12 Sound power level in heating, indoors.
13 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
14 Unit in standard configuration/execution, without optional accessories.

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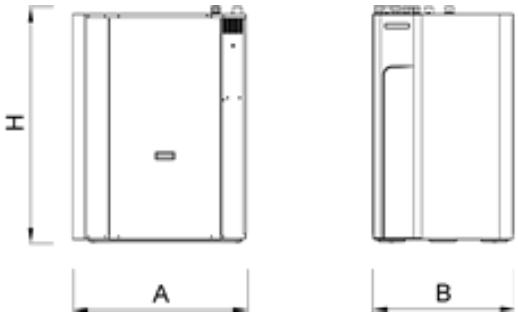
Dimensional drawing



HEAT PUMPS

NX-WN-Y

Reversible heat pump, water source

0122 - 1204 37,48-396,2 kW

Water to water indoor unit for the production of chilled/hot water with hermetic rotary Scroll compressors, braze-welded plate-type exchanger and electronic expansion valve. Basement and frame in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted to assure total weather resistance, RAL 7035.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
The brand new W3000TE controller offers advanced functions and algorithms.
The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.
Diagnostics include complete alarm management, with “blackbox” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production.
Supervision is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

- Basic

Configurations

- Basic function

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP (only for reversible units) and for process cooling, SEPR, in accordance with the eco-sustainable design requirements for all products using energy.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions. VPF (Variable Primary Flow) available for sizes 0604-1204.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

INTEGRATED HYDRONIC MODULE
The built-in hydronic module already contains the main water circuit components; it is available as option with single or twin in-line pump, for achieving low head, fixed or variable speed, available for user side and source side (up to 4 pumps).

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: pressure-controlled valve, two or three-way modulating valv, 0-10V signal for variable speed driven pumps.

TOTAL VERSATILITY
The units have been designed with a range of integrated accessories, keeping in mind the operation with open loop (well water or ground water), dry cooler or cooling tower and suitable for geothermal application so as to satisfy all service system and installation requirements.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and at different working conditions. It guaranteed energy saving due to efficiency optimization in various different working conditions. The electronic thermostatic valve allows you to obtain speed in reaching machine stability and an extension of the operating limits.

Accessories

- Touch Screen visual display
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Outside air temperature probe for plant water set point compensation.
- Integral acoustical enclosure (type base)
- Thicker soundproofing cladding
- User side and source side hydronic kit available in different configurations
- VPF (Variable Primary Flow) system
- Condensing control device: two or three-way modulating pressure-controlled valve and inverter on pumps

NX-WN-Y			0122	0152	0182	0202	0252	0262	0302	0352
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	37,48	46,65	54,98	63,93	70,84	80,47	94,59	108,8
Total power input	(1)	kW	7,728	9,524	11,05	12,87	14,09	16,33	19,25	22,13
EER	(1)	kW/kW	4,851	4,905	4,955	4,953	5,021	4,939	4,927	4,923
ESEER	(1)	kW/kW	6,290	6,450	6,180	6,220	6,460	6,160	6,240	6,380
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	37,40	46,60	54,80	63,70	70,60	80,30	94,40	108,5
EER	(1)(2)	kW/kW	4,670	4,730	4,780	4,780	4,850	4,780	4,770	4,760
ESEER	(1)(2)	kW/kW	5,800	5,950	5,730	5,780	5,990	5,730	5,830	5,900
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	41,81	52,11	61,18	71,49	78,57	89,53	105,3	120,9
Total power input	(3)	kW	9,692	11,90	13,71	16,04	17,74	20,25	23,69	27,23
COP		kW/kW	4,314	4,378	4,467	4,469	4,441	4,409	4,443	4,445
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	41,90	52,30	61,40	71,70	78,80	89,80	105,6	121,2
COP	(3)(2)	kW/kW	4,160	4,220	4,320	4,320	4,290	4,280	4,300	4,310
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	50,4	62,6	73,6	85,6	94,8	108	127	146
SCOP	(7)(9)		5,64	5,95	5,89	5,92	6,07	5,89	5,94	6,00
Performance ηs	(7)(10)	%	218	230	228	229	235	227	230	232
Seasonal efficiency class	(7)		A++	A++	A++	-	-	-	-	-
PDesign	(8)	kW	45,4	56,7	66,4	78,1	85,4	97,0	114	131
SCOP	(8)(9)		4,50	4,58	4,64	4,64	4,67	4,62	4,64	4,69
Performance ηs	(8)(10)	%	172	175	178	178	179	177	178	179
Seasonal efficiency class	(8)		A++	A++	A++	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,792	2,231	2,629	3,057	3,388	3,848	4,523	5,202
Pressure drop	(1)	kPa	12,3	13,1	13,3	13,7	14,1	14,6	14,7	15,5
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,018	2,516	2,953	3,451	3,793	4,322	5,085	5,834
Pressure drop	(3)	kPa	15,6	16,7	16,8	17,5	17,7	18,4	18,6	19,5
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,153	2,675	3,145	3,658	4,045	4,610	5,421	6,235
Pressure drop	(1)	kPa	17,7	18,9	19,1	19,7	20,1	21,0	21,1	22,2
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	2,606	3,262	3,848	4,495	4,932	5,617	6,620	7,592
Pressure drop	(3)	kPa	26,0	28,0	28,5	29,7	29,9	31,2	31,5	32,9
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,80	4,20	5,20	5,50	6,70	8,00	9,60	11,0
NOISE LEVEL										
Sound Pressure	(11)	dB(A)	57	57	58	58	58	59	60	60
Sound power level in cooling	(12)(13)	dB(A)	73	73	74	74	74	75	76	77
Sound power level in heating	(12)(14)	dB(A)	74	74	75	75	75	76	77	78
SIZE AND WEIGHT										
A	(15)	mm	1225	1225	1225	1225	1225	1225	1225	1570
B	(15)	mm	885	885	885	885	885	885	885	885
H	(15)	mm	1495	1495	1495	1495	1495	1495	1495	1805
Operating weight	(15)	kg	390	400	430	440	480	500	540	680

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, indoors.
14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-WN-Y

Reversible heat pump, water source

0122 - 1204 37,48-396,2 kW

NX-WN-Y			0402	0452	0502	0552	0602	0702	0802	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	123,2	138,5	153,9	176,9	199,7	225,0	251,9	187,2
Total power input	(1)	kW	24,92	28,24	31,51	35,92	40,40	46,17	52,08	39,19
EER	(1)	kW/kW	4,948	4,911	4,886	4,928	4,943	4,870	4,835	4,776
ESEER	(1)	kW/kW	6,130	6,230	6,080	6,220	6,180	6,270	5,990	6,350
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	122,9	138,2	153,5	176,5	199,2	224,4	251,2	186,8
EER	(1)(2)	kW/kW	4,800	4,770	4,740	4,780	4,790	4,700	4,660	4,660
ESEER	(1)(2)	kW/kW	5,770	5,810	5,710	5,810	5,790	5,790	5,550	5,910
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	136,5	154,0	171,5	196,7	221,6	250,8	281,3	208,4
Total power input	(3)	kW	30,66	34,75	38,77	44,14	49,60	56,35	63,24	47,91
COP		kW/kW	4,446	4,438	4,420	4,460	4,468	4,447	4,451	4,351
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	136,9	154,4	172,0	197,2	222,2	251,6	282,3	208,9
COP	(3)(2)	kW/kW	4,320	4,310	4,290	4,330	4,330	4,290	4,280	4,250
Cooling energy class			B	B	B	B	B	B	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	165	186	207	237	268	302	337	251
SCOP	(7)(9)		5,93	5,97	5,91	5,95	5,96	5,87	5,70	6,05
Performance ηs	(7)(10)	%	229	231	229	230	230	227	220	234
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-
PDesign	(8)	kW	148	167	186	213	240	272	306	226
SCOP	(8)(9)		4,67	4,70	4,65	4,72	4,70	4,71	4,60	4,71
Performance ηs	(8)(10)	%	179	180	178	181	180	181	176	180
Seasonal efficiency class	(8)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	5,893	6,622	7,359	8,461	9,551	10,76	12,04	8,952
Pressure drop	(1)	kPa	15,7	16,2	16,8	17,9	19,6	24,9	28,6	13,4
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	6,591	7,433	8,280	9,493	10,70	12,11	13,58	10,06
Pressure drop	(3)	kPa	19,6	20,4	21,3	22,5	24,6	31,5	36,3	16,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	7,056	7,940	8,829	10,14	11,44	12,91	14,47	10,78
Pressure drop	(1)	kPa	22,5	23,3	24,2	25,7	28,1	35,9	41,3	19,4
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	8,583	9,668	10,76	12,37	13,95	15,77	17,68	13,02
Pressure drop	(3)	kPa	33,3	34,5	36,0	38,2	41,8	53,5	61,6	28,3
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	2
Refrigerant charge		kg	12,5	13,9	14,8	18,1	21,4	21,9	22,0	20,0
NOISE LEVEL										
Sound Pressure	(11)	dB(A)	60	61	61	62	62	65	66	69
Sound power level in cooling	(12)(13)	dB(A)	77	78	78	79	79	82	83	86
Sound power level in heating	(12)(14)	dB(A)	78	79	79	80	80	83	84	87
SIZE AND WEIGHT										
A	(15)	mm	1570	1570	1570	1570	1570	1570	1570	2210
B	(15)	mm	885	885	885	885	885	885	885	885
H	(15)	mm	1805	1805	1805	1805	1805	1805	1805	1805
Operating weight	(15)	kg	760	810	850	890	930	950	970	920

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, indoors.
14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-WN-Y			0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	215,5	244,1	274,7	305,6	351,3	396,2
Total power input	(1)	kW	44,95	50,66	57,25	63,76	72,67	81,89
EER	(1)	kW/kW	4,789	4,815	4,802	4,790	4,832	4,838
ESEER	(1)	kW/kW	6,410	6,330	6,410	6,300	6,390	6,360
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	215,1	243,6	274,1	304,9	350,5	395,2
EER	(1)(2)	kW/kW	4,680	4,700	4,670	4,650	4,690	4,680
ESEER	(1)(2)	kW/kW	5,950	5,900	5,900	5,810	5,830	5,780
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	239,3	270,4	305,1	340,1	389,8	439,1
Total power input	(3)	kW	54,99	61,99	70,05	78,01	88,80	99,95
COP		kW/kW	4,351	4,361	4,352	4,360	4,390	4,395
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	239,8	271,0	305,9	341,0	390,9	440,4
COP	(3)(2)	kW/kW	4,250	4,260	4,240	4,240	4,250	4,240
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(4)	kW	-	-	-	-	350,5	395,2
SEPR	(4)(6)		-	-	-	-	6,60	6,60
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(5)	kW	-	-	-	-	178,5	200,8
SEPR	(5)(6)		-	-	-	-	4,08	4,11
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(7)	kW	289	327	368	410	-	-
SCOP	(7)(9)		6,04	6,07	6,02	5,90	-	-
Performance ηs	(7)(10)	%	234	235	233	228	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-
PDesign	(8)	kW	259	293	331	369	-	-
SCOP	(8)(9)		4,69	4,76	4,78	4,72	-	-
Performance ηs	(8)(10)	%	180	182	183	181	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,30	11,67	13,14	14,62	16,80	18,94
Pressure drop	(1)	kPa	14,4	15,4	18,9	21,7	24,6	28,8
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	11,55	13,05	14,73	16,42	18,82	21,20
Pressure drop	(3)	kPa	18,2	19,3	23,8	27,4	30,8	36,0
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,40	14,03	15,80	17,59	20,19	22,76
Pressure drop	(1)	kPa	20,9	22,3	27,4	31,4	35,5	41,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	14,95	16,90	19,06	21,25	24,41	27,50
Pressure drop	(3)	kPa	30,4	32,4	39,9	45,9	51,9	60,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	26,0	27,5	33,3	36,2	42,5	48,7
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	70	71	72	73	74	74
Sound power level in cooling	(12)(13)	dB(A)	87	88	89	90	91	91
Sound power level in heating	(12)(14)	dB(A)	88	89	90	91	92	92
SIZE AND WEIGHT								
A	(15)	mm	2210	2650	2650	2650	2650	2650
B	(15)	mm	885	885	885	885	885	885
H	(15)	mm	1805	1805	1805	1805	1805	1805
Operating weight	(15)	kg	1100	1300	1450	1530	1630	1740

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 10°C/7°C; Source (side) heat exchanger water (in/out) 40°C/45°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, indoors.
14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

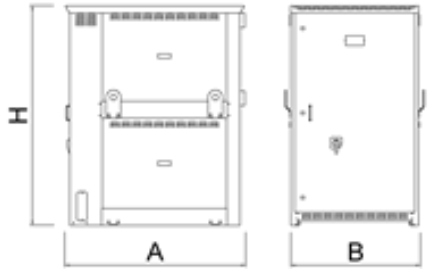
NX-WN-Y

Reversible heat pump, water source

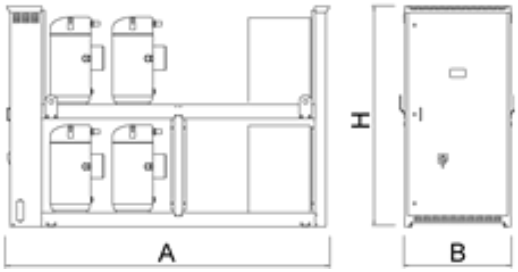
0122 - 1204 37,48-396,2 kW

Dimensional drawing

Size 0122-802



Size 0604-1204



HEAT PUMPS

WW-HT-Y

0071 - 0302 27,52-109,2 kW

Water cooled optimized heat pumps for heating, high water temperature

WW-HT represents the best solution for systems in which there is the need to produce high temperature hot water. The special compressor used guarantees hot water production up to 65°C.
The unit can completely meet any system and application requirements, with a vast range of models, hydronic configurations and accessories.

Control

Electronic control W3000TE
The W3000TE controller is the new device designed especially for heat pump applications with incorporated logic for high and very high temperature hot water production. The keypad features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language. The controller provides temperature control for the heating and cooling systems, as well as for domestic hot water. These different temperatures are managed automatically based on the different conditions in which the system operates, with the possibility to assign specific levels of priority to domestic hot water production, depending on the needs of the application. Diagnostics include complete alarm management, with “blackbox” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production, and fundamental for managing the Legionella prevention cycles.
Supervision is available with different options, using proprietarydevices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.

Refrigerant

R410A

Versions

B Basic

Configurations

- Basic function

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

EXTENSIVE RANGE OF OPERATION
Production of high temperature hot water up to 65°C for space heating and hot water purposes.

STACKABLE UNITS
The special structure of the units (without on-board pumps) is designed to allow two units to be stacked on top of each other without any additional accessories, reducing the space requirements when needing to expand system capacity. The capacity of two heat pumps with the footprint of a single unit.

INTEGRATED HYDRONIC MODULE
The units can be supplied with a hydronic kit on the user side and a hydronic kit on the source side. These kits include all the water circuit components so as to optimize installation space, times and costs.
In addition, a vast selection of pumps available, up to 13 different models, for both the user side and the source side, means the best solution can always be configured in terms of flow-rate, available pressure head and power consumption.

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: two-way modulating valve, inverter control for the pumps.

MODULAR CONFIGURATION
Modular configuration with capacity extension up to 400kW for medium- and high-capacity installations. Ability of managing different thermal loads according to the requirements of both heating and the domestic hot water systems.

Accessories

- Soft start
- Stackable units
- User side and source side hydronic kit (n°13 single pumps and n°13 twin head-pumps available)
- Water connections can be placed on the right-hand side, top or rear.
- Extra soundproof lining to reduce the noise emissions.
- Outside air temperature probe for plant water set point compensation.
- Three-way valve for domestic hot water
- Set-up for remote connectivity with ModBus/Echelon protocol cards

WW-HT-Y			0071	0091	0101	0121	0131	0151
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW	27,52	32,84	37,04	42,58	47,79	54,59
Total power input	(1)	kW	6,200	7,331	8,149	9,330	10,39	11,87
COP		kW/kW	4,435	4,475	4,540	4,566	4,596	4,588
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(1)(2)	kW	27,60	32,90	37,10	42,70	48,00	54,80
COP	(1)(2)	kW/kW	4,210	4,260	4,320	4,340	4,380	4,380
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(3)	kW	32,5	38,7	43,9	50,1	56,5	64,7
SCOP	(3)(9)		5,00	4,97	5,16	5,15	5,26	5,18
Performance ηs	(3)(10)	%	192	191	199	198	203	199
Seasonal efficiency class	(11)		A++	A++	A++	A++	A++	A++
PDesign	(4)	kW	30,1	36,0	40,4	46,6	52,2	59,6
SCOP	(4)(9)		4,03	4,08	4,15	4,19	4,21	4,19
Performance ηs	(4)(10)	%	153	155	158	160	160	160
Seasonal efficiency class	(12)		A++	A++	A++	A++	A++	A++
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(1)	l/s	1,328	1,585	1,788	2,055	2,307	2,635
Pressure drop	(1)	kPa	11,2	11,7	13,1	14,0	15,2	16,5
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(1)	l/s	1,728	2,068	2,341	2,694	3,029	3,460
Pressure drop	(1)	kPa	42,2	44,0	43,5	45,8	45,7	44,0
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	2,80	3,30	3,70	4,30	4,90	5,50
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	51	52	53	54	55	55
Sound power level in heating	(6)(7)	dB(A)	66	67	68	69	70	70
SIZE AND WEIGHT								
A	(8)	mm	1200	1200	1200	1200	1200	1200
B	(8)	mm	600	600	600	600	600	600
H	(8)	mm	855	855	855	855	855	855
Operating weight	(8)	kg	235	245	250	255	265	275

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in heating, indoors.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

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HEAT PUMPS

WW-HT-Y

0071 - 0302 27,52-109,2 kW

Water cooled optimized heat pumps for heating, high water temperature

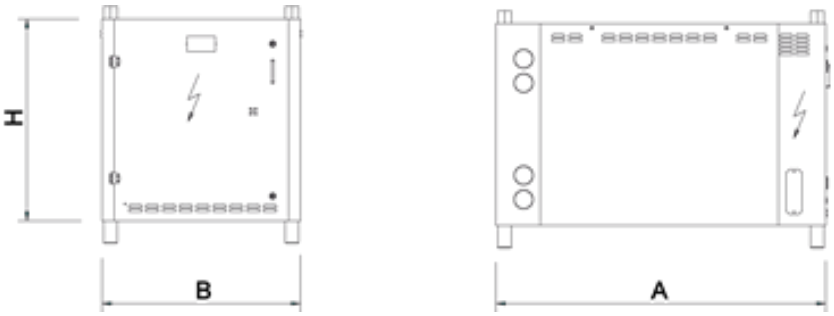
WW-HT-Y			0152	0182	0202	0252	0262	0302
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(1)	kW	54,98	65,69	74,03	85,26	95,49	109,2
Total power input	(1)	kW	12,38	14,64	16,27	18,70	20,76	23,73
COP		kW/kW	4,435	4,500	4,540	4,561	4,591	4,608
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(1)(2)	kW	55,20	65,90	74,30	85,70	95,90	109,6
COP	(1)(2)	kW/kW	4,240	4,320	4,340	4,370	4,390	4,410
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(3)	kW	65,1	77,4	87,9	101	113	129
SCOP	(3)(9)		5,39	5,41	5,56	5,57	5,67	5,59
Performance ηs	(3)(10)	%	208	208	214	215	219	216
Seasonal efficiency class	(11)		A++	-	-	-	-	-
PDesign	(4)	kW	60,1	72,0	80,8	93,4	104	119
SCOP	(4)(9)		4,45	4,51	4,59	4,60	4,67	4,64
Performance ηs	(4)(10)	%	170	172	176	176	179	178
Seasonal efficiency class	(12)		A++	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(1)	l/s	2,654	3,171	3,574	4,116	4,609	5,271
Pressure drop	(1)	kPa	16,8	20,1	27,9	28,6	29,7	30,6
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(1)	l/s	3,454	4,138	4,681	5,393	6,054	6,924
Pressure drop	(1)	kPa	43,8	38,2	41,1	42,4	44,2	45,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1
Refrigerant charge		kg	5,70	5,90	6,70	7,80	8,80	10,3
NOISE LEVEL								
Sound Pressure	(5)	dB(A)	56	56	57	57	58	58
Sound power level in heating	(6)(7)	dB(A)	71	71	72	72	73	73
SIZE AND WEIGHT								
A	(8)	mm	1470	1470	1470	1470	1470	1470
B	(8)	mm	885	885	885	885	885	885
H	(8)	mm	900	900	900	900	900	900
Operating weight	(8)	kg	405	435	445	465	475	495

Notes

1 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C.
2 Values in compliance with EN14511
3 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
5 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6 Sound power on the basis of measurements made in compliance with ISO 9614.
7 Sound power level in heating, indoors.
8 Unit in standard configuration/execution, without optional accessories.
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]
12 Energy efficiency class referred to MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

EW-HT-Y

0152 - 0612 70,18-279,2 kW

Water to water heat pumps, heating only, very high temperature water production

EW-HT-Y represents the best solution for systems where very high temperature water is needed.
The special compressor adopted grants hot water production up to 78°C and allows high evaporation temperature (evaporator leaving water temperature up to 40°C). The extraordinary operating limits ensure the perfect integration of the unit in any application, such as 4-pipe systems, industrial process heat recovery or district heating systems.

Control

Electronic control W3000TE
W3000TE Compact control features an easy-to-use interface and a complete LCD display that allows consulting and intervening on the unit by means of a multi-language menu (19 languages are available).
The regulation is based on the patented “Quickmind” water temperature regulation logic uses self-adapting control to maintain flow temperatures and optimise performance even in low water content scenarios. As an alternative, the proportional or proportional-integral regulations are also available.
The diagnostics comprises a complete alarm management system, with the “black-box” (via PC) and the alarm history display (via display or also PC) for enhanced analysis of the unit operation
Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well.
Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with the remote keyboard (up to 8 units).
The programmable timer manages a weekly schedule organised into time bands to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points.
The defrosting (air source reversible unit only) follows a proprietary self-adaptive logic, which features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R134a

Versions

B Basic

Configurations

- Basic function

Features

WIDE OPERATING RANGE
Hot water production up to 78°C (evaporator water outlet up to 40°C).

MAXIMUM RELIABILITY
Unit with two independent refrigerant circuit, designed to ensure maximum efficiency at full load, ensuring uninterrupted operation even in the event of temporary stop of one of the two circuits.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

COMPACTNESS
Reduced dimensions, for easy installation even in sites with space´ constraints

Accessories

- Soft starters
- Thicker soundproofing cladding
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)

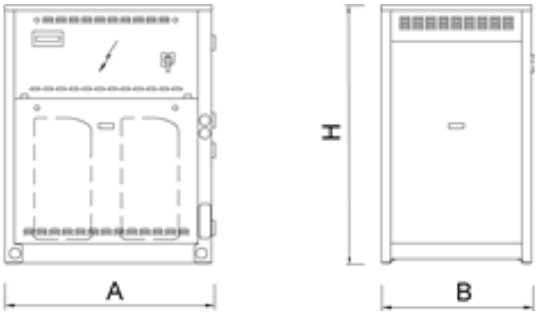
EW-HT-Y			0152	0182	0202	0262	0302	0412	0512	0612
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(1)	kW	70,18	79,27	92,48	112,9	139,4	180,7	224,8	279,2
Total power input	(1)	kW	17,00	18,90	22,00	27,90	34,20	43,70	55,10	67,60
COP	(1)	kW/kW	4,129	4,196	4,205	4,047	4,076	4,135	4,080	4,130
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(1)(2)	kW	70,40	79,50	92,70	113,2	139,7	181,0	225,2	279,7
COP	(1)(2)	kW/kW	4,010	4,070	4,080	3,940	3,980	4,040	4,010	4,060
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(3)	kW	38,6	43,6	50,0	61,6	78,1	104	128	157
SCOP	(3)(8)		3,27	3,39	3,45	3,30	3,30	3,25	3,27	3,30
Performance ηs	(3)(9)	%	123	128	130	124	124	122	123	124
Seasonal efficiency class	(10)		A+	A++	A++	A+	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(1)	l/s	2,145	2,423	2,827	3,452	4,262	5,522	6,871	8,535
Pressure drop	(1)	kPa	23,9	25,0	24,2	24,2	19,7	19,8	19,8	20,1
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(1)	l/s	2,616	2,969	3,466	4,185	5,179	6,739	8,351	10,41
Pressure drop	(1)	kPa	45,4	46,7	51,8	53,8	49,7	50,1	37,6	37,7
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	6,00	7,00	8,10	9,10	9,90	11,0	13,2	14,3
NOISE LEVEL										
Sound Pressure	(4)	dB(A)	58	58	58	60	60	62	62	64
Sound power level in heating	(5)(6)	dB(A)	74	74	74	76	76	78	78	80
SIZE AND WEIGHT										
A	(7)	mm	1223	1223	1223	1223	1223	1223	1223	1223
B	(7)	mm	877	877	877	877	877	877	877	877
H	(7)	mm	1496	1496	1496	1496	1496	1496	1496	1496
Operating weight	(7)	kg	365	380	390	415	430	610	675	740

Notes

1 Plant (side) heat exchanger water (in/out) 70°C/78°C; Source (side) heat exchanger water (in/out) 45°C/40°C.
2 Values in compliance with EN14511
3 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
4 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Sound power level in heating, indoors.
7 Unit in standard configuration/execution, without optional accessories.
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Energy efficiency class referred to LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 811/2013]

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Dimensional drawing



HEAT PUMPS

NX-W-Y /H

Water to water heat pump, reversible on hydraulic side

0122 - 1204 38,14-397,8 kW

Water to water indoor unit for the production of chilled/hot water with hermetic rotary Scroll compressors, braze-welded plate-type exchanger and electronic expansion valve. Basement and frame in hot-galvanised shaped sheet steel with a suitable thickness. All parts polyester-powder painted to assure total weather resistance, RAL 7035.
The range includes the single-circuit two-compressor versions and the dual circuit four-compressor versions.

Control

Electronic control W3000TE
The brand new W3000TE controller offers advanced functions and algorithms.
The keypad W3000 Compact, as standard equipment, features function controls and a complete LCD display for viewing data and activating the unit, via a multilevel menu, with settable display language.
The regulation is based on the exclusive QuickMind algorithm, including self-adaptive control logics, beneficial in low water content systems. As alternatives the proportional- or proportional- integral regulations are also available.
Diagnostics include complete alarm management, with “blackbox” functions (via PC) and alarm log (display or PC) for best analysis of unit be haviour. For systems made up of multiple units, differentiated device management means just a certain portion of the capacity installed can be dedicated to domestic water production, in this way ensuring more efficient energy distribution and, at the same time, guaranteeing simultaneous water delivery to the different distribution systems. The built-in clock can be used to create an operating profile containing up to 4 typical days and 10 time bands, essential for efficient programming of energy production.
Supervision is available with different options, using proprietary devices or by integration into third party systems using ModBus, BACnet, BACnet-over-IP and Echelon LonWorks protocols.
A dedicated wall-mounted keypad can be used for remote control of all the functions.
Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.

Refrigerant

R410A

Versions

- Basic

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY
Very high efficiency at full and partial load, at the highest market levels, thanks to the adopted technological solutions. These units ensure low operating costs and therefore a quick payback time.

ErP READY
The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP (only for reversible units) and for process cooling, SEPR, in accordance with the eco-sustainable design requirements for all products using energy.

VARIBLE PRIMARY FLOW (OPTION)
Energy saving due to variable pump speed management based on load demand and the variable flow assures the functioning of the units also with critical working conditions. VPF (Variable Primary Flow) available for sizes 0604-1204.

EXTREMELY SILENT OPERATION
Extremely silent operation together with high efficiency, tank to dedicated acoustic devices and a precise design for the choice of the components.

INTEGRATED CONDENSATION´S CONTROL
The electronics of the units manages the most suitable condensing control for each type of application: two or three-way modulating valve and 0-10V signal for variable speed driven pumps.

TOTAL VERSATILITY
The units have been designed with a range of integrated accessories, keeping in mind the operation with open loop (well water or ground water), dry cooler or cooling tower and suitable for geothermal application so as to satisfy all service system and installation requirements.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and at different working conditions. It guaranteed energy saving due to efficiency optimization in various different working conditions. The electronic thermostatic valve allows you to obtain speed in reaching machine stability and an extension of the operating limits.

Accessories

- Touch Screen visual display
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Outside air temperature probe for plant water set point compensation.
- Integral acoustical enclosure (type base)
- Thicker soundproofing cladding
- VPF (Variable Primary Flow) system
- Condensing control device: two or three-way modulating pressure-controlled valve and inverter on pumps

NX-W-Y /H			0122	0152	0182	0202	0252	0262	0302	0352
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	38,14	47,70	56,19	65,31	72,33	82,33	96,67	111,4
Total power input	(1)	kW	7,525	9,312	10,84	12,62	13,84	15,99	18,88	21,68
EER	(1)	kW/kW	5,060	5,124	5,204	5,183	5,239	5,144	5,116	5,134
ESEER	(1)	kW/kW	6,460	6,760	6,420	6,470	6,720	6,410	6,490	6,630
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	37,90	47,50	55,90	65,10	72,00	82,00	96,40	111,0
EER	(1)(2)	kW/kW	4,850	4,890	4,960	4,970	5,010	4,960	4,940	4,960
ESEER	(1)(2)	kW/kW	5,890	6,100	5,810	5,930	6,120	5,950	6,040	6,130
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	42,41	52,95	62,57	72,58	80,09	91,03	107,2	123,1
Total power input	(3)	kW	9,438	11,54	13,30	15,55	17,25	19,62	23,14	26,53
COP		kW/kW	4,492	4,609	4,707	4,654	4,657	4,643	4,641	4,645
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	42,50	53,20	62,80	72,80	80,40	91,20	107,4	123,4
COP	(3)(2)	kW/kW	4,280	4,360	4,450	4,450	4,440	4,460	4,460	4,470
Cooling energy class			B	B	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	51,0	63,7	75,5	87,2	96,9	110	129	149
SCOP	(7)(9)		5,89	5,99	5,87	6,02	6,14	6,07	6,09	6,16
Performance ηs	(7)(10)	%	228	232	227	233	238	235	236	238
Seasonal efficiency class	(7)		A++	A++	A++	-	-	-	-	-
PDesign	(8)	kW	46,1	57,5	67,8	79,1	86,9	98,5	116	133
SCOP	(8)(9)		4,62	4,68	4,73	4,78	4,80	4,79	4,80	4,85
Performance ηs	(8)(10)	%	177	179	181	183	184	184	184	186
Seasonal efficiency class	(8)		A++	A++	A++	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	1,824	2,281	2,687	3,123	3,459	3,937	4,623	5,326
Pressure drop	(1)	kPa	21,6	26,6	26,7	21,8	21,6	21,8	22,7	22,9
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,672	3,355	3,990	4,619	5,090	5,785	6,806	7,819
Pressure drop	(3)	kPa	46,4	57,4	59,0	47,8	46,9	47,1	49,3	49,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,175	2,716	3,194	3,713	4,106	4,684	5,505	6,339
Pressure drop	(1)	kPa	11,8	15,7	18,1	20,6	23,1	13,5	14,2	14,6
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	2,047	2,556	3,020	3,504	3,866	4,394	5,172	5,940
Pressure drop	(3)	kPa	10,4	13,9	16,2	18,3	20,5	11,9	12,5	12,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1	1	1	1
Refrigerant charge		kg	3,80	4,20	5,20	5,50	6,70	8,00	9,60	11,0
NOISE LEVEL										
Sound Pressure	(11)	dB(A)	57	57	58	58	58	59	60	60
Sound power level in cooling	(12)(13)	dB(A)	73	73	74	74	74	75	76	77
Sound power level in heating	(12)(14)	dB(A)	74	74	75	75	75	76	77	78
SIZE AND WEIGHT										
A	(15)	mm	1225	1225	1225	1225	1225	1225	1225	1570
B	(15)	mm	885	885	885	885	885	885	885	885
H	(15)	mm	1495	1495	1495	1495	1495	1495	1495	1805
Operating weight	(15)	kg	360	360	390	410	440	480	520	660

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, indoors.
14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NX-W-Y /H

Water to water heat pump, reversible on hydraulic side

0122 - 1204 38,14-397,8 kW

NX-W-Y /H			0402	0452	0502	0552	0602	0702	0802	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	126,1	141,8	157,5	181,1	204,4	230,5	254,3	191,8
Total power input	(1)	kW	24,48	27,68	30,88	35,20	39,59	45,24	51,16	38,29
EER	(1)	kW/kW	5,147	5,119	5,097	5,145	5,162	5,100	4,967	5,008
ESEER	(1)	kW/kW	6,340	6,470	6,320	6,420	6,420	6,500	6,060	6,600
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	125,7	141,4	157,0	180,6	203,8	229,8	253,4	191,4
EER	(1)(2)	kW/kW	4,990	4,960	4,930	4,990	5,000	4,930	4,790	4,880
ESEER	(1)(2)	kW/kW	5,950	6,040	5,920	6,000	6,010	6,030	5,630	6,140
Cooling energy class			B	B	B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	139,0	156,8	174,6	200,2	225,7	255,3	283,3	211,7
Total power input	(3)	kW	29,93	33,85	37,78	43,02	48,35	54,61	61,48	46,86
COP		kW/kW	4,649	4,625	4,619	4,656	4,673	4,676	4,607	4,514
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(3)(2)	kW	139,3	157,1	175,0	200,6	226,2	255,9	284,0	212,1
COP	(3)(2)	kW/kW	4,480	4,470	4,450	4,490	4,510	4,490	4,400	4,400
Cooling energy class			A	A	A	A	A	A	B	B
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	-	-	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	169	190	211	242	273	308	339	255
SCOP	(7)(9)		6,07	6,10	6,01	6,10	6,11	6,07	5,82	6,18
Performance ηs	(7)(10)	%	235	236	232	236	236	235	225	239
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-
PDesign	(8)	kW	150	170	189	217	244	277	308	229
SCOP	(8)(9)		4,81	4,85	4,80	4,87	4,86	4,90	4,72	4,81
Performance ηs	(8)(10)	%	184	186	184	187	186	188	181	184
Seasonal efficiency class	(8)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	6,030	6,780	7,532	8,659	9,777	11,02	12,16	9,174
Pressure drop	(1)	kPa	23,1	23,8	24,4	24,9	25,5	30,7	37,4	17,1
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	8,832	9,959	11,09	12,73	14,36	16,25	17,97	13,36
Pressure drop	(3)	kPa	49,6	51,4	52,9	53,8	55,1	66,7	81,6	36,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	7,174	8,074	8,974	10,30	11,63	13,14	14,55	10,96
Pressure drop	(1)	kPa	15,4	15,9	18,5	18,3	21,0	23,5	28,8	16,2
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	6,708	7,569	8,430	9,665	10,90	12,32	13,68	10,22
Pressure drop	(3)	kPa	13,5	14,0	16,3	16,1	18,5	20,7	25,4	14,1
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	4
No. Circuits		N°	1	1	1	1	1	1	1	2
Refrigerant charge		kg	12,5	13,9	14,8	18,1	21,4	21,9	22,0	19,3
NOISE LEVEL										
Sound Pressure	(11)	dB(A)	60	61	61	62	62	65	66	69
Sound power level in cooling	(12)(13)	dB(A)	77	78	78	79	79	82	83	86
Sound power level in heating	(12)(14)	dB(A)	78	79	79	80	80	83	84	87
SIZE AND WEIGHT										
A	(15)	mm	1570	1570	1570	1570	1570	1570	1570	2210
B	(15)	mm	885	885	885	885	885	885	885	885
H	(15)	mm	1805	1805	1805	1805	1805	1805	1805	1805
Operating weight	(15)	kg	740	790	820	870	920	940	960	870

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
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12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, indoors.
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Certified data in EUROVENT

NX-W-Y /H			0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	221,0	250,0	281,3	312,7	359,3	397,8
Total power input	(1)	kW	43,95	49,61	56,09	62,55	71,34	79,96
EER	(1)	kW/kW	5,034	5,040	5,014	5,003	5,039	4,972
ESEER	(1)	kW/kW	6,640	6,580	6,640	6,530	6,610	6,570
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	220,5	249,4	280,6	311,9	358,4	396,6
EER	(1)(2)	kW/kW	4,910	4,910	4,880	4,860	4,880	4,800
ESEER	(1)(2)	kW/kW	6,160	6,120	6,130	6,020	6,030	5,960
Cooling energy class			B	B	B	B	B	B
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	243,1	274,5	309,4	345,1	395,5	440,3
Total power input	(3)	kW	53,75	60,65	68,25	76,49	87,15	98,14
COP		kW/kW	4,519	4,530	4,537	4,511	4,541	4,488
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	243,6	275,1	310,1	345,9	396,5	441,5
COP	(3)(2)	kW/kW	4,410	4,410	4,400	4,370	4,390	4,310
Cooling energy class			B	B	B	B	B	B
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(4)	kW	-	-	-	-	358,4	396,6
SEPR	(4)(6)		-	-	-	-	6,82	6,76
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(5)	kW	-	-	-	-	181,2	201,5
SEPR	(5)(6)		-	-	-	-	4,19	4,20
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(7)	kW	294	332	371	416	-	-
SCOP	(7)(9)		6,17	6,17	6,27	6,05	-	-
Performance ηs	(7)(10)	%	239	239	243	234	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-
PDesign	(8)	kW	263	297	335	374	-	-
SCOP	(8)(9)		4,83	4,90	4,93	4,85	-	-
Performance ηs	(8)(10)	%	185	188	189	186	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,57	11,96	13,45	14,95	17,18	19,02
Pressure drop	(1)	kPa	18,1	20,0	21,3	24,9	28,2	34,6
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	15,34	17,33	19,54	21,77	24,99	27,73
Pressure drop	(3)	kPa	38,1	42,0	45,0	52,7	59,7	73,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	12,62	14,27	16,07	17,87	20,51	22,75
Pressure drop	(1)	kPa	17,4	19,6	22,0	24,8	30,0	36,1
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	11,73	13,25	14,93	16,66	19,09	21,25
Pressure drop	(3)	kPa	15,1	16,9	19,0	21,6	26,0	31,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	23,1	25,5	29,9	37,7	44,5	44,6
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	70	71	72	73	74	74
Sound power level in cooling	(12)(13)	dB(A)	87	88	89	90	91	91
Sound power level in heating	(12)(14)	dB(A)	88	89	90	91	92	92
SIZE AND WEIGHT								
A	(15)	mm	2210	2650	2650	2650	2650	2650
B	(15)	mm	885	885	885	885	885	885
H	(15)	mm	1805	1805	1805	1805	1805	1805
Operating weight	(15)	kg	1050	1240	1330	1530	1630	1710

