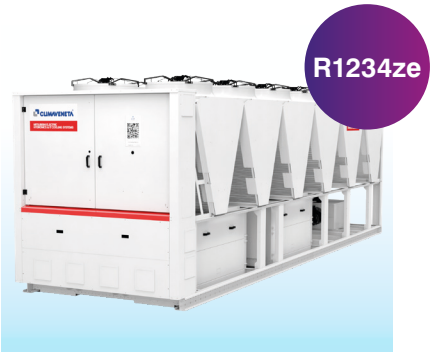
i-FX2-G04 0392 – 1683

AIR SOURCED CHILLER



MITSUBISHI ELECTRIC HYDRONICS & IT COOLING SYSTEMS

AIR SOURCED CHILLER

For outdoor installation

Cooling Capacity: 380 – 1675kW

An outdoor unit designed to produce chilled water, featuring semi-hermetic variable-speed screw compressors optimised for R1234ze. The i-FX2-G04 range includes axial-flow fans, full-aluminium micro-channel condensing coils, an electronic expansion valve, and a single-pass shell-and-tube evaporator designed by Mitsubishi Electric Hydronics & IT Cooling Systems (MEHITS).

The range also features Variable Vi (compression ratio) technology, allowing it to adjust the internal geometry based on operating conditions. With carefully sized internal components and advanced variable-speed technology, the unit ensures flexibility, reliability, and maximum efficiency across all operating conditions.

Key Features

High Efficiency Inverter Screw Compressor

The i-FX2-G04 features variable speed screw-compressors, designed according to MEHITS specifications and for its exclusive use. These compact compressors combine an integrated oil separator, a frequency modulation inverter, and an inverter cooling system all within in a single casing.

Low GWP Refrigerant

The next generation HFO R1234ze has a negligible greenhouse effect compared to traditional HFC refrigerants. Its Global Warming Potential (GWP) is less than 1, while R134A has a GWP of 1300 (according to IPCC 5th Revision). In addition, HFO R1234ze has zero impact on the ozone layer.

Aluminium Micro-Channel Heat Exchangers

The full aluminium micro-channel condenser coils offer high efficiency while minimising refrigerant volume and reducing unit weight. Optional e-coating protection provides maximum corrosion resistance – even in the harshest environments.

Shell and Tube Heat Exchanger

This direct-expansion shell-and-tube heat exchanger serves as the evaporator, with refrigerant flowing through the internal pipes and water flowing on the shell side. Developed and manufactured by MEHITS, the heat exchanger is a single-step type that enables near-perfect counter-flow heat exchange.

Electronic Expansion Valve Supplied as Standard

The use of an electronic expansion valve provides considerable benefits, especially in cases of variable demand and different operating conditions. It ensures energy savings through efficiency optimisation across a range of conditions, which translates into improved operating efficiency, faster unit start-up, and a wider extension of the operating limits.

Unit and Plant Harmony

Low inrush current and a higher power factor than comparable fixed-speed units make for easy electrical installation, reduced starting current, and superior power factor. VSD technology allows the unit to modulate, reducing fluctuations in leaving water temperature.

High Efficiency Performance

3.41 EER[*1]

5.65 SEER[*2]

[*1] i-FX2-G04-E/0502 version with EC fans EN14511 value.
[*2] i-FX2-G04-E/0552 version with EC fans seasonal efficiency in cooling (Reg. EU 2016/2281).

Capacity Range

VERSION		COOLING CAPACITY
K†	KEY EFFICIENCY	423 – 1675 kW
E	ENHANCED EFFICIENCY	393 – 1532 kW
SL-K	KEY EFFICIENCY, SUPER LOW NOISE	409 – 1619 kW
SL-E	ENHANCED EFFICIENCY, SUPER LOW NOISE	380 – 1480 kW

† Performance data overleaf.

Specifications

i-FX2-G04-K

NOTE: Performance data of other versions are available upon request.

