

MEHP-iS-G07 0051 - 0112

AIR SOURCED HEAT PUMP CHILLER



For outdoor installation
Heating Capacity: 50 – 110kW

Air sourced reversible heat pump optimised for Heating Mode with variable speed scroll compressors and R32 refrigerant in a single-circuit configuration.

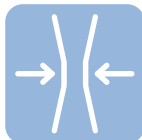
Flexible and reliable, the MEHP-iS-G07 easily adapts to different thermal load conditions using precise temperature control together with inverter technology. High performance levels at both full and partial loads are achieved thanks to the unit's detailed design as well as the use of fixed speed motor together with variable speed (inverter) motor.

Low Noise Operation



Narrow Footprint

only 1.1m wide across the range



High Efficiency Performance



MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS

AIR SOURCED HEAT PUMP CHILLER

Key Features

High Efficiency Inverter Compressors

The MEHP-iS-G07 utilises Mitsubishi Electric Inverter Scroll Compressors to deliver high part load efficiency and low compressor turndown. Larger units use an inverter compressor arrangement in tandem with one fixed speed compressor to achieve higher capacities.

EC Condenser Fans

Supplied as standard, Mitsubishi Electric EC Fans further enhance the operating efficiency providing superior part load performance.

R32 Refrigerant

Low global warming potential (GWP) R32 refrigerant is zero ozone depleting and has a GWP 66% less than R410A – all while offering benefits of higher efficiency and a lower refrigerant charge.

Plate Heat Exchanger

Braze welded AISI 316 plate heat exchanger is insulated with 9mm thick closed cell neoprene insulation with a thermal conductivity of 0.33W/mK at 0°C.

Copper Tube Aluminium Fin Air Source Coil

The air-refrigerant heat exchanger works as a condenser or an evaporator depending on the specific operating mode. Made with copper tubes and aluminium fins, the aluminium fins are spaced to guarantee the best heat exchange efficiency, and features an inbuilt drain pan under the coil for condensate collection.

Electronic Expansion Valve Supplied as Standard

The use of the electronic expansion valve generates considerable benefits, especially in cases of variable demand and at different working conditions. It guarantees energy savings due to efficiency optimisation in various different working conditions which translates into a reduction in operating consumption, a faster start-up of the unit and a wider extension of the operating limits.

Wide Operating Range

Capable of delivering heating water up to 65°C the MEHP-iS-G07 range is suitable for most heating applications as well as domestic hot water production. Furthermore, in Chiller Mode it can produce chilled water as low as -8°C and up to 18°C.

Group Controls with Dynamic Master

Load sharing, sequencing, active redundancy, priority of resource activation and alarm management are only some of the LAN functions that the unit is able to manage when connected to a group of chillers. Dynamic Master logic ensures system stability even in case of alarm or malfunction.

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.

*1 Size 0051

*2 MEHP-iS-G07 /0051 EN14511.

*3 MEHP-iS-G07 /0102 Regulation (EU) N.2281/2016.

*4 MEHP-iS-G07 /0051 Regulation (EU) N.813/2013 medium temperature application.

Specifications



MEHP-iS-G07

		0051	0061	0071	0082	0092	0102	0112
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 (EN14511 VALUE)								
Cooling capacity (1) (2)	kW	48	53	60	68.3	74.1	85.9	93.8
EER (1) (2)	kW/kW	2.81	2.64	2.34	2.73	2.45	2.68	2.48
HEATING ONLY (EN14511 VALUE)								
Total heating capacity (3) (2)		50	60	70	80	90	100.3	110.3
COP (3) (2)		3.44	3.38	3.15	3.32	3.12	3.35	3.18
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (REG. EU 2016/2281)								
Ambient refrigeration								
Prated, c (11)	kW	48	53	60	68.3	74.1	85.9	93.8
SEER (11) (12)		4.63	4.58	4.46	4.49	4.46	4.81	4.75
Performance ηs (11) (13)	%	182	180	175	177	175	189	187
SEASONAL EFFICIENCY IN HEATING (REG. EU 813/2013)								
MEDIUM TEMPERATURE								
PDesign (5)		40.2	48.4	48.4	63.7	63.7	82.3	82.3
SCOP (5) (14)		3.43	3.37	3.37	3.37	3.23	3.39	3.43
Performance ηs (5) (15)		134	132	132	132	126	133	134
Seasonal efficiency class (17)		A++	A++	A++	A++	A++	-	-
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN COOLING								
Water flow (1)	L/s	2.3	2.54	2.87	3.27	3.55	4.11	4.49
Pressure drop at the heat exchanger (1)	kPa	14.4	17.6	22.5	17.2	20.2	20.8	24.9
HEAT EXCHANGER USER SIDE IN HEATING								
Water flow (3)	L/s	2.41	2.89	3.37	3.86	4.34	4.83	5.31
Pressure drop at the heat exchanger (3)	kPa	15.8	22.7	31	23.9	30.2	28.7	34.7
REFRIGERANT CIRCUIT								
Compressors nr.	No.	1	1	1	2	2	2	2
No. Circuits	No.	1	1	1	1	1	1	1
Refrigerant charge	kg	12	12	12	18	18	25	25
NOISE LEVEL								
Total sound pressure (9)	dB(A)	59	60	62	62	63	63	63
Total sound power level in cooling (6) (7)	dB(A)	77	78	80	80	81	82	82
Total sound power level in heating (6) (7)	dB(A)	77	78	80	80	81	82	82
SIZE AND WEIGHT								
A (10)	mm	2085	2085	2085	2600	2600	3225	3225
B (10)	mm	1100	1100	1100	1100	1100	1100	1100
H (10)	mm	2400	2400	2400	2400	2400	2400	2400
Operating weight (10)	kg	710	710	710	960	960	1085	1085

- (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) Parameter calculated for LOW-TEMPERATURE applications in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013].
 (5) Parameter calculated for MEDIUM TEMPERATURE applications in AVERAGE climate conditions according to [REGULATION (EU) N. 813/2013].

- (6) Sound power on the basis of measurements taken in compliance with ISO9614.
 (7) Sound power level in cooling, outdoors.
 (8) Sound power level in heating, outdoors.
 (9) 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.
 (10) Unit in standard configuration, without optional accessories.
 (11) Parameter calculated according to [REGULATION (EU) N. 2016/2281].
 (12) Seasonal energy efficiency ratio.

- (13) Seasonal space cooling energy efficiency.
 (14) Seasonal coefficient of performance.
 (15) Seasonal space heating energy efficiency.
 (16) Energy efficiency class referred to LOW-TEMPERATURE applications in AVERAGE climate conditions according to [REGULATION (EU) N.811/2013].
 (17) Energy efficiency class referred to MEDIUM TEMPERATURE applications in AVERAGE climate conditions according to [REGULATION (EU) N.811/2013].
 Data highlighted in green are Eurovent Certified.

Optional Extras

- Condenser coil corrosion protection coatings
- Copper aluminium condenser coil
- Integrated hydronic group – pumps and tanks
- Lights and power socket
- Compressor suction and discharge valves
- BMS Interface – such as Bacnet and ModBus
- Partial heat recovery – desuperheater
- Night Mode
- Energy Monitoring
- Soft start (for fixed speed compressors)
- User interface versions including KIPlink
- Multi-unit manager onboard
- Refrigerant leak detection
- ...for more options refer to Databook

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