Notes

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Certified data in EUROVENT

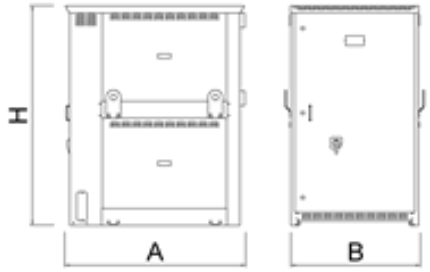
NX-W-Y /H

0122 - 1204 38,14-397,8 kW

Water to water heat pump, reversible on hydraulic side

Dimensional drawing

Size 0122-802



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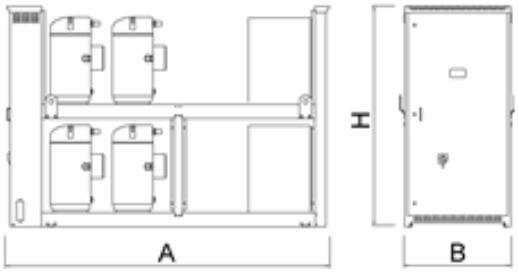

HEAT PUMPS

FOCS-W-Y /H

Water to water heat pump, reversible on hydraulic side

0401 - 1302 86,96-297,9 kW

Indoor unit for the production of chilled/hot water with semi-hermetic screw compressors optimized for R134a, thermostatic expansion valve, shell and tube condenser and evaporator.
Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness.
Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation. The high performance's level is achieved thanks to the accurate sizing of all internal components.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

B Basic

Configurations

H Function with heat pump, reversible on hydraulic side

Features

FLEXIBILITY
Flexibility in applications thanks to the many available functions and versions

ADAPTABILITY
Adaptability at the building's cooling request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

Accessories

- Compressor power factor correction
- Electronic expansion valve
- Pressostatic control valve
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board

FOCS-W-Y / B /H			0401	0501	0551	0651	0751	0802
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	86,96	106,6	130,2	147,4	164,6	177,5
Total power input	(1)	kW	19,58	24,49	28,12	32,70	36,89	39,33
EER	(1)	kW/kW	4,439	4,351	4,633	4,508	4,461	4,517
ESEER	(1)	kW/kW	5,150	5,320	5,250	5,290	5,400	5,390
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	86,70	106,3	129,9	147,0	164,1	177,1
EER	(1)(2)	kW/kW	4,270	4,170	4,460	4,340	4,290	4,350
ESEER	(1)(2)	kW/kW	4,490	4,330	4,930	4,530	4,460	4,560
Cooling energy class			C	D	G	C	C	C
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	99,51	122,7	147,6	168,0	188,6	202,2
Total power input	(3)	kW	23,49	29,23	34,15	39,23	44,00	47,14
COP		kW/kW	4,234	4,202	4,316	4,286	4,286	4,293
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(3)(2)	kW	99,90	123,3	148,2	168,7	189,4	203,1
COP	(3)(2)	kW/kW	4,080	4,040	4,180	4,140	4,130	4,150
Cooling energy class			C	C	G	C	C	C
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(4)	kW	-	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(7)	kW	120	148	179	203	227	245
SCOP	(7)(9)		5,33	5,41	5,53	5,46	5,50	5,48
Performance ηs	(7)(10)	%	205	208	213	210	212	211
Seasonal efficiency class	(7)		-	-	-	-	-	-
PDesign	(8)	kW	107	133	159	180	204	217
SCOP	(8)(9)		4,01	4,23	3,93	4,07	4,26	4,18
Performance ηs	(8)(10)	%	152	161	149	155	162	159
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	4,159	5,100	6,228	7,047	7,871	8,489
Pressure drop	(1)	kPa	17,7	17,5	14,1	18,1	22,6	17,6
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	6,170	7,588	9,204	10,45	11,73	12,58
Pressure drop	(3)	kPa	39,0	38,8	30,9	39,7	50,1	38,6
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION								
Water flow	(1)	l/s	5,069	6,238	7,537	8,569	9,587	10,32
Pressure drop	(1)	kPa	32,6	52,5	43,1	44,0	44,7	51,8
HEAT EXCHANGER SOURCE SIDE IN HEATING								
Water flow	(3)	l/s	4,804	5,923	7,125	8,109	9,103	9,759
Pressure drop	(3)	kPa	29,3	47,3	38,6	39,4	40,3	46,3
REFRIGERANT CIRCUIT								
Compressors nr.		N°	1	1	1	1	1	2
No. Circuits		N°	1	1	0	1	1	2
Refrigerant charge		kg	18,5	21,0	31,0	29,9	28,9	41,9
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	74	75	77	77	77	76
Sound power level in cooling	(12)(13)	dB(A)	91	92	94	94	94	94
Sound power level in heating	(12)(14)	dB(A)	91	92	94	94	94	94
SIZE AND WEIGHT								
A	(15)	mm	2300	2500	2500	2500	2500	3200
B	(15)	mm	1000	1000	1000	1000	1000	1200
H	(15)	mm	1500	1500	1500	1500	1500	1500
Operating weight	(15)	kg	800	840	1160	1180	1190	1470

Notes

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2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
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13 Sound power level in cooling, indoors.
14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS-W-Y /H

Water to water heat pump, reversible on hydraulic side

0401 - 1302 86,96-297,9 kW

FOCS-W-Y / B /H			0851	0951	1002	1102	1302
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	197,7	221,1	217,0	250,7	297,9
Total power input	(1)	kW	42,74	49,61	49,20	55,79	65,56
EER	(1)	kW/kW	4,630	4,458	4,411	4,493	4,541
ESEER	(1)	kW/kW	5,540	5,420	5,520	5,240	5,490
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	197,2	220,2	216,2	249,6	296,7
EER	(1)(2)	kW/kW	4,450	4,280	4,210	4,300	4,350
ESEER	(1)(2)	kW/kW	4,660	4,450	4,380	4,530	4,560
Cooling energy class			C	C	D	C	C
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	223,4	252,3	248,7	286,7	338,8
Total power input	(3)	kW	51,23	59,07	58,66	67,87	78,62
COP		kW/kW	4,363	4,269	4,237	4,222	4,310
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(3)(2)	kW	224,3	253,2	249,8	287,6	340,0
COP	(3)(2)	kW/kW	4,210	4,070	4,040	4,000	4,100
Cooling energy class			C	C	C	C	C
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	272	305	300	346	410
SCOP	(7)(9)		5,64	5,36	5,26	5,02	5,22
Performance ηs	(7)(10)	%	218	206	202	193	201
Seasonal efficiency class	(7)		-	-	-	-	-
PDesign	(8)	kW	239	272	269	311	363
SCOP	(8)(9)		4,24	4,25	4,27	3,83	4,11
Performance ηs	(8)(10)	%	161	162	163	145	156
Seasonal efficiency class	(8)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	9,455	10,57	10,38	11,99	14,25
Pressure drop	(1)	kPa	21,8	41,3	39,8	53,1	46,0
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	13,96	15,68	15,42	17,77	21,11
Pressure drop	(3)	kPa	47,5	90,8	87,8	117	101
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	11,45	12,88	12,67	14,59	17,30
Pressure drop	(1)	kPa	52,5	38,7	54,1	40,5	45,0
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	10,78	12,18	12,00	13,84	16,35
Pressure drop	(3)	kPa	46,6	34,6	48,6	36,5	40,2
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	2	2	2
No. Circuits		N°	1	1	2	2	2
Refrigerant charge		kg	35,6	50,6	42,6	51,0	53,7
NOISE LEVEL							
Sound Pressure	(11)	dB(A)	76	76	77	79	79
Sound power level in cooling	(12)(13)	dB(A)	94	94	95	97	97
Sound power level in heating	(12)(14)	dB(A)	94	94	95	97	97
SIZE AND WEIGHT							
A	(15)	mm	3200	3200	3200	3200	3500
B	(15)	mm	1000	1000	1200	1200	1200
H	(15)	mm	1500	1500	1500	1500	1800
Operating weight	(15)	kg	1270	1350	1490	1930	2220

Notes

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14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

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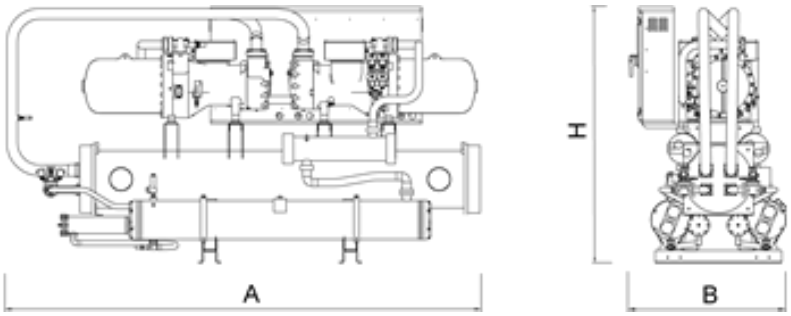
Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

FOCS2-W-Y /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Unit for indoor installation for chilled/hot water production. Semihermetic screw compressors optimized to operate with low compression ratio and R134a; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY

The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY

Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

SILENT OPERATION

Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W-Y /CA / H			1301	1401	1601	1801	2101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	306,0	348,3	421,8	477,4	537,7
Total power input	(1)	kW	60,47	68,70	83,36	94,38	106,0
EER	(1)	kW/kW	5,058	5,070	5,058	5,057	5,073
ESEER	(1)	kW/kW	5,940	5,950	5,730	5,840	5,940
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	304,9	347,0	420,0	475,8	535,8
EER	(1)(2)	kW/kW	4,860	4,870	4,850	4,870	4,890
ESEER	(1)(2)	kW/kW	5,450	5,450	5,250	5,410	5,500
Cooling energy class			B	B	B	B	B
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	343,5	391,6	468,7	530,9	607,3
Total power input	(3)	kW	76,72	87,23	104,2	118,0	132,7
COP		kW/kW	4,478	4,491	4,498	4,499	4,576
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	344,5	392,7	469,9	532,3	608,9
COP	(2)(3)	kW/kW	4,320	4,320	4,310	4,340	4,370
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	14,64	16,66	20,17	22,83	25,71
Pressure drop	(1)	kPa	41,9	45,0	52,7	41,7	44,2
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	18,89	21,94	26,39	30,00	37,78
Pressure drop	(3)	kPa	69,8	78,0	90,3	72,0	95,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	17,46	19,87	24,07	27,24	30,67
Pressure drop	(1)	kPa	35,9	35,0	34,8	34,6	34,5
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	16,58	18,90	22,63	25,63	29,32
Pressure drop	(3)	kPa	32,4	31,7	30,7	30,6	31,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	42,0	43,0	62,0	62,0	65,0
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	79	79	79	79	79
Sound power level in cooling	(11)(12)	dB(A)	97	97	97	97	97
Sound power level in heating	(11)(13)	dB(A)	0	0	0	0	0
SIZE AND WEIGHT							
A	(14)	mm	3830	3830	3860	3860	3860
B	(14)	mm	900	900	900	900	900
H	(14)	mm	1700	1700	1840	1840	1840
Operating weight	(14)	kg	2050	2110	2590	2810	2910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W-Y /H

Water to water high efficiency heat pump, reversible on hydraulic side

1301 - 9604 306,0-2416 kW

FOCS2-W-Y /CA / H			2401	8103	9003	9004	9604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	606,8	2024	2236	2278	2416
Total power input	(1)	kW	119,7	400,4	442,0	450,7	478,2
EER	(1)	kW/kW	5,069	5,055	5,059	5,054	5,052
ESEER	(1)	kW/kW	5,920	6,090	6,140	6,240	6,170
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	604,2	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,860	4,900	4,890	4,920	4,910
ESEER	(1)(2)	kW/kW	5,420	5,610	5,600	5,800	5,710
Cooling energy class			B	B	B	B	B
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	678,8	2226	2434	2582	2739
Total power input	(3)	kW	149,4	494,7	544,4	563,9	598,6
COP		kW/kW	4,544	4,500	4,471	4,579	4,576
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	680,6	2231	2439	2588	2745
COP	(2)(3)	kW/kW	4,360	4,390	4,370	4,430	4,420
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	29,02	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	56,3	43,7	53,3	32,3	36,3
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	37,78	112,5	112,5	163,5	173,4
Pressure drop	(3)	kPa	95,4	59,0	59,0	72,7	81,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	34,61	115,5	127,5	130,0	137,9
Pressure drop	(1)	kPa	36,2	34,6	35,8	35,0	37,0
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	32,77	107,4	117,5	124,6	132,2
Pressure drop	(3)	kPa	32,4	29,9	30,4	32,2	34,0
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	3	3	4	4
No. Circuits		N°	1	3	3	4	4
Refrigerant charge		kg	55,0	269	261	267	260
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	79	82	82	82	82
Sound power level in cooling	(11)(12)	dB(A)	97	102	102	102	102
Sound power level in heating	(11)(13)	dB(A)	0	0	0	0	0
SIZE AND WEIGHT							
A	(14)	mm	3860	4950	4950	4650	4650
B	(14)	mm	900	1700	1700	2250	2250
H	(14)	mm	1840	2150	2150	2230	2230
Operating weight	(14)	kg	2970	10170	10350	14330	14390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS2-W-Y / CA-E / H			1301	1401	1601	1801	2101	7204	7804	8404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	2025	2157	2294
Total power input	(1)	kW	57,30	65,10	79,06	90,27	102,6	360,7	385,5	410,3
EER	(1)	kW/kW	5,597	5,602	5,587	5,607	5,592	5,614	5,595	5,591
ESEER	(1)	kW/kW	6,490	6,500	6,300	6,400	6,370	6,760	6,640	6,650
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	2019	2149	2286
EER	(1)(2)	kW/kW	5,320	5,330	5,300	5,320	5,310	5,400	5,350	5,350
ESEER	(1)(2)	kW/kW	5,830	5,830	5,650	5,720	5,720	6,130	5,940	5,970
Cooling energy class			A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	357,5	406,5	486,9	558,4	637,5	2235	2352	2543
Total power input	(3)	kW	73,14	83,10	99,44	113,6	129,1	454,1	484,1	516,0
COP		kW/kW	4,891	4,892	4,898	4,915	4,938	4,922	4,859	4,928
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	358,8	407,9	488,7	560,5	639,9	2242	2359	2551
COP	(2)(3)	kW/kW	4,600	4,600	4,610	4,620	4,630	4,700	4,660	4,680
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	319,5	363,3	-	-	-	-	-	-
SEPR	(4)(6)		7,47	7,46	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	152,0	172,9	-	-	271,1	-	-	-
SEPR	(5)(6)		4,15	4,17	-	-	4,19	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	-	-	-	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	96,82	103,2	109,7
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	41,3	59,3	54,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	23,01	26,17	30,56	35,56	41,13	144,1	129,4	160,0
Pressure drop	(3)	kPa	103	107	112	115	119	91,5	93,4	116
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	18,02	20,49	24,84	28,44	32,24	113,7	121,2	128,9
Pressure drop	(1)	kPa	48,4	46,6	51,6	52,6	54,3	52,0	53,3	53,8
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	17,26	19,62	23,50	26,95	30,77	107,9	113,5	122,8
Pressure drop	(3)	kPa	44,4	42,8	46,2	47,3	49,5	46,8	46,8	48,8
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	1	1	1	1	4	4	4
No. Circuits		N°	1	1	1	1	1	4	4	4
Refrigerant charge		kg	50,0	60,0	75,0	72,0	80,0	320	348	348
NOISE LEVEL										
Sound Pressure	(10)	dB(A)	79	78	78	78	78	82	82	82
Sound power level in cooling	(11)(12)	dB(A)	97	97	97	97	97	102	102	102
Sound power level in heating	(11)(13)	dB(A)	0	0	0	0	0	0	0	0
SIZE AND WEIGHT										
A	(14)	mm	4250	4250	4150	4150	4130	5220	4900	4900
B	(14)	mm	900	900	900	900	900	2250	2250	2250
H	(14)	mm	1815	1910	1990	1990	1990	2305	2455	2455
Operating weight	(14)	kg	2470	2770	3570	3750	3790	13720	15850	16100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

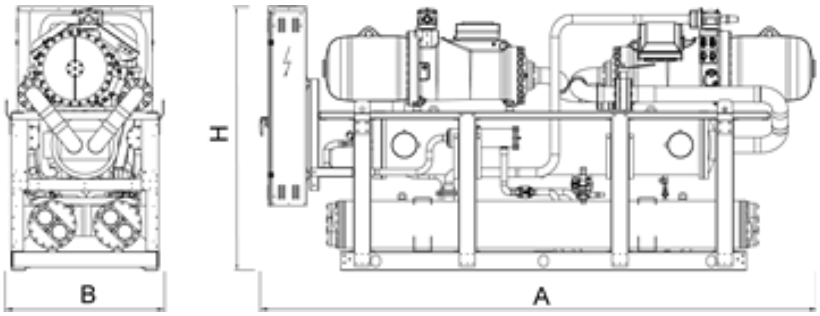
The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W-Y /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Dimensional drawing



HEAT PUMPS

FOCS2-W-G05-Y /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Unit for indoor installation for chilled/hot water production. Semihermetic screw compressors optimized to operate with low compression ratio and R513A; shell and tubes condenser and direct expansion evaporator; electronic expansion valve. Frame in polyester-painted galvanized steel. High efficiency unit: the innovative optimized compressors and the high performing heat exchangers enhance EER values up to 5,1 (CA version) and even up to 5,6 (CA-E version) at Eurovent standars conditions.

Control

W3000TE

W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High efficiency version

CA-E Premium efficiency version: Class A enhanced

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY
The version ´CA-E´ is characterized by efficiency beyond the ´Class A´ for Eurovent. The technological choices adopted assure the minimization of operating costs and therefore a quick payback time.

ADAPTABILITY
Adaptability at the building's heating request thanks to the continuous capacity regulation, assured by sophisticated control's logic.

SILENT OPERATION
Extremely silent operation thanks to the accurate unit's design. Optional integral acoustic enclosure, reduces more the sound level beyond the best on market

Accessories

- Kit HWT, High Water Temperature, to produce hot water up to 60°C
- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards

FOCS2-W-G05-Y /H /CA			1301	1401	1601	1801	2101
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	306,0	348,3	421,8	477,4	537,7
Total power input	(1)	kW	63,01	71,59	86,86	98,34	110,5
EER	(1)	kW/kW	4,857	4,865	4,854	4,857	4,866
ESEER	(1)	kW/kW	5,820	5,830	5,620	5,720	5,820
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	304,9	347,0	420,0	475,8	535,8
EER	(1)(2)	kW/kW	4,670	4,680	4,660	4,690	4,690
ESEER	(1)(2)	kW/kW	5,340	5,350	5,160	5,300	5,380
Cooling energy class			B	B	B	B	B
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	346,5	395,1	472,8	535,5	612,6
Total power input	(3)	kW	79,94	90,89	108,5	123,0	138,3
COP		kW/kW	4,337	4,347	4,358	4,354	4,430
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	347,5	396,2	474,1	536,9	614,2
COP	(2)(3)	kW/kW	4,190	4,180	4,180	4,210	4,240
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	14,64	16,66	20,17	22,83	25,71
Pressure drop	(1)	kPa	41,9	45,0	52,7	41,7	44,2
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	18,89	21,94	26,39	30,00	37,78
Pressure drop	(3)	kPa	69,8	78,0	90,3	72,0	95,4
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	17,57	20,00	24,22	27,41	30,87
Pressure drop	(1)	kPa	36,4	35,4	35,2	35,1	34,9
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	16,73	19,07	22,82	25,85	29,57
Pressure drop	(3)	kPa	33,0	32,2	31,3	31,2	32,1
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	1	1	1	1
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	45,0	46,0	66,0	66,0	69,0
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	79	79	79	79	79
Sound power level in cooling	(11)(12)	dB(A)	97	97	97	97	97
Sound power level in heating	(11)(13)	dB(A)	0	0	0	0	0
SIZE AND WEIGHT							
A	(14)	mm	3830	3830	3860	3860	3860
B	(14)	mm	900	900	900	900	900
H	(14)	mm	1700	1700	1840	1840	1840
Operating weight	(14)	kg	2050	2110	2590	2810	2910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS2-W-G05-Y /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

FOCS2-W-G05-Y /H /CA			2401	8103	9003	9004	9604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	606,8	2024	2236	2278	2416
Total power input	(1)	kW	124,7	417,3	460,6	469,7	498,3
EER	(1)	kW/kW	4,866	4,850	4,855	4,850	4,848
ESEER	(1)	kW/kW	5,810	5,970	6,010	6,110	6,050
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	604,2	2018	2228	2273	2410
EER	(1)(2)	kW/kW	4,670	4,710	4,700	4,730	4,720
ESEER	(1)(2)	kW/kW	5,320	5,500	5,500	5,680	5,600
Cooling energy class			B	B	B	B	B
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	684,7	2245	2456	2604	2763
Total power input	(3)	kW	155,7	515,5	567,2	587,6	623,8
COP		kW/kW	4,398	4,355	4,330	4,432	4,429
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	686,5	2250	2461	2610	2769
COP	(2)(3)	kW/kW	4,220	4,250	4,240	4,290	4,280
Cooling energy class			B	B	B	B	B
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	29,02	96,81	106,9	108,9	115,5
Pressure drop	(1)	kPa	56,3	43,7	53,3	32,3	36,3
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	37,78	112,5	112,5	163,5	173,4
Pressure drop	(3)	kPa	95,4	59,0	59,0	72,7	81,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	34,83	116,3	128,4	130,8	138,8
Pressure drop	(1)	kPa	36,6	35,0	36,3	35,5	37,4
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	33,05	108,4	118,5	125,7	133,4
Pressure drop	(3)	kPa	33,0	30,4	31,0	32,8	34,6
REFRIGERANT CIRCUIT							
Compressors nr.		N°	1	3	3	4	4
No. Circuits		N°	1	3	3	4	4
Refrigerant charge		kg	58,0	283	275	281	273
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	79	82	82	82	82
Sound power level in cooling	(11)(12)	dB(A)	97	102	102	102	102
Sound power level in heating	(11)(13)	dB(A)	0	0	0	0	0
SIZE AND WEIGHT							
A	(14)	mm	3860	4950	4950	4650	4650
B	(14)	mm	900	1700	1700	2250	2250
H	(14)	mm	1840	2150	2150	2230	2230
Operating weight	(14)	kg	2970	10170	10350	14330	14390

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,57°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
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11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

FOCS2-W-G05-Y /H /CA-E			1301	1401	1601	1801	2101	7204	7804	8404
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	320,7	364,7	441,9	506,3	573,7	2025	2157	2294
Total power input	(1)	kW	59,70	67,84	82,38	94,07	106,9	375,9	401,7	427,5
EER	(1)	kW/kW	5,372	5,379	5,363	5,380	5,367	5,387	5,370	5,366
ESEER	(1)	kW/kW	6,370	6,370	6,300	6,390	6,380	6,620	6,510	6,520
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	319,5	363,3	440,0	504,2	571,4	2019	2149	2286
EER	(1)(2)	kW/kW	5,110	5,120	5,090	5,110	5,100	5,190	5,140	5,140
ESEER	(1)(2)	kW/kW	5,710	5,720	5,630	5,720	5,710	6,020	5,830	5,860
Cooling energy class			A	A	A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	360,4	409,8	490,8	562,9	642,6	2253	2371	2563
Total power input	(3)	kW	76,22	86,59	103,6	118,4	134,5	473,2	504,4	537,7
COP		kW/kW	4,730	4,732	4,737	4,754	4,778	4,761	4,701	4,767
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	361,8	411,3	492,6	565,0	645,1	2260	2378	2571
COP	(2)(3)	kW/kW	4,460	4,470	4,470	4,480	4,500	4,560	4,520	4,530
Cooling energy class			A	A	A	A	A	A	A	A
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(4)	kW	319,5	363,3	-	-	-	-	-	-
SEPR	(4)(6)		7,21	7,23	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(5)	kW	152,0	172,9	-	-	271,1	-	-	-
SEPR	(5)(6)		4,03	4,04	-	-	4,14	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(7)	kW	-	-	-	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	15,33	17,44	21,13	24,21	27,44	96,82	103,2	109,7
Pressure drop	(1)	kPa	45,7	47,7	53,5	53,4	52,8	41,3	59,3	54,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	23,01	26,17	30,56	35,56	41,13	144,1	129,4	160,0
Pressure drop	(3)	kPa	103	107	112	115	119	91,5	93,4	116
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION										
Water flow	(1)	l/s	18,13	20,62	24,99	28,62	32,44	114,4	121,9	129,7
Pressure drop	(1)	kPa	49,0	47,2	52,2	53,3	55,0	52,6	54,0	54,5
HEAT EXCHANGER SOURCE SIDE IN HEATING										
Water flow	(3)	l/s	17,39	19,78	23,69	27,17	31,02	108,8	114,4	123,7
Pressure drop	(3)	kPa	45,1	43,5	46,9	48,0	50,3	47,5	47,5	49,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	1	1	1	1	1	4	4	4
No. Circuits		N°	1	1	1	1	1	4	4	4
Refrigerant charge		kg	53,0	63,0	79,0	76,0	84,0	336	366	366
NOISE LEVEL										
Sound Pressure	(10)	dB(A)	79	78	78	78	78	82	82	82
Sound power level in cooling	(11)(12)	dB(A)	97	97	97	97	97	102	102	102
Sound power level in heating	(11)(13)	dB(A)	0	0	0	0	0	0	0	0
SIZE AND WEIGHT										
A	(14)	mm	4250	4250	4150	4150	4130	5220	4900	4900
B	(14)	mm	900	900	900	900	900	2250	2250	2250
H	(14)	mm	1815	1910	1990	1990	1990	2305	2455	2455
Operating weight	(14)	kg	2470	2770	3570	3750	3790	13720	15850	16100

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

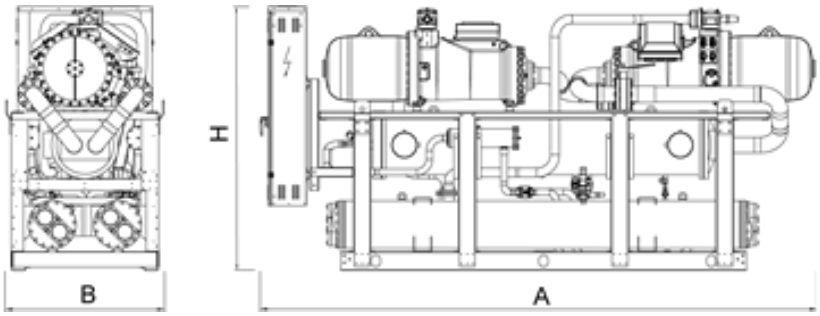
The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

FOCS2-W-G05-Y /H

1301 - 9604 306,0-2416 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Dimensional drawing



HEAT PUMPS

i-FX-W (1+i)-Y /H

1402 - 4652 532,3-1784 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Single circuit indoor unit for the production of chilled/hot water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R134a, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A.. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R134a

Versions

CA High energy efficiency units

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i)-Y /H			1402	1752	1902	2152	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	97,87	119,5	129,9	148,3	181,7
EER	(1)	kW/kW	5,437	5,565	5,550	5,525	5,496
ESEER	(1)	kW/kW	8,520	8,570	8,470	8,620	8,630
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,370	5,490	5,480	5,470	5,470
ESEER	(1)(2)	kW/kW	7,460	7,510	7,400	7,530	7,530
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	587,7	725,1	795,0	903,5	1089
Total power input	(3)	kW	123,7	150,9	164,6	188,0	226,9
COP		kW/kW	4,751	4,805	4,830	4,806	4,799
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	540,1	666,6	730,6	830,5	1000
COP	(2)(3)	kW/kW	4,650	4,730	4,730	4,730	4,740
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	34,17	38,89	44,44	50,00	59,72
Pressure drop	(3)	kPa	65,4	61,7	66,8	64,1	68,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,44	34,18	37,07	42,16	51,41
Pressure drop	(1)	kPa	37,4	35,4	41,7	41,5	38,7
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	26,00	32,10	35,17	39,97	48,17
Pressure drop	(3)	kPa	33,6	31,2	37,5	37,3	34,0
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	118	160	164	177	258
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	82	82	81	83	83
Sound power level in cooling	(11)(12)	dB(A)	100	100	100	102	102
Sound power level in heating	(11)(13)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(14)	mm	2950	3310	3310	3310	4475
B	(14)	mm	1320	1425	1445	1480	1410
H	(14)	mm	1805	1935	2000	2150	2250
Operating weight	(14)	kg	3350	4280	4410	4830	6630

Notes

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2 Values in compliance with EN14511
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9 Seasonal space heating energy efficiency
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11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-W (1+i)-Y /H

Water to water high efficiency heat pump, reversible on hydraulic side

1402 - 4652 532,3-1784 kW

i-FX-W (1+i)-Y /H			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	207,3	233,3	264,5	291,6	329,6
EER	(1)	kW/kW	5,514	5,555	5,565	5,511	5,413
ESEER	(1)	kW/kW	8,550	8,560	8,600	8,440	8,390
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,520	5,580	5,620	5,520	5,470
ESEER	(1)(2)	kW/kW	7,590	7,650	7,740	7,490	7,440
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	1245	1433	1627	1758	1932
Total power input	(3)	kW	258,9	291,6	330,4	362,2	407,1
COP		kW/kW	4,809	4,914	4,924	4,854	4,746
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	1142	1313	1490	1624	1769
COP	(2)(3)	kW/kW	4,770	4,860	4,890	4,810	4,760
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	1186	1348	-	-
SEPR	(4)(6)		-	7,98	8,04	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	564,2	643,1	-	-
SEPR	(5)(6)		-	4,75	4,78	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	68,06	84,97	96,56	97,22	97,22
Pressure drop	(3)	kPa	69,0	71,1	68,9	69,8	69,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	58,76	66,56	75,57	83,27	91,86
Pressure drop	(1)	kPa	30,0	33,3	29,6	35,9	29,5
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	55,03	63,24	71,79	78,19	85,24
Pressure drop	(3)	kPa	26,3	30,1	26,7	31,7	25,4
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	295	315	323	338	338
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	83	82	82	84	84
Sound power level in cooling	(11)(12)	dB(A)	102	102	102	104	104
Sound power level in heating	(11)(13)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(14)	mm	4475	4570	4650	4650	4850
B	(14)	mm	1405	1435	1495	1495	1495
H	(14)	mm	2250	2380	2500	2500	2500
Operating weight	(14)	kg	7470	8220	8800	8930	9340

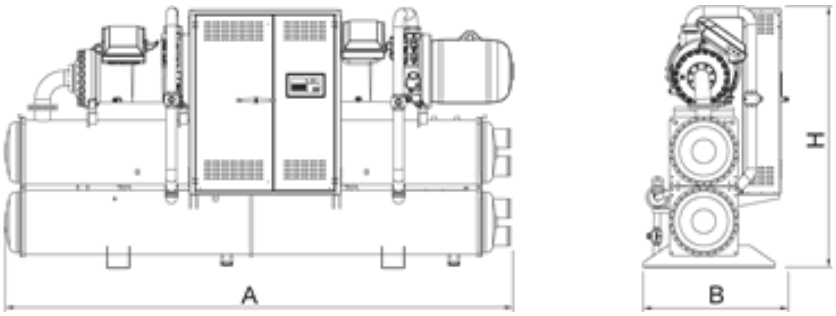
Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,7°C
4 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
5 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
6 Seasonal energy efficiency ratio
7 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
8 Seasonal coefficient of performance
9 Seasonal space heating energy efficiency
10 Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
11 Sound power on the basis of measurements made in compliance with ISO 9614.
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

Certified data in EUROVENT

Dimensional drawing



HEAT PUMPS

i-FX-W (1+i)-G05-Y/H

1402 - 4652 532,3-1784 kW

Water to water high efficiency heat pump, reversible on hydraulic side

Single circuit indoor unit for the production of chilled/hot water, with fixed speed and variable speed (Inverter Driven) screw compressors optimized for R513A, electronic expansion valve, high performing shell and tube condenser and shell and tube flooded evaporator, both designed and produced by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A.. These technological solutions enhance the EER values over 5,7 at Eurovent standard conditions.
The resulting unit is extremely compact, thanks to the strategic layout, designed without base, frame and panels.

Control

W3000TE
W3000TE features a large keyboard and wide LCD display for an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements. Complete alarm management system is available, with the "black-box" and the alarm history display functions. For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices. Consumption metering and performance measurement are possible and supervision can be developed via proprietary devices or the integration in third party systems by means of the most common protocols ModBus, Bacnet, Bacnet-over-IP, LonWorks.
Compatibility with remote keyboard (up to 8 units). The programmable timer allows the creation of an operating profile up to 4 typical days and 10 time bands. Continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Refrigerant

R513A

Versions

CA High energy efficiency units

Configurations

H Function with heat pump, reversible on hydraulic side

Features

HIGH EFFICIENCY
Unit with high efficiency and reduced energy consumption, thanks to the inverter technology, contributing to lower operating costs and therefore achieving a quick return on investment.

FLEXIBILITY
Unit featured by remarkable application flexibility thanks to the inverter tecnology which allows to obtain, taking in consideration the cooling capacity needed, the best result about costs/performances and maximum efficiency.

TOTAL VERSATILITY
Unit designed gathering in a single circuit a compressor with step regulation and one working with inverter, in order to guarantee the best answer to plant necessities both at full and at part loads.

MAXIMUM COMPACTNESS
Maximum compactness to achieve a very high flexibility in the design process and installation operations, offering a premium solution in case of reduced clearances or when retrofitting existing installations.