		0422	0452	0512	0572	0602	0672	0712	0772	0862	0962	1062	1152	1253	1333	1463	1573	1683
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	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 (EN14511 VALUE)																		
Cooling capacity (1) (2)	kW	422.20	454.30	508.30	571.10	593.70	666.50	711.00	765.90	859.20	957.70	1,065.00	1,147.00	1,247.00	1,328.00	1,460.00	1,565.00	1,674.00
EER (1) (2)	kW/kW	3.20	3.07	3.06	3.19	3.15	2.92	3.06	3.00	3.02	3.08	3.13	3.07	3.10	2.95	3.13	3.11	3.11
SEASONAL EFFICIENCY IN COOLING (REG. EU 2016/2281)																		
AMBIENT REFRIGERATION																		
Prated, c (7)	kW	422.2	454.3	508.3	571.1	594.7	667.5	711.0	766.9	859.2	958.7	1,065.0	1,147.0	1,247.0	1,328.0	1,460.0	1,565.0	1,674.0
SEER (7) (8)		5.17	5.12	5.14	5.15	5.17	5.10	5.20	5.01	4.95	5.00	5.06	5.09	4.98	4.89	5.08	5.15	5.16
Performance ηs (7) (9)	%	204	202	203	203	204	201	205	197	195	197	199	200	196	193	200	203	203
EXCHANGERS																		
HEAT EXCHANGER USER SIDE IN COOLING																		
Water flow (1)	L/s	20.21	21.75	24.33	27.34	28.42	31.90	34.03	36.66	41.12	45.83	50.96	54.89	59.66	63.54	69.88	74.88	80.12
Pressure drop at the heat exchanger (1)	kPa	45.40	52.60	34.60	43.70	47.20	52.40	59.60	62.90	33.60	41.80	62.90	63.40	50.00	56.70	52.00	64.20	73.50
REFRIGERANT CIRCUIT																		
Compressors nr.	No.	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
No. Circuits	No.	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
Theoretical refrigerant charge	kg	72	76	78	92	94	96	125	130	136	158	178	183	227	232	256	276	300
NOISE LEVEL																		
Total sound pressure (3)	dB(A)	68	69	69	70	70	70	71	71	73	73	73	73	73	73	74	74	74
Total sound power level in cooling (4) (5)	dB(A)	100	101	101	102	102	102	104	104	106	106	106	106	106	106	107	107	107
SIZE AND WEIGHT																		
A (6)	mm	4,150	4,150	4,150	5,400	5,400	5,400	6,650	6,650	6,650	7,900	9,150	9,150	10,400	10,400	11,650	11,650	12,900
B (6)	mm	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260	2,260
H (6)	mm	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640	2,640
Operating weight (6)	kg	4,428	4,439	4,535	5,105	5,105	5,137	5,693	6,053	6,815	7,346	8,099	8,270	10,491	10,493	11,623	11,714	12,278

(1) Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°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 taken in compliance with ISO 9614.

(5) Sound power level in cooling, outdoors.

(6) Unit in standard configuration, without optional accessories.

(7) Parameter calculated according to [REGULATION (EU) N. 2016/2281].

(8) Seasonal energy efficiency ratio.

(9) Seasonal space cooling energy efficiency.

The units highlighted in this publication contain [GWP100 631] fluorinated greenhouse gases. Data highlighted in green are Eurovent Certified.

Optional Extras

- User interface versions including KIPLINK
- Microchannel coils with e-coating protection
- Traditional coils with copper tubes and aluminium fins, also available with pre-painted fins or Blygold protective treatment
- Noise reducer kit
- Kit HT to increase the unit operating range
- EC fans with DC brushless motor
- Automatic circuit breakers
- Hydronic module with high or low head, fixed speed or variable speed twin pumps
- Compressor acoustical enclosures
- Smart current limit
- Multi manager
- BMS Interface – such as BACnet, Modbus
- Night Mode to limit the maximum noise level of the unit
- Pressure relief valves
- Compressor suction valve
- Variable primary flow control
- Thermal energy meter
- Anti-intrusion grills
- Hydraulic decoupler probe
- Refrigerant leak detector

For more options refer to the Databook.

For more information please visit our website or call our Applied Products Sales Team.
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