MEHP-iB-G07 07V - 40Y

6,99-41,3 kW
Reversible heat pump, air source for outdoor installation

R R32
ROTATIVE
SCROLL
P PLATES

(The photo of the unit is indicative and may vary depending on the model)

- LOW GWP REFRIGERANT
- SYSTEM EFFICIENCY
- HIGH EFFICIENCY AT PARTIAL LOADS
- WIDE OPERATING RANGE
- INTEGRATED HYDRONIC MODULE
- VARIABLE PRIMARY FLOW
- SMART DEFROST

MITSUBISHI ELECTRIC
Changes for the Better

LEGEND

Functions

COOLING — Cooling

HEATING — Heating

HOT WATER — Hot water

Refrigerant

R R32 — R32

Compressors

ROTATIVE — Rotary compressor

SCROLL — Scroll compressor

Fan

EC AXIAL — EC axial fan

Exchangers

PLATES — Plates heat exchanger

Other features

EUROVENT CERTIFIED PERFORMANCE — Eurovent

INVERTER DRIVEN COMPRESSOR — Inverter Driven Compressor

2 PRODUCT FEATURES

Data Book
DB_ME_MEHP-iB-G07 07V - 40Y_072023_EN R32

2.1 PRODUCT FEATURES

PACKAGED AND PLUG&PLAY REVERSIBLE HEAT PUMP, IDEAL FOR RESIDENTIAL AND LIGHT COMMERCIAL APPLICATIONS

Air to water heat pumps are more and more used in residential and light commercial applications, mainly because of the increased demand in dacarbonization in heating systems. MEHITS long-time experience combined with know-how, design procedures and technical support from MELCO allow to develop a monoblock heat pump ideal for low capacity applications, where easy installation (Plug&Play solution, thanks to the embedded hydronic module) and high seasonal efficiencies are required.

COMFORT Applications
• Wide operating range: outdoor air temperature down to -20°C and hot water production up to 60°C
• Plug&play solution, with the easy installation typical of hydronic plants (compared to direct exapnsion air conditioning systems)
• Domestic hot water production
• Unit optimized for heat pump operating mode

PROCESS Applications
Unit is suitable also for process applications, as it is able to provide chilled water down to -8°C.

7 GENERAL TECHNICAL DATA

[SI System]

MEHP-iB-G07			07V	09V	11V	15V	15Y	18Y	23Y	27Y	35Y	40Y
Power supply		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	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	6,203	7,721	10,37	13,49	13,52	15,62	19,70	25,85	30,90	35,82
Total power input	(1)	kW	2,044	2,665	3,490	4,357	4,247	5,569	6,977	8,708	11,16	12,33
EER	(1)	kW/kW	3,039	2,891	2,980	3,096	3,176	2,801	2,822	2,962	2,759	2,911
COOLING ONLY (EN14511 VALUE)												
Cooling capacity	(1)(2)	kW	6,250	7,770	10,40	13,60	13,60	15,70	19,80	26,00	31,10	36,00
EER	(1)(2)	kW/kW	3,060	2,920	3,000	3,100	3,190	2,810	2,840	2,980	2,790	2,930
HEATING ONLY (GROSS VALUE)												
Total heating capacity	(3)	kW	6,735	8,772	11,24	15,04	15,27	17,24	23,80	27,23	34,19	40,86
Total power input	(3)	kW	2,054	2,462	3,276	4,496	4,243	4,849	6,722	8,021	10,69	11,56
COP	(3)	kW/kW	3,288	3,565	3,415	3,333	3,608	3,546	3,542	3,392	3,196	3,526
HEATING ONLY (EN14511 VALUE)												
Total heating capacity	(3)(2)	kW	6,680	8,720	11,20	15,00	15,20	17,10	23,70	27,10	34,00	40,70
COP	(3)(2)	kW/kW	3,260	3,550	3,420	3,320	3,570	3,520	3,520	3,380	3,180	3,520
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN COOLING												
Water flow	(1)	l/s	0,297	0,369	0,496	0,645	0,647	0,747	0,942	1,236	1,477	1,713
Pressure drop at the heat exchanger	(1)	kPa	7,98	8,66	10,8	12,4	12,5	12,8	13,2	17,8	18,4	18,4
HEAT EXCHANGER USER SIDE IN HEATING												
Water flow	(3)	l/s	0,325	0,423	0,543	0,726	0,737	0,832	1,149	1,314	1,650	1,972
Pressure drop at the heat exchanger	(3)	kPa	9,59	11,4	13,0	15,7	16,2	15,9	19,7	20,1	22,9	24,5
REFRIGERANT CIRCUIT												
Compressors nr.		N°	1	1	1	1	1	1	1	1	1	1
Number of capacity steps		N°	0	0	0	0	0	0	0	0	0	0
No. Circuits		N°	1	1	1	1	1	1	1	1	1	1
Regulation			STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
Min. capacity step		%	32	41	40	28	29	28	29	40	33	29
Refrigerant			R32	R32	R32	R32	R32	R32	R32	R32	R32	R32
Theoretical refrigerant charge		kg	1,90	3,50	3,60	3,90	3,90	4,55	6,20	6,90	8,85	9,30
Oil charge		kg	0,35	0,40	0,70	1,20	1,00	1,00	1,00	2,30	2,30	2,30
Rc (ASHRAE)	(4)	kg/kW	0,31	0,46	0,35	0,29	0,29	0,29	0,32	0,27	0,29	0,26
FANS												
Quantity		N°	1	1	2	2	2	2	1	2	2	2
Air flow		m³/s	0,93	1,02	1,84	1,84	1,84	1,95	2,34	4,52	4,35	4,75
Total fans power input		kW	0,11	0,11	0,22	0,22	0,22	0,22	0,39	0,78	0,78	0,78
NOISE LEVEL												
Total sound Pressure	(5)	dB(A)	53	53	54	55	55	56	61	62	63	64
Total sound power level in cooling	(6)(7)	dB(A)	67	68	69	70	70	71	76	78	79	80
Total sound power level in heating	(6)(8)	dB(A)	65	65	69	70	70	70	76	78	78	78
SIZE AND WEIGHT												
A	(9)	mm	900	900	900	900	900	1450	1450	1450	1450	1700
B	(9)	mm	370	420	420	420	420	550	550	550	550	650
H	(9)	mm	940	1240	1240	1390	1390	1200	1200	1700	1700	1700
Operating weight	(9)	kg	85	105	115	135	150	185	215	260	280	315