Accessories

- Touch Screen visual display
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Several devices for condensation´s control

i-FX-W (1+i)-G05-Y			1402	1752	1902	2152	2602
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	532,3	665,0	721,0	819,3	998,7
Total power input	(1)	kW	102,0	124,6	135,4	154,6	189,4
EER	(1)	kW/kW	5,219	5,337	5,325	5,299	5,273
ESEER	(1)	kW/kW	8,360	8,410	8,310	8,450	8,440
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	486,7	608,1	659,4	750,0	914,3
EER	(1)(2)	kW/kW	5,160	5,280	5,260	5,260	5,260
ESEER	(1)(2)	kW/kW	7,340	7,380	7,270	7,390	7,400
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	592,6	731,1	801,5	910,9	1098
Total power input	(3)	kW	128,9	157,3	171,5	195,9	236,4
COP		kW/kW	4,597	4,648	4,673	4,650	4,645
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	544,5	672,0	736,5	837,2	1009
COP	(2)(3)	kW/kW	4,500	4,580	4,590	4,580	4,600
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	-	-	-	-
SEPR	(4)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(6)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	23,34	29,16	31,62	35,96	43,84
Pressure drop	(1)	kPa	30,5	34,7	33,8	33,2	37,1
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	34,17	38,89	44,44	50,00	59,72
Pressure drop	(3)	kPa	65,4	61,7	66,8	64,1	68,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	27,61	34,38	37,29	42,42	51,72
Pressure drop	(1)	kPa	37,8	35,8	42,2	42,0	39,2
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	26,21	32,35	35,45	40,30	48,55
Pressure drop	(3)	kPa	34,1	31,7	38,1	37,9	34,5
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	130	176	181	195	284
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	82	82	81	83	83
Sound power level in cooling	(11)(12)	dB(A)	100	100	100	102	102
Sound power level in heating	(11)(13)	dB(A)	100	100	100	102	102
SIZE AND WEIGHT							
A	(14)	mm	2950	3310	3310	3310	4475
B	(14)	mm	1320	1425	1445	1480	1410
H	(14)	mm	1805	1935	2000	2150	2250
Operating weight	(14)	kg	3350	4280	4410	4830	6630

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
3 Plant (side) heating exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 10°C/6,7°C
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6 Seasonal energy efficiency ratio
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Certified data in EUROVENT

i-FX-W (1+i)-G05-Y/H

1402 - 4652 532,3-1784 kW

Water to water high efficiency heat pump, reversible on hydraulic side

i-FX-W (1+i)-G05-Y			3002	3402	3852	4252	4652
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	1143	1296	1472	1607	1784
Total power input	(1)	kW	216,0	243,1	275,6	303,9	343,4
EER	(1)	kW/kW	5,292	5,331	5,341	5,288	5,195
ESEER	(1)	kW/kW	8,380	8,400	8,430	8,280	8,230
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	1046	1186	1348	1482	1632
EER	(1)(2)	kW/kW	5,310	5,360	5,400	5,300	5,260
ESEER	(1)(2)	kW/kW	7,460	7,500	7,600	7,360	7,300
Cooling energy class			A	A	A	A	A
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	1255	1445	1640	1772	1948
Total power input	(3)	kW	269,8	303,8	344,3	377,4	424,2
COP		kW/kW	4,652	4,756	4,763	4,695	4,592
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	1151	1323	1502	1637	1783
COP	(2)(3)	kW/kW	4,620	4,710	4,740	4,660	4,610
Cooling energy class			A	A	A	A	A
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(4)	kW	-	1186	1348	-	-
SEPR	(4)(6)		-	7,82	7,89	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(5)	kW	-	563,9	642,8	-	-
SEPR	(5)(6)		-	4,67	4,68	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(7)	kW	-	-	-	-	-
SCOP	(7)(8)		-	-	-	-	-
Performance ηs	(7)(9)	%	-	-	-	-	-
Seasonal efficiency class	(7)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	50,15	56,88	64,63	71,06	78,30
Pressure drop	(1)	kPa	37,5	31,9	30,9	37,3	45,3
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	68,06	84,97	96,56	97,22	97,22
Pressure drop	(3)	kPa	69,0	71,1	68,9	69,8	69,8
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	59,11	66,96	76,02	83,76	92,41
Pressure drop	(1)	kPa	30,3	33,7	30,0	36,4	29,9
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	55,47	63,73	72,34	78,81	85,93
Pressure drop	(3)	kPa	26,7	30,5	27,1	32,2	25,8
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	1	1	1	1	1
Refrigerant charge		kg	325	347	356	372	372
NOISE LEVEL							
Sound Pressure	(10)	dB(A)	83	82	82	84	84
Sound power level in cooling	(11)(12)	dB(A)	102	102	102	104	104
Sound power level in heating	(11)(13)	dB(A)	102	102	102	104	104
SIZE AND WEIGHT							
A	(14)	mm	4475	4570	4650	4650	4850
B	(14)	mm	1405	1435	1495	1495	1495
H	(14)	mm	2250	2380	2500	2500	2500
Operating weight	(14)	kg	7470	8220	8800	8930	9340

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
2 Values in compliance with EN14511
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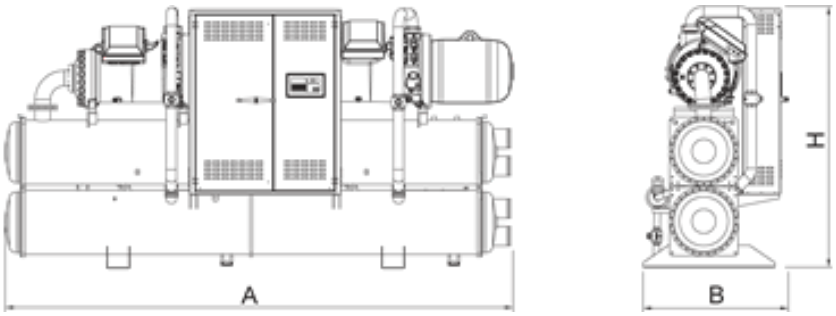
12 Sound power level in cooling, indoors.
13 Sound power level in heating, indoors.
14 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.

Certified data in EUROVENT

Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

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UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

NX-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

0152P - 0602P 43,94-168,6 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. Unit with two independent refrigerant circuits, each circuit works with an hermetic rotary Scroll compressors using R410A, axial fans, braze-welded plate-type exchanger and thermal expansion valve.

Control

Electronic control W3000TE

W3000TE controller feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of various components.

As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet. The regulation operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode setting. Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices adjust the resources in systems made of several units. Consumption metering and performance measurement are available and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity.

Proprietary self-adaptive logic for the defrosting features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

- Basic
- SL Super-low noise version

Configurations

- Basic function

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

ErP READY

The highest level of efficiency at part load can meet and exceed the minimum seasonal efficiency for heating, SCOP (only for reversible units) and for process cooling, SEPR, in accordance with the eco-sustainable design requirements for all products using energy.

INTEGRATED HYDRONIC GROUP

The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line pump, for achieving both low or high head, fixed or variable speed, available for both plant and recovery circuits (up to 4 pumps).

WIDE OPERATING RANGE

The accurate condensation control (variable fan speed regulation as per standard on every model) and devoted kits allow unit's operation from -10°C to 46°C of outdoor air temperature, from -8°C to 18°C of evaporator leaving water temperature and hot water up to 55°C.

Accessories

- Touch Screen visual display
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Hydronic kit available in different configurations with 1 or 2 pumps fixed speed or variable speed, for achieving both low or high head, available for both plant and recovery circuits.
- EC fans with electronic DC brushless motor
- LOW NOISE KIT (only on no silenced versions)
- Soft starters
- Electronic expansion valve

NX-Q-Y			0152P	0182P	0202P	0252P	0262P	0302P	0402P	0502P	0602P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	43,94	50,85	58,12	64,03	71,56	85,53	110,7	137,9	168,6
Total power input	(1)	kW	12,74	14,83	17,63	19,16	22,23	25,60	33,40	42,28	56,50
EER	(1)	kW/kW	3,457	3,432	3,301	3,333	3,225	3,340	3,314	3,260	2,984
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	43,80	50,60	57,90	63,80	71,40	85,20	110,3	137,4	168,0
EER	(1)(2)	kW/kW	3,420	3,370	3,250	3,290	3,190	3,290	3,260	3,210	2,940
ESEER	(1)(2)	kW/kW	4,170	4,110	4,020	4,150	3,970	4,050	4,030	3,970	3,680
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	46,44	53,18	60,63	67,30	75,18	90,09	115,2	144,8	177,3
Total power input	(3)	kW	13,49	15,30	17,49	19,25	21,42	25,56	32,70	41,33	52,06
COP	(3)	kW/kW	3,437	3,477	3,463	3,487	3,514	3,520	3,523	3,506	3,403
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	46,60	53,40	60,80	67,60	75,50	90,40	115,6	145,3	178,0
COP	(2)(3)	kW/kW	3,400	3,440	3,430	3,450	3,480	3,490	3,490	3,470	3,370
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(4)	kW	44,00	51,12	58,91	64,26	73,07	86,88	111,9	139,7	176,5
Total power input	(4)	kW	11,56	13,39	15,74	17,32	19,83	23,44	30,46	39,51	50,69
Recovery heat exchanger capacity	(4)	kW	54,86	63,71	73,71	80,54	91,71	108,9	140,5	176,8	224,1
TER		kW/kW	8,526	8,567	8,446	8,370	8,323	8,368	8,275	8,013	7,901
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(5)	kW	-	-	-	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(6)	kW	-	-	-	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(8)	kW	33,2	38,2	43,6	49,4	55,6	65,8	83,0	106	135
SCOP	(8)(9)		3,59	3,60	3,63	3,75	3,77	3,71	3,69	3,66	3,64
Performance ηs	(8)(10)	%	141	141	142	147	148	145	144	143	143
Seasonal efficiency class	(8)		A+	A+	A+	A+	A+	A+	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,101	2,432	2,780	3,062	3,422	4,090	5,292	6,592	8,061
Pressure drop	(1)	kPa	14,7	19,7	15,8	19,2	17,1	19,4	22,3	26,2	31,8
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	2,242	2,567	2,927	3,249	3,629	4,349	5,563	6,992	8,561
Pressure drop	(3)	kPa	16,7	21,9	17,5	21,6	19,3	21,9	24,6	29,5	35,9
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	20,8	22,4	22,9	30,2	30,9	37,1	53,5	64,8	64,9
NOISE LEVEL											
Sound Pressure	(11)	dB(A)	53	53	53	53	53	54	55	56	56
Sound power level in cooling	(12)(13)	dB(A)	85	85	85	85	85	86	87	88	88
Sound power level in heating	(12)(14)	dB(A)	85	85	85	85	85	86	87	88	88
SIZE AND WEIGHT											
A	(15)	mm	2625	2625	2625	2625	2625	3250	3875	4500	4500
B	(15)	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
H	(15)	mm	2070	2070	2070	2070	2070	2070	2070	2070	2070
Operating weight	(15)	kg	850	870	890	960	970	1130	1430	1670	1730

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NX-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

0152P - 0602P 43,94-168,6 kW

NX-Q-Y /SL			0152P	0182P	0202P	0252P	0262P	0302P	0402P	0502P
Power supply		V/ph/Hz	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)	kW	43,20	49,82	58,48	63,18	71,56	84,78	108,5	130,7
Total power input	(1)	kW	12,48	14,69	17,25	19,36	22,03	25,52	33,44	44,29
EER	(1)	kW/kW	3,456	3,388	3,382	3,258	3,255	3,325	3,249	2,950
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	43,10	49,60	58,30	63,00	71,40	84,50	108,2	130,3
EER	(1)(2)	kW/kW	3,420	3,330	3,330	3,210	3,220	3,280	3,210	2,910
ESEER	(1)(2)	kW/kW	4,240	4,130	4,140	4,070	4,030	4,060	4,000	3,680
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(3)	kW	46,53	53,32	62,15	67,14	76,80	91,15	116,3	141,2
Total power input	(3)	kW	12,89	14,71	17,33	19,05	21,28	25,19	32,31	40,01
COP	(3)	kW/kW	3,605	3,626	3,595	3,513	3,606	3,615	3,601	3,530
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	46,70	53,50	62,40	67,40	77,10	91,40	116,7	141,7
COP	(2)(3)	kW/kW	3,560	3,590	3,560	3,470	3,570	3,580	3,570	3,500
COOLING WITH TOTAL HEAT RECOVERY										
Cooling capacity	(4)	kW	44,00	51,12	58,91	64,26	73,07	86,88	111,9	139,7
Total power input	(4)	kW	11,56	13,39	15,74	17,32	19,83	23,44	30,46	39,51
Recovery heat exchanger capacity	(4)	kW	54,86	63,71	73,71	80,54	91,71	108,9	140,5	176,8
TER		kW/kW	8,526	8,567	8,446	8,370	8,323	8,368	8,275	8,013
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(5)	kW	-	-	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(6)	kW	-	-	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(8)	kW	33,2	38,6	45,5	48,9	56,4	66,7	84,3	105
SCOP	(8)(9)		3,81	3,81	3,80	3,78	3,88	3,83	3,82	3,75
Performance ηs	(8)(10)	%	150	150	149	148	152	150	150	147
Seasonal efficiency class	(8)		A++	A++	A+	A+	A++	A++	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)	l/s	2,066	2,382	2,797	3,021	3,422	4,054	5,188	6,252
Pressure drop	(1)	kPa	14,2	18,9	16,0	18,7	17,1	19,0	21,4	23,6
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(3)	l/s	2,246	2,574	3,000	3,241	3,707	4,400	5,615	6,818
Pressure drop	(3)	kPa	16,8	22,1	18,4	21,5	20,1	22,4	25,1	28,0
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Refrigerant charge		kg	27,1	28,7	28,8	29,9	42,0	48,9	63,1	63,2
NOISE LEVEL										
Sound Pressure	(11)	dB(A)	47	47	48	48	48	49	50	52
Sound power level in cooling	(12)(13)	dB(A)	79	79	80	80	80	81	82	84
Sound power level in heating	(12)(14)	dB(A)	79	79	80	80	80	81	82	84
SIZE AND WEIGHT										
A	(15)	mm	2625	2625	3250	3250	3250	3875	4500	4500
B	(15)	mm	1350	1350	1350	1350	1350	1350	1350	1350
H	(15)	mm	2070	2070	2070	2070	2070	2070	2070	2070
Operating weight	(15)	kg	890	910	1000	1030	1090	1270	1610	1680

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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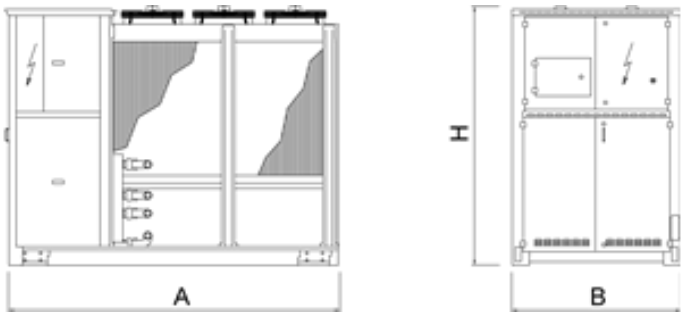
Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

NECS-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

0604 - 1204 142,0-310,8 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. This unit is equipped with hermetic rotary Scroll compressors, with R410A, axial fans, braze-welded plate-type exchanger and thermal expansion valve. External panels in Peraluman and base in galvanised sheet steel with paint finish. The range includes two-compressor and four-compressor versions, both with two independent refrigerant circuits.

Refrigerant

R410A

Versions

B Basic
LN Low noise
SL Super-low noise version

Features

UNIQUE PROPOSAL
Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

CUTTING-EDGE ELECTRONICS
The Energy Raiser units are fitted with an evolved electronic unit that allows fully automatic management of the best type of operation to meet the load requirements

VENTILATION CONTROL FOR LOW-TEMPERATURE OPERATION
The standard units come fitted with pressure-operated control of ventilation, which allows the unit to produce cold water with an external air temperature down to -10°C

INTEGRATED HYDRONIC GROUP
The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line pump, for achieving both low or high head, available for both plant and recovery circuits (up to 4 pumps).

Accessories

- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Rubber anti-vibration mounting kit

Control

W3000SE Large
The W3000SE Large controller offers advanced functions and algorithms.
The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
The regulation operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode setting.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
Compatibility with the remote keyboard managing up to 10 units.
Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

NECS-Q-Y / B			0604	0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	149,9	166,2	188,8	211,0	240,0	277,0	310,8
Total power input	(1)	kW	58,92	68,96	75,78	85,23	95,63	107,4	120,5
EER	(1)	kW/kW	2,545	2,409	2,491	2,477	2,510	2,579	2,579
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	149,2	165,5	188,0	210,1	239,0	275,9	309,6
EER	(1)(2)	kW/kW	2,500	2,370	2,450	2,440	2,470	2,540	2,540
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	167,3	185,4	209,3	234,2	266,5	306,3	343,9
Total power input	(3)	kW	58,03	64,93	72,14	79,79	91,97	104,1	116,3
COP	(3)	kW/kW	2,884	2,857	2,903	2,935	2,897	2,942	2,957
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	168,2	186,4	210,4	235,4	268,0	307,9	345,7
COP	(2)(3)	kW/kW	2,860	2,830	2,870	2,910	2,870	2,910	2,930
COOLING WITH TOTAL HEAT RECOVERY									
Cooling capacity	(4)	kW	151,0	172,7	194,1	219,9	246,0	280,5	316,6
Total power input	(4)	kW	49,79	57,06	64,48	72,13	79,79	92,81	104,6
Recovery heat exchanger capacity	(4)	kW	197,8	226,3	254,7	287,7	321,0	367,7	415,0
TER		kW/kW	7,004	6,988	6,958	7,039	7,104	6,985	6,994
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(6)	kW	-	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(8)	kW	127	143	157	172	205	231	255
SCOP	(8)(9)		3,25	3,24	3,34	3,20	3,21	3,27	3,25
Performance ηs	(8)(10)	%	127	127	131	125	125	128	127
Seasonal efficiency class	(8)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	7,166	7,949	9,028	10,09	11,48	13,25	14,86
Pressure drop	(1)	kPa	41,9	43,0	43,7	42,8	44,4	47,3	47,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	8,074	8,950	10,10	11,30	12,86	14,79	16,60
Pressure drop	(3)	kPa	56,9	59,2	61,4	61,9	66,5	65,7	67,5
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	42,6	42,7	60,2	63,7	67,2	80,5	108
NOISE LEVEL									
Sound Pressure	(11)	dB(A)	60	60	60	61	62	63	63
Sound power level in cooling	(12)(13)	dB(A)	92	92	92	93	94	95	95
Sound power level in heating	(12)(14)	dB(A)	92	92	92	93	94	95	95
SIZE AND WEIGHT									
A	(15)	mm	3110	3110	3110	4110	4110	4110	4110
B	(15)	mm	2220	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2150	2150	2150	2150	2150	2150
Operating weight	(15)	kg	1600	1840	2120	2320	2480	2680	2860

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
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13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NECS-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

0604 - 1204 142,0-310,8 kW

NECS-Q-Y / LN			0604	0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	143,1	157,1	177,2	199,1	227,3	260,7	290,7
Total power input	(1)	kW	58,82	70,21	78,43	87,81	96,52	110,2	125,3
EER	(1)	kW/kW	2,434	2,238	2,260	2,268	2,355	2,366	2,320
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	142,5	156,4	176,5	198,3	226,4	259,7	289,6
EER	(1)(2)	kW/kW	2,400	2,210	2,230	2,240	2,320	2,340	2,290
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	159,5	176,0	198,0	225,4	253,5	290,2	323,9
Total power input	(3)	kW	54,01	60,78	67,86	75,69	85,84	97,89	110,1
COP	(3)	kW/kW	2,954	2,895	2,916	2,978	2,955	2,964	2,942
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	160,3	176,9	199,0	226,5	254,8	291,6	325,5
COP	(2)(3)	kW/kW	2,920	2,870	2,890	2,950	2,930	2,940	2,910
COOLING WITH TOTAL HEAT RECOVERY									
Cooling capacity	(4)	kW	151,0	172,7	194,1	219,9	246,0	280,5	316,6
Total power input	(4)	kW	49,79	57,06	64,48	72,13	79,79	92,81	104,6
Recovery heat exchanger capacity	(4)	kW	197,8	226,3	254,7	287,7	321,0	367,7	415,0
TER		kW/kW	7,004	6,988	6,958	7,039	7,104	6,985	6,994
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(6)	kW	-	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(8)	kW	117	128	154	144	186	229	255
SCOP	(8)(9)		3,33	3,34	3,41	3,37	3,34	3,48	3,49
Performance ηs	(8)(10)	%	130	131	134	132	130	136	136
Seasonal efficiency class	(8)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	6,842	7,513	8,472	9,522	10,87	12,47	13,90
Pressure drop	(1)	kPa	38,2	38,4	38,5	38,1	39,8	41,9	41,3
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,700	8,498	9,556	10,88	12,24	14,01	15,63
Pressure drop	(3)	kPa	51,8	53,3	54,9	57,4	60,2	59,0	59,9
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	42,6	42,7	60,2	63,7	67,2	80,5	108
NOISE LEVEL									
Sound Pressure	(11)	dB(A)	54	54	54	55	56	57	57
Sound power level in cooling	(12)(13)	dB(A)	86	86	86	87	88	89	89
Sound power level in heating	(12)(14)	dB(A)	87	87	87	88	89	90	90
SIZE AND WEIGHT									
A	(15)	mm	3110	3110	3110	4110	4110	4110	4110
B	(15)	mm	2220	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2150	2150	2150	2150	2150	2150
Operating weight	(15)	kg	1600	1840	2120	2320	2480	2680	2860

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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Certified data in EUROVENT

NECS-Q-Y / SL			0604	0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE									
COOLING ONLY (GROSS VALUE)									
Cooling capacity	(1)	kW	142,0	159,7	183,4	200,8	225,3	260,7	293,9
Total power input	(1)	kW	58,03	67,45	75,42	87,31	95,50	108,2	123,4
EER	(1)	kW/kW	2,448	2,369	2,432	2,300	2,359	2,409	2,382
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	141,4	159,0	182,6	200,0	224,4	259,7	292,8
EER	(1)(2)	kW/kW	2,410	2,330	2,400	2,270	2,330	2,380	2,350
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(3)	kW	159,0	178,0	205,2	226,3	252,9	294,5	329,9
Total power input	(3)	kW	52,62	59,54	68,66	76,10	83,76	96,06	110,0
COP	(3)	kW/kW	3,023	2,992	2,987	2,974	3,018	3,065	2,999
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	159,8	178,9	206,3	227,4	254,2	296,0	331,6
COP	(2)(3)	kW/kW	2,990	2,960	2,960	2,940	2,990	3,030	2,970
COOLING WITH TOTAL HEAT RECOVERY									
Cooling capacity	(4)	kW	151,0	172,7	194,1	219,9	246,0	280,5	316,6
Total power input	(4)	kW	49,79	57,06	64,48	72,13	79,79	92,81	104,6
Recovery heat exchanger capacity	(4)	kW	197,8	226,3	254,7	287,7	321,0	367,7	415,0
TER		kW/kW	7,004	6,988	6,958	7,039	7,104	6,985	6,994
ENERGY EFFICIENCY									
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Process refrigeration at high temperature									
Prated,c	(5)	kW	-	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)									
Process refrigeration at medium temperature									
Prated,c	(6)	kW	-	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)									
PDesign	(8)	kW	125	141	137	149	200	229	257
SCOP	(8)(9)		3,72	3,76	3,48	3,50	3,72	3,84	3,71
Performance ηs	(8)(10)	%	146	148	136	137	146	151	145
Seasonal efficiency class	(8)		-	-	-	-	-	-	-
EXCHANGERS									
HEAT EXCHANGER USER SIDE IN REFRIGERATION									
Water flow	(1)	l/s	6,790	7,638	8,768	9,600	10,77	12,47	14,05
Pressure drop	(1)	kPa	37,6	39,7	41,3	38,7	39,1	41,9	42,2
HEAT EXCHANGER USER SIDE IN HEATING									
Water flow	(3)	l/s	7,675	8,591	9,906	10,93	12,21	14,22	15,93
Pressure drop	(3)	kPa	51,5	54,5	59,0	57,9	59,9	60,8	62,1
REFRIGERANT CIRCUIT									
Compressors nr.		N°	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2
Refrigerant charge		kg	55,0	70,1	70,2	70,3	82,0	110	110
NOISE LEVEL									
Sound Pressure	(11)	dB(A)	50	50	51	51	51	53	54
Sound power level in cooling	(12)(13)	dB(A)	82	82	83	83	83	85	86
Sound power level in heating	(12)(14)	dB(A)	83	83	84	84	84	86	87
SIZE AND WEIGHT									
A	(15)	mm	3110	3110	4110	4110	4110	5110	5110
B	(15)	mm	2220	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2150	2150	2150	2150	2150	2150
Operating weight	(15)	kg	1700	1960	2350	2420	2590	2950	3100

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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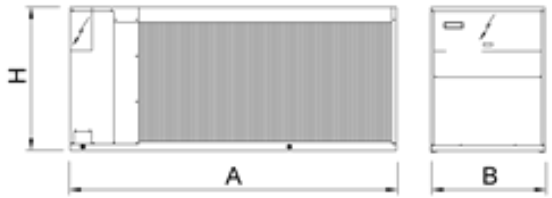
Certified data in EUROVENT

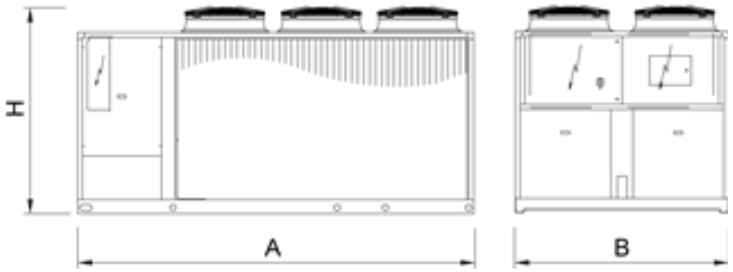
NECS-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

0604 - 1204 142,0-310,8 kW

Dimensional drawing





UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

NECS-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1314 - 3018 332,0-756,7 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. This unit is equipped with hermetic rotary Scroll compressors, with R410A, axial fans, shell and tube heat exchangers and electronic expansion valve. The range is composed by units equipped with four, six and eight compressors in multi-circuit configuration.

Refrigerant

R410A

Versions

B	Basic	SL-CA	Super Low noise version, Class A of efficiency
CA	Class A of efficiency		

Features

REFRIGERANT GAS R410A
The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

UNIQUE PROPOSAL
Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING
Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

CLASS A EFFICIENCY
The full range is also available with the Class A efficiency rating (in heating). CA and SL-CA versions guarantee premium levels of efficiency thanks to the generous sizing of the refrigerant-exchange surface areas and to an accurate control of the fans, available on both standard and low-noise versions.

INTEGRATED HYDRONIC GROUP
The built-in hydronic module already contains the main water circuit components; it is available with single or twin in-line pump, for achieving low or high head, available for both hot and cold water distribution systems (up to 4 pumps).

Control

W3000SE Large
The W3000SE Large controller offers advanced functions and algorithms.
The keypad features an easy-to-use interface and a complete LCD display, allowing to consult and intervene on the unit by means of a multi-level menu, with selectable language setting.
The regulation operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode setting.
The diagnostics includes a complete alarm management, with the "black-box" and alarm logging functions for enhanced analysis of the unit operation.
For multiple units' systems, the regulation of the resources, via optional proprietary devices, can be implemented. Energy metering, for both consumption and capacity, can also be developed. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks.
Compatibility with the remote keyboard managing up to 10 units.
Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).
The defrost adopts a proprietary self-adaptive logic, which features the monitoring of numerous operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Soft starters
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- LT kit for extending the operating limits in heat pump mode down to -10 °C (/SL-CA versions) and -12 °C (/CA versions)

NECS-Q-Y / B			1314	1414	1614	1716	1816
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	352,6	377,5	411,8	451,8	496,3
Total power input	(1)	kW	125,3	130,8	150,0	163,1	176,2
EER	(1)	kW/kW	2,814	2,886	2,745	2,770	2,817
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	351,1	376,0	410,0	450,4	494,5
EER	(1)(2)	kW/kW	2,770	2,840	2,700	2,740	2,780
ESEER	(1)(2)	kW/kW	-	-	-	-	-
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	380,4	408,1	446,6	484,7	527,5
Total power input	(3)	kW	121,4	128,5	141,5	155,8	169,1
COP	(3)	kW/kW	3,133	3,176	3,156	3,111	3,119
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	382,3	409,9	448,9	486,4	529,7
COP	(2)(3)	kW/kW	3,100	3,150	3,120	3,090	3,090
COOLING WITH TOTAL HEAT RECOVERY							
Cooling capacity	(4)	kW	354,6	378,8	423,4	459,6	499,8
Total power input	(4)	kW	107,3	112,8	126,4	139,1	149,5
Recovery heat exchanger capacity	(4)	kW	455,4	484,8	542,2	590,3	640,3
TER		kW/kW	7,549	7,657	7,639	7,549	7,625
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(6)	kW	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(8)	kW	280	318	367	383	396
SCOP	(8)(9)		3,57	3,66	3,54	3,70	3,60
Performance ηs	(8)(10)	%	140	143	139	145	141
Seasonal efficiency class	(8)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	16,86	18,05	19,69	21,61	23,73
Pressure drop	(1)	kPa	53,4	46,9	55,8	38,1	46,0
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	18,36	19,70	21,56	23,40	25,46
Pressure drop	(3)	kPa	63,4	55,8	66,9	44,7	52,9
REFRIGERANT CIRCUIT							
Compressors nr.		N°	4	4	4	6	6
No. Circuits		N°	2	2	2	3	3
Refrigerant charge		kg	86,0	104	104	108	120
NOISE LEVEL							
Sound Pressure	(11)	dB(A)	64	64	64	64	65
Sound power level in cooling	(12)(13)	dB(A)	96	96	96	96	97
Sound power level in heating	(12)(14)	dB(A)	96	96	96	96	97
SIZE AND WEIGHT							
A	(15)	mm	3905	3905	3905	4515	5690
B	(15)	mm	2260	2260	2260	2260	2260
H	(15)	mm	2450	2450	2450	2450	2450
Operating weight	(15)	kg	3530	3620	3650	4850	5240

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

NECS-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1314 - 3018 332,0-756,7 kW

NECS-Q-Y / B			2016	2116	2418	2618	2818
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	546,1	567,4	662,4	704,4	756,7
Total power input	(1)	kW	188,7	196,3	235,0	250,4	261,8
EER	(1)	kW/kW	2,894	2,890	2,819	2,813	2,890
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	544,3	565,4	660,0	701,6	754,3
EER	(1)(2)	kW/kW	2,860	2,850	2,780	2,770	2,860
ESEER	(1)(2)	kW/kW	-	-	-	-	-
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	586,7	612,3	703,5	760,6	816,5
Total power input	(3)	kW	185,5	192,3	225,2	243,0	256,4
COP	(3)	kW/kW	3,163	3,184	3,124	3,130	3,184
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	589,0	614,8	706,4	764,1	819,5
COP	(2)(3)	kW/kW	3,140	3,160	3,100	3,100	3,160
COOLING WITH TOTAL HEAT RECOVERY							
Cooling capacity	(4)	kW	546,9	568,5	666,7	711,0	757,8
Total power input	(4)	kW	162,6	169,7	199,6	213,2	226,5
Recovery heat exchanger capacity	(4)	kW	699,7	728,0	854,3	911,5	970,7
TER		kW/kW	7,669	7,643	7,620	7,613	7,629
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(5)	kW	544,3	565,4	-	701,6	754,3
SEPR	(5)(7)		5,08	5,00	-	5,00	5,04
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(6)	kW	302,2	315,8	363,5	390,2	421,2
SEPR	(6)(7)		3,28	3,22	3,22	3,26	3,23
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(8)	kW	-	-	-	-	-
SCOP	(8)(9)		-	-	-	-	-
Performance ηs	(8)(10)	%	-	-	-	-	-
Seasonal efficiency class	(8)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	26,11	27,13	31,68	33,68	36,18
Pressure drop	(1)	kPa	42,4	45,8	48,1	54,4	42,4
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	28,32	29,56	33,96	36,72	39,41
Pressure drop	(3)	kPa	49,9	54,3	55,3	64,6	50,3
REFRIGERANT CIRCUIT							
Compressors nr.		N°	6	6	8	8	8
No. Circuits		N°	3	3	4	4	4
Refrigerant charge		kg	138	139	158	172	185
NOISE LEVEL							
Sound Pressure	(11)	dB(A)	65	65	65	65	66
Sound power level in cooling	(12)(13)	dB(A)	97	97	98	98	99
Sound power level in heating	(12)(14)	dB(A)	0	0	0	0	0
SIZE AND WEIGHT							
A	(15)	mm	5690	5690	7430	7430	7430
B	(15)	mm	2260	2260	2260	2260	2260
H	(15)	mm	2450	2450	2450	2450	2450
Operating weight	(15)	kg	5370	5430	6700	6830	7000

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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NECS-Q-Y / CA			1314	1414	1614	1716	1816	2016
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	362,2	386,7	424,9	471,4	524,0	559,1
Total power input	(1)	kW	122,2	127,8	144,6	156,8	172,6	184,7
EER	(1)	kW/kW	2,964	3,026	2,938	3,006	3,036	3,027
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	360,6	385,1	422,9	469,8	521,9	557,2
EER	(1)(2)	kW/kW	2,910	2,980	2,880	2,970	2,990	2,990
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	394,1	419,8	462,0	507,2	546,4	603,2
Total power input	(3)	kW	119,5	126,7	139,8	154,8	166,2	182,6
COP	(3)	kW/kW	3,298	3,313	3,305	3,276	3,288	3,303
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	396,2	421,8	464,5	509,2	548,8	605,6
COP	(2)(3)	kW/kW	3,260	3,280	3,260	3,250	3,260	3,270
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	354,6	378,8	423,4	459,6	499,8	546,9
Total power input	(4)	kW	107,3	112,8	126,4	139,1	149,5	162,6
Recovery heat exchanger capacity	(4)	kW	455,4	484,8	542,2	590,3	640,3	699,7
TER		kW/kW	7,549	7,657	7,639	7,549	7,625	7,669
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	557,2
SEPR	(5)(7)		-	-	-	-	-	5,04
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	283	317	363	376	390	-
SCOP	(8)(9)		3,75	3,86	3,73	3,86	3,77	-
Performance ηs	(8)(10)	%	147	151	146	152	148	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	17,32	18,49	20,32	22,54	25,06	26,74
Pressure drop	(1)	kPa	56,4	49,2	59,4	41,5	51,3	44,5
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	19,02	20,27	22,30	24,48	26,38	29,12
Pressure drop	(3)	kPa	68,0	59,1	71,5	48,9	56,8	52,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	6	6	6
No. Circuits		N°	2	2	2	3	3	3
Refrigerant charge		kg	111	112	119	142	142	152
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	65	65	65	64	65	65
Sound power level in cooling	(12)(13)	dB(A)	97	97	97	97	98	98
Sound power level in heating	(12)(14)	dB(A)	97	97	97	97	98	0
SIZE AND WEIGHT								
A	(15)	mm	5080	5080	5080	6255	7430	7430
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2450	2450	2450	2450	2450	2450
Operating weight	(15)	kg	3850	3950	3980	5460	5740	5890

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NECS-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1314 - 3018 332,0-756,7 kW

NECS-Q-Y / SL-CA			1314	1414	1614	1716	1816	2016
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	332,0	356,5	397,7	428,7	461,8	512,2
Total power input	(1)	kW	129,9	136,8	153,0	168,8	183,2	197,7
EER	(1)	kW/kW	2,556	2,606	2,599	2,540	2,521	2,591
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	330,7	355,2	396,0	427,5	460,3	510,6
EER	(1)(2)	kW/kW	2,520	2,570	2,560	2,510	2,490	2,560
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	377,6	400,3	453,0	486,1	525,7	578,3
Total power input	(3)	kW	116,2	124,1	137,8	150,9	162,9	178,2
COP	(3)	kW/kW	3,250	3,226	3,287	3,221	3,227	3,245
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	379,5	402,0	455,4	487,9	527,8	580,5
COP	(2)(3)	kW/kW	3,210	3,190	3,250	3,200	3,200	3,220
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	354,6	378,8	423,4	459,6	499,8	546,9
Total power input	(4)	kW	107,3	112,8	126,4	139,1	149,5	162,6
Recovery heat exchanger capacity	(4)	kW	455,4	484,8	542,2	590,3	640,3	699,7
TER		kW/kW	7,549	7,657	7,639	7,549	7,625	7,669
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	225	260	359	288	399	360
SCOP	(8)(9)		3,65	3,69	3,77	3,67	3,90	3,73
Performance ηs	(8)(10)	%	143	145	148	144	153	146
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	15,88	17,05	19,02	20,50	22,08	24,49
Pressure drop	(1)	kPa	47,4	41,8	52,0	34,3	39,8	37,3
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	18,23	19,32	21,87	23,47	25,37	27,91
Pressure drop	(3)	kPa	62,4	53,7	68,8	45,0	52,6	48,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	4	4	4	6	6	6
No. Circuits		N°	2	2	2	3	3	3
Refrigerant charge		kg	97,0	103	119	126	142	142
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	56	56	56	57	57	57
Sound power level in cooling	(12)(13)	dB(A)	88	88	88	89	89	90
Sound power level in heating	(12)(14)	dB(A)	89	89	89	90	90	91
SIZE AND WEIGHT								
A	(15)	mm	4515	5080	5080	5690	5690	6865
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2450	2450	2450	2450	2450	2450
Operating weight	(15)	kg	3760	3900	4050	5350	5490	5780

Notes

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2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
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Certified data in EUROVENT

NECS-Q-Y / SL-CA			2116	2418	2618	2818	3018
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	535,8	616,3	663,3	714,5	754,4
Total power input	(1)	kW	205,3	244,4	259,8	273,8	290,1
EER	(1)	kW/kW	2,610	2,522	2,553	2,610	2,600
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	534,1	614,3	660,9	712,4	752,0
EER	(1)(2)	kW/kW	2,580	2,490	2,520	2,580	2,570
ESEER	(1)(2)	kW/kW	-	-	-	-	-
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	600,5	701,0	755,0	800,7	859,2
Total power input	(3)	kW	185,8	217,0	232,8	247,7	262,0
COP	(3)	kW/kW	3,232	3,230	3,243	3,233	3,279
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	602,9	703,8	758,5	803,6	862,6
COP	(2)(3)	kW/kW	3,200	3,200	3,210	3,210	3,250
COOLING WITH TOTAL HEAT RECOVERY							
Cooling capacity	(4)	kW	568,5	666,7	711,0	757,8	801,7
Total power input	(4)	kW	169,7	199,6	213,2	226,5	239,8
Recovery heat exchanger capacity	(4)	kW	728,0	854,3	911,5	970,7	1027
TER		kW/kW	7,643	7,620	7,613	7,629	7,627
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(5)	kW	-	614,3	660,9	712,4	-
SEPR	(5)(7)		-	5,11	5,11	5,08	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(6)	kW	-	345,6	373,7	403,7	429,0
SEPR	(6)(7)		-	3,41	3,40	3,31	3,23
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(8)	kW	388	-	-	-	-
SCOP	(8)(9)		3,70	-	-	-	-
Performance ηs	(8)(10)	%	145	-	-	-	-
Seasonal efficiency class	(8)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	25,62	29,47	31,72	34,17	36,08
Pressure drop	(1)	kPa	40,8	41,7	48,3	37,8	42,2
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(3)	l/s	28,99	33,84	36,44	38,65	41,48
Pressure drop	(3)	kPa	52,3	54,9	63,7	48,4	55,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	6	8	8	8	8
No. Circuits		N°	3	4	4	4	4
Refrigerant charge		kg	142	185	185	185	198
NOISE LEVEL							
Sound Pressure	(11)	dB(A)	57	58	58	59	59
Sound power level in cooling	(12)(13)	dB(A)	90	91	91	92	92
Sound power level in heating	(12)(14)	dB(A)	91	0	0	0	0
SIZE AND WEIGHT							
A	(15)	mm	7430	7430	8605	9780	9780
B	(15)	mm	2260	2260	2260	2260	2260
H	(15)	mm	2450	2450	2450	2450	2450
Operating weight	(15)	kg	5890	7020	7330	7600	7750

Notes

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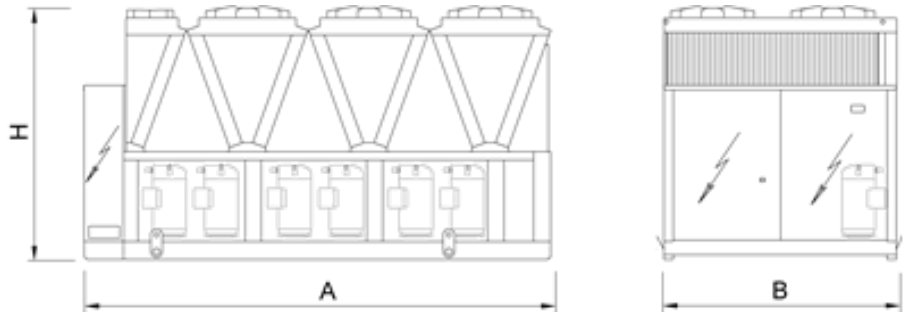
Certified data in EUROVENT

NECS-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1314 - 3018 332,0-756,7 kW

Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

ERACS2-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits.
These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler.
Each circuit works with a semi-hermetic screw compressor using R134a, two shell and tubes heat exchangers shared by both circuits, a cold heat exchanger on plant's side that acts as an evaporator in the production of cold water, a heat exchanger on plant's side that works as a condenser in the production of hot water, and a source side coil heat exchanger that works as either condenser or evaporator as required by the loads.

Control

W3000SE Large
The controller W3000 large offers the latest control and functions specially developed for these units.
The keypad is generously sized with full operating status display. The controls and detailed LCD make access to machine settings easy and safe. These resources permit to diirectly act on the unit settings through a multilevel menu, available in several languages.
The diagnostics includes full management of alarms with black-box functions and alarm record for better analysis of unit performance.
For multi-units plants a special device to coordinate and manage all the resources is available as an option; energy metering device is even possible as an option. Supervision is easy through Climaveneta devices or with various options for interfacing to ModBus, Bacnet, Echelon LonTalk protocols.
Compatibility with remote keyboard (management up to 10 units). Clock available with programming of operation (standard 4 days and 10 time bands).
Temperature regulation managed on the two water circuits, with a proportional logic referred to the return water temperatures. This allows to satisfy simultaneously the different heating- and cooling requests, with no need of mode changeover.
Exclusive self-adaptive defrost logic, monitoring multiple operational- and ambient parameters, which allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R134a

Versions

CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency
XL-CA	eXtra Low noise version, Class A of efficiency
XL-CA-E	eXtra Low noise, Class A enhanced

Features

UNIQUE PROPOSAL
Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING
Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

WIDE OPERATING RANGE
Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 46 °C during summer.

VERSION ´XL-CA-E´ AVAILABLE
Exclusive Premium version. Together for the first time, the lowest noise level on the market and the maximum efficiency in each operating mode.

HOT WATER SUPPLY
Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Electronic expansion valve
- Set-up for remote connectivity with ModBus/Echelon protocol cards

ERACS2-Q-Y / CA			1062	1162	1362	1562	1762	1962
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	210,0	248,3	302,3	329,4	380,3	425,2
Total power input	(1)	kW	72,08	84,81	101,5	109,3	129,1	144,1
EER	(1)	kW/kW	2,913	2,928	2,978	3,014	2,946	2,951
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	209,3	247,4	301,3	328,2	379,0	424,2
EER	(1)(2)	kW/kW	2,870	2,890	2,940	2,970	2,910	2,920
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	217,7	258,4	308,5	339,2	395,6	433,9
Total power input	(3)	kW	66,97	80,69	92,16	101,3	121,6	130,5
COP	(3)	kW/kW	3,249	3,202	3,346	3,348	3,253	3,325
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	218,4	259,4	309,6	340,5	397,1	435,0
COP	(2)(3)	kW/kW	3,230	3,170	3,320	3,320	3,230	3,310
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	427,5
Total power input	(4)	kW	60,58	72,21	87,07	92,53	111,2	121,7
Recovery heat exchanger capacity	(4)	kW	265,6	316,0	386,4	416,4	486,0	542,0
TER		kW/kW	7,825	7,812	7,933	8,063	7,800	7,966
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	155	210	219	241	282	311
SCOP	(8)(9)		3,41	3,21	3,45	3,53	3,40	3,54
Performance ηs	(8)(10)	%	133	125	135	138	133	139
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,04	11,88	14,46	15,75	18,19	20,33
Pressure drop	(1)	kPa	28,8	40,2	36,6	43,4	40,3	27,9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	10,51	12,47	14,89	16,37	19,10	20,95
Pressure drop	(3)	kPa	31,5	44,3	38,8	46,9	44,4	29,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	94,0	112	135	160	166	172
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	65	65	65	66	66	66
Sound power level in cooling	(12)(13)	dB(A)	97	97	97	98	99	99
Sound power level in heating	(12)(14)	dB(A)	97	97	97	98	99	99
SIZE AND WEIGHT								
A	(15)	mm	4610	4610	5610	5610	6610	6610
B	(15)	mm	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(15)	kg	3600	3870	4620	5040	5520	5670

Notes

0 Cancel
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15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

ERACS2-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-Y / CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	482,7	525,0	553,8	624,1	701,4	825,6
Total power input	(1)	kW	155,7	167,2	175,5	201,1	222,4	264,0
EER	(1)	kW/kW	3,100	3,140	3,156	3,103	3,154	3,127
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	481,6	523,7	552,3	622,9	699,7	823,6
EER	(1)(2)	kW/kW	3,070	3,110	3,120	3,080	3,120	3,100
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	492,0	541,4	570,7	614,7	711,4	825,6
Total power input	(3)	kW	148,7	159,0	168,6	177,8	207,2	240,0
COP	(3)	kW/kW	3,309	3,405	3,385	3,457	3,433	3,440
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	493,2	542,8	572,3	615,9	713,2	827,6
COP	(2)(3)	kW/kW	3,290	3,380	3,360	3,440	3,410	3,420
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	133,7	144,8	153,3	170,4	193,4	228,4
Recovery heat exchanger capacity	(4)	kW	609,2	657,7	694,5	791,4	882,9	1041
TER		kW/kW	8,175	8,142	8,121	8,351	8,190	8,174
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	699,7	823,6
SEPR	(5)(7)		-	-	-	-	5,02	5,12
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	359	387	353	398	-	-
SCOP	(8)(9)		3,48	3,60	3,60	3,61	-	-
Performance ηs	(8)(10)	%	136	141	141	141	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	23,09	25,11	26,49	29,84	33,54	39,48
Pressure drop	(1)	kPa	26,7	29,0	32,3	23,1	30,5	30,9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,75	26,13	27,55	29,67	34,34	39,85
Pressure drop	(3)	kPa	28,2	31,4	34,9	22,8	31,9	31,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	190	210	240	253	280	330
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	66	68	68	68	68	69
Sound power level in cooling	(12)(13)	dB(A)	99	101	101	101	101	102
Sound power level in heating	(12)(14)	dB(A)	99	101	101	101	101	102
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7580	8060	8160	8600	9160	11380

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

ERACS2-Q-Y / LN-CA			1062	1162	1362	1562	1762	1962
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	204,9	241,0	293,8	321,8	369,3	413,6
Total power input	(1)	kW	70,79	84,58	102,9	108,8	130,3	144,0
EER	(1)	kW/kW	2,894	2,849	2,855	2,958	2,834	2,872
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	204,3	240,1	292,9	320,6	368,1	412,6
EER	(1)(2)	kW/kW	2,860	2,810	2,820	2,910	2,800	2,850
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	217,7	258,4	308,5	339,2	395,6	433,9
Total power input	(3)	kW	66,97	80,69	92,16	101,3	121,6	130,5
COP	(3)	kW/kW	3,249	3,202	3,346	3,348	3,253	3,325
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	218,4	259,4	309,6	340,5	397,1	435,0
COP	(2)(3)	kW/kW	3,230	3,170	3,320	3,320	3,230	3,310
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	427,5
Total power input	(4)	kW	60,58	72,21	87,07	92,53	111,2	121,7
Recovery heat exchanger capacity	(4)	kW	265,6	316,0	386,4	416,4	486,0	542,0
TER		kW/kW	7,825	7,812	7,933	8,063	7,800	7,966
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	155	210	219	241	282	311
SCOP	(8)(9)		3,41	3,21	3,45	3,53	3,40	3,54
Performance ηs	(8)(10)	%	133	125	135	138	133	139
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	9,797	11,52	14,05	15,39	17,66	19,78
Pressure drop	(1)	kPa	27,4	37,9	34,5	41,4	38,0	26,4
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	10,51	12,47	14,89	16,37	19,10	20,95
Pressure drop	(3)	kPa	31,5	44,3	38,8	46,9	44,4	29,6
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	88,0	112	136	160	171	192
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	58	59	59	60	59	59
Sound power level in cooling	(12)(13)	dB(A)	90	91	91	92	92	92
Sound power level in heating	(12)(14)	dB(A)	91	92	92	93	93	93
SIZE AND WEIGHT								
A	(15)	mm	4610	4610	5610	5610	6610	6610
B	(15)	mm	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(15)	kg	3600	3870	4620	5040	5520	5670

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
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12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

ERACS2-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-Y / LN-CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	468,7	513,4	541,3	603,9	683,8	799,5
Total power input	(1)	kW	162,7	167,6	177,4	206,1	225,4	274,4
EER	(1)	kW/kW	2,881	3,063	3,051	2,930	3,034	2,914
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	467,7	512,2	539,9	602,8	682,2	797,7
EER	(1)(2)	kW/kW	2,860	3,030	3,020	2,910	3,010	2,890
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	492,0	541,4	570,7	614,7	711,4	825,6
Total power input	(3)	kW	148,7	159,0	168,6	177,8	207,2	240,0
COP	(3)	kW/kW	3,309	3,405	3,385	3,457	3,433	3,440
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	493,2	542,8	572,3	615,9	713,2	827,6
COP	(2)(3)	kW/kW	3,290	3,380	3,360	3,440	3,410	3,420
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	133,7	144,8	153,3	170,4	193,4	228,4
Recovery heat exchanger capacity	(4)	kW	609,2	657,7	694,5	791,4	882,9	1041
TER		kW/kW	8,175	8,142	8,121	8,351	8,190	8,174
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	682,2	797,7
SEPR	(5)(7)		-	-	-	-	5,18	5,23
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	370,7	428,2
SEPR	(6)(7)		-	-	-	-	3,27	3,24
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	359	387	353	398	-	-
SCOP	(8)(9)		3,48	3,60	3,60	3,61	-	-
Performance ηs	(8)(10)	%	136	141	141	141	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	22,42	24,55	25,89	28,88	32,70	38,23
Pressure drop	(1)	kPa	25,1	27,7	30,8	21,6	29,0	29,0
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,75	26,13	27,55	29,67	34,34	39,85
Pressure drop	(3)	kPa	28,2	31,4	34,9	22,8	31,9	31,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	200	205	240	250	280	320
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	60	62	62	62	62	63
Sound power level in cooling	(12)(13)	dB(A)	93	95	95	95	95	96
Sound power level in heating	(12)(14)	dB(A)	94	96	96	96	96	97
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7580	8060	8160	8600	9160	11380

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
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6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
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13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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ERACS2-Q-Y / SL-CA			1062	1162	1362	1562	1762	1962
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	199,5	233,2	283,4	313,8	356,0	401,4
Total power input	(1)	kW	72,68	87,56	108,6	112,7	137,2	149,2
EER	(1)	kW/kW	2,744	2,662	2,610	2,784	2,595	2,690
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	198,9	232,4	282,5	312,7	354,9	400,5
EER	(1)(2)	kW/kW	2,710	2,630	2,580	2,750	2,570	2,670
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	211,2	251,0	300,9	330,1	385,2	421,9
Total power input	(3)	kW	64,76	78,41	89,91	98,39	118,5	126,7
COP	(3)	kW/kW	3,259	3,202	3,347	3,355	3,251	3,330
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	211,9	252,0	301,9	331,4	386,6	422,9
COP	(2)(3)	kW/kW	3,240	3,170	3,320	3,320	3,220	3,310
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	427,5
Total power input	(4)	kW	60,58	72,21	87,07	92,53	111,2	121,7
Recovery heat exchanger capacity	(4)	kW	265,6	316,0	386,4	416,4	486,0	542,0
TER		kW/kW	7,825	7,812	7,933	8,063	7,800	7,966
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	152	205	215	236	276	304
SCOP	(8)(9)		3,42	3,21	3,45	3,54	3,40	3,55
Performance ηs	(8)(10)	%	134	126	135	138	133	139
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	9,540	11,15	13,55	15,00	17,02	19,20
Pressure drop	(1)	kPa	26,0	35,4	32,1	39,4	35,3	24,8
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	10,19	12,12	14,52	15,93	18,59	20,36
Pressure drop	(3)	kPa	29,6	41,9	36,9	44,4	42,1	27,9
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	88,0	106	129	156	162	172
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	54	55	55	56	55	55
Sound power level in cooling	(12)(13)	dB(A)	86	87	87	88	88	88
Sound power level in heating	(12)(14)	dB(A)	87	88	88	89	89	89
SIZE AND WEIGHT								
A	(15)	mm	4610	4610	5610	5610	6610	6610
B	(15)	mm	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(15)	kg	3600	3870	4620	5040	5520	5670

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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7 Seasonal energy efficiency ratio
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9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
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12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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ERACS2-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-Y / SL-CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	464,1	509,0	537,1	597,3	677,7	790,4
Total power input	(1)	kW	165,5	170,1	180,0	209,8	228,9	281,0
EER	(1)	kW/kW	2,804	2,992	2,984	2,847	2,961	2,813
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	463,1	507,8	535,7	596,2	676,1	788,6
EER	(1)(2)	kW/kW	2,780	2,960	2,950	2,830	2,930	2,790
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	485,8	535,7	564,1	605,5	703,1	815,5
Total power input	(3)	kW	147,3	157,5	167,1	176,1	205,3	237,8
COP	(3)	kW/kW	3,298	3,401	3,376	3,438	3,425	3,429
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	487,0	537,1	565,7	606,7	704,9	817,5
COP	(2)(3)	kW/kW	3,280	3,380	3,350	3,420	3,400	3,410
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	133,7	144,8	153,3	170,4	193,4	228,4
Recovery heat exchanger capacity	(4)	kW	609,2	657,7	694,5	791,4	882,9	1041
TER		kW/kW	8,175	8,142	8,121	8,351	8,190	8,174
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	676,1	788,6
SEPR	(5)(7)		-	-	-	-	5,16	5,20
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	368,4	424,8
SEPR	(6)(7)		-	-	-	-	3,28	3,24
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	359	386	356	400	-	-
SCOP	(8)(9)		3,49	3,60	3,62	3,62	-	-
Performance ηs	(8)(10)	%	137	141	142	142	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	22,19	24,34	25,68	28,56	32,41	37,80
Pressure drop	(1)	kPa	24,6	27,3	30,3	21,1	28,5	28,3
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,45	25,86	27,23	29,23	33,94	39,36
Pressure drop	(3)	kPa	27,5	30,8	34,1	22,1	31,2	30,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	200	205	230	240	260	310
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	56	58	58	58	58	59
Sound power level in cooling	(12)(13)	dB(A)	89	91	91	91	91	92
Sound power level in heating	(12)(14)	dB(A)	90	92	92	92	92	93
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7670	8150	8250	8690	9260	11480

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

ERACS2-Q-Y / XL-CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	454,5	500,5	528,4	583,9	665,4	772,4
Total power input	(1)	kW	166,7	169,4	179,9	211,8	229,6	286,5
EER	(1)	kW/kW	2,726	2,955	2,937	2,757	2,898	2,696
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	453,5	499,4	527,1	582,9	663,9	770,7
EER	(1)(2)	kW/kW	2,700	2,930	2,910	2,740	2,870	2,670
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	485,8	535,7	564,1	606,7	703,1	815,5
Total power input	(3)	kW	142,6	151,9	161,4	170,4	198,7	230,3
COP	(3)	kW/kW	3,407	3,527	3,495	3,560	3,539	3,541
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	487,0	537,1	565,7	607,9	704,9	817,5
COP	(2)(3)	kW/kW	3,390	3,500	3,470	3,540	3,520	3,520
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	133,7	144,8	153,3	170,4	193,4	228,4
Recovery heat exchanger capacity	(4)	kW	609,2	657,7	694,5	791,4	882,9	1041
TER		kW/kW	8,175	8,142	8,121	8,351	8,190	8,174
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	527,1	582,9	663,9	770,7
SEPR	(5)(7)		-	-	5,64	5,21	5,41	5,45
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	287,1	315,8	363,7	418,2
SEPR	(6)(7)		-	-	3,82	3,57	3,53	3,45
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	359	386	-	-	-	-
SCOP	(8)(9)		3,73	3,89	-	-	-	-
Performance ηs	(8)(10)	%	146	153	-	-	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	21,73	23,93	25,27	27,92	31,82	36,94
Pressure drop	(1)	kPa	23,6	26,4	29,4	20,2	27,4	27,1
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,45	25,86	27,23	29,29	33,94	39,36
Pressure drop	(3)	kPa	27,5	30,8	34,1	22,2	31,2	30,7
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	185	205	234	240	272	320
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	52	54	54	54	54	55
Sound power level in cooling	(12)(13)	dB(A)	85	87	87	87	87	88
Sound power level in heating	(12)(14)	dB(A)	86	88	88	88	88	89
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7790	8260	8350	8790	9340	11580

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
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11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
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13 Sound power level in cooling, outdoors.
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15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

ERACS2-Q-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-Y / XL-CA-E			1062	1162	1362	1562	1762	2022	2222	2422	2622
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	204,3	247,2	293,3	319,4	366,3	472,5	509,5	541,3	611,3
Total power input	(1)	kW	66,55	76,99	99,45	104,5	127,1	151,9	162,5	169,0	193,0
EER	(1)	kW/kW	3,068	3,210	2,948	3,056	2,882	3,111	3,135	3,203	3,167
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	203,7	246,3	292,4	318,3	365,1	471,4	508,3	539,9	610,1
EER	(1)(2)	kW/kW	3,030	3,160	2,910	3,010	2,850	3,080	3,110	3,170	3,140
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	218,2	267,3	308,1	340,3	392,8	512,7	551,7	588,0	643,7
Total power input	(3)	kW	62,39	77,63	88,38	95,24	116,1	145,5	154,0	163,8	175,5
COP	(3)	kW/kW	3,497	3,445	3,485	3,575	3,383	3,524	3,582	3,590	3,668
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	218,9	268,4	309,2	341,7	394,2	514,0	553,2	589,8	645,1
COP	(2)(3)	kW/kW	3,470	3,410	3,450	3,540	3,350	3,500	3,560	3,560	3,650
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	483,5	521,5	550,3	631,2
Total power input	(4)	kW	60,58	72,21	87,07	92,53	111,2	133,7	144,8	153,3	170,4
Recovery heat exchanger capacity	(4)	kW	265,6	316,0	386,4	416,4	486,0	609,2	657,7	694,5	791,4
TER		kW/kW	7,825	7,812	7,933	8,063	7,800	8,175	8,142	8,121	8,351
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(5)	kW	-	-	-	-	-	-	-	539,9	610,1
SEPR	(5)(7)		-	-	-	-	-	-	-	5,86	5,46
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(6)	kW	-	-	-	-	-	-	-	292,2	327,0
SEPR	(6)(7)		-	-	-	-	-	-	-	3,94	3,69
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(8)	kW	155	186	219	239	280	363	371	-	-
SCOP	(8)(9)		3,81	3,48	3,67	3,88	3,64	3,81	3,85	-	-
Performance ηs	(8)(10)	%	149	136	144	152	142	150	151	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	9,771	11,82	14,03	15,28	17,52	22,60	24,37	25,89	29,23
Pressure drop	(1)	kPa	27,2	39,8	34,4	40,8	37,4	25,5	27,3	30,8	22,1
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	10,53	12,90	14,87	16,43	18,96	24,75	26,63	28,38	31,07
Pressure drop	(3)	kPa	31,6	47,5	38,7	47,2	43,8	30,6	32,6	37,1	25,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	106	137	172	177	202	210	220	234	253
NOISE LEVEL											
Sound Pressure	(11)	dB(A)	53	54	54	54	54	53	55	55	55
Sound power level in cooling	(12)(13)	dB(A)	85	86	86	87	87	86	88	88	88
Sound power level in heating	(12)(14)	dB(A)	86	87	87	88	88	87	89	89	89
SIZE AND WEIGHT											
A	(15)	mm	4610	5610	5610	6610	6610	8400	9300	9300	9300
B	(15)	mm	2220	2220	2220	2220	2220	2260	2260	2260	2260
H	(15)	mm	2420	2430	2430	2430	2430	2350	2350	2350	2350
Operating weight	(15)	kg	3900	4490	4830	5590	5730	8510	8720	8890	9400

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
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15 Unit in standard configuration/execution, without optional accessories.

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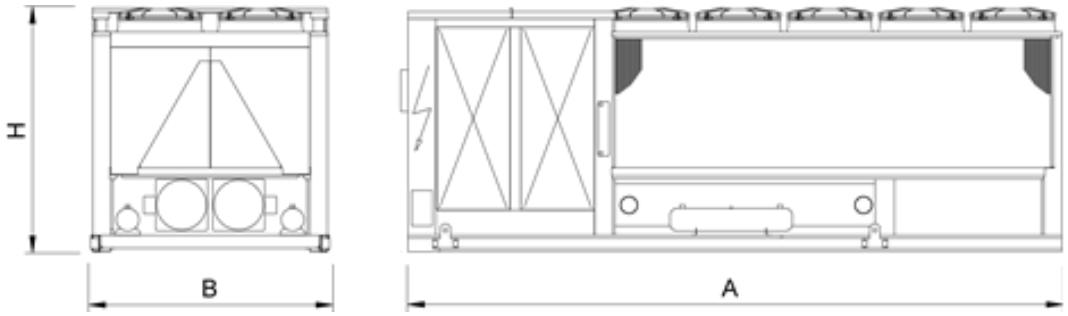
Certified data in EUROVENT

Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

ERACS2-Q-G05-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

Multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent hydronic circuits.
These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler.
Each circuit works with a semi-hermetic screw compressor using R513A, two shell and tubes heat exchangers shared by both circuits, a cold heat exchanger on plant's side that acts as an evaporator in the production of cold water, a heat exchanger on plant's side that works as a condenser in the production of hot water, and a source side coil heat exchanger that works as either condenser or evaporator as required by the loads.

Control

W3000SE Large
The controller W3000 large offers the latest control and functions specially developed for these units.
The keypad is generously sized with full operating status display. The controls and detailed LCD make access to machine settings easy and safe. These resources permit to diirectly act on the unit settings through a multilevel menu, available in several languages.
The diagnostics includes full management of alarms with black-box functions and alarm record for better analysis of unit performance.
For multi-units plants a special device to coordinate and manage all the resources is available as an option; energy metering device is even possible as an option. Supervision is easy through Climaveneta devices or with various options for interfacing to ModBus, Bacnet, Echelon LonTalk protocols.
Compatibility with remote keyboard (management up to 10 units). Clock available with programming of operation (standard 4 days and 10 time bands).
Temperature regulation managed on the two water circuits, with a proportional logic referred to the return water temperatures. This allows to satisfy simultaneously the different heating- and cooling requests, with no need of mode changeover.
Exclusive self-adaptive defrost logic, monitoring multiple operational- and ambient parameters, which allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R513A

Versions

CA	Class A of efficiency
LN-CA	Low Noise, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency
XL-CA	eXtra Low noise version, Class A of efficiency
XL-CA-E	eXtra Low noise, Class A enhanced

Features

UNIQUE PROPOSAL
Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING
Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

WIDE OPERATING RANGE
Unit´s operation guaranteed with external air temperature down to -10 °C during winter and up to 46 °C during summer.

VERSION ´XL-CA-E´ AVAILABLE
Exclusive Premium version. Together for the first time, the lowest noise level on the market and the maximum efficiency in each operating mode.

HOT WATER SUPPLY
Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

Accessories

- Hydronic group
- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Electronic expansion valve
- Set-up for remote connectivity with ModBus/Echelon protocol cards

ERACS2-Q-G05-Y /CA			1062	1162	1362	1562	1762	1962
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	210,0	248,3	302,3	329,4	380,3	425,2
Total power input	(1)	kW	74,78	88,09	105,5	113,5	134,1	149,7
EER	(1)	kW/kW	2,807	2,818	2,865	2,902	2,836	2,840
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	209,3	247,4	301,3	328,2	379,0	424,2
EER	(1)(2)	kW/kW	2,770	2,780	2,830	2,860	2,800	2,810
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	219,8	261,0	311,6	342,6	399,6	438,3
Total power input	(3)	kW	69,66	84,00	95,98	105,5	126,7	135,8
COP	(3)	kW/kW	3,154	3,107	3,246	3,247	3,154	3,228
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	220,5	262,0	312,7	344,0	401,1	439,5
COP	(2)(3)	kW/kW	3,130	3,080	3,220	3,220	3,130	3,210
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	427,5
Total power input	(4)	kW	63,13	75,25	90,73	96,42	115,9	126,9
Recovery heat exchanger capacity	(4)	kW	267,9	318,8	389,9	420,0	490,3	546,8
TER		kW/kW	7,553	7,539	7,657	7,774	7,522	7,678
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	157	213	221	244	285	314
SCOP	(8)(9)		3,36	3,20	3,40	3,47	3,35	3,49
Performance ηs	(8)(10)	%	131	125	133	136	131	137
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	10,04	11,88	14,46	15,75	18,19	20,33
Pressure drop	(1)	kPa	28,8	40,2	36,6	43,4	40,3	27,9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	10,61	12,60	15,04	16,54	19,29	21,16
Pressure drop	(3)	kPa	32,1	45,2	39,6	47,9	45,3	30,2
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	108	129	155	184	191	198
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	65	65	65	66	66	66
Sound power level in cooling	(12)(13)	dB(A)	97	97	97	98	99	99
Sound power level in heating	(12)(14)	dB(A)	97	97	97	98	99	99
SIZE AND WEIGHT								
A	(15)	mm	4610	4610	5610	5610	6610	6610
B	(15)	mm	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(15)	kg	3600	3870	4620	5040	5520	5670

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

ERACS2-Q-G05-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-G05-Y /CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	482,7	525,0	553,8	624,1	701,4	825,6
Total power input	(1)	kW	161,8	173,6	182,3	209,0	231,2	274,4
EER	(1)	kW/kW	2,983	3,024	3,038	2,986	3,034	3,009
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	481,6	523,7	552,3	622,9	699,7	823,6
EER	(1)(2)	kW/kW	2,960	2,990	3,000	2,960	3,000	2,980
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	496,9	546,8	576,4	617,8	718,5	833,8
Total power input	(3)	kW	154,8	165,5	175,5	185,2	215,7	249,9
COP	(3)	kW/kW	3,210	3,304	3,284	3,336	3,331	3,337
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	498,1	548,3	578,1	619,0	720,4	835,9
COP	(2)(3)	kW/kW	3,190	3,280	3,260	3,320	3,310	3,320
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	139,3	150,9	159,8	177,6	201,5	238,0
Recovery heat exchanger capacity	(4)	kW	614,5	663,4	700,5	798,1	890,5	1050
TER		kW/kW	7,882	7,853	7,829	8,046	7,901	7,882
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	699,7	823,6
SEPR	(5)(7)		-	-	-	-	5,00	5,01
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	362	391	357	400	-	-
SCOP	(8)(9)		3,42	3,54	3,55	3,55	-	-
Performance ηs	(8)(10)	%	134	139	139	139	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	23,09	25,11	26,49	29,84	33,54	39,48
Pressure drop	(1)	kPa	26,7	29,0	32,3	23,1	30,5	30,9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,99	26,39	27,82	29,82	34,68	40,25
Pressure drop	(3)	kPa	28,8	32,1	35,6	23,1	32,6	32,1
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	219	242	276	291	322	380
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	66	68	68	68	68	69
Sound power level in cooling	(12)(13)	dB(A)	99	101	101	101	101	102
Sound power level in heating	(12)(14)	dB(A)	99	101	101	101	101	102
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7580	8060	8160	8600	9160	11380

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

ERACS2-Q-G05-Y /LN-CA			1062	1162	1362	1562	1762	1962
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	204,9	241,0	293,8	321,8	369,3	413,6
Total power input	(1)	kW	73,65	88,06	107,2	113,3	135,7	149,9
EER	(1)	kW/kW	2,780	2,736	2,741	2,840	2,721	2,759
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	204,3	240,1	292,9	320,6	368,1	412,6
EER	(1)(2)	kW/kW	2,750	2,700	2,710	2,800	2,690	2,730
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	219,8	261,0	311,6	342,6	399,6	438,3
Total power input	(3)	kW	69,66	84,00	95,98	105,5	126,7	135,8
COP	(3)	kW/kW	3,154	3,107	3,246	3,247	3,154	3,228
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	220,5	262,0	312,7	344,0	401,1	439,5
COP	(2)(3)	kW/kW	3,130	3,080	3,220	3,220	3,130	3,210
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	427,5
Total power input	(4)	kW	63,13	75,25	90,73	96,42	115,9	126,9
Recovery heat exchanger capacity	(4)	kW	267,9	318,8	389,9	420,0	490,3	546,8
TER		kW/kW	7,553	7,539	7,657	7,774	7,522	7,678
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	157	213	221	244	285	314
SCOP	(8)(9)		3,36	3,20	3,40	3,47	3,35	3,49
Performance ηs	(8)(10)	%	131	125	133	136	131	137
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	9,797	11,52	14,05	15,39	17,66	19,78
Pressure drop	(1)	kPa	27,4	37,9	34,5	41,4	38,0	26,4
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	10,61	12,60	15,04	16,54	19,29	21,16
Pressure drop	(3)	kPa	32,1	45,2	39,6	47,9	45,3	30,2
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	101	129	156	184	197	221
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	58	59	59	60	59	59
Sound power level in cooling	(12)(13)	dB(A)	90	91	91	92	92	92
Sound power level in heating	(12)(14)	dB(A)	91	92	92	93	93	93
SIZE AND WEIGHT								
A	(15)	mm	4610	4610	5610	5610	6610	6610
B	(15)	mm	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(15)	kg	3600	3870	4620	5040	5520	5670

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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ERACS2-Q-G05-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-G05-Y /LN-CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	468,7	513,4	541,3	603,9	683,8	799,5
Total power input	(1)	kW	169,5	174,5	184,7	214,7	234,7	285,9
EER	(1)	kW/kW	2,765	2,942	2,931	2,813	2,914	2,796
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	467,7	512,2	539,9	602,8	682,2	797,7
EER	(1)(2)	kW/kW	2,740	2,920	2,900	2,790	2,890	2,770
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	496,9	546,8	576,4	617,8	718,5	833,8
Total power input	(3)	kW	154,8	165,5	175,5	185,2	215,7	249,9
COP	(3)	kW/kW	3,210	3,304	3,284	3,336	3,331	3,337
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	498,1	548,3	578,1	619,0	720,4	835,9
COP	(2)(3)	kW/kW	3,190	3,280	3,260	3,320	3,310	3,320
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	139,3	150,9	159,8	177,6	201,5	238,0
Recovery heat exchanger capacity	(4)	kW	614,5	663,4	700,5	798,1	890,5	1050
TER		kW/kW	7,882	7,853	7,829	8,046	7,901	7,882
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	682,2	797,7
SEPR	(5)(7)		-	-	-	-	5,11	5,21
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	370,7	428,2
SEPR	(6)(7)		-	-	-	-	3,22	3,22
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	362	391	357	400	-	-
SCOP	(8)(9)		3,42	3,54	3,55	3,55	-	-
Performance ηs	(8)(10)	%	134	139	139	139	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	22,42	24,55	25,89	28,88	32,70	38,23
Pressure drop	(1)	kPa	25,1	27,7	30,8	21,6	29,0	29,0
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,99	26,39	27,82	29,82	34,68	40,25
Pressure drop	(3)	kPa	28,8	32,1	35,6	23,1	32,6	32,1
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	230	236	276	288	322	368
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	60	62	62	62	62	63
Sound power level in cooling	(12)(13)	dB(A)	93	95	95	95	95	96
Sound power level in heating	(12)(14)	dB(A)	94	96	96	96	96	97
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7580	8060	8160	8600	9160	11380

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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ERACS2-Q-G05-Y /SL-CA			1062	1162	1362	1562	1762	1962
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	199,5	233,2	283,4	313,8	356,0	401,4
Total power input	(1)	kW	75,71	91,26	113,2	117,5	143,1	155,5
EER	(1)	kW/kW	2,635	2,554	2,504	2,671	2,488	2,581
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	198,9	232,4	282,5	312,7	354,9	400,5
EER	(1)(2)	kW/kW	2,610	2,520	2,480	2,640	2,460	2,560
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	213,3	253,5	303,9	333,4	389,1	426,1
Total power input	(3)	kW	67,43	81,70	93,71	102,5	123,5	132,0
COP	(3)	kW/kW	3,165	3,103	3,243	3,253	3,151	3,228
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	214,0	254,5	304,9	334,7	390,5	427,2
COP	(2)(3)	kW/kW	3,140	3,080	3,220	3,220	3,130	3,210
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	427,5
Total power input	(4)	kW	63,13	75,25	90,73	96,42	115,9	126,9
Recovery heat exchanger capacity	(4)	kW	267,9	318,8	389,9	420,0	490,3	546,8
TER		kW/kW	7,553	7,539	7,657	7,774	7,522	7,678
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	153	207	217	238	279	307
SCOP	(8)(9)		3,36	3,21	3,40	3,48	3,35	3,49
Performance ηs	(8)(10)	%	131	125	133	136	131	137
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	9,540	11,15	13,55	15,00	17,02	19,20
Pressure drop	(1)	kPa	26,0	35,4	32,1	39,4	35,3	24,8
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	10,30	12,24	14,67	16,09	18,78	20,57
Pressure drop	(3)	kPa	30,2	42,7	37,6	45,3	43,0	28,5
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	101	122	148	179	186	198
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	54	55	55	56	55	55
Sound power level in cooling	(12)(13)	dB(A)	86	87	87	88	88	88
Sound power level in heating	(12)(14)	dB(A)	87	88	88	89	89	89
SIZE AND WEIGHT								
A	(15)	mm	4610	4610	5610	5610	6610	6610
B	(15)	mm	2220	2220	2220	2220	2220	2220
H	(15)	mm	2150	2420	2430	2430	2430	2430
Operating weight	(15)	kg	3600	3870	4620	5040	5520	5670

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

ERACS2-Q-G05-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-G05-Y /SL-CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	464,1	509,0	537,1	597,3	677,7	790,4
Total power input	(1)	kW	172,5	177,2	187,6	218,6	238,5	292,8
EER	(1)	kW/kW	2,690	2,872	2,863	2,732	2,842	2,699
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	463,1	507,8	535,7	596,2	676,1	788,6
EER	(1)(2)	kW/kW	2,670	2,850	2,830	2,710	2,820	2,680
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	490,7	541,1	569,7	605,5	710,1	823,6
Total power input	(3)	kW	153,4	164,0	174,0	183,4	213,8	247,7
COP	(3)	kW/kW	3,199	3,299	3,274	3,302	3,321	3,325
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	491,9	542,5	571,3	606,7	711,9	825,6
COP	(2)(3)	kW/kW	3,180	3,280	3,250	3,290	3,300	3,310
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	139,3	150,9	159,8	177,6	201,5	238,0
Recovery heat exchanger capacity	(4)	kW	614,5	663,4	700,5	798,1	890,5	1050
TER		kW/kW	7,882	7,853	7,829	8,046	7,901	7,882
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	-	-	676,1	788,6
SEPR	(5)(7)		-	-	-	-	5,09	5,18
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	-	-	368,4	424,8
SEPR	(6)(7)		-	-	-	-	3,24	3,22
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	363	390	359	400	-	-
SCOP	(8)(9)		3,44	3,55	3,57	3,56	-	-
Performance ηs	(8)(10)	%	135	139	140	139	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	22,19	24,34	25,68	28,56	32,41	37,80
Pressure drop	(1)	kPa	24,6	27,3	30,3	21,1	28,5	28,3
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,69	26,12	27,50	29,23	34,28	39,76
Pressure drop	(3)	kPa	28,1	31,4	34,8	22,1	31,8	31,3
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	230	236	265	276	299	357
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	56	58	58	58	58	59
Sound power level in cooling	(12)(13)	dB(A)	89	91	91	91	91	92
Sound power level in heating	(12)(14)	dB(A)	90	92	92	92	92	93
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7670	8150	8250	8690	9260	11480

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, outdoors.
14 Sound power level in heating, outdoors.
15 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