Notes:
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 Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C; Source (side) heat exchanger air (in) 7,0°C - 87% R.H.
4 Rated in accordance with AHRI Standard 550/590
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 taken in compliance with ISO 9614.
7 Sound power level in cooling, outdoors.
8 Sound power level in heating, outdoors.
9 Unit in standard configuration, without optional accessories.
- Not available
Data certified in EUROVENT

8 TECHNICAL DATA SEASONAL EFFICIENCY IN HEATING (EN14825 VALUE)

[SI System]

MEHP-iB-G07 - LOW TEMPERATURE application			07V	09V	11V	15V	15Y	18Y
Power supply		(V/ph/Hz)	230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50
WEATHER CONDITIONS - AVERAGE								
Rated heat output at Tdesignh	(1)(2)	kW	5	6	8	10	10	14
Bivalent temperature	(1)(2)	°C	-7	-7	-7	-7	-7	-7
SCOP	(1)(2)		4,46	4,57	4,47	4,21	4,71	4,61
Seasonal space heating energy efficiency	(1)(2)	%	176	180	176	165	185	182
Seasonal space heating energy efficiency class	(1)(2)		A+++	A+++	A+++	A++	A+++	A+++

1 Seasonal space heating energy efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013]
2 Type of calculation with variable flow and variable temperature.

MEHP-iB-G07 - MEDIUM TEMPERATURE application			07V	09V	11V	15V	15Y	18Y
Power supply		(V/ph/Hz)	230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50
WEATHER CONDITIONS - AVERAGE								
Rated heat output at Tdesignh	(1)(2)	kW	4	6	8	9	9	12
Bivalent temperature	(1)(2)	°C	-7	-7	-7	-7	-7	-7
SCOP	(1)(2)		2,85	3,20	3,21	2,85	3,21	3,25
Seasonal space heating energy efficiency	(1)(2)	%	111	125	126	111	125	127
Seasonal space heating energy efficiency class	(1)(2)		A+	A++	A++	A+	A++	A++

1 Seasonal space heating energy efficiency class MEDIUM TEMPERATURE [REGULATION (EU) N. 813/2013]
2 Type of calculation with variable flow and variable temperature.
Data certified in EUROVENT

MEHP-iB-G07 - LOW TEMPERATURE application			23Y	27Y	35Y	40Y
Power supply		(V/ph/Hz)	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
WEATHER CONDITIONS - AVERAGE						
Rated heat output at Tdesignh	(1)(2)	kW	18	21	26	31
Bivalent temperature	(1)(2)	°C	-7	-7	-7	-7
SCOP	(1)(2)		4,76	4,51	4,45	4,62
Seasonal space heating energy efficiency	(1)(2)	%	187	177	175	182
Seasonal space heating energy efficiency class	(1)(2)		A+++	A+++	A+++	A+++

1 Seasonal space heating energy efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013]
2 Type of calculation with variable flow and variable temperature.

MEHP-iB-G07 - MEDIUM TEMPERATURE application			23Y	27Y	35Y	40Y
Power supply		(V/ph/Hz)	400/3+N/50	400/3+N/50	400/3+N/50	400/3+N/50
WEATHER CONDITIONS - AVERAGE						
Rated heat output at Tdesignh	(1)(2)	kW	15	19	23	29
Bivalent temperature	(1)(2)	°C	-7	-7	-7	-7
SCOP	(1)(2)		3,42	3,21	3,21	3,48
Seasonal space heating energy efficiency	(1)(2)	%	134	125	125	136
Seasonal space heating energy efficiency class	(1)(2)		A++	A++	A++	A++

1 Seasonal space heating energy efficiency class MEDIUM TEMPERATURE [REGULATION (EU) N. 813/2013]
2 Type of calculation with variable flow and variable temperature.
Data certified in EUROVENT

9 TECHNICAL DATA SEASONAL EFFICIENCY IN COOLING (EN14825 VALUE)

[SI System]

ENERGY EFFICIENCY

SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)
Ambient refrigeration

MEHP-iB-G07			07V	09V	11V	15V	15Y	18Y	23Y	27Y	35Y	40Y
Prated,c	(1)	kW	6,3	7,8	10,4	13,6	13,6	15,7	19,8	26,0	31,1	36,0
SEER	(1) (2)	-	4,74	4,68	4,73	4,45	5,17	5,01	4,88	4,82	4,81	4,93
Performance ηs	(1) (3)	%	187,0	184,0	186,0	175,0	204,0	197,0	192,0	190,0	189,0	194,0

Notes:
(1) Parameter calculated according to [REGULATION (EU) N. 2016/2281]
(2) Seasonal energy efficiency ratio
(3) Seasonal space cooling energy efficiency
The units highlighted in this publication contain R32 [GWP_{100} 677] fluorinated greenhouse gases.