ERACS2-Q-G05-Y /XL-CA			2022	2222	2422	2622	2722	3222
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
Cooling capacity	(1)	kW	454,5	500,5	528,4	583,9	665,4	772,4
Total power input	(1)	kW	174,0	176,8	187,8	221,1	239,6	299,1
EER	(1)	kW/kW	2,612	2,831	2,814	2,641	2,777	2,582
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	453,5	499,4	527,1	582,9	663,9	770,7
EER	(1)(2)	kW/kW	2,590	2,810	2,790	2,620	2,750	2,560
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(3)	kW	490,7	541,1	569,7	612,8	710,1	823,6
Total power input	(3)	kW	148,7	158,4	168,4	177,8	207,2	240,2
COP	(3)	kW/kW	3,300	3,416	3,383	3,447	3,427	3,429
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	491,9	542,5	571,3	614,0	711,9	825,6
COP	(2)(3)	kW/kW	3,280	3,390	3,360	3,430	3,410	3,410
COOLING WITH TOTAL HEAT RECOVERY								
Cooling capacity	(4)	kW	483,5	521,5	550,3	631,2	701,1	826,1
Total power input	(4)	kW	139,3	150,9	159,8	177,6	201,5	238,0
Recovery heat exchanger capacity	(4)	kW	614,5	663,4	700,5	798,1	890,5	1050
TER		kW/kW	7,882	7,853	7,829	8,046	7,901	7,882
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Process refrigeration at high temperature								
Prated,c	(5)	kW	-	-	527,1	582,9	663,9	770,7
SEPR	(5)(7)		-	-	5,46	5,11	5,24	5,34
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)								
Process refrigeration at medium temperature								
Prated,c	(6)	kW	-	-	287,1	315,8	363,7	418,2
SEPR	(6)(7)		-	-	3,69	3,49	3,41	3,38
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)								
PDesign	(8)	kW	363	390	-	-	-	-
SCOP	(8)(9)		3,66	3,82	-	-	-	-
Performance ηs	(8)(10)	%	144	150	-	-	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
Water flow	(1)	l/s	21,73	23,93	25,27	27,92	31,82	36,94
Pressure drop	(1)	kPa	23,6	26,4	29,4	20,2	27,4	27,1
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow	(3)	l/s	23,69	26,12	27,50	29,58	34,28	39,76
Pressure drop	(3)	kPa	28,1	31,4	34,8	22,7	31,8	31,3
REFRIGERANT CIRCUIT								
Compressors nr.		N°	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2
Refrigerant charge		kg	213	236	269	276	313	368
NOISE LEVEL								
Sound Pressure	(11)	dB(A)	52	54	54	54	54	55
Sound power level in cooling	(12)(13)	dB(A)	85	87	87	87	87	88
Sound power level in heating	(12)(14)	dB(A)	86	88	88	88	88	89
SIZE AND WEIGHT								
A	(15)	mm	6300	7200	7200	7200	8400	9700
B	(15)	mm	2260	2260	2260	2260	2260	2260
H	(15)	mm	2350	2350	2350	2350	2350	2350
Operating weight	(15)	kg	7790	8260	8350	8790	9340	11580

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
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ERACS2-Q-G05-Y

INTEGRA unit for 4-pipe systems, air source for outdoor installation

1062 - 3222 199,5-825,6 kW

ERACS2-Q-G05-Y /XL-CA-E			1062	1162	1362	1562	1762	2022	2222	2422	2622
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	204,3	247,2	293,3	319,4	366,3	472,5	509,5	541,3	611,3
Total power input	(1)	kW	69,43	80,30	103,8	109,1	132,7	158,5	169,6	176,3	201,4
EER	(1)	kW/kW	2,944	3,078	2,826	2,928	2,760	2,981	3,004	3,070	3,035
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	203,7	246,3	292,4	318,3	365,1	471,4	508,3	539,9	610,1
EER	(1)(2)	kW/kW	2,910	3,030	2,790	2,890	2,730	2,950	2,980	3,040	3,010
ESEER	(1)(2)	kW/kW	-	-	-	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	220,4	269,9	311,2	343,7	396,8	517,8	557,2	593,9	650,2
Total power input	(3)	kW	65,08	80,96	92,20	99,37	121,2	151,7	160,5	170,7	183,0
COP	(3)	kW/kW	3,386	3,332	3,375	3,458	3,274	3,413	3,472	3,479	3,553
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	221,1	271,0	312,3	345,1	398,3	519,2	558,7	595,7	651,6
COP	(2)(3)	kW/kW	3,360	3,300	3,350	3,420	3,250	3,390	3,450	3,450	3,530
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(4)	kW	208,6	248,1	304,6	329,4	381,4	483,5	521,5	550,3	631,2
Total power input	(4)	kW	63,13	75,25	90,73	96,42	115,9	139,3	150,9	159,8	177,6
Recovery heat exchanger capacity	(4)	kW	267,9	318,8	389,9	420,0	490,3	614,5	663,4	700,5	798,1
TER		kW/kW	7,553	7,539	7,657	7,774	7,522	7,882	7,853	7,829	8,046
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(5)	kW	-	-	-	-	-	-	-	539,9	610,1
SEPR	(5)(7)		-	-	-	-	-	-	-	5,67	5,28
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(6)	kW	-	-	-	-	-	-	-	292,2	327,0
SEPR	(6)(7)		-	-	-	-	-	-	-	3,81	3,58
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(8)	kW	156	188	221	242	283	367	374	-	-
SCOP	(8)(9)		3,74	3,42	3,60	3,81	3,56	3,75	3,78	-	-
Performance ηs	(8)(10)	%	146	134	141	149	139	147	148	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	9,771	11,82	14,03	15,28	17,52	22,60	24,37	25,89	29,23
Pressure drop	(1)	kPa	27,2	39,8	34,4	40,8	37,4	25,5	27,3	30,8	22,1
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(3)	l/s	10,64	13,03	15,02	16,59	19,15	25,00	26,90	28,67	31,38
Pressure drop	(3)	kPa	32,3	48,4	39,5	48,2	44,7	31,3	33,3	37,8	25,5
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	122	158	198	204	232	242	253	269	291
NOISE LEVEL											
Sound Pressure	(11)	dB(A)	53	54	54	54	54	53	55	55	55
Sound power level in cooling	(12)(13)	dB(A)	85	86	86	87	87	86	88	88	88
Sound power level in heating	(12)(14)	dB(A)	86	87	87	88	88	87	89	89	89
SIZE AND WEIGHT											
A	(15)	mm	4610	5610	5610	6610	6610	8400	9300	9300	9300
B	(15)	mm	2220	2220	2220	2220	2220	2260	2260	2260	2260
H	(15)	mm	2420	2430	2430	2430	2430	2350	2350	2350	2350
Operating weight	(15)	kg	3900	4490	4830	5590	5730	8510	8720	8890	9400

Notes

0 Cancel
1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
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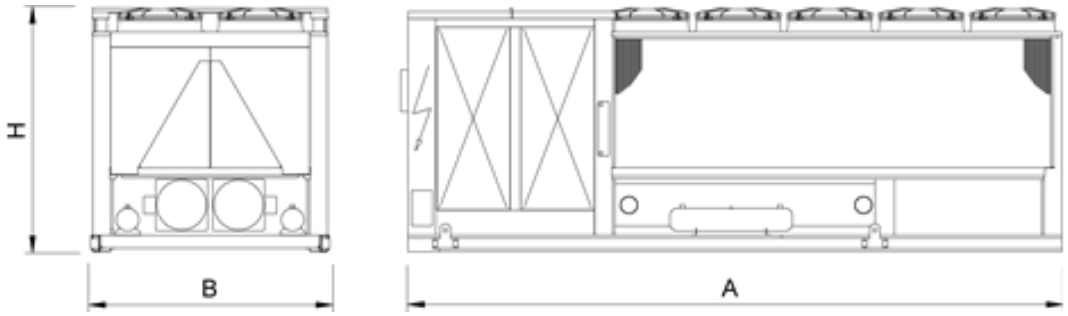
Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

i-FX-Q2-Y

0502 - 1102 442,9-1125 kW

INTEGRA unit for 4-pipe systems, air source, VSD screw compressors and EC fans, for outdoor installation

Full inverter multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water in two independent hydronic circuits. These units are able to simultaneously satisfy the demand for hot and cold water through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. Each circuit works with a variable speed drive semi-hermetic screw compressor using R134a, two shell and tubes heat exchangers and a source side coil heat exchanger shared by both circuits. The cold side shell and tube heat exchanger acts as an evaporator for the production of cold water, while the hot side shell and tube heat exchanger works as a condenser for the production of hot water. The source side auxiliary finned coil works as either condenser or evaporator as required by the loads.

Control

W3000TE

W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms. Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with the remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organised into time bands to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points.

Refrigerant

R134a

Versions

CA	Class A of efficiency	XL-CA	eXtra Low noise version, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency		

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

VERY HIGH EFFICIENCY

High full load and partial load efficiency in both heating and cooling mode, using inverter technology to continuously modulate compressors operation and EC fans as standard, in order to deliver the exact amount of energy based on the actual needs of the plant. High efficiency means reduced energy consumption throughout the entire year, for any operation mode and any outdoor condition.

ErP READY

The highest level of efficiency at part load, thanks to the inverter technology, can meet and exceed the minimum Seasonal Coefficent Of Performance, SCOP, (only for reversible units) and the Seasonal Energy Performance Ratio, SEPR, in accordance with the eco-sustainable design requirements for all products using energy.

WIDE OPERATING RANGE

Unit´s operation guaranteed with external air temperature down to -12°C during winter and up to 46°C during summer. Production of hot water up to 60°C without accessories and chilled water from -8°C to +18°C in order to suit any possible application.

HARMONY BETWEEN UNIT AND PLANT

Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

TRUE SILENCE

At partial loads (ie for most of the year), thanks to the use of EC fans and VSD screw compressors, i-FX-Q2-Y units are characterized by lower noise emissions compared to fixed speed units.

FLEXIBLE SELECTION

i-FX-Q2-Y units can be selected beyond the nominal point, giving the possibility to contain the initial investment (boost selection) or to enphasize even more the efficiencies (derating selection).

Accessories

- "LT" kit for working down to -12°C in heat pump mode
- Noise reducer (only on not silenced versions)
- Special fan diffusers
- Thicker soundproofing cladding
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Touch Screen visual display
- Leak detector

i-FX-Q2-Y CA			0502	0532	0602	0652	0702	0802	0902	1002	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
SELECTION RANGE (GROSS VALUE)											
Cooling capacity range	(1)	kW									
EER (up to)	(1)	kW/kW									
Heating capacity range	(2)	kW									
COP (up to)	(2)	kW/kW									
SELECTION RATED											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)(3)	kW	520,5	536,1	570,0	670,8	712,2	787,4	982,0	1048	1125
Total power input	(1)	kW	173,4	174,1	181,7	220,9	229,8	251,4	331,2	342,7	395,2
EER	(1)(3)	kW/kW	3,002	3,079	3,137	3,037	3,099	3,132	2,965	3,058	2,847
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(3)(4)	kW	485,9	529,2	568,5	624,8	686,6	785,6	912,3	982,3	1079
EER	(1)(3)(4)	kW/kW	3,100	3,100	3,100	3,100	3,100	3,100	3,140	3,120	2,970
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(2)(3)	kW	491,9	491,9	525,7	637,5	678,1	757,2	930,6	978,9	1060
Total power input	(2)(3)	kW	146,7	146,7	153,6	187,6	197,6	215,5	282,2	298,9	318,9
COP	(2)(3)	kW/kW	3,353	3,353	3,423	3,398	3,432	3,514	3,298	3,275	3,324
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)(4)	kW	459,5	487,4	526,7	594,0	654,1	759,1	864,6	930,9	1020
COP	(2)(3)(4)	kW/kW	3,420	3,380	3,410	3,450	3,430	3,490	3,440	3,480	3,460
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(3)(5)	kW	527,3	539,2	571,2	676,3	708,6	784,8	991,2	1054	1145
Total power input	(3)(5)	kW	152,0	154,9	160,9	192,8	201,4	221,3	286,0	299,7	327,9
Recovery heat exchanger capacity	(3)(5)	kW	670,2	684,8	722,4	857,5	897,9	992,8	1260	1336	1453
TER	(3)(5)	kW/kW	7,882	7,902	8,042	7,956	7,974	8,034	7,871	7,978	7,923
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(6)	kW	-	-	-	624,8	686,6	785,6	912,3	982,3	-
SEPR	(6)(8)		-	-	-	5,23	5,25	5,66	5,09	5,01	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(7)	kW	-	-	-	318,8	350,9	410,3	480,1	518,4	575,1
SEPR	(7)(8)		-	-	-	3,23	3,26	3,23	3,24	3,29	3,23
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(3)(9)	kW	340	364	390	-	-	-	-	-	-
SCOP	(3)(9)(10)		3,91	3,92	3,89	-	-	-	-	-	-
Performance ηs	(3)(9)(11)	%	153	154	153	-	-	-	-	-	-
Seasonal efficiency class	(3)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)(3)	l/s	23,31	25,41	27,26	29,97	32,95	37,65	43,76	47,12	51,77
Pressure drop	(1)(3)	kPa	40,8	51,6	32,5	40,5	45,4	29,0	39,7	42,3	51,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(2)(3)	l/s	22,13	23,47	25,38	28,61	31,49	36,55	41,61	44,81	49,14
Pressure drop	(2)(3)	kPa	22,5	25,4	21,4	27,0	32,0	32,2	41,7	34,9	30,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Regulation			STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
Refrigerant			R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Refrigerant charge		kg	230	235	240	260	260	325	350	470	470
NOISE LEVEL											
Sound Pressure	(3)(12)	dB(A)	67	67	68	69	69	68	70	70	70
Sound power level in cooling	(3)(13)(14)	dB(A)	100	100	101	102	102	101	103	103	103
Sound power level in heating	(3)(13)(15)	dB(A)	100	100	101	102	102	101	103	103	103
SIZE AND WEIGHT											
A	(16)	mm	8150	8150	8900	9650	10400	10400	10400	11900	11900
B	(16)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(16)	mm	2530	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(16)	kg	8350	8380	9080	9590	10060	11010	12310	14110	14150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
3 Unit performance with inverter compressor at nominal speed.
4 Values in compliance with EN14511
5 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio
9 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
10 Seasonal coefficient of performance
11 Seasonal space heating energy efficiency
12 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
13 Sound power on the basis of measurements made in compliance with ISO 9614.
14 Sound power level in cooling, outdoors.
15 Sound power level in heating, outdoors.
16 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-Q2-Y

INTEGRA unit for 4-pipe systems, air source, VSD screw compressors and EC fans, for outdoor installation

0502 - 1102 442,9-1125 kW

i-FX-Q2-Y SL-CA			0502	0532	0602	0652	0702	0802	0902	1002	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
SELECTION RANGE (GROSS VALUE)											
Cooling capacity range	(1)	kW									
EER (up to)	(1)	kW/kW									
Heating capacity range	(2)	kW									
COP (up to)	(2)	kW/kW									
SELECTION RATED											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)(3)	kW	498,6	513,3	549,0	646,7	686,7	765,6	905,4	981,9	1039
Total power input	(1)	kW	175,5	176,4	181,1	220,1	226,2	250,8	308,6	333,3	370,2
EER	(1)(3)	kW/kW	2,841	2,910	3,031	2,938	3,036	3,053	2,934	2,946	2,807
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(3)(4)	kW	466,1	506,6	547,6	602,3	662,8	763,9	878,7	949,1	1036
EER	(1)(3)(4)	kW/kW	2,980	2,960	3,000	3,040	3,060	3,030	2,970	2,980	2,770
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(2)(3)	kW	487,2	487,2	520,9	631,0	672,2	748,8	872,9	939,5	1008
Total power input	(2)(3)	kW	144,7	144,7	151,4	184,9	194,7	212,4	254,7	272,1	288,7
COP	(2)(3)	kW/kW	3,367	3,367	3,441	3,413	3,452	3,525	3,427	3,453	3,492
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)(4)	kW	455,0	482,7	521,9	588,3	648,5	750,7	854,1	921,6	1010
COP	(2)(3)(4)	kW/kW	3,440	3,390	3,420	3,470	3,450	3,500	3,450	3,490	3,470
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(3)(5)	kW	527,3	539,2	571,2	676,3	708,6	784,8	945,4	1021	1102
Total power input	(3)(5)	kW	152,0	154,9	160,9	192,8	201,4	221,3	269,3	287,0	309,7
Recovery heat exchanger capacity	(3)(5)	kW	670,2	684,8	722,4	857,5	897,9	992,8	1199	1291	1393
TER	(3)(5)	kW/kW	7,882	7,902	8,042	7,956	7,974	8,034	7,961	8,056	8,053
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(6)	kW	-	-	-	602,3	662,8	763,9	878,7	949,1	-
SEPR	(6)(8)		-	-	-	5,30	5,30	5,41	5,08	5,01	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(7)	kW	-	-	-	310,1	341,7	402,3	469,4	506,3	559,5
SEPR	(7)(8)		-	-	-	3,31	3,33	3,22	3,27	3,34	3,31
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(3)(9)	kW	363	363	385	-	-	-	-	-	-
SCOP	(3)(9)(10)		3,99	3,92	4,00	-	-	-	-	-	-
Performance ηs	(3)(9)(11)	%	157	154	157	-	-	-	-	-	-
Seasonal efficiency class	(3)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)(3)	l/s	22,36	24,32	26,26	28,89	31,80	36,61	42,14	45,52	49,69
Pressure drop	(1)(3)	kPa	37,5	47,3	30,2	37,6	42,3	27,4	36,8	39,5	47,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(2)(3)	l/s	21,92	23,25	25,14	28,33	31,22	36,15	41,10	44,37	48,64
Pressure drop	(2)(3)	kPa	22,1	24,9	21,1	26,5	31,5	31,5	40,7	34,2	29,4
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Regulation			STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
Refrigerant			R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Refrigerant charge		kg	230	235	240	260	260	325	350	470	470
NOISE LEVEL											
Sound Pressure	(3)(12)	dB(A)	57	58	58	59	59	59	61	61	59
Sound power level in cooling	(3)(13)(14)	dB(A)	90	91	91	92	92	92	94	94	92
Sound power level in heating	(3)(13)(15)	dB(A)	90	91	91	92	92	92	94	94	92
SIZE AND WEIGHT											
A	(16)	mm	8150	8150	8900	9650	10400	10400	10400	11900	11900
B	(16)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(16)	mm	2530	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(16)	kg	8800	8830	9530	10040	10510	11450	12750	14560	14600

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
3 Unit performance with inverter compressor at nominal speed.
4 Values in compliance with EN14511
5 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio
9 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
10 Seasonal coefficient of performance
11 Seasonal space heating energy efficiency
12 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
13 Sound power on the basis of measurements made in compliance with ISO 9614.
14 Sound power level in cooling, outdoors.
15 Sound power level in heating, outdoors.
16 Unit in standard configuration/execution, without optional accessories.

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Certified data in EUROVENT

i-FX-Q2-Y XL-CA			0502	0532	0602	0652	0702	0802	0902	1002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
SELECTION RANGE (GROSS VALUE)										
Cooling capacity range	(1)	kW								
EER (up to)	(1)	kW/kW								
Heating capacity range	(2)	kW								
COP (up to)	(2)	kW/kW								
SELECTION RATED										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)(3)	kW	442,9	483,5	525,6	571,7	632,6	731,8	847,6	912,3
Total power input	(1)	kW	146,5	162,2	172,2	184,8	203,6	239,2	281,8	302,1
EER	(1)(3)	kW/kW	3,023	2,981	3,052	3,094	3,107	3,059	3,008	3,020
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(3)(4)	kW	441,6	481,8	524,4	570,1	630,7	730,3	845,4	909,8
EER	(1)(3)(4)	kW/kW	2,990	2,940	3,020	3,060	3,070	3,030	2,980	2,990
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(2)(3)	kW	434,0	461,8	502,0	560,3	620,6	721,1	825,1	888,5
Total power input	(2)(3)	kW	124,6	134,2	144,5	159,9	177,5	203,5	235,1	250,2
COP	(2)(3)	kW/kW	3,483	3,441	3,474	3,504	3,496	3,543	3,510	3,551
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)(4)	kW	434,9	462,8	502,9	561,5	622,1	722,8	827,5	890,7
COP	(2)(3)(4)	kW/kW	3,470	3,420	3,460	3,490	3,480	3,520	3,480	3,530
COOLING WITH TOTAL HEAT RECOVERY										
Cooling capacity	(3)(5)	kW	464,1	508,8	548,8	590,8	650,9	751,5	883,4	921,3
Total power input	(3)(5)	kW	129,4	142,5	150,8	164,7	182,5	212,4	247,2	261,8
Recovery heat exchanger capacity	(3)(5)	kW	585,7	642,7	690,5	745,6	822,4	951,2	1116	1167
TER	(3)(5)	kW/kW	8,114	8,077	8,216	8,112	8,071	8,018	8,087	7,979
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(6)	kW	-	-	-	570,1	630,7	730,3	845,4	909,8
SEPR	(6)(8)		-	-	-	5,34	5,35	5,64	5,03	5,03
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(7)	kW	-	-	-	292,5	324,4	383,7	451,4	484,9
SEPR	(7)(8)		-	-	-	3,31	3,33	3,22	3,31	3,43
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(3)(9)	kW	316	343	368	-	-	-	-	-
SCOP	(3)(9)(10)		4,23	4,20	4,26	-	-	-	-	-
Performance ηs	(3)(9)(11)	%	166	165	167	-	-	-	-	-
Seasonal efficiency class	(3)(9)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)(3)	l/s	21,18	23,12	25,14	27,34	30,25	35,00	40,54	43,63
Pressure drop	(1)(3)	kPa	33,7	42,7	27,7	33,7	38,3	25,1	34,1	36,3
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(2)(3)	l/s	20,95	22,29	24,23	27,05	29,96	34,81	39,83	42,89
Pressure drop	(2)(3)	kPa	20,2	22,9	19,6	24,2	29,0	29,2	38,2	31,9
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Regulation			STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
Refrigerant			R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Refrigerant charge		kg	230	235	240	260	260	325	350	470
NOISE LEVEL										
Sound Pressure	(3)(12)	dB(A)	53	54	55	55	55	56	55	56
Sound power level in cooling	(3)(13)(14)	dB(A)	86	87	88	88	88	89	88	89
Sound power level in heating	(3)(13)(15)	dB(A)	87	88	89	89	89	90	89	90
SIZE AND WEIGHT										
A	(16)	mm	8150	8150	8900	9650	10400	10400	10400	11900
B	(16)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(16)	mm	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(16)	kg	8800	8830	9530	10040	10510	11450	12750	14560

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
3 Unit performance with inverter compressor at nominal speed.
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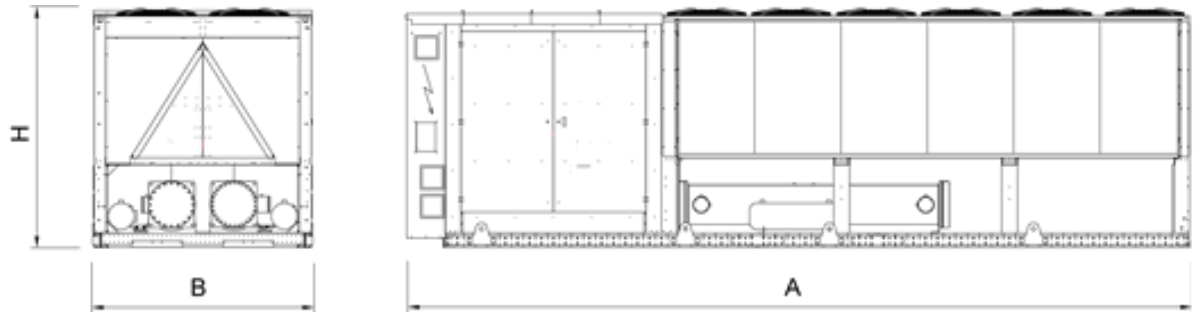
Certified data in EUROVENT

i-FX-Q2-Y

INTEGRA unit for 4-pipe systems, air source, VSD screw compressors and EC fans, for outdoor installation

0502 - 1102 442,9-1125 kW

Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

i-FX-Q2-G05-Y

INTEGRA unit for 4-pipe systems, air source, VSD screw compressors and EC fans, for outdoor installation

0502 - 1102 442,9-1125 kW

Full inverter multi-purpose outdoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water in two independent hydronic circuits. These units are able to simultaneously satisfy the demand for hot and cold water through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants with chiller and boiler. Each circuit works with a variable speed drive semi-hermetic screw compressor using R513A, two shell and tubes heat exchangers and a source side coil heat exchanger shared by both circuits. The cold side shell and tube heat exchanger acts as an evaporator for the production of cold water, while the hot side shell and tube heat exchanger works as a condenser for the production of hot water. The source side auxiliary finned coil works as either condenser or evaporator as required by the loads.

Control

W3000TE

W3000TE control is available with the new KIPlink user interface. Based on WiFi technology, it allows one to operate on the unit directly from the smartphone or tablet. Using KIPlink, it is possible to turn the unit on and off, adjust the set-point, plot the main operating variables, monitor the status of the various components and display / reset the alarms. As alternatives, the Touch interface, with a 7" WVGA colour display and USB port, or the Large keyboard, with a wide LCD display and led icons, are available. Temperature control characterized by the continuous capacity modulation, based on PID algorithms. Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices can perform the adjustment of the resources in systems made of several units. Consumption metering and performance measurement are possible as well. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks. Compatibility with the remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organised into time bands to optimise unit performance by minimising power consumption during periods of inactivity. Up to 10 daily time bands can be associated with different operating set points.

Refrigerant

R513A

Versions

CA	Class A of efficiency	XL-CA	eXtra Low noise version, Class A of efficiency
SL-CA	Super Low noise version, Class A of efficiency		

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

VERY HIGH EFFICIENCY

High full load and partial load efficiency in both heating and cooling mode, using inverter technology to continuously modulate compressors operation and EC fans as standard, in order to deliver the exact amount of energy based on the actual needs of the plant. High efficiency means reduced energy consumption throughout the entire year, for any operation mode and any outdoor condition.

ErP READY

The highest level of efficiency at part load, thanks to the inverter technology, can meet and exceed the minimum Seasonal Coefficent Of Performance, SCOP, (only for reversible units) and the Seasonal Energy Performance Ratio, SEPR, in accordance with the eco-sustainable design requirements for all products using energy.

WIDE OPERATING RANGE

Unit´s operation guaranteed with external air temperature down to -12°C during winter and up to 46°C during summer. Production of hot water up to 60°C without accessories and chilled water from -8°C to +18°C in order to suit any possible application.

HARMONY BETWEEN UNIT AND PLANT

Low inrush current and power factor higher than similar fixed speed units, permit an easy electrical installation which is not stressed during start-up and with no need of extra devices for power factor correction. The use of VSD technology allows the unit to partialize in a stepless way, with consequent lower fluctuations of leaving water temperature.

TRUE SILENCE

At partial loads (ie for most of the year), thanks to the use of EC fans and VSD screw compressors, i-FX-Q2-Y units are characterized by lower noise emissions compared to fixed speed units.

FLEXIBLE SELECTION

i-FX-Q2-Y units can be selected beyond the nominal point, giving the possibility to contain the initial investment (boost selection) or to enphasize even more the efficiencies (derating selection).

Accessories

- "LT" kit for working down to -12°C in heat pump mode
- Noise reducer (only on not silenced versions)
- Special fan diffusers
- Thicker soundproofing cladding
- Hydronic group
- VPF (Variable Primary Flow) system
- Set-up for remote connectivity with ModBus, Echelon, Bacnet, Bacnet over-IP.
- Touch Screen visual display
- Leak detector

i-FX-Q2-G05-Y /CA			0502	0532	0602	0652	0702	0802	0902	1002	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
SELECTION RANGE (GROSS VALUE)											
Cooling capacity range	(1)	kW									
EER (up to)	(1)	kW/kW									
Heating capacity range	(2)	kW									
COP (up to)	(2)	kW/kW									
SELECTION RATED											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)(3)	kW	520,5	536,1	570,0	670,8	712,2	787,4	982,0	1048	1125
Total power input	(1)	kW	180,4	181,2	189,0	229,8	238,9	261,5	344,9	356,6	411,4
EER	(1)(3)	kW/kW	2,885	2,959	3,016	2,919	2,981	3,011	2,847	2,939	2,735
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(3)(4)	kW	485,9	529,2	568,5	624,8	686,6	785,6	912,3	982,3	1079
EER	(1)(3)(4)	kW/kW	2,980	2,980	2,980	2,990	2,980	2,980	3,020	3,000	2,850
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(2)(3)	kW	496,8	496,8	531,0	643,9	684,9	764,8	939,9	988,7	1071
Total power input	(2)(3)	kW	152,9	152,9	160,1	195,5	205,8	224,6	294,3	311,5	332,4
COP	(2)(3)	kW/kW	3,249	3,249	3,317	3,294	3,328	3,405	3,194	3,174	3,222
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)(4)	kW	464,1	492,3	532,0	600,0	660,7	766,8	873,3	940,2	1030
COP	(2)(3)(4)	kW/kW	3,320	3,280	3,300	3,340	3,330	3,380	3,340	3,370	3,350
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(3)(5)	kW	527,3	539,2	571,2	676,3	708,6	784,8	991,2	1054	1145
Total power input	(3)(5)	kW	158,4	161,4	167,6	200,9	209,8	230,6	298,1	312,2	341,7
Recovery heat exchanger capacity	(3)(5)	kW	676,2	690,9	728,8	865,2	905,8	1002	1271	1348	1466
TER	(3)(5)	kW/kW	7,601	7,621	7,757	7,670	7,693	7,745	7,591	7,694	7,641
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(6)	kW	-	-	-	624,8	686,6	785,6	912,3	982,3	-
SEPR	(6)(8)		-	-	-	5,21	5,21	5,66	5,08	5,00	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(7)	kW	-	-	-	318,8	350,9	410,3	480,1	518,4	575,1
SEPR	(7)(8)		-	-	-	3,22	3,24	3,22	3,23	3,28	3,22
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(3)(9)	kW	369	369	389	-	-	-	-	-	-
SCOP	(3)(9)(10)		3,85	3,85	3,83	-	-	-	-	-	-
Performance ηs	(3)(9)(11)	%	151	151	150	-	-	-	-	-	-
Seasonal efficiency class	(3)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)(3)	l/s	23,31	25,41	27,26	29,97	32,95	37,65	43,76	47,12	51,77
Pressure drop	(1)(3)	kPa	40,8	51,6	32,5	40,5	45,4	29,0	39,7	42,3	51,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(2)(3)	l/s	22,35	23,71	25,63	28,89	31,81	36,92	42,02	45,26	49,63
Pressure drop	(2)(3)	kPa	23,0	25,9	21,9	27,6	32,7	32,9	42,6	35,6	30,6
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Regulation			STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
Refrigerant			R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
Refrigerant charge		kg	265	270	276	299	299	374	403	541	541
NOISE LEVEL											
Sound Pressure	(3)(12)	dB(A)	67	67	68	69	69	68	70	70	70
Sound power level in cooling	(3)(13)(14)	dB(A)	100	100	101	102	102	101	103	103	103
Sound power level in heating	(3)(13)(15)	dB(A)	100	100	101	102	102	101	103	103	103
SIZE AND WEIGHT											
A	(16)	mm	8150	8150	8900	9650	10400	10400	10400	11900	11900
B	(16)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(16)	mm	2530	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(16)	kg	8350	8380	9080	9590	10060	11010	12310	14110	14150

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
3 Unit performance with inverter compressor at nominal speed.
4 Values in compliance with EN14511
5 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio
9 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
10 Seasonal coefficient of performance
11 Seasonal space heating energy efficiency
12 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
13 Sound power on the basis of measurements made in compliance with ISO 9614.
14 Sound power level in cooling, outdoors.
15 Sound power level in heating, outdoors.
16 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-Q2-G05-Y

INTEGRA unit for 4-pipe systems, air source, VSD screw compressors and EC fans, for outdoor installation

0502 - 1102 442,9-1125 kW

i-FX-Q2-G05-Y /SL-CA			0502	0532	0602	0652	0702	0802	0902	1002	1102
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
SELECTION RANGE (GROSS VALUE)											
Cooling capacity range	(1)	kW									
EER (up to)	(1)	kW/kW									
Heating capacity range	(2)	kW									
COP (up to)	(2)	kW/kW									
SELECTION RATED											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)(3)	kW	498,6	513,3	549,0	646,7	686,7	765,6	905,4	981,9	1039
Total power input	(1)	kW	183,1	184,0	188,8	229,5	235,8	261,6	322,0	347,6	386,2
EER	(1)(3)	kW/kW	2,723	2,790	2,908	2,818	2,912	2,927	2,812	2,825	2,690
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(3)(4)	kW	466,1	506,6	547,6	602,3	662,8	763,9	878,7	949,1	1036
EER	(1)(3)(4)	kW/kW	2,850	2,840	2,880	2,920	2,930	2,900	2,850	2,860	2,660
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(2)(3)	kW	492,0	492,0	526,1	637,4	678,9	756,3	881,6	948,9	1018
Total power input	(2)(3)	kW	150,9	150,9	157,8	192,7	203,0	221,5	265,7	283,7	301,1
COP	(2)(3)	kW/kW	3,260	3,260	3,334	3,308	3,344	3,414	3,318	3,345	3,381
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)(4)	kW	459,6	487,6	527,1	594,3	654,9	758,2	862,8	930,9	1020
COP	(2)(3)(4)	kW/kW	3,330	3,290	3,320	3,360	3,350	3,390	3,340	3,380	3,360
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(3)(5)	kW	527,3	539,2	571,2	676,3	708,6	784,8	945,4	1021	1102
Total power input	(3)(5)	kW	158,4	161,4	167,6	200,9	209,8	230,6	280,6	299,1	322,7
Recovery heat exchanger capacity	(3)(5)	kW	676,2	690,9	728,8	865,2	905,8	1002	1209	1302	1405
TER	(3)(5)	kW/kW	7,601	7,621	7,757	7,670	7,693	7,745	7,680	7,770	7,766
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(6)	kW	-	-	-	602,3	662,8	763,9	878,7	949,1	-
SEPR	(6)(8)		-	-	-	5,25	5,20	5,40	5,02	5,00	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(7)	kW	-	-	-	310,1	341,7	402,3	469,4	506,3	559,5
SEPR	(7)(8)		-	-	-	3,27	3,26	3,22	3,22	3,32	3,25
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(3)(9)	kW	367	367	389	-	-	-	-	-	-
SCOP	(3)(9)(10)		3,92	3,85	3,94	-	-	-	-	-	-
Performance ηs	(3)(9)(11)	%	154	151	154	-	-	-	-	-	-
Seasonal efficiency class	(3)(9)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)(3)	l/s	22,36	24,32	26,26	28,89	31,80	36,61	42,14	45,52	49,69
Pressure drop	(1)(3)	kPa	37,5	47,3	30,2	37,6	42,3	27,4	36,8	39,5	47,4
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(2)(3)	l/s	22,14	23,48	25,39	28,62	31,53	36,51	41,52	44,81	49,13
Pressure drop	(2)(3)	kPa	22,6	25,4	21,5	27,1	32,1	32,1	41,5	34,9	30,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Regulation			STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
Refrigerant			R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
Refrigerant charge		kg	265	270	276	299	299	374	403	541	541
NOISE LEVEL											
Sound Pressure	(3)(12)	dB(A)	57	58	58	59	59	59	61	61	59
Sound power level in cooling	(3)(13)(14)	dB(A)	90	91	91	92	92	92	94	94	92
Sound power level in heating	(3)(13)(15)	dB(A)	90	91	91	92	92	92	94	94	92
SIZE AND WEIGHT											
A	(16)	mm	8150	8150	8900	9650	10400	10400	10400	11900	11900
B	(16)	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
H	(16)	mm	2530	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(16)	kg	8800	8830	9530	10040	10510	11450	12750	14560	14600

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
3 Unit performance with inverter compressor at nominal speed.
4 Values in compliance with EN14511
5 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio
9 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
10 Seasonal coefficient of performance
11 Seasonal space heating energy efficiency
12 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
13 Sound power on the basis of measurements made in compliance with ISO 9614.
14 Sound power level in cooling, outdoors.
15 Sound power level in heating, outdoors.
16 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

i-FX-Q2-G05-Y /XL-CA			0502	0532	0602	0652	0702	0802	0902	1002
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
SELECTION RANGE (GROSS VALUE)										
Cooling capacity range	(1)	kW								
EER (up to)	(1)	kW/kW								
Heating capacity range	(2)	kW								
COP (up to)	(2)	kW/kW								
SELECTION RATED										
COOLING ONLY (GROSS VALUE)										
Cooling capacity	(1)(3)	kW	442,9	483,5	525,6	571,7	632,6	731,8	847,6	912,3
Total power input	(1)	kW	152,8	169,2	179,6	192,8	212,3	249,5	294,0	315,1
EER	(1)(3)	kW/kW	2,899	2,858	2,927	2,965	2,980	2,933	2,883	2,895
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(3)(4)	kW	441,6	481,8	524,4	570,1	630,7	730,3	845,4	909,8
EER	(1)(3)(4)	kW/kW	2,870	2,820	2,900	2,930	2,940	2,910	2,850	2,860
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(2)(3)	kW	438,3	466,5	507,0	565,9	626,8	728,3	833,4	897,4
Total power input	(2)(3)	kW	129,9	140,0	150,6	166,7	185,0	212,1	245,2	260,8
COP	(2)(3)	kW/kW	3,374	3,332	3,367	3,395	3,388	3,434	3,399	3,441
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)(4)	kW	439,2	467,5	507,9	567,1	628,3	730,0	835,9	899,7
COP	(2)(3)(4)	kW/kW	3,360	3,320	3,350	3,380	3,370	3,410	3,370	3,420
COOLING WITH TOTAL HEAT RECOVERY										
Cooling capacity	(3)(5)	kW	464,1	508,8	548,8	590,8	650,9	751,5	883,4	921,3
Total power input	(3)(5)	kW	134,8	148,4	157,1	171,6	190,1	221,3	257,6	272,8
Recovery heat exchanger capacity	(3)(5)	kW	590,8	648,3	696,5	752,1	829,6	959,6	1126	1178
TER	(3)(5)	kW/kW	7,826	7,796	7,925	7,826	7,785	7,732	7,799	7,694
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Process refrigeration at high temperature										
Prated,c	(6)	kW	-	-	-	570,1	630,7	730,3	845,4	909,8
SEPR	(6)(8)		-	-	-	5,22	5,28	5,63	5,00	5,01
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)										
Process refrigeration at medium temperature										
Prated,c	(7)	kW	-	-	-	292,5	324,4	383,7	451,4	484,9
SEPR	(7)(8)		-	-	-	3,23	3,29	3,23	3,28	3,42
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)										
PDesign	(3)(9)	kW	319	347	372	-	-	-	-	-
SCOP	(3)(9)(10)		4,16	4,12	4,18	-	-	-	-	-
Performance ηs	(3)(9)(11)	%	164	162	164	-	-	-	-	-
Seasonal efficiency class	(3)(9)		-	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
Water flow	(1)(3)	l/s	21,18	23,12	25,14	27,34	30,25	35,00	40,54	43,63
Pressure drop	(1)(3)	kPa	33,7	42,7	27,7	33,7	38,3	25,1	34,1	36,3
HEAT EXCHANGER USER SIDE IN HEATING										
Water flow	(2)(3)	l/s	21,16	22,52	24,47	27,32	30,26	35,15	40,23	43,32
Pressure drop	(2)(3)	kPa	20,6	23,3	19,9	24,7	29,5	29,8	39,0	32,6
REFRIGERANT CIRCUIT										
Compressors nr.		N°	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2
Regulation			STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
Refrigerant			R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
Refrigerant charge		kg	265	270	276	299	299	374	403	541
NOISE LEVEL										
Sound Pressure	(3)(12)	dB(A)	53	54	55	55	55	56	55	56
Sound power level in cooling	(3)(13)(14)	dB(A)	86	87	88	88	88	89	88	89
Sound power level in heating	(3)(13)(15)	dB(A)	87	88	89	89	89	90	89	90
SIZE AND WEIGHT										
A	(16)	mm	8150	8150	8900	9650	10400	10400	10400	11900
B	(16)	mm	2260	2260	2260	2260	2260	2260	2260	2260
H	(16)	mm	2530	2530	2530	2530	2530	2530	2530	2530
Operating weight	(16)	kg	8800	8830	9530	10040	10510	11450	12750	14560

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
3 Unit performance with inverter compressor at nominal speed.
4 Values in compliance with EN14511
5 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
6 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
7 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
8 Seasonal energy efficiency ratio
9 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
10 Seasonal coefficient of performance
11 Seasonal space heating energy efficiency
12 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
13 Sound power on the basis of measurements made in compliance with ISO 9614.
14 Sound power level in cooling, outdoors.
15 Sound power level in heating, outdoors.
16 Unit in standard configuration/execution, without optional accessories.

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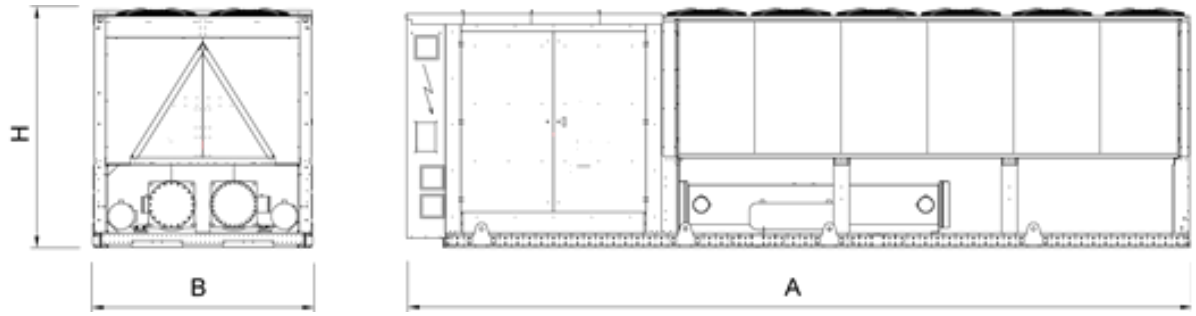
Certified data in EUROVENT

i-FX-Q2-G05-Y

INTEGRA unit for 4-pipe systems, air source, VSD screw compressors and EC fans, for outdoor installation

0502 - 1102 442,9-1125 kW

Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

NECS-WQ-Y

INTEGRA unit for 4-pipe systems, water source

0152 - 1604 48,38-519,8 kW

Multi-purpose indoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent water circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching. Water-source unit equipped with hermetic rotary Scroll compressors, with R410A, plate heat exchangers and thermostatic expansion valve. The range is composed by units equipped with two and four compressors, all with two independent refrigerant circuits.

Control

W3000 large

The controller W3000 large offers the latest control and functions developed directly by Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. on the basis of their experience gained over the years with these particular units and the related plant engineering. The keypad is generously sized with full operating status display. The controls and detailed LCD make access to machine settings easy and safe. Temperature regulation managed on the two water circuits, with a proportional logic referred to the return water temperatures. This allows to satisfy simultaneously the different heating- and cooling requests, with no need of mode changeover. The diagnostics includes full management of alarms with black-box functions and alarm record for better analysis of unit performance. Supervision is easy through Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. devices or with various options for interfacing to ModBus, Bacnet, Echelon LonTalk protocols. Compatibility with remote keyboard (management up to 10 units). Clock available with programming of operation (standard 4 days and 10 time bands). Exclusive self-adaptive defrost logic, monitoring multiple operational- and ambient parameters, which allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R410A

Versions

B Basic

Features

REFRIGERANT GAS R410A

The use of R410A allowed to achive better energy efficiencies with environment full respect (ODP = 0)

INTEGRATED CONDENSATION´S CONTROL

A 2 way valve is supplied as standard for the condensing pressure control. For all the applications in which a constant waterflow through the condenser is needed, a 3-way valve option is also available under request.

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

HOT WATER SUPPLY

Production of hot water up to 55°C to meet the most demanding application needs.

Accessories

- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus, Echelon LonTalk, Bacnet protocol board
- Acoustical enclosure to reduce the noise emissions.
- Water connections directed upwards (for 2 compressors units only)

NECS-WQ-Y			0152	0182	0202	0252	0262	0302	0412	0512	0612
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	48,38	55,59	64,57	73,35	82,77	97,04	126,7	157,7	204,8
Total power input	(1)	kW	8,560	9,730	11,23	13,15	14,69	17,37	22,81	28,16	36,56
EER	(1)	kW/kW	5,654	5,714	5,768	5,561	5,633	5,575	5,557	5,592	5,596
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	45,50	52,20	60,90	69,20	77,90	91,30	118,6	148,5	192,5
EER	(1)(2)	kW/kW	4,420	4,500	4,510	4,430	4,500	4,440	4,440	4,490	4,500
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	52,07	59,68	69,34	79,04	88,88	104,4	134,8	168,8	218,9
Total power input	(3)	kW	12,39	13,78	16,19	18,47	20,37	23,87	31,02	38,41	49,95
COP	(3)	kW/kW	4,202	4,326	4,278	4,270	4,358	4,368	4,348	4,396	4,387
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	52,40	60,00	69,60	79,40	89,30	104,9	135,5	169,6	219,9
COP	(2)(3)	kW/kW	3,970	4,110	4,080	4,070	4,140	4,150	4,130	4,160	4,160
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(4)	kW	40,42	46,72	54,12	61,68	69,73	81,98	105,6	132,7	172,0
Total power input	(4)	kW	12,39	13,78	16,19	18,47	20,37	23,87	31,02	38,41	49,95
Recovery heat exchanger capacity	(4)	kW	52,07	59,68	69,34	79,04	88,88	104,4	134,8	168,8	218,9
TER		kW/kW	7,460	7,710	7,623	7,605	7,775	7,799	7,755	7,852	7,834
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(5)	kW	-	-	-	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(6)	kW	-	-	-	-	-	-	-	-	-
SEPR	(6)(7)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(8)	kW	62,2	71,1	82,8	94,4	106	125	162	202	262
SCOP	(8)(9)		5,71	5,88	5,93	5,74	5,79	5,79	5,73	5,72	5,76
Performance ηs	(8)(10)	%	220	227	229	222	224	224	221	221	222
Seasonal efficiency class	(8)		A++	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,186	2,505	2,923	3,323	3,741	4,387	5,697	7,129	9,242
Pressure drop	(1)	kPa	25,3	22,8	22,4	25,8	28,5	30,2	34,6	37,9	39,2
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	2,643	3,023	3,522	4,017	4,512	5,298	6,881	8,598	11,15
Pressure drop	(1)	kPa	37,0	33,2	32,5	37,6	41,4	44,0	50,4	55,1	57,0
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(4)	l/s	2,513	2,881	3,347	3,815	4,290	5,041	6,506	8,149	10,57
Pressure drop	(4)	kPa	33,5	30,1	29,3	34,0	37,5	39,8	45,1	49,5	51,2
HEAT EXCHANGER SOURCE SIDE IN HEATING											
Water flow	(3)	l/s	1,381	1,596	1,849	2,107	2,382	2,801	3,609	4,534	5,876
Pressure drop	(3)	kPa	10,1	9,25	8,95	10,4	11,5	12,3	13,9	15,3	15,8
REFRIGERANT CIRCUIT											
Compressors nr.		N°	2	2	2	2	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	5,90	6,50	7,20	8,20	8,60	10,3	13,9	16,8	21,2
NOISE LEVEL											
Sound Pressure	(11)	dB(A)	42	43	43	43	44	45	46	47	48
Sound power level in cooling	(12)(13)	dB(A)	73	74	74	74	75	76	77	78	79
Sound power level in heating	(12)(14)	dB(A)	73	74	74	74	75	76	77	78	79
SIZE AND WEIGHT											
A	(15)	mm	1220	1220	1220	1220	1220	1220	1220	1220	1220
B	(15)	mm	877	877	877	877	877	877	877	877	877
H	(15)	mm	1496	1496	1496	1496	1496	1496	1496	1496	1496
Operating weight	(15)	kg	450	470	490	505	525	550	745	825	910

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, indoors.
14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

NECS-WQ-Y

INTEGRA unit for 4-pipe systems, water source

0152 - 1604 48,38-519,8 kW

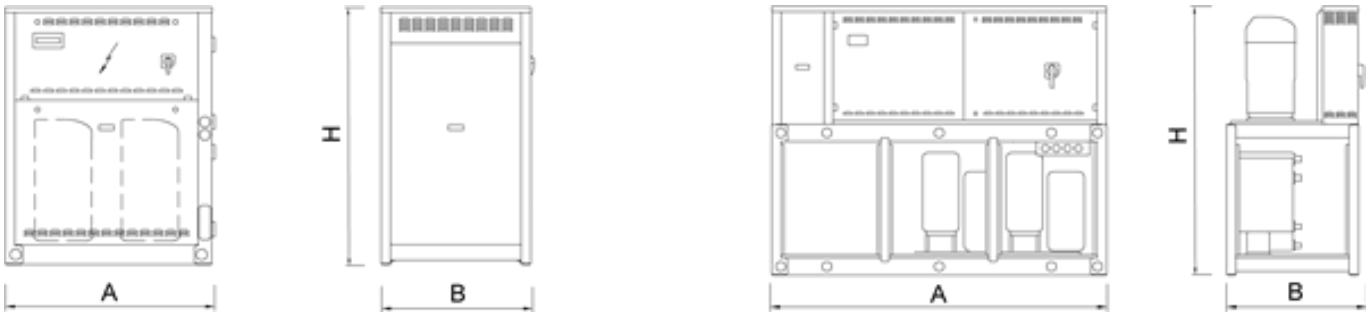
NECS-WQ-Y			0604	0704	0804	0904	1004	1104	1204	1404	1604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
Cooling capacity	(1)	kW	193,2	224,2	254,2	283,9	315,4	362,9	411,7	465,5	519,8
Total power input	(1)	kW	34,74	40,05	45,46	50,86	56,37	64,80	73,04	84,82	96,51
EER	(1)	kW/kW	5,568	5,591	5,587	5,578	5,592	5,600	5,640	5,489	5,387
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	182,0	210,6	238,2	267,0	297,1	341,5	387,4	438,2	489,7
EER	(1)(2)	kW/kW	4,450	4,480	4,500	4,510	4,520	4,520	4,550	4,500	4,480
HEATING ONLY (GROSS VALUE)											
Total heating capacity	(3)	kW	208,2	239,5	270,1	303,3	337,7	388,2	439,7	498,1	556,9
Total power input	(3)	kW	47,72	54,72	61,82	69,22	76,76	88,38	99,60	112,9	126,0
COP	(3)	kW/kW	4,365	4,378	4,371	4,383	4,397	4,391	4,415	4,412	4,420
HEATING ONLY (EN14511 VALUE)											
Total heating capacity	(2)(3)	kW	209,2	240,6	271,3	302,3	339,1	389,8	441,5	497,6	551,3
COP	(2)(3)	kW/kW	4,150	4,160	4,160	4,180	4,180	4,180	4,210	4,210	4,220
COOLING WITH TOTAL HEAT RECOVERY											
Cooling capacity	(4)	kW	163,3	188,1	212,0	238,2	265,6	305,1	346,1	392,0	438,4
Total power input	(4)	kW	47,72	54,72	61,82	69,22	76,76	88,38	99,60	112,9	126,0
Recovery heat exchanger capacity	(4)	kW	208,2	239,5	270,1	303,3	337,7	388,2	439,7	498,1	556,9
TER		kW/kW	7,788	7,817	7,803	7,825	7,855	7,843	7,890	7,883	7,899
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Process refrigeration at high temperature											
Prated,c	(5)	kW	-	-	-	-	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)											
Process refrigeration at medium temperature											
Prated,c	(6)	kW	-	-	-	-	154,9	176,8	199,8	-	-
SEPR	(6)(7)		-	-	-	-	3,48	3,52	3,58	-	-
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)											
PDesign	(8)	kW	248	289	325	-	-	-	-	-	-
SCOP	(8)(9)		5,80	5,65	5,77	-	-	-	-	-	-
Performance ηs	(8)(10)	%	224	218	223	-	-	-	-	-	-
Seasonal efficiency class	(8)		-	-	-	-	-	-	-	-	-
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
Water flow	(1)	l/s	8,735	10,11	11,43	12,81	14,26	16,39	18,59	21,03	23,49
Pressure drop	(1)	kPa	37,3	39,2	38,6	38,3	39,3	39,0	39,4	40,7	39,3
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION											
Water flow	(1)	l/s	10,56	12,20	13,79	15,46	17,20	19,77	22,40	25,38	28,39
Pressure drop	(1)	kPa	54,5	57,1	56,2	55,7	57,1	56,7	57,2	59,3	57,5
HEAT EXCHANGER USER SIDE IN HEATING											
Water flow	(4)	l/s	10,05	11,56	13,04	14,64	16,30	18,74	21,22	24,04	26,88
Pressure drop	(4)	kPa	49,3	51,3	50,2	50,0	51,3	51,0	51,4	53,2	51,5
HEAT EXCHANGER SOURCE SIDE IN HEATING											
Water flow	(3)	l/s	5,580	6,426	7,244	8,139	9,073	10,42	11,82	13,39	14,98
Pressure drop	(3)	kPa	15,2	15,8	15,5	15,5	15,9	15,8	15,9	16,5	16,0
REFRIGERANT CIRCUIT											
Compressors nr.		N°	4	4	4	4	4	4	4	4	4
No. Circuits		N°	2	2	2	2	2	2	2	2	2
Refrigerant charge		kg	22,6	25,2	29,4	29,6	36,1	39,2	43,2	43,6	44,1
NOISE LEVEL											
Sound Pressure	(11)	dB(A)	54	55	56	57	58	59	59	59	59
Sound power level in cooling	(12)(13)	dB(A)	86	87	88	89	90	91	91	91	91
Sound power level in heating	(12)(14)	dB(A)	86	87	88	89	0	0	0	0	0
SIZE AND WEIGHT											
A	(15)	mm	2560	2560	2560	2560	2560	2560	2560	2560	2560
B	(15)	mm	891	891	891	891	891	891	891	891	891
H	(15)	mm	1810	1810	1810	1810	1810	1810	1810	1810	1810
Operating weight	(15)	kg	975	1165	1365	1445	1610	1710	1810	1895	2000

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Seasonal coefficient of performance
10 Seasonal space heating energy efficiency
11 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
12 Sound power on the basis of measurements made in compliance with ISO 9614.
13 Sound power level in cooling, indoors.
14 Sound power level in heating, indoors.
15 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

ERACS2-WQ-Y

INTEGRA unit for 4-pipe systems, water source

0802 - 1502 189,4-363,4 kW

Multi-purpose indoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent water circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching. Each circuit works with a semi-hermetic screw compressor using R134a, and three tube nest heat exchangers, a cold exchanger on the user side shared by both circuits that acts as an evaporator in the production of cold water, a heat exchanger on the user side that words as a condenser in the production of hot water, and a source side exchanger that works as either condenser or evaporator as required by the loads.

Control

Electronic control W3000TE

W3000TE controller feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of various components.

As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet. The regulation operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode setting. Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices adjust the resources in systems made of several units. Consumption metering and performance measurement are available and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity.

Proprietary self-adaptive logic for the defrosting features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R134a

Versions

- Basic

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

WIDE OPERATING RANGE

Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

INTEGRATED CONDENSATION´S CONTROL

A 2 way valve is supplied as standard for the condensing pressure control. For all the applications in which a constant waterflow through the condenser is needed, a 3-way valve option is also available under request.

Accessories

- Integral acoustical enclosure (type base or plus)
- Several devices for condensation´s control
- Electronic expansion valve
- Set-up for remote connectivity with ModBus/Echelon protocol cards

ERACS2-WQ-Y			0802	1002	1102	1302	1502
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	189,4	234,2	268,0	317,9	363,4
Total power input	(1)	kW	35,74	44,93	50,61	59,66	68,69
EER	(1)	kW/kW	5,305	5,216	5,296	5,325	5,290
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	182,0	224,9	256,9	305,5	348,9
EER	(1)(2)	kW/kW	4,600	4,540	4,530	4,610	4,620
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	205,4	254,8	291,2	344,1	392,8
Total power input	(3)	kW	45,73	56,90	65,83	76,27	86,86
COP	(3)	kW/kW	4,495	4,478	4,426	4,510	4,520
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	206,1	255,8	292,6	345,5	394,2
COP	(2)(3)	kW/kW	4,320	4,280	4,190	4,290	4,320
COOLING WITH TOTAL HEAT RECOVERY							
Cooling capacity	(4)	kW	162,4	201,3	229,3	272,4	311,2
Total power input	(4)	kW	45,73	56,90	65,83	76,27	86,86
Recovery heat exchanger capacity	(4)	kW	205,4	254,8	291,2	344,1	392,8
TER		kW/kW	8,046	8,014	7,910	8,081	8,101
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(6)	kW	-	-	-	-	169,7
SEPR	(6)(7)		-	-	-	-	3,44
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(8)	kW	249	309	353	418	-
SCOP	(8)(10)		5,59	5,56	5,18	5,45	-
Performance ηs	(8)(11)	%	215	214	199	210	-
Seasonal efficiency class	(8)		-	-	-	-	-
PDesign	(9)	kW	220	274	315	368	-
SCOP	(9)(10)		4,33	4,46	3,97	4,26	-
Performance ηs	(9)(11)	%	165	170	151	162	-
Seasonal efficiency class	(9)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	8,732	10,79	12,33	14,66	16,73
Pressure drop	(1)	kPa	25,7	32,5	43,4	37,6	33,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	10,51	13,02	14,86	17,62	20,13
Pressure drop	(1)	kPa	37,2	47,2	62,9	54,3	49,1
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(4)	l/s	9,913	12,30	14,06	16,61	18,96
Pressure drop	(4)	kPa	33,1	42,1	56,3	48,3	43,5
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	5,548	6,877	7,835	9,308	10,63
Pressure drop	(3)	kPa	10,4	13,2	17,5	15,2	13,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	40,0	46,0	52,0	58,0	75,0
NOISE LEVEL							
Sound Pressure	(12)	dB(A)	62	63	65	65	65
Sound power level in cooling	(13)(14)	dB(A)	94	95	97	97	97
Sound power level in heating	(13)(15)	dB(A)	94	95	97	97	0
SIZE AND WEIGHT							
A	(16)	mm	3680	3680	3680	3680	3680
B	(16)	mm	1170	1170	1170	1170	1170
H	(16)	mm	1950	1950	1950	1950	1950
Operating weight	(16)	kg	2420	2470	2880	3580	3690

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
10 Seasonal coefficient of performance
11 Seasonal space heating energy efficiency
12 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
13 Sound power on the basis of measurements made in compliance with ISO 9614.
14 Sound power level in cooling, indoors.
15 Sound power level in heating, indoors.
16 Unit in standard configuration/execution, without optional accessories.

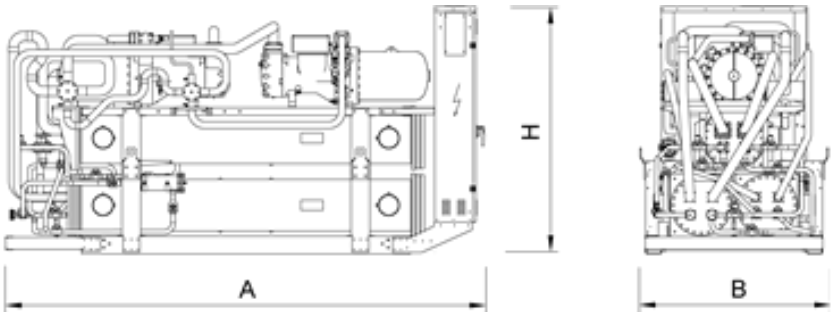
The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.
Certified data in EUROVENT

ERACS2-WQ-Y

INTEGRA unit for 4-pipe systems, water source

0802 - 1502 189,4-363,4 kW

Dimensional drawing



UNITS FOR SIMULTANEOUS AND INDEPENDENT PRODUCTION OF HOT AND COLD WATER

ERACS2-WQ-G05-Y

INTEGRA unit for 4-pipe systems, water source

0802 - 1502 189,4-363,4 kW

Multi-purpose indoor unit for use in 4-pipe systems for the simultaneous production of chilled and hot water by means of two independent water circuits. These units are able to satisfy the demand for hot and cold water simultaneously through a system that does not require seasonal switching. Each circuit works with a semi-hermetic screw compressor using R513A, and three tube nest heat exchangers, a cold exchanger on the user side shared by both circuits that acts as an evaporator in the production of cold water, a heat exchanger on the user side that words as a condenser in the production of hot water, and a source side exchanger that works as either condenser or evaporator as required by the loads.

Control

Electronic control W3000TE

W3000TE controller feature a large format keyboard with wide LCD display in order to ensure an easy access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of various components.

As alternative, the innovative KIPlink user interface allows one to operate on the unit directly from the smartphone or tablet. The regulation operates on both water circuits featuring the step-wise regulation referred to the return water temperature with proportional logic. This allows to satisfy simultaneously the different requests of both cooling and heating, with no need of mode setting. Complete alarm management system is available, with the "black-box" and the alarm history display functions. Optional proprietary devices adjust the resources in systems made of several units. Consumption metering and performance measurement are available and supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, LonWorks.

Compatibility with the remote keyboard (up to 8 units). The programmable timer manages a weekly schedule organised into time bands (up to 10 daily time bands associated with different operating set points) to optimise unit performance by minimising power consumption during periods of inactivity.

Proprietary self-adaptive logic for the defrosting features the monitoring of several operational parameters. This allows to reduce the number and duration of the defrost cycles, with a benefit for the overall energy efficiency.

Refrigerant

R513A

Versions

- Basic

Features

UNIQUE PROPOSAL

Unit designed to satisfy the cold and the hot side requirements simultaneously, for 4-pipe systems without any particular operation mode setting

ENERGY SAVING

Energy saving guaranteed by the advanced operation's logic. The best operation mode is set completely automatically and independently by the unit's controller, in order to minimize the absorbed energy whatever the cooling and/or heating demand might be

WIDE OPERATING RANGE

Supply of hot water in use up to 60°C, offering maximum versatility with respect to different plant engineering solutions

INTEGRATED CONDENSATION´S CONTROL

A 2 way valve is supplied as standard for the condensing pressure control. For all the applications in which a constant waterflow through the condenser is needed, a 3-way valve option is also available under request.

Accessories

- Integral acoustical enclosure (type base or plus)
- Several devices for condensation´s control
- Electronic expansion valve
- Set-up for remote connectivity with ModBus/Echelon protocol cards

ERACS2-WQ-G05-Y			0802	1002	1102	1302	1502
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE							
COOLING ONLY (GROSS VALUE)							
Cooling capacity	(1)	kW	189,4	234,2	268,0	317,9	363,4
Total power input	(1)	kW	37,24	46,82	52,74	62,16	71,58
EER	(1)	kW/kW	5,091	5,004	5,085	5,111	5,075
COOLING ONLY (EN14511 VALUE)							
Cooling capacity	(1)(2)	kW	182,0	224,9	256,9	305,5	348,9
EER	(1)(2)	kW/kW	4,420	4,360	4,350	4,430	4,430
HEATING ONLY (GROSS VALUE)							
Total heating capacity	(3)	kW	207,2	257,0	293,8	347,1	396,3
Total power input	(3)	kW	47,65	59,29	68,60	79,47	90,51
COP	(3)	kW/kW	4,344	4,334	4,283	4,366	4,379
HEATING ONLY (EN14511 VALUE)							
Total heating capacity	(2)(3)	kW	207,9	258,0	295,2	348,5	397,8
COP	(2)(3)	kW/kW	4,180	4,150	4,060	4,160	4,200
COOLING WITH TOTAL HEAT RECOVERY							
Cooling capacity	(4)	kW	162,4	201,3	229,3	272,4	311,2
Total power input	(4)	kW	47,65	59,29	68,60	79,47	90,51
Recovery heat exchanger capacity	(4)	kW	207,2	257,0	293,8	347,1	396,3
TER		kW/kW	7,746	7,728	7,625	7,794	7,817
ENERGY EFFICIENCY							
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)							
Process refrigeration at high temperature							
Prated,c	(5)	kW	-	-	-	-	-
SEPR	(5)(7)		-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2015/1095)							
Process refrigeration at medium temperature							
Prated,c	(6)	kW	-	-	-	-	169,7
SEPR	(6)(7)		-	-	-	-	3,32
SEASONAL EFFICIENCY IN HEATING (Reg. EU 813/2013)							
PDesign	(8)	kW	251	311	355	421	-
SCOP	(8)(10)		5,48	5,45	5,09	5,37	-
Performance ηs	(8)(11)	%	211	210	195	207	-
Seasonal efficiency class	(8)		-	-	-	-	-
PDesign	(9)	kW	222	277	318	372	-
SCOP	(9)(10)		4,27	4,39	3,91	4,19	-
Performance ηs	(9)(11)	%	163	168	149	160	-
Seasonal efficiency class	(9)		-	-	-	-	-
EXCHANGERS							
HEAT EXCHANGER USER SIDE IN REFRIGERATION							
Water flow	(1)	l/s	8,732	10,79	12,33	14,66	16,73
Pressure drop	(1)	kPa	25,7	32,5	43,4	37,6	33,9
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION							
Water flow	(1)	l/s	10,58	13,11	14,96	17,74	20,27
Pressure drop	(1)	kPa	37,7	47,9	63,8	55,1	49,7
HEAT EXCHANGER USER SIDE IN HEATING							
Water flow	(4)	l/s	10,00	12,41	14,18	16,76	19,13
Pressure drop	(4)	kPa	33,7	42,9	57,3	49,1	44,3
HEAT EXCHANGER SOURCE SIDE IN HEATING							
Water flow	(3)	l/s	5,548	6,877	7,835	9,308	10,63
Pressure drop	(3)	kPa	10,4	13,2	17,5	15,2	13,7
REFRIGERANT CIRCUIT							
Compressors nr.		N°	2	2	2	2	2
No. Circuits		N°	2	2	2	2	2
Refrigerant charge		kg	42,0	48,0	55,0	61,0	79,0
NOISE LEVEL							
Sound Pressure	(12)	dB(A)	62	63	65	65	65
Sound power level in cooling	(13)(14)	dB(A)	94	95	97	97	97
Sound power level in heating	(13)(15)	dB(A)	94	95	97	97	0
SIZE AND WEIGHT							
A	(16)	mm	3680	3680	3680	3680	3680
B	(16)	mm	1170	1170	1170	1170	1170
H	(16)	mm	1950	1950	1950	1950	1950
Operating weight	(16)	kg	2420	2470	2880	3580	3690

Notes

1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 14°C/30°C.
2 Values in compliance with EN14511
3 Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger water (in/out) 14°C/7°C.
4 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Plant (side) heat exchanger water (in/out) 40°C/45°C.
5 Seasonal energy efficiency of high temperature process cooling [REGULATION (EU) N. 2016/2281]
6 Seasonal Energy Efficiency of Process Cooling at Medium Temperature [REGULATION (EU) N. 2015/1095]
7 Seasonal energy efficiency ratio
8 Parameter calculated for LOW-TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
9 Parameter calculated for MEDIUM TEMPERATURE application in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013]
10 Seasonal coefficient of performance
11 Seasonal space heating energy efficiency
12 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
13 Sound power on the basis of measurements made in compliance with ISO 9614.
14 Sound power level in cooling, indoors.
15 Sound power level in heating, indoors.
16 Unit in standard configuration/execution, without optional accessories.

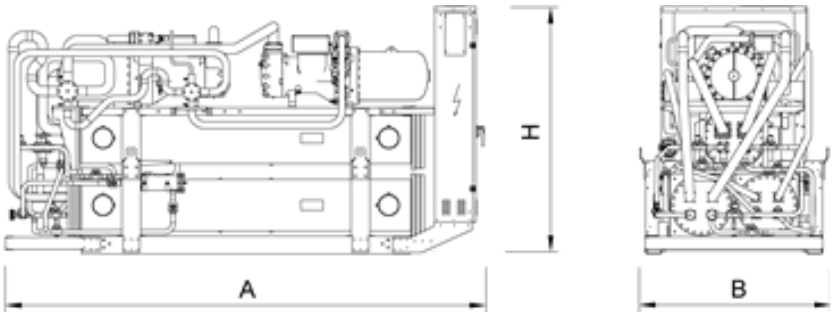
The units highlighted in this publication contain R513A [GWP_{100} 631] fluorinated greenhouse gases.
Certified data in EUROVENT

ERACS2-WQ-G05-Y

INTEGRA unit for 4-pipe systems, water source

0802 - 1502 189,4-363,4 kW

Dimensional drawing



ROOFTOP UNITS

WRX-T-Y	0162 - 0804
WSM-T-Y	0162 - 1204
WSM2-T-Y	0264 - 0604
WSM-T-Y	0082 - 0152
WRX-Y	0162 - 0804
WSM-Y	A082 - A152
WSM2-Y	0264 - 0604
WSM-Y	A164 - A1004

ROOFTOP UNITS

WRX-T-Y

0162 - 0804 50,8-240 kW

Cooling only air cooled Rooftop unit, fully configurable and high efficiency

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
AX	Mixing and Free cooling function with Exhaust air Axial fan
HR-F	Heat Recovery Free: air extractor fan(s), free cooling function and thermodynamic heat recovery from exhaust air flow
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil
HR-P	Heat Recovery Plate function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Plate (cross-flow) heat Exchanger.
HR-E	Heat Recovery Enthalpy function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Rotary Enthalpic Wheel.

Stand-alone cooling only air-to-air rooftop unit, for air treatment, filtration and renewal, , in environments characterized by medium-large surfaces and volumes. The unit is equipped as standard with hermetic scroll compressors, a double independent refrigerant circuit, EC fan plug fans and electronic lamination valves. The structure is specific for outdoor installation, with base and supporting structure consisting of hot-dip galvanized steel sheet profiles of adequate thickness. The vertical structure and outer panelling are painted with polyester powders and the air treatment section is coated with a double layer insulating mat of adequate thickness. The unit, based on the selected configuration, allows the management of the Free-cooling mode with external, recirculation and ejection air motorized dampers. The unit is supplied in one or more modules to be assembled on site, to facilitate transport.

Features

HIGH RELIABILITY

The wide working range, the double refrigerant circuit and the accurate design of the components ensure optimum performance with a continuous and constant operation also during heavy thermoigrometric conditions.

FLEXIBILITY

The unit is available with the opportunity to choose different supply and return airflows directions.

VERSATILITY

Different possibilities for the air treatment chambers; from total recirculation only to mixing with fresh air and extraction from the ambient with heat recovery. Each different configuration can be further customized thanks to a wide range of accessories.

HEAT RECOVERY FROM EXHAUST AIR FLOW

Units can be equipped with 4 different heat recovery systems: : thermodynamic on the exhaust air, thermodynamic type Refrigerant Booster (with additional refrigerant battery placed on the exhaust air flow), cross-flows or with enthalpy wheel.

PLUG-FAN VENTILATION

The supply and return plug fans combine the high efficiency of the ventilation section with an easy and fast installation of the unit, both electrical and aeraulic.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

Control

AIR3000TE

AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Accessories

- Enthalpy free-cooling
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Air flow regulation with CO2 probe
- Integration or substitution heating resources: hot water heating coil, electrical heaters.
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.

WRX-T-Y			0162	0182	0202	0262	0302	0352	0402
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)									
Total cooling capacity	(1)	kW	50,8	58,3	69,0	82,6	97,2	110	121
Total sensible capacity	(1)	kW	43,0	48,4	56,7	67,8	79,5	89,2	97,8
Compressors power input	(1)	kW	12,3	14,0	16,2	21,5	25,4	29,5	32,9
EER (total)	(1)(10)	kW/kW	3,1	3,2	3,2	3,0	3,1	3,0	3,0
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(2)	kW	51,4	58,9	69,7	83,6	98,3	111	123
EER	(1)(2)	kW/kW	3,32	3,35	3,34	3,18	3,24	3,18	3,16
Cooling energy class			A	A	A	A	A	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(6)	kW	51,4	58,9	69,7	83,6	98,3	111	123
SEER	(6)(7)		3,37	3,37	3,46	3,35	3,46	3,44	3,37
Performance ηs	(6)(8)	%	131,65	131,92	135,28	130,97	135,48	134,65	131,69
SUPPLY FANS									
Air flow rate		m³/h	10500	12000	14000	16000	18500	21000	22500
Nominal ESP	(3)	Pa	200	200	200	250	250	250	300
Total power input	(10)	kW	1,93	2,49	2,61	2,85	3,11	3,63	4,05
REFRIGERANT CIRCUIT									
No. Compressors/No. Circuits		N°	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Refrigerant charge	(5)(9)	kg	13,0	16,0	18,0	19,0	23,0	27,0	30,0
NOISE LEVEL									
Unit sound power level	(4)	dB(A)	77	79	82	83	84	86	87
Sound Power on outlet side	(4)	dB(A)	80	83	81	82	82	82	84
SIZE									
Length A	(5)	mm	3400	3400	3400	3850	3850	3850	3850
Width B	(5)	mm	2200	2200	2200	2200	2200	2200	2200
Height H	(5)	mm	2130	2130	2130	2130	2130	2130	2130
Operating weight	(5)	kg	1264	1330	1350	1546	1618	1749	1814

WRX-T-Y			0444	0484	0524	0604	0704	0804
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Total cooling capacity	(1)	kW	142	154	170	189	219	240
Total sensible capacity	(1)	kW	116	127	139	152	176	194
Compressors power input	(1)	kW	35,6	36,2	39,9	50,7	58,9	67,2
EER (total)	(1)(10)	kW/kW	3,2	3,2	3,2	3,0	3,0	2,9
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(2)	kW	144	156	173	192	222	240
EER	(1)(2)	kW/kW	3,31	3,34	3,36	3,06	3,12	3,27
Cooling energy class			-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(6)	kW	144	156	173	192	222	243
SEER	(6)(7)		3,55	3,85	3,80	3,77	3,55	3,69
Performance ηs	(6)(8)	%	138,90	150,88	148,90	147,94	139,03	144,43
SUPPLY FANS								
Air flow rate		m³/h	27000	30000	32500	35000	41000	45000
Nominal ESP	(3)	Pa	300	350	350	350	350	350
Total power input	(10)	kW	4,76	5,24	5,88	6,60	7,46	8,86
REFRIGERANT CIRCUIT								
No. Compressors/No. Circuits		N°	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(5)(9)	kg	39,0	49,0	50,0	51,0	52,0	54,0
NOISE LEVEL								
Unit sound power level	(4)	dB(A)	85	86	86	86	89	90
Sound Power on outlet side	(4)	dB(A)	85	87	88	88	88	0
SIZE								
Length A	(5)	mm	5325	5325	5325	5325	6225	6225
Width B	(5)	mm	2200	2200	2200	2200	2200	2200
Height H	(5)	mm	2130	2130	2130	2130	2130	2130
Operating weight	(5)	kg	2141	2335	2427	2427	3016	3168

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Values in compliance with EN14511
3 ESP for standard configuration (optional accessories not included/calculated).
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Unit in AR configuration and standard execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency
9 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
10 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

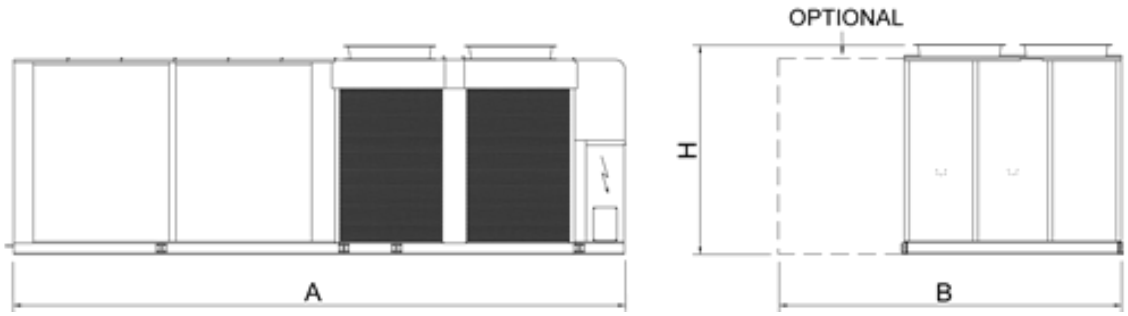
The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

WRX-T-Y

0162 - 0804 50,8-240 kW

Cooling only air cooled Rooftop unit, fully configurable and high efficiency

Dimensional drawing



ROOFTOP UNITS

WSM-T-Y

0162 - 1204 50,9-422 kW

Cooling only air cooled Rooftop unit, fully configurable and high efficiency

Autonomous cooling only air-to-air Rooftop unit, for the thermo-hygrometric treatment, filtration and air renovation, in medium-large surface and volume ambients.
Hermetic rotary scroll compressors with R410A refrigerant; double refrigerant circuit; aluminum structure and coated galvanized steel base; air treatment section with sandwich panel and EC plug fans. According to the selected version, the unit allows for the management of free cooling, with supply and return fans with motorized dampers for return, expulsion and fresh air. The unit is also available with the thermodynamic Refrigerant Booster heat recovery or air-to air Plate type, to recover the energy from the exhaust air, increasing the units capacity and the global efficiency.

Control

AIR3000TE
AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
CE	Function with EC plug fans for extraction and expulsion and Free cooling
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil
HR-P	Heat Recovery Plate function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Plate (cross-flow) heat Exchanger.

Features

FLEXIBILITY
The unit is available with the opportunity to choose different supply and return airflows directions.

HIGH RELIABILITY
The wide working range, the double refrigerant circuit and the accurate design of the components ensure optimum performance with a continuous and constant operation also during heavy thermoigrometric conditions.

VERSATILITY
Different possibilities for the air treatment chambers; from total recirculation only to mixing with fresh air and extraction from the ambient with heat recovery. Each different configuration can be further customized thanks to a wide range of accessories.

REFRIGERANT BOOSTER
Cutting-edge Refrigerant booster heat recovery system that allows for the complete and precise recovery of the energy from the exhaust air, without any waste due to the mixing with external air. The performance of the cooling circuit is maximized, increasing by 15% the cooling capacity and the compressor working at the same condition.

STATIC PLATE HEAT RECOVERY
The static plate heat recovery provides a constant and effective recovery of the sensible energy from the exhaust air. In winter mode the efficency can reach values higher than 50%, that, together with the zero energy consumption of the component, grant an effective energy and economic saving.

INSTALLATION AND MAINTENANCE
Simplified operations, reduced costs and maintenance directly on site thanks to: the strong and perfectly insulated structure, easy access to internal sections, plug & play approach and automatic setting of the air flow (optional).

Accessories

- Ambient humidity control: hot gas post heating coil and humidifer.
- Ambient air quality control: CO2 sensor or 4-20 mA remote signal.
- Integration or substitution heating resources: hot water heating coil, electrical heaters.
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.
- High efficiency filters: electronic or bag type ePM01 50% (ISO16890, F7 EN779) or ePM01 85% (ISO16890, F9 EN779)
- Enthalpy free-cooling
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards

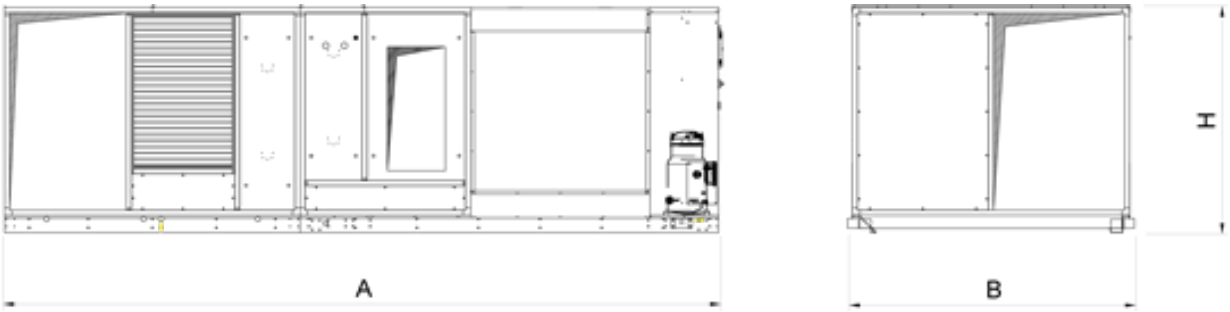
WSM-T-Y/AR			0162	0182	0202	0704	0804	0904	1004	1104	1204
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)											
Total cooling capacity	(1)	kW	50,9	59,4	64,4	219	245	266	304	334	365
Total sensible capacity	(1)	kW	38,5	45,8	49,9	172	195	214	242	259	277
Compressors power input	(1)	kW	12,5	15,4	17,0	59,1	69,8	70,0	78,3	91,1	105
EER (total)	(1)(10)	kW/kW	3,2	3,1	3,1	3,0	2,8	2,9	3,0	2,9	2,8
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	51,3	59,8	64,9	222	249	270	309	339	370
EER	(1)(2)	kW/kW	3,37	3,25	3,20	3,11	2,96	3,03	3,11	3,00	2,89
Cooling energy class			A	A	A	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(6)	kW	51,3	59,8	64,9	222	249	270	309	339	370
SEER	(6)(7)		3,22	3,19	3,17	3,72	3,58	3,21	3,25	3,19	3,19
Performance ηs	(6)(8)	%	125,71	124,58	123,98	145,70	140,17	125,25	126,81	124,54	124,70
SUPPLY FANS											
Air flow rate		m³/h	7700	9400	10500	36500	42200	50000	54000	56000	56000
Nominal ESP	(3)	Pa	200	200	200	350	350	350	350	350	350
Total power input	(10)	kW	1,09	1,48	1,78	6,87	8,90	10,8	13,0	14,0	14,5
REFRIGERANT CIRCUIT											
No. Compressors/No. Circuits		N°	2/2	2/2	2/2	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(5)(9)	kg	10,0	12,0	14,0	58,0	66,0	65,0	112,0	126,0	132,0
NOISE LEVEL											
Unit sound power level	(4)	dB(A)	82	84	85	92	94	97	97	97	97
Sound Power on outlet side	(4)	dB(A)	75	80	82	87	90	93	95	97	97
SIZE											
Length A	(5)	mm	3065	3065	3065	5565	5565	7430	7430	7430	7430
Width B	(5)	mm	1700	1700	1700	2250	2250	2250	2250	2250	2250
Height H	(5)	mm	1660	1660	1660	2380	2380	2380	2380	2380	2380
Operating weight	(5)	kg	753	892	942	2668	2748	3423	3705	3819	3878

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Values in compliance with EN14511
3 ESP for standard configuration (optional accessories not included/calculated).
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Unit in AR configuration and standard execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency
9 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
10 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



ROOFTOP UNITS

WSM2-T-Y

0264 - 0604 81,1-182 kW

Cooling only air cooled Rooftop unit, fully configurable and high efficiency

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
AX	Mixing and Free cooling function with Exhaust air Axial fan
CE	Function with EC plug fans for extraction and expulsion and Free cooling
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil
HR-P	Heat Recovery Plate function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Plate (cross-flow) heat Exchanger.
HR-E	Heat Recovery Enthalpy function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Rotary Enthalpic Wheel.

Autonomous cooling only air-to-air Rooftop unit, for the thermo-hygrometric treatment, filtration and air renovation, in medium-large surface and volume ambient.
Hermetic rotary scroll compressors in tandem with R410A refrigerant; double refrigerant circuit with electronic lamination valves; aluminium structure and coated galvanized steel base; air treatment section with sandwich panels with external surface made with coated galvanized steel RAL 7035 painted and EC fans. The condensing side is made with hot galvanized sheet metal painted with polyester powders RAL 7035 According to the selected version, the unit allows for the management of free cooling, with motorized dampers for return, exhaust and fresh air. The unit is also available with the thermodynamic Refrigerant Booster heat recovery, air-to air Plate type or rotary heat exchanger, to recover the energy from the exhaust air, increasing unit capacity and the global efficiency.

Features

ENERGY EFFICENCY
The unit fulfill EU regulation 2016/2281; in particular, the unit is in line with energy efficiency limits starting from January 1st, 2021 (ErP 2021).

HIGH RELIABILITY
The wide working range, the double refrigerant circuit and the accurate design of the components ensure optimum performance with a continuous and constant operation also during heavy thermoigrometric conditions.

FLEXIBILITY
The unit is available with the opportunity to choose different supply and return airflows directions.

ROTARY-TYPE ENTHALPY RECOVERY
The exclusive enthalpic rotary heat recovery allows to recover from the exhaust air both sensible and latent heat, both in winter and summer operation.
The recovery of the latent heat improves the dehumidification capability of the unit in summer and the humidification in winter, with a very high efficiency ratio.

STATIC PLATE HEAT RECOVERY
The static plate heat recovery provides a constant and effective recovery of the sensible energy from the exhaust air. In winter mode the efficency can reach values higher than 50%, that, together with the zero energy consumption of the component, grant an effective energy and economic saving.

REFRIGERANT BOOSTER
Cutting-edge Refrigerant booster heat recovery system that allows for the complete and precise recovery of the energy from the exhaust air, without any waste due to the mixing with external air. The performance of the cooling circuit is maximized, increasing by 15% the cooling capacity and the compressor working at the same condition.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

Control

AIR3000TE
AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Accessories

- Ambient humidity control: hot gas post heating coil and humidifer.
- High efficiency filters: electronic or bag type ePM01 50% (ISO16890, F7 EN779) or ePM01 85% (ISO16890, F9 EN779)
- Enthalpy free-cooling
- Air flow regulation with CO2 probe
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.

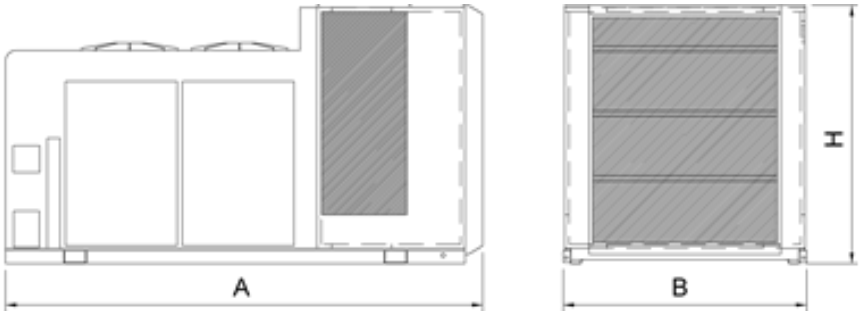
WSM2-T-Y			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)										
Total cooling capacity	(1)	kW	81,1	88,7	104	122	133	144	159	182
Total sensible capacity	(1)	kW	62,1	68,1	80,8	94,2	102	110	121	141
Compressors power input	(1)	kW	22,6	25,2	29,6	34,7	34,8	35,5	39,4	49,6
EER (total)	(1)(10)	kW/kW	2,9	3,0	2,9	3,0	3,1	3,1	3,1	2,9
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(2)	kW	81,8	89,7	105	123	134	146	161	185
EER	(1)(2)	kW/kW	3,04	3,16	3,06	3,08	3,20	3,21	3,19	2,99
Cooling energy class			A	A	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(6)	kW	81,8	89,7	105	123	134	146	161	185
SEER	(6)(7)		3,71	3,96	3,99	4,03	3,90	3,74	3,62	3,61
Performance ηs	(6)(8)	%	145,27	155,55	156,65	158,32	152,92	146,46	141,85	141,32
SUPPLY FANS										
Air flow rate		m³/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal ESP	(3)	Pa	200	250	250	300	300	300	350	350
Total power input	(10)	kW	2,13	2,30	2,74	3,17	3,63	4,74	5,85	7,03
REFRIGERANT CIRCUIT										
No. Compressors/No. Circuits		N°	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(5)(9)	kg	15,0	19,0	22,0	27,0	33,0	36,0	39,0	46,0
NOISE LEVEL										
Unit sound power level	(4)	dB(A)	83	83	84	84	85	86	87	87
Sound Power on outlet side	(4)	dB(A)	79	80	80	82	83	90	93	96
SIZE										
Length A	(5)	mm	3665	3665	3665	3665	4465	4465	4465	4465
Width B	(5)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height H	(5)	mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(5)	kg	1630	1740	1780	1840	2100	2170	2290	2320

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Values in compliance with EN14511
3 ESP for standard configuration (optional accessories not included/calculated).
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Unit in AR configuration and standard execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency
9 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
10 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



ROOFTOP UNITS

WSM-T-Y

0082 - 0152 23,4-55,0 kW

Cooling only air cooled Rooftop unit, fully configurable and high efficiency

Autonomous cooling only air-to-air Rooftop unit, for the thermo-hygrometric treatment, filtration and air renovation, depending on the selected configuration. Mini WSM-T-Y units are specifically designed for installation in small to medium sized spaces. Hermetic rotary scroll compressors with R410A refrigerant; single refrigerant circuit; aluminum structure and coated galvanized steel base; air treatment section with sandwich panel and EC plug fans. According to the selected version, the unit allows for the management of free cooling, with supply and return fans with motorized dampers for return, expulsion and fresh air. The unit is also available with the heat recovery Refrigerant Booster to recover the energy from the exhaust air, increasing the units capacity and the global efficiency.

Control

AIR3000TE

AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
CE	Function with EC plug fans for extraction and expulsion and Free cooling
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil

Features

FLEXIBILITY

The unit is available with the opportunity to choose different supply and return airflows directions.

REDUCED FOOTPRINT

One single packaged unit that encloses everything is required for the ambient air conditioning. Particular attention has been given to the structural design of the unit, providing a smaller footprint combined with flexibility, sturdiness and complete operation.

VERSATILITY

Different possibilities for the air treatment chambers; from total recirculation only to mixing with fresh air and extraction from the ambient with heat recovery. Each different configuration can be further customized thanks to a wide range of accessories.

REFRIGERANT BOOSTER

Cutting-edge Refrigerant booster heat recovery system that allows for the complete and precise recovery of the energy from the exhaust air, without any waste due to the mixing with external air. The performance of the cooling circuit is maximized, increasing by 15% the cooling capacity and the compressor working at the same condition.

INSTALLATION AND MAINTENANCE

Simplified operations, reduced costs and maintenance directly on site thanks to: the strong and perfectly insulated structure, easy access to internal sections, plug & play approach and automatic setting of the air flow (optional).

Accessories

- Ambient humidity control: hot gas post heating coil and humidifer.
- Ambient air quality control: CO2 sensor or 4-20 mA remote signal.
- Integration or substitution heating resources: hot water heating coil, electrical heaters.
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.
- High efficiency filters: electronic or bag type ePM01 50% (ISO16890, F7 EN779) or ePM01 85% (ISO16890, F9 EN779)
- Enthalpy free-cooling
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards

WSM-T-Y/AR			0082	0092	0102	0121	0122	0131	0132	0151	0152
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)											
Total cooling capacity	(1)	kW	23,4	28,7	32,9	37,5	37,6	41,3	42,5	47,7	47,6
Total sensible capacity	(1)	kW	18,1	22,3	25,8	28,5	28,5	32,6	33,2	37,8	37,8
Compressors power input	(1)	kW	5,19	6,85	8,06	9,79	10,0	10,5	12,0	12,3	12,4
EER (total)	(1)(10)	kW/kW	3,0	3,0	3,0	3,0	2,9	3,0	2,8	3,0	3,0
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	23,6	28,9	33,2	37,7	37,8	41,6	42,8	48,1	48,0
EER	(1)(2)	kW/kW	3,20	3,10	3,19	3,11	3,05	3,17	2,93	3,13	3,10
Cooling energy class			A	A	A	A	A	A	B	A	A
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(6)	kW	23,6	28,9	33,2	37,7	37,8	41,6	42,8	48,1	48,0
SEER	(6)(7)		3,02	3,13	3,34	3,04	3,39	3,13	3,36	3,11	3,38
Performance ηs	(6)(8)	%	117,78	122,00	130,68	118,54	132,50	122,00	131,24	121,53	132,35
SUPPLY FANS											
Air flow rate		m³/h	4000	5000	5700	6000	6000	7250	7250	8500	8500
Nominal ESP	(3)	Pa	124	124	150	150	150	150	150	200	200
Total power input	(10)	kW	0,69	1,04	0,93	0,96	0,96	1,32	1,32	1,78	1,78
REFRIGERANT CIRCUIT											
No. Compressors/No. Circuits		N°	2/1	2/1	2/1	1/1	2/1	1/1	2/1	1/1	2/1
Refrigerant charge	(5)(9)	kg	5,0	6,5	7,5	9,0	9,0	10,0	10,0	13,0	13,0
NOISE LEVEL											
Unit sound power level	(4)	dB(A)	79	80	82	83	83	82	82	85	85
Sound Power on outlet side	(4)	dB(A)	79	85	79	80	80	85	85	90	90
SIZE											
Length A	(5)	mm	2055	2055	2055	2055	2055	2055	2055	2055	2055
Width B	(5)	mm	1300	1300	1300	1300	1300	1300	1300	1300	1300
Height H	(5)	mm	1640	1640	1640	1640	1640	1640	1640	1640	1640
Operating weight	(5)	kg	524	534	565	592	592	622	622	657	657

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Values in compliance with EN14511
3 ESP for standard configuration (optional accessories not included/calculated).
4 Sound power on the basis of measurements made in compliance with ISO 9614.
5 Unit in AR configuration and standard execution, without optional accessories.
6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
7 Seasonal energy efficiency ratio
8 Seasonal space cooling energy efficiency
9 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
10 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing

ROOFTOP UNITS

WRX-Y

0162 - 0804 50,8-240 kW

Reversible air cooled fully configurable high efficiency Rooftop units

Stand-alone reversible air-to-air rooftop unit, for air treatment, filtration and renewal, in environments characterized by medium-large surfaces and volumes. The unit is equipped as standard with hermetic scroll compressors, a double independent refrigerant circuit, EC fan plug fans and electronic lamination valves. The structure is specific for outdoor installation, with base and supporting structure consisting of hot-dip galvanized steel sheet profiles of adequate thickness. The vertical structure and outer panelling are painted with polyester powders and the air treatment section is coated with a double layer insulating mat of adequate thickness. The unit, based on the selected configuration, allows the management of the Free-cooling mode with external, recirculation and ejection air motorized dampers. The unit is supplied in one or more modules to be assembled on site, to facilitate transport.

Control

AIR3000TE

AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
AX	Mixing and Free cooling function with Exhaust air Axial fan
HR-F	Heat Recovery Free: air extractor fan(s), free cooling function and thermodynamic heat recovery from exhaust air flow
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil
HR-P	Heat Recovery Plate function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Plate (cross-flow) heat Exchanger.
HR-E	Heat Recovery Enthalpy function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Rotary Enthalpic Wheel.

Features

HIGH RELIABILITY

The wide working range, the double refrigerant circuit and the accurate design of the components ensure optimum performance with a continuous and constant operation also during heavy thermoigrometric conditions.

FLEXIBILITY

The unit is available with the opportunity to choose different supply and return airflows directions.

VERSATILITY

Different possibilities for the air treatment chambers; from total recirculation only to mixing with fresh air and extraction from the ambient with heat recovery. Each different configuration can be further customized thanks to a wide range of accessories.

HEAT RECOVERY FROM EXHAUST AIR FLOW

Units can be equipped with 4 different heat recovery systems: : thermodynamic on the exhaust air, thermodynamic type Refrigerant Booster (with additional refrigerant battery placed on the exhaust air flow), cross-flows or with enthalpy wheel.

PLUG-FAN VENTILATION

The supply and return plug fans combine the high efficiency of the ventilation section with an easy and fast installation of the unit, both electrical and aeraulic.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

Accessories

- Enthalpy free-cooling
- Set-up for remote connectivity with ModBus/Echelon protocol cards
- Air flow regulation with CO2 probe
- Integration or substitution heating resources: hot water heating coil, electrical heaters.
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.

WRX-Y			0162	0182	0202	0262	0302	0352	0402
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)									
Total cooling capacity	(1)	kW	50,8	58,3	69,0	82,6	97,2	110	121
Total sensible capacity	(1)	kW	43,0	48,4	56,7	67,8	79,5	89,2	97,8
Compressors power input	(1)	kW	12,3	14,0	16,2	21,5	25,4	29,5	32,9
EER (total)	(1)(12)	kW/kW	3,1	3,2	3,2	3,0	3,1	3,0	3,0
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(3)	kW	51,4	58,9	69,7	83,6	98,3	111	123
EER	(1)(3)	kW/kW	3,32	3,35	3,34	3,18	3,24	3,18	3,16
Cooling energy class			A	A	A	A	A	-	-
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(2)	kW	48,9	55,9	68,4	81,0	95,2	109	123
Compressors power input	(2)	kW	9,69	11,1	12,7	16,4	20,3	23,2	26,6
COP (total)	(2)(12)	kW/kW	3,6	3,6	3,7	3,7	3,6	3,7	3,6
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	48,3	55,3	67,7	80,0	94,1	108	121
COP	(2)(3)	kW/kW	3,76	3,78	3,91	3,76	3,72	3,78	3,70
Cooling energy class			A	A	A	A	A	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	51,4	58,9	69,7	83,6	98,3	111	123
SEER	(7)(8)		3,37	3,37	3,46	3,35	3,46	3,44	3,37
Performance ηs	(7)(9)	%	131,65	131,92	135,28	130,97	135,48	134,65	131,69
SEASONAL EFFICIENCY IN HEATING (Reg. EU 2016/2281)									
Ambient heating									
PDesign	(7)	kW	40,3	46,2	56,5	67,0	78,7	90,2	101
SCOP	(7)(8)		2,98	2,96	3,02	3,01	2,99	3,06	2,99
Performance ηs	(7)(10)	%	116,12	115,42	117,97	117,53	116,44	119,26	116,65
SUPPLY FANS									
Air flow rate		m³/h	10500	12000	14000	16000	18500	21000	22500
Nominal ESP	(4)	Pa	200	200	200	250	250	250	300
Total power input	(12)	kW	1,93	2,49	2,61	2,85	3,11	3,63	4,05
REFRIGERANT CIRCUIT									
No. Compressors/No. Circuits		N°	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Refrigerant charge	(6)(11)	kg	14,0	19,0	20,0	20,0	27,0	30,0	33,0
NOISE LEVEL									
Unit sound power level	(5)	dB(A)	77	79	82	83	84	86	87
Sound Power on outlet side	(5)	dB(A)	80	83	81	82	82	82	84
SIZE									
Length A	(6)	mm	3630	3630	3630	4080	4080	4080	4080
Width B	(6)	mm	2260	2260	2260	2260	2260	2260	2260
Height H	(6)	mm	2150	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	1270	1330	1350	1550	1650	1750	1850

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 0%.
3 Values in compliance with EN14511
4 ESP for standard configuration (optional accessories not included/calculated).
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Unit in AR configuration and standard execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency
10 Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]
11 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
12 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

WRX-Y

0162 - 0804 50,8-240 kW

Reversible air cooled fully configurable high efficiency Rooftop units

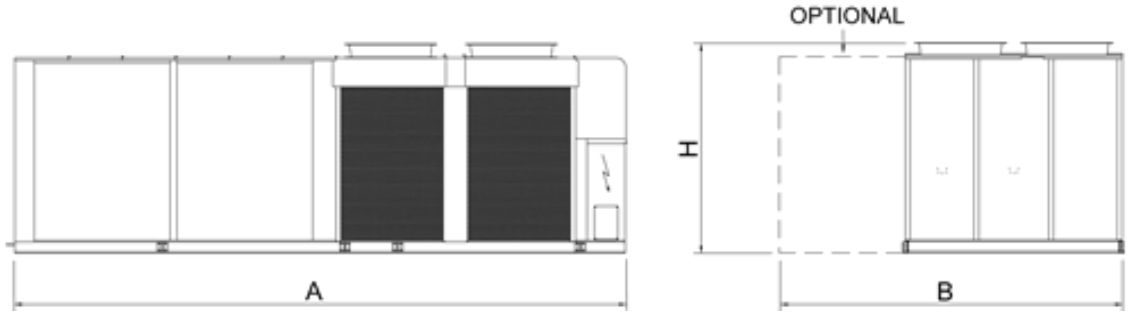
WRX-Y			0444	0484	0524	0604	0704	0804
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Total cooling capacity	(1)	kW	142	154	170	189	219	240
Total sensible capacity	(1)	kW	116	127	139	152	176	194
Compressors power input	(1)	kW	35,6	36,2	39,9	50,7	58,9	67,2
EER (total)	(1)(12)	kW/kW	3,2	3,2	3,2	3,0	3,0	2,9
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(3)	kW	144	156	173	192	222	240
EER	(1)(3)	kW/kW	3,31	3,34	3,36	3,06	3,12	3,27
Cooling energy class			-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(2)	kW	138	148	168	192	217	239
Compressors power input	(2)	kW	27,6	29,2	33,5	41,7	46,4	52,6
COP (total)	(2)(12)	kW/kW	3,7	3,6	3,7	3,5	3,6	3,5
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	136	146	165	189	214	239
COP	(2)(3)	kW/kW	3,83	3,67	3,67	3,51	3,64	4,05
Cooling energy class			-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	144	156	173	192	222	243
SEER	(7)(8)		3,55	3,85	3,80	3,77	3,55	3,69
Performance ηs	(7)(9)	%	138,90	150,88	148,90	147,94	139,03	144,43
SEASONAL EFFICIENCY IN HEATING (Reg. EU 2016/2281)								
Ambient heating								
PDesign	(7)	kW	106	114	129	148	192	183
SCOP	(7)(8)		3,21	3,20	3,27	3,14	3,30	3,21
Performance ηs	(7)(10)	%	125,33	124,90	127,63	122,55	128,93	125,31
SUPPLY FANS								
Air flow rate		m³/h	27000	30000	32500	35000	41000	45000
Nominal ESP	(4)	Pa	300	350	350	350	350	350
Total power input	(12)	kW	4,76	5,24	5,88	6,60	7,46	8,86
REFRIGERANT CIRCUIT								
No. Compressors/No. Circuits		N°	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(6)(11)	kg	40,0	43,0	54,0	53,6	56,0	59,0
NOISE LEVEL								
Unit sound power level	(5)	dB(A)	85	86	86	86	89	90
Sound Power on outlet side	(5)	dB(A)	85	87	88	88	88	0
SIZE								
Length A	(6)	mm	5560	5560	5560	5560	6460	6460
Width B	(6)	mm	2260	2260	2260	2260	2260	2260
Height H	(6)	mm	2150	2150	2150	2150	2150	2150
Operating weight	(6)	kg	2150	2340	2430	2430	3020	3170

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 0%.
3 Values in compliance with EN14511
4 ESP for standard configuration (optional accessories not included/calculated).
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Unit in AR configuration and standard execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency
10 Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]
11 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
12 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



ROOFTOP UNITS

WSM-Y

A082 - A152 24,4-47,5 kW

Reversible air cooled fully configurable high efficiency Rooftop units

Autonomous reversible air-to-air Rooftop units, for the thermo-hygrometric treatment, filtration and air renovation, depending on the selected configuration. The units are specifically designed for installation in small to medium sized spaces. Hermetic rotary scroll compressors with R410A refrigerant; single refrigerant circuit; aluminum structure and coated galvanized steel base; air treatment section with sandwich panel and EC plug fans. According to the selected version, the unit allows for the management of free cooling, with supply and return fans with motorized dampers for return, expulsion and fresh air. The unit is also available with the heat recovery Refrigerant Booster to recover the energy from the exhaust air, increasing the units capacity and the global efficiency.

Control

AIR3000TE

AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
CE	Function with EC plug fans for extraction and expulsion and Free cooling
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil

Features

FLEXIBILITY

The unit is available with the opportunity to choose different supply and return airflows directions.

REDUCED FOOTPRINT

One single packaged unit that encloses everything is required for the ambient air conditioning. Particular attention has been given to the structural design of the unit, providing a smaller footprint combined with flexibility, sturdiness and complete operation.

VERSATILITY

Different possibilities for the air treatment chambers; from total recirculation only to mixing with fresh air and extraction from the ambient with heat recovery. Each different configuration can be further customized thanks to a wide range of accessories.

REFRIGERANT BOOSTER

Cutting-edge Refrigerant booster heat recovery system that allows for the complete and precise recovery of the energy from the exhaust air, without any waste due to the mixing with external air. The performance of the cooling circuit is maximized, increasing by 15% the cooling capacity and the compressor working at the same condition.

INSTALLATION AND MAINTENANCE

Simplified operations, reduced costs and maintenance directly on site thanks to: the strong and perfectly insulated structure, easy access to internal sections, plug & play approach and automatic setting of the air flow (optional).

Accessories

- Ambient humidity control: hot gas post heating coil and humidifer.
- Ambient air quality control: CO2 sensor or 4-20 mA remote signal.
- Integration or substitution heating resources: hot water heating coil, electrical heaters.
- High efficiency filters: electronic or bag type ePM01 50% (ISO16890, F7 EN779) or ePM01 85% (ISO16890, F9 EN779)
- Enthalpy free-cooling
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards

WSM-Y			A082	A092	A102	A122	A132	A152
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)								
Total cooling capacity	(1)	kW	24,4	30,6	33,7	37,9	42,6	47,5
Total sensible capacity	(1)	kW	19,4	23,6	25,6	29,2	33,6	38,4
Compressors power input	(1)	kW	5,39	6,95	8,21	10,2	12,1	13,5
EER (total)	(1)(12)	kW/kW	3,4	3,2	3,2	3,0	2,9	2,9
COOLING ONLY (EN14511 VALUE)								
Cooling capacity	(1)(3)	kW	24,6	30,9	34,0	38,2	42,9	47,9
EER	(1)(3)	kW/kW	3,69	3,45	3,35	3,15	3,03	3,03
Cooling energy class			A	A	A	A	A	A
HEATING ONLY (GROSS VALUE)								
Total heating capacity	(2)	kW	25,4	31,9	32,4	38,2	42,8	46,2
Compressors power input	(2)	kW	5,31	7,03	8,43	9,31	10,3	11,0
COP (total)	(2)(12)	kW/kW	3,6	3,3	3,0	3,2	3,3	3,3
HEATING ONLY (EN14511 VALUE)								
Total heating capacity	(2)(3)	kW	25,2	31,7	32,1	38,0	42,5	45,7
COP	(2)(3)	kW/kW	3,82	3,50	3,10	3,37	3,43	3,43
Cooling energy class			A	A	C	B	A	A
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
Ambient refrigeration								
Prated,c	(7)	kW	24,6	30,9	34,0	38,2	42,9	47,9
SEER	(7)(8)		3,86	4,08	3,99	3,91	3,87	3,78
Performance ηs	(7)(9)	%	151,35	160,33	156,55	153,34	151,82	148,03
SEASONAL EFFICIENCY IN HEATING (Reg. EU 2016/2281)								
Ambient heating								
PDesign	(7)	kW	21,0	26,8	27,3	32,4	36,0	39,0
SCOP	(7)(8)		3,09	3,18	3,07	3,23	3,32	3,21
Performance ηs	(7)(10)	%	120,43	124,09	120,00	126,28	129,82	125,41
SUPPLY FANS								
Air flow rate		m³/h	4500	5500	5700	6000	7250	8500
Nominal ESP	(4)	Pa	124	150	150	150	150	200
Total power input	(12)	kW	0,78	0,83	0,86	0,95	1,14	1,37
REFRIGERANT CIRCUIT								
No. Compressors/No. Circuits		N°	2/1	2/1	2/1	2/1	2/1	2/1
Refrigerant charge	(6)(11)	kg	8,4	8,5	9,0	8,3	8,5	9,5
NOISE LEVEL								
Unit sound power level	(5)	dB(A)	79	80	82	83	82	85
Sound Power on outlet side	(5)	dB(A)	71	71	72	72	73	76
SIZE								
Length A	(6)	mm	2055	2055	2055	2055	2055	2055
Width B	(6)	mm	1300	1300	1300	1300	1300	1300
Height H	(6)	mm	1640	1640	1640	1640	1640	1640
Operating weight	(6)	kg	540	560	580	630	650	690

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 0%.
3 Values in compliance with EN14511
4 ESP for standard configuration (optional accessories not included/calculated).
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Unit in AR configuration and standard execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency
10 Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]
11 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
12 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing

ROOFTOP UNITS

WSM2-Y

0264 - 0604 81,1-182 kW

Reversible air cooled fully configurable high efficiency Rooftop units

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
AX	Mixing and Free cooling function with Exhaust air Axial fan
CE	Function with EC plug fans for extraction and expulsion and Free cooling
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil
HR-P	Heat Recovery Plate function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Plate (cross-flow) heat Exchanger.
HR-E	Heat Recovery Enthalpy function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Rotary Enthalpic Wheel.

Autonomous reversible air-to-air Rooftop unit, for the thermo-hygrometric treatment, filtration and air renovation, in medium-large surface and volume ambient.
Hermetic rotary scroll compressors in tandem with R410A refrigerant; double refrigerant circuit with electronic lamination valves; aluminium structure and coated galvanized steel base; air treatment section with sandwich panels with external surface made with coated galvanized steel RAL 7035 painted and EC fans. The condensing side is made with hot galvanized sheet metal painted with polyester powders RAL 7035 According to the selected version, the unit allows for the management of free cooling, with motorized dampers for return, exhaust and fresh air. The unit is also available with the thermodynamic Refrigerant Booster heat recovery, air-to air Plate type or rotary heat exchanger, to recover the energy from the exhaust air, increasing unit capacity and the global efficiency.

Control

AIR3000TE
AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Features

ENERGY EFFICENCY
The unit fulfill EU regulation 2016/2281; in particular, the unit is in line with energy efficiency limits starting from January 1st, 2021 (ErP 2021).

HIGH RELIABILITY
The wide working range, the double refrigerant circuit and the accurate design of the components ensure optimum performance with a continuous and constant operation also during heavy thermoigrometric conditions.

FLEXIBILITY
The unit is available with the opportunity to choose different supply and return airflows directions.

ROTARY-TYPE ENTHALPY RECOVERY
The exclusive enthalpic rotary heat recovery allows to recover from the exhaust air both sensible and latent heat, both in winter and summer operation.
The recovery of the latent heat improves the dehumidification capability of the unit in summer and the humidification in winter, with a very high efficiency ratio.

STATIC PLATE HEAT RECOVERY
The static plate heat recovery provides a constant and effective recovery of the sensible energy from the exhaust air. In winter mode the efficency can reach values higher than 50%, that, together with the zero energy consumption of the component, grant an effective energy and economic saving.

REFRIGERANT BOOSTER
Cutting-edge Refrigerant booster heat recovery system that allows for the complete and precise recovery of the energy from the exhaust air, without any waste due to the mixing with external air. The performance of the cooling circuit is maximized, increasing by 15% the cooling capacity and the compressor working at the same condition.

ELECTRONIC EXPANSION VALVE SUPPLIED STANDARD
The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and different external conditions. It was introduced into these units as a result of accurate design choices concerning the cooling circuit and the optimisation of operation in various different working conditions

Accessories

- Ambient humidity control: hot gas post heating coil and humidifer.
- High efficiency filters: electronic or bag type ePM01 50% (ISO16890, F7 EN779) or ePM01 85% (ISO16890, F9 EN779)
- Enthalpy free-cooling
- Air flow regulation with CO2 probe
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.

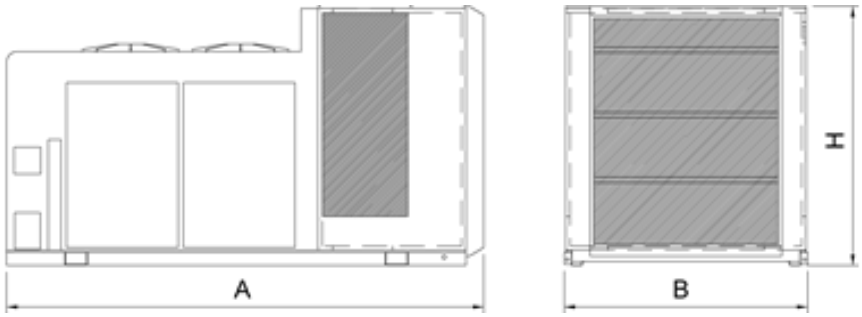
WSM2-Y			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)										
Total cooling capacity	(1)	kW	81,1	88,7	104	122	133	144	159	182
Total sensible capacity	(1)	kW	62,1	68,1	80,8	94,2	102	110	121	141
Compressors power input	(1)	kW	22,6	25,2	29,6	34,7	34,8	35,5	39,4	49,6
EER (total)	(1)(12)	kW/kW	2,9	3,0	2,9	3,0	3,1	3,1	3,1	2,9
COOLING ONLY (EN14511 VALUE)										
Cooling capacity	(1)(3)	kW	81,8	89,7	105	123	134	146	161	185
EER	(1)(3)	kW/kW	3,04	3,16	3,06	3,08	3,20	3,21	3,19	2,99
Cooling energy class			A	A	-	-	-	-	-	-
HEATING ONLY (GROSS VALUE)										
Total heating capacity	(2)	kW	83,4	93,0	105	124	133	143	163	189
Compressors power input	(2)	kW	21,7	23,3	26,6	31,5	33,7	35,7	39,6	45,9
COP (total)	(2)(12)	kW/kW	3,3	3,4	3,2	3,3	3,2	3,0	3,1	3,2
HEATING ONLY (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	82,6	92,0	104	122	132	141	161	186
COP	(2)(3)	kW/kW	3,34	3,52	3,31	3,30	3,21	3,10	3,18	3,21
Cooling energy class			B	A	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	81,8	89,7	105	123	134	146	161	185
SEER	(7)(8)		3,71	3,96	3,99	4,03	3,90	3,74	3,62	3,61
Performance ηs	(7)(9)	%	145,27	155,55	156,65	158,32	152,92	146,46	141,85	141,32
SEASONAL EFFICIENCY IN HEATING (Reg. EU 2016/2281)										
Ambient heating										
PDesign	(7)	kW	65,2	73,1	82,8	96,8	104	112	128	147
SCOP	(7)(8)		3,21	3,26	3,25	3,28	3,32	3,21	3,21	3,21
Performance ηs	(7)(10)	%	125,37	127,40	127,13	128,01	129,73	125,54	125,39	125,26
SUPPLY FANS										
Air flow rate		m³/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal ESP	(4)	Pa	200	250	250	300	300	300	350	350
Total power input	(12)	kW	2,13	2,30	2,74	3,17	3,63	4,74	5,85	7,03
REFRIGERANT CIRCUIT										
No. Compressors/No. Circuits		N°	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(6)(11)	kg	17,6	24,0	24,6	32,0	37,5	38,0	44,0	50,0
NOISE LEVEL										
Unit sound power level	(5)	dB(A)	83	83	84	84	85	86	87	87
Sound Power on outlet side	(5)	dB(A)	79	80	80	82	83	90	93	96
SIZE										
Length A	(6)	mm	3665	3665	3665	3665	4465	4465	4465	4465
Width B	(6)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height H	(6)	mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(6)	kg	1630	1740	1780	1840	2100	2170	2290	2320

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 0%.
3 Values in compliance with EN14511
4 ESP for standard configuration (optional accessories not included/calculated).
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Unit in AR configuration and standard execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency
10 Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]
11 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
12 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



ROOFTOP UNITS

WSM-Y

A164 - A1004 51,7-317 kW

Reversible air cooled fully configurable high efficiency Rooftop units

Autonomous reversible air-to-air Rooftop unit, for the thermo-hygrometric treatment, filtration and air renovation, in medium-large surface and volume ambient.
Hermetic rotary scroll compressors with R410A refrigerant; double refrigerant circuit; aluminum structure and coated galvanized steel base; air treatment section with sandwich panel and EC plug fans. According to the selected version, the unit allows for the management of free cooling, with supply and return fans with motorized dampers for return, expulsion and fresh air. The unit is also available with the thermodynamic Refrigerant Booster heat recovery cross-flow (plate type), to recover the energy from the exhaust air, increasing the units capacity and the global efficiency.

Control

AIR3000TE
AIR3000TE is made up by two control boards, dedicated to the air side and the refrigerant side respectively. The LCD display has multi-level menu that allows for the monitoring and intervention on the unit. Thermoregulation is proportional to steps, referred to the return temperature; proportional-integral management can also be set. Its functions include the adjustment of the ambient humidity, the thermal or enthalpic (optional) free-cooling and supply temperature limitation. Defrosting is based on a self-adaptive propriety logic with monitoring of several operating and environmental parameters. The management of the ventilation can be realized with constant air flow or pressure regulation: as pressure drop varies, the fans change speed so as to maintain the flow-rate at the designed value. The controller independently manages several optional thermal resources and the amount of fresh air. The presence of the programmable timer allows the user to create an operating profile containing up to 4 typical days and 10 time bands. Diagnostics include complete alarm management, "black box" function (via PC) and alarm history (via display or even PC). Supervision can be developed via third party systems by means of the most common protocols as ModBus, Bacnet, Bacnet-over-IP, Echelon LonWorks protocols. Compatibility with the remote keyboard managing up to 8 units.

Refrigerant

R410A

Configurations

AR	Air recirculation function
MF	Mixing and Free cooling function
CE	Function with EC plug fans for extraction and expulsion and Free cooling
HR-B	Heat Recovery Refrigerant Booster function: air extractor fan(s), free cooling function and heat recovery from exhaust air flow thanks to Refrigerant Booster coil
HR-P	Heat Recovery Plate function: air extractor EC plug fan(s), free cooling function and heat recovery from exhaust air flow thanks to Plate (cross-flow) heat Exchanger.

Features

FLEXIBILITY
The unit is available with the opportunity to choose different supply and return airflows directions.

HIGH RELIABILITY
The wide working range, the double refrigerant circuit and the accurate design of the components ensure optimum performance and comfort, with a continuous and constant operation also during heavy thermoigrometric conditions.

HIGH RELIABILITY
The wide working range, the double refrigerant circuit and the accurate design of the components ensure optimum performance with a continuous and constant operation also during heavy thermoigrometric conditions.

VERSATILITY
Different possibilities for the air treatment chambers; from total recirculation only to mixing with fresh air and extraction from the ambient with heat recovery. Each different configuration can be further customized thanks to a wide range of accessories.

REFRIGERANT BOOSTER
Cutting-edge Refrigerant booster heat recovery system that allows for the complete and precise recovery of the energy from the exhaust air, without any waste due to the mixing with external air. The performance of the cooling circuit is maximized, increasing by 15% the cooling capacity and the compressor working at the same condition.

STATIC PLATE HEAT RECOVERY
The static plate heat recovery provides a constant and effective recovery of the sensible energy from the exhaust air. In winter mode the efficency can reach values higher than 50%, that, together with the zero energy consumption of the component, grant an effective energy and economic saving.

INSTALLATION AND MAINTENANCE
Simplified operations, reduced costs and maintenance directly on site thanks to: the strong and perfectly insulated structure, easy access to internal sections, plug & play approach and automatic setting of the air flow (optional).

Accessories

- Ambient humidity control: hot gas post heating coil and humidifer.
- Ambient air quality control: CO2 sensor or 4-20 mA remote signal.
- Integration or substitution heating resources: hot water heating coil, electrical heaters.
- High efficiency filters: electronic or bag type ePM01 50% (ISO16890, F7 EN779) or ePM01 85% (ISO16890, F9 EN779)
- Enthalpy free-cooling
- Vair: variable air flow function, it allows to vary supply and return air flow according to the actual request of the HVAC system.
- Remote control keyboard (distance to 200m and to 500m)
- Set-up for remote connectivity with ModBus/Echelon protocol cards

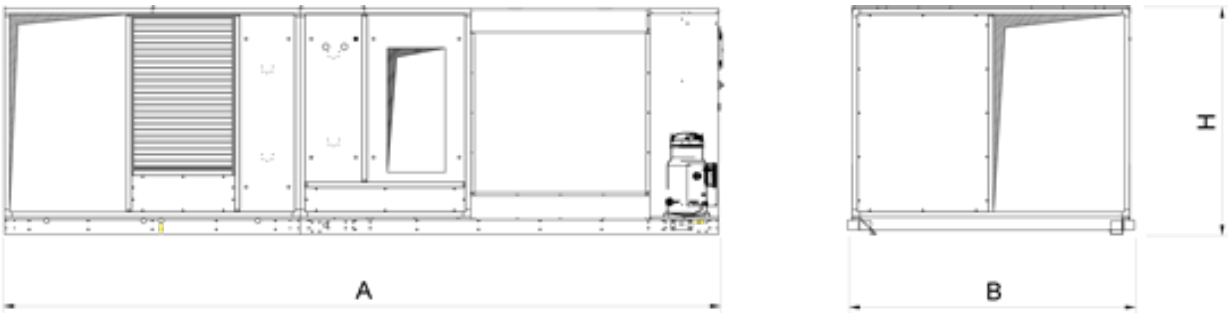
WSM-Y			A164	A184	A204	A704	A804	A904	A1004
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY (GROSS VALUE)									
Total cooling capacity	(1)	kW	51,7	56,3	62,2	218	244	280	317
Total sensible capacity	(1)	kW	38,3	43,0	47,4	171	195	213	242
Compressors power input	(1)	kW	13,5	15,6	17,4	60,0	70,5	70,5	80,7
EER (total)	(1)(12)	kW/kW	3,1	2,9	2,9	3,0	2,8	3,1	3,1
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(3)	kW	52,1	56,8	62,8	221	248	284	321
EER	(1)(3)	kW/kW	3,24	3,07	3,07	3,05	2,92	3,21	3,20
Cooling energy class			A	A	A	-	-	-	-
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(2)	kW	55,1	55,8	63,0	219	251	282	318
Compressors power input	(2)	kW	13,2	14,4	17,3	49,6	57,4	68,3	76,9
COP (total)	(2)(12)	kW/kW	3,3	3,1	3,0	3,4	3,4	3,2	3,2
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	54,7	55,3	62,4	216	247	278	314
COP	(2)(3)	kW/kW	3,45	3,20	3,07	3,48	3,46	3,23	3,25
Cooling energy class			A	B	C	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	52,1	56,8	62,8	221	248	284	321
SEER	(7)(8)		3,60	3,55	3,48	3,77	3,63	3,60	3,46
Performance ηs	(7)(9)	%	141,07	139,17	136,04	147,76	142,07	140,98	135,45
SEASONAL EFFICIENCY IN HEATING (Reg. EU 2016/2281)									
Ambient heating									
PDesign	(7)	kW	46,3	46,9	53,1	183	209	236	268
SCOP	(7)(8)		3,18	3,16	3,14	3,20	3,17	3,02	3,03
Performance ηs	(7)(10)	%	124,15	123,32	122,73	125,13	123,83	117,85	118,10
SUPPLY FANS									
Air flow rate		m³/h	7700	9400	10500	36500	42200	45000	50000
Nominal ESP	(4)	Pa	200	200	200	350	350	350	350
Total power input	(12)	kW	1,14	1,45	1,71	6,87	8,90	9,36	11,5
REFRIGERANT CIRCUIT									
No. Compressors/No. Circuits		N°	4/2	4/2	4/1	4/1	4/2	4/2	4/2
Refrigerant charge	(6)(11)	kg	10,4	10,8	15,0	58,0	66,0	150,0	180,0
NOISE LEVEL									
Unit sound power level	(5)	dB(A)	82	84	85	92	94	97	97
Sound Power on outlet side	(5)	dB(A)	75	76	77	87	90	91	93
SIZE									
Length A	(6)	mm	3065	3065	3065	5565	5565	7430	7430
Width B	(6)	mm	1700	1700	1700	2250	2250	2250	2250
Height H	(6)	mm	1660	1660	1660	2380	2380	2380	2380
Operating weight	(6)	kg	770	900	960	2674	2751	3800	3800

Notes

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 0%.
3 Values in compliance with EN14511
4 ESP for standard configuration (optional accessories not included/calculated).
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Unit in AR configuration and standard execution, without optional accessories.
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency
10 Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]
11 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
12 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.
Certified data in EUROVENT

Dimensional drawing



AIR HANDLING UNITS

WIZARD

WIZARD

Air Handling Units

WIZARD Series .
The Wizard series of Air-Handling Units incorporate the entire design experience of Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. in order to fully satisfy all market requirements in the various sectors of application. Tailored though massproduced industrial products, these high quality and reliable units guarantee total safety.
The WIZARD air handling units are suitable for specific sectors as hospitals, food industry, electronics or pharmaceutical industries and all the industrial applications with temperature or controlled-contamination processes.

Control

AHU 3000+
The AHU3000+ controller is featured as option for the air handling units. It offers functions and regulations able to satisfy the numerous combinations possible with these units. Furthermore this option enhances and simplifies the unit's commissioning, allowing also the interfacing towards other resources and devices. The keypad features aesthetic design, easy-to-use interface, smart LCD display. The regulation integrates numerous characteristics, depending on the unit's configuration and selected options: command of the dampers and of the free-cooling; regulation of the resources for heating, cooling as well as humidity and air quality; regulation of supply and exhaust fans with control in constant flow or constant pressure. The diagnostics includes a complete alarm management, with the the "black-box" and alarm logging functions for enhanced analysis of the unit operation. Supervision can be easily developed via proprietary devices or the most common protocols as ModBus, Bacnet. Compatibility with the remote keyboard (connected up to 500 m.). Availability of an internal real time clock for operation scheduling (4-day profiles with 10 hour belts).

Versions

. Different accessories and configurations are available as the brushless motors, the plate or wheel recuperators and the control systems for plug&play untis.

Features

STRUCTURE
The range is made of 24 sizes for air fl ows up to 115.000 m³/h. The panels are 25, 42, 45 or 62 mm thick, according to the different kinds of application requiring different thermal and acoustic isolation.

The sandwich panels are available in galvanized steel sheet, pre-painted or plastic-coated galvanized steel sheet, aluminum or AISI 304 stainless steel sheet with isolation by injected polyurethane or mineral rock wool.

The frame is made of aluminum profi les available also in thermal cut version, for an higher thermal isolation, and in internally rounded version for hospital application.

Heat exchangers, fi lters, humidifi ers, energy recovery systems, fans and any other component required in the units are selected to grant the best performances according to the customer requests.

"EC" FANS
The option for fans with brushless motors allows for units with reduced dimensions. Controlled by means of a 0-10V signal even without a frequency inverter, these fans are very versatile and easy to be used.

PLUG&PLAY UNITS
As an option, a complete control system is provided to handle all the units functions.

The electrical board is built-in and totally wired as all the control components such as 3-way valves, probes, damper motors and humidifiers.

REDUCED TIMING AND COSTS
The plug&play units are ready to use without any further operation on site.

Compared to the traditional AHUs, the easier and quicker installation of the plug&play units results in a strong costs reduction solution.

All the signal and controls are verified and check with a final factory test before delivery. In case of units divided in sections, special connectors are provided to rebuild the signals lines on sites. These connectors are error-proof and don't required qualified technicians.

LOW NOISE EMISSIONS
The WIZARD units are designed to minimize the acoustic impact in each operating condition.
In case of special applications, it is possible to provide sound absorbing panels and customized sound attenuators.

WIZARD			300	380	440	570	710	920	1070	1220
Air Flow (Speed 1,5 m/s)	(1)	m³/h	650	810	970	1130	1400	1700	2200	2650
Air Flow (Speed 2 m/s)	(1)	m³/h	860	1070	1300	1500	1870	2300	2950	3550
Air Flow (Speed 2,5 m/s)	(1)	m³/h	1080	1340	1620	1880	2330	3650	3650	4450
Air Flow (Speed 3 m/s)	(1)	m³/h	1300	1600	1950	2250	2800	4400	4400	5300

WIZARD			1530	1720	2080	2300	2920	3600	4300	6060
Air Flow (Speed 1,5 m/s)	(1)	m³/h	3200	4200	4900	5600	6300	7800	9300	12500
Air Flow (Speed 2 m/s)	(1)	m³/h	4350	5600	6500	7450	8400	10300	12400	16700
Air Flow (Speed 2,5 m/s)	(1)	m³/h	5450	7000	8200	9300	10500	12900	15600	20900
Air Flow (Speed 3 m/s)	(1)	m³/h	6550	8400	9800	11200	12600	15500	18600	25100

WIZARD			7500	8480	11400	13900	16580	19860	22920	26400
Air Flow (Speed 1,5 m/s)	(1)	m³/h	15600	18100	21400	26400	32200	38000	46500	57000
Air Flow (Speed 2 m/s)	(1)	m³/h	20700	24200	28500	35200	42800	51000	62000	75000
Air Flow (Speed 2,5 m/s)	(1)	m³/h	25900	30300	35600	44900	53500	64000	77500	95000
Air Flow (Speed 3 m/s)	(1)	m³/h	31100	36300	42800	52700	64300	76500	93500	115400

Notes

1 Air fl ows of the 24 sizes at different face velocities on the heat exchange coils.

CONTROL, SUPERVISION AND OPTIMISATION SYSTEMS

<<< BACK INDEX

ClimaPRO
MANAGER 3000
SEQUENCER

ClimaPRO

Chiller Plant Control with Active Optimization System

ClimaPRO System Manager

Versions

CPMV	Version featuring Measurement & Performance Verification
CPCO	Version featuring Control & Active Optimization

Features

- Acquisition of real-time data from the plant
- Measurement of energy indexes for the units and the entire system
- Energy reporting
- Chart building for trend analysis
- Supervisory and control for the units and the main field components
- Active Optimization based on real time data measurement

**ClimaPRO System Manager represents the state-of-the-art platform for chiller plant management and control.
ClimaPRO ensures to actively optimize the entire chiller plant by managing and adjusting each component directly involved in the production and the distribution of the heating and the cooling energies, therefore involving chillers and heat pumps, pumping groups as well as the source-side devices like, for example, the cooling towers.**

In particular, ClimaPRO measures in real-time all the operating variables from the field, for each individual device and each of the main system branche, by using serial communication lines as well as dedicated analogue signals.

The acquired data are then compared with the design data of each single unit at any different working conditions, thus allowing to implement control strategies based on dynamic algorithms which take into account the real operating conditions.

On the basis of these values, an advanced diagnostic module also allows to assess the level of efficiency for each individual unit, translating data into easy-to-read information in order to simplify and optimize the maintenance activities.

The “Chart Builder” software module allows to display the trends of the main operating variables. The “Reporting” module allows to send reports to selected users, including data and system’s status of the main devices as well as to perform calculation of the energy indexes for each single unit and for the entire chiller plant.

The accessibility to ClimaPRO System Manager is ensured by an integrated web server that makes it visible from any computer equipped with a web browser, either locally or remotely.

MANAGER 3000

Group regulation device

MANAGER 3000

Versions

2P	for 2-pipe plants	4P+VPF	for 4-pipe systems with VPF or VPF.D (variable primary flow)
4P	for 4-pipe system		
2P+VPF	for 2-pipe systems with VPF or VPF.D (variable primary flow)		

Features

- Ease of installation thanks to the all-in-one solution
- 8.4” Touch-screen display, 65536 colours
- Security - password-protected data access
- Multi-language interface
- Possibility of selecting the type of regulation and the reference probe for regulation
- Possibility of selecting the type of distribution of the requests of the group regulation device to the machines according to the needs of the system
- Some units can be given priority
- Possibility of choosing the number of units on standby - dynamic standby
- Balancing of single unit operating hours
- Device and unit alarm display
- Management of an additional serial connection for the integration of existing BMS

The MANAGER 3000 is a centralised management and control system for a group of hydronic units such as Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. chillers, heat pumps and energy raisers.

It can control up to 8 units, with the same or different power ratings, on 2- or 4-pipe systems. Regulation may be set according to the temperature read by the plant delivery or return probe, as required.

It is supplied in an industrial box complete with all components. The MANAGER 3000 has an 8.4” touch-screen user interface, allowing access to all information and the sending of commands with a few simple touches. Communication between MANAGER 3000 and the machines is accomplished by means of an RS485 serial connection. It has its own adjustment probes to be placed in suitably prepared pockets in the hydraulic system pipes.

Various additional options, to be chosen according to the characteristics, needs and availability of remote connection at the place of installation of the units, can be supplied in the same industrial box as the MANAGER 3000: modem/router for connection to a fixed ADSL line, modem for connection to a fixed PSTN, modem for connection to GPRS.

Options

Regulation of multiple units, 1 water circuit	X
Regulation of multiple units, two water circuits	X
Management of dynamic stand-by, priority, demand limit	X
Supervision via web pages	opt
Integration in bms / bas systems	opt
Access via lan	opt
Management of hydronic units	X
Max number of devices	8
User interface with display and commands	X
User interface with touch-screen and multi-language capabilities	X
Monitoring of alarms and unit status	X
Remote notification of alarms	opt
Log of main regulation variables and alarm events	opt
Built-in modem, gprs or pstn type	opt
Built-in adsl router	opt
Compatibility with systems with variable primary flow	opt

SEQUENCER

Group regulation device

SEQUENCER

Versions

2P for 2-pipe plants

Features

- Ease of installation thanks to the all-in-one solution
- Possibility of selecting the type of distribution of the requests of the SEQUENCER to the machines according to the needs of the system
- Distribution on several units or saturation of a single unit before asking for the next one
- Some units can be given priority
- Possibility of choosing the number of units on standby - dynamic standby
- Balancing of single unit operating hours
- Device and unit alarm display
- Management of an additional serial connection for the integration of existing BMS
- Daily/weekly scheduler

The Sequencer is a centralised management and control system for a group of Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A.hydronic chiller units, and heat pumps.

It can control up to 5 units, with similar or different capacities, in 2 pipe. Regulation may be set according to the temperature read by the system return probe.

It is supplied in an industrial box complete with all components. The sequencer dialogues with the units via a RS485 serial connection. It has its own adjustment probes to be placed in suitably prepared pockets in the hydraulic system pipes.

Options

Regulation of multiple units, 1 water circuit	X
Regulation of multiple units, two water circuits	X
Management of dynamic stand-by, priority, demand limit	X
Integration in bms / bas systems	opt
Management of hydronic units	X
Max number of devices	5
User interface with display and commands	X
Monitoring of alarms and unit status	X

ANCILLARY PRODUCTS

<<< BACK INDEX

NHCR	0011-21 - 0121
NCE	118A - 528B
FCE	218A - 828C

NHCR

Remote condenser with axial fans

0011-21 - 0121 7,90-40,1 kW

Remote condensers with axial-type fans for outdoor installation. Installation may be vertical with a horizontal air outflow or, using special brackets, horizontal with an upward air outflow.

Refrigerant

R407C

Features

Structure and base in hot-dip galvanised steel with epoxy powder paint finish. Finned coil exchanger made from copper tubes and aluminium fins. The aluminium fins are correctly spaced to guarantee optimum heat exchange efficiency.

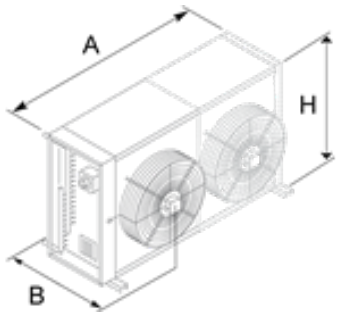
NHCR			0011-21	0025-31-41	0051	0061	0071-91	0101	0121
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50	230/1/50
PERFORMANCE									
NOMINAL SPECIFICATIONS									
Rated capacity	(1)	kW	7,90	15,9	16,3	24,0	25,5	32,7	40,1
No. Circuits		N°	1	1	1	1	1	1	1
Total power input	(1)	kW	0,16	0,32	0,27	0,48	0,54	0,54	0,81
FANS									
Air flow		m³/h	2267	4535	4899	6802	10330	9798	15500
NOISE LEVEL									
Sound Power	(2)	dB(A)	33	36	35	38	38	38	40
SIZE AND WEIGHT									
A	(3)	mm	780	1380	1105	1980	2005	2005	2905
H	(3)	mm	555	555	828	555	828	828	828
B	(3)	mm	362	362	428	362	428	428	428
Weight	(3)	kg	20,0	38,0	43,0	51,0	76,0	84,0	111

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R407C [GWP_{100} 1774] fluorinated greenhouse gases.

Dimensional drawing



NCE

118A - 528B 45,0-566 kW

Remote condenser with axial fans

Refrigerant

R410A

Versions

B	Basic	SL	super-low noise version
LN	Low noise		

NCE / B			118A	118B	118C	218A	218B	218C	318A	318B
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE										
NOMINAL SPECIFICATIONS										
Rated capacity	(1)	kW	55,0	68,0	75,0	110	135	150	160	197
No. Circuits		N°	1	1	1	1	1	1	1	1
Total power input	(1)	kW	2,00	2,00	2,00	4,00	4,00	4,00	6,00	6,00
FANS										
Air flow		m³/h	21200	19600	18400	42400	39000	36800	63600	58800
NOISE LEVEL										
Sound Power	(2)	dB(A)	81	81	81	84	84	84	86	86
SIZE AND WEIGHT										
A	(3)	mm	1880	1880	1880	3230	3230	3230	4580	4580
H	(3)	mm	1370	1370	1370	1370	1370	1370	1370	1370
B	(3)	mm	800	800	800	800	800	800	800	800
Weight	(3)	kg	145	157	168	279	302	324	413	447

NCE / B			318C	328A	328B	328C	418B	418C	428B	428C
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE										
NOMINAL SPECIFICATIONS										
Rated capacity	(1)	kW	228	301	389	430	270	300	511	566
No. Circuits		N°	1	2	2	2	1	1	2	2
Total power input	(1)	kW	6,00	12,0	12,0	12,0	8,00	8,00	16,0	16,0
FANS										
Air flow		m³/h	55200	123600	114000	106200	78400	73600	152000	141600
NOISE LEVEL										
Sound Power	(2)	dB(A)	86	89	89	89	86	86	90	90
SIZE AND WEIGHT										
A	(3)	mm	4580	5930	4580	4580	5930	5930	5930	5930
H	(3)	mm	1370	2390	2390	2390	1370	1370	2390	2390
B	(3)	mm	800	800	800	800	800	800	800	800
Weight	(3)	kg	481	680	742	804	592	637	982	1065

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NCE / LN			118A	118B	118C	218A	218B	218C	318A	318B
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE										
NOMINAL SPECIFICATIONS										
Rated capacity	(1)	kW	49,0	58,0	63,0	97,0	116	125	141	169
No. Circuits		N°	1	1	1	1	1	1	1	1
Total power input	(1)	kW	1,30	1,30	1,30	2,50	2,50	2,50	3,80	3,80
FANS										
Air flow		m³/h	17000	15500	14400	34000	31000	28800	51000	46500
NOISE LEVEL										
Sound Power	(2)	dB(A)	75	75	75	78	78	78	80	80
SIZE AND WEIGHT										
A	(3)	mm	1880	1880	1880	3230	3230	3230	4580	4580
H	(3)	mm	1370	1370	1370	1370	1370	1370	1370	1370
B	(3)	mm	800	800	800	800	800	800	800	800
Weight	(3)	kg	145	157	168	279	302	324	413	447

NCE / LN			318C	328A	328B	328C	418B	418C	428B	428C
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE										
NOMINAL SPECIFICATIONS										
Rated capacity	(1)	kW	191	264	331	354	232	251	435	466
No. Circuits		N°	1	2	2	2	1	1	2	2
Total power input	(1)	kW	3,80	7,60	7,60	7,60	5,10	5,10	10,2	10,2
FANS										
Air flow		m³/h	43200	97800	88800	81000	46500	43200	118400	108000
NOISE LEVEL										
Sound Power	(2)	dB(A)	80	83	83	83	80	80	84	84
SIZE AND WEIGHT										
A	(3)	mm	4580	4580	4580	4580	5930	5930	5930	5930
H	(3)	mm	1370	2390	2390	2390	1370	1370	2390	2390
B	(3)	mm	800	800	800	800	800	800	800	800
Weight	(3)	kg	481	680	742	804	592	637	982	1065

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

NCE

Remote condenser with axial fans

118A - 528B 45,0-566 kW

NCE / SL			216A	216B	218A	218C	316A	318A	318B	328A
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE										
NOMINAL SPECIFICATIONS										
Rated capacity	(1)	kW	45,0	49,0	79,0	95,0	67,0	115	133	215
No. Circuits		N°	1	1	1	1	1	1	1	2
Total power input	(1)	kW	0,40	0,40	1,20	1,20	0,60	1,80	1,80	3,60
FANS										
Air flow		m³/h	11600	10400	24400	20200	17400	36600	33000	48800
NOISE LEVEL										
Sound Power	(2)	dB(A)	68	68	71	71	70	73	73	76
SIZE AND WEIGHT										
A	(3)	mm	2630	2630	3230	3230	3770	4580	4580	4580
H	(3)	mm	1230	1230	1370	1370	1230	1370	1370	2390
B	(3)	mm	600	600	800	800	600	800	800	800
Weight	(3)	kg	200	215	340	360	290	490	530	770

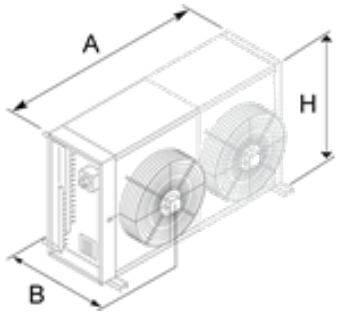
NCE / SL			328B	328C	418A	418B	418C	428A	428B	528B
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE										
NOMINAL SPECIFICATIONS										
Rated capacity	(1)	kW	259	273	158	182	190	295	340	430
No. Circuits		N°	2	2	1	1	1	2	2	2
Total power input	(1)	kW	3,60	3,60	2,40	2,40	2,40	4,80	4,80	6,00
FANS										
Air flow		m³/h	44000	40400	69600	62400	57600	92800	83200	104000
NOISE LEVEL										
Sound Power	(2)	dB(A)	76	76	74	74	74	77	77	78
SIZE AND WEIGHT										
A	(3)	mm	4580	4580	5930	5930	5930	4580	4580	7280
H	(3)	mm	2390	2390	1370	1370	1370	2390	2390	2390
B	(3)	mm	800	800	800	800	800	800	800	800
Weight	(3)	kg	830	890	645	695	735	1010	1090	1350

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

Dimensional drawing



FCE

Remote condenser with axial fans

218A - 828C 83,0-929 kW

Remote condensers with axial-type fans for outdoor installation. Installation may be vertical with a horizontal air outflow or, using special brackets, horizontal with an upward air outflow. The very low noise, adjustable-speed fans are excellent for use for industrial applications.

Refrigerant

R134a

Versions

B	Basic	SL	super-low noise version
LN	Low noise		

FCE / B			218A	218B	228A	228B	228C	318B	328B	328C	418C
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE											
NOMINAL SPECIFICATIONS											
Rated capacity	(1)	kW	98,0	123	185	232	262	177	340	390	278
No. Circuits		N°	1	1	2	2	2	1	2	2	1
Total power input	(1)	kW	4,00	4,00	8,00	8,00	8,00	6,00	12,0	12,0	8,00
FANS											
Air flow		m³/h	42400	39200	82400	76000	70800	58800	114000	106200	73600
NOISE LEVEL											
Sound Power	(2)	dB(A)	84	84	87	87	87	86	89	89	87
SIZE AND WEIGHT											
A	(3)	mm	3230	3230	3230	3230	3230	4580	4580	4580	5930
H	(3)	mm	1370	1370	2390	2390	2390	1370	2390	2390	1370
B	(3)	mm	800	800	800	800	800	800	800	800	800
Weight	(3)	kg	279	302	462	502	543	447	742	804	637

FCE / B			428B	428C	518B	518C	528B	528C	628B	628C	828B
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE											
NOMINAL SPECIFICATIONS											
Rated capacity	(1)	kW	464	524	311	351	586	661	683	783	929
No. Circuits		N°	2	2	1	1	2	2	2	2	2
Total power input	(1)	kW	16,0	16,0	10,0	10,0	20,0	20,0	24,0	24,0	32,0
FANS											
Air flow		m³/h	152000	141600	98000	92000	190000	177000	228000	212400	236800
NOISE LEVEL											
Sound Power	(2)	dB(A)	90	90	88	88	91	91	91	92	94
SIZE AND WEIGHT											
A	(3)	mm	5930	5930	7280	7280	7280	7280	8630	8630	11330
H	(3)	mm	2390	2390	1370	1370	2390	2390	2390	2390	2390
B	(3)	mm	800	800	800	800	800	800	800	800	800
Weight	(3)	kg	982	1065	737	794	1222	1325	1461	1585	1942

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FCE / LN			218A	218B	228A	228B	228C	318B	328A
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE									
NOMINAL SPECIFICATIONS									
Rated capacity	(1)	kW	87,0	107	164	200	219	154	233
No. Circuits		N°	1	1	2	2	2	1	2
Total power input	(1)	kW	2,50	2,50	5,10	5,10	5,10	3,80	7,60
FANS									
Air flow		m³/h	34000	31000	65200	59200	54000	46500	97800
NOISE LEVEL									
Sound Power	(2)	dB(A)	78	78	81	81	81	80	83
SIZE AND WEIGHT									
A	(3)	mm	3230	3230	3230	3230	3230	4580	4580
H	(3)	mm	1370	1370	2390	2390	2390	1370	2390
B	(3)	mm	800	800	800	800	800	800	800
Weight	(3)	kg	279	302	462	502	543	447	680

FCE / LN			328B	328C	418C	428B	428C	518B	518C
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE									
NOMINAL SPECIFICATIONS									
Rated capacity	(1)	kW	299	329	236	399	437	270	283
No. Circuits		N°	2	2	1	2	2	1	1
Total power input	(1)	kW	7,60	7,60	5,10	10,2	10,2	6,40	6,40
FANS									
Air flow		m³/h	88800	81000	57600	118400	108000	77500	72000
NOISE LEVEL									
Sound Power	(2)	dB(A)	83	83	81	84	84	82	82
SIZE AND WEIGHT									
A	(3)	mm	4580	4580	5930	5930	5930	7280	7280
H	(3)	mm	2390	2390	1370	2390	2390	1370	1370
B	(3)	mm	800	800	800	800	800	800	800
Weight	(3)	kg	742	804	637	982	1065	737	794

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

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FCE

Remote condenser with axial fans

218A - 828C 83,0-929 kW

FCE / LN			528B	528C	628B	628C	828B
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE							
NOMINAL SPECIFICATIONS							
Rated capacity	(1)	kW	506	553	599	660	800
No. Circuits		N°	2	2	2	2	2
Total power input	(1)	kW	12,7	12,7	15,2	15,2	20,3
FANS							
Air flow		m³/h	148000	135000	177600	162000	236800
NOISE LEVEL							
Sound Power	(2)	dB(A)	85	85	86	86	88
SIZE AND WEIGHT							
A	(3)	mm	7280	7280	8630	8630	11330
H	(3)	mm	2390	2390	2390	2390	2390
B	(3)	mm	800	800	800	800	800
Weight	(3)	kg	1222	1325	1461	1585	1942

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

The units highlighted in this publication contain HFC R134a [GWP_{100} 1430] fluorinated greenhouse gases.

FCE / SL			228C	318A	318B	328B	328C	416A	418A
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE									
NOMINAL SPECIFICATIONS									
Rated capacity	(1)	kW	171	104	122	241	260	83,0	145
No. Circuits		N°	2	1	1	2	2	1	1
Total power input	(1)	kW	2,40	1,80	1,80	3,50	3,50	0,80	2,40
FANS									
Air flow		m³/h	38400	36600	33000	82200	76200	23200	48800
NOISE LEVEL									
Sound Power	(2)	dB(A)	74	73	73	76	76	71	74
SIZE AND WEIGHT									
A	(3)	mm	3230	4580	4580	4580	4580	4910	5930
H	(3)	mm	2390	1370	1370	2390	2390	1230	1370
B	(3)	mm	800	800	800	800	800	600	800
Weight	(3)	kg	543	413	447	742	804	292	547

FCE / SL			418B	418C	428A	428B	428C	518B	528B
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE									
NOMINAL SPECIFICATIONS									
Rated capacity	(1)	kW	171	173	270	318	342	217	274
No. Circuits		N°	1	1	2	2	2	1	2
Total power input	(1)	kW	2,40	2,40	4,70	4,70	4,70	3,00	5,90
FANS									
Air flow		m³/h	44000	40400	92800	83200	76800	55000	104000
NOISE LEVEL									
Sound Power	(2)	dB(A)	74	74	77	77	77	75	78
SIZE AND WEIGHT									
A	(3)	mm	5930	5930	5930	5930	5930	7280	7280
H	(3)	mm	1370	1370	2390	2390	2390	1370	2390
B	(3)	mm	800	800	800	800	800	800	800
Weight	(3)	kg	592	637	900	982	1065	737	1222

FCE / SL			528C	628B	628C	728B	728C	828B	828C
Power supply		V/ph/Hz	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE	400/3/50+PE
PERFORMANCE									
NOMINAL SPECIFICATIONS									
Rated capacity	(1)	kW	433	483	520	552	600	636	683
No. Circuits		N°	2	2	2	2	2	2	2
Total power input	(1)	kW	5,90	7,10	7,10	8,30	8,30	9,40	9,40
FANS									
Air flow		m³/h	96000	124800	115200	145600	134400	166400	153600
NOISE LEVEL									
Sound Power	(2)	dB(A)	78	79	79	79	79	80	80
SIZE AND WEIGHT									
A	(3)	mm	7280	8630	8630	9980	9980	11330	11330
H	(3)	mm	2390	2390	2390	2390	2390	2390	2390
B	(3)	mm	800	800	800	800	800	800	800
Weight	(3)	kg	1325	1461	1585	1702	1845	1942	2106

Notes

1 Exchanger air (in) 35 °C; ΔT = 17 K.
2 Sound power on the basis of measurements made in compliance with ISO 9614.
3 Unit in standard configuration/execution, without optional accessories.

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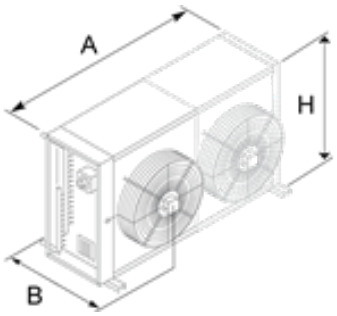
Dimensional drawing



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