

Subtype M thermal A series semi mono 12 14 16 kW

Certificate Holder	GD Midea Heating & Ventilating Equipment Co., Ltd.
Address	Penglai Industry Road
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City	Beijiao, Shunde, Foshan
Country	CN
Certification Body	BRE Global Limited
Subtype title	M thermal A series semi mono 12 14 16 kW
Registration number	041-K007-20
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	1.75 kg
Certification Date	22.08.2023
Testing basis	Heat Pump KEYMARK certification Scheme rules v12

Model MHP-V12WD2N8+HB-P160CG or HB-P160CD30G or HB-P160CDS60Gor HB-P160CDS90G

Model name	MHP-V12WD2N8+HB-P160CG or HB-P160CD30G or HB-P160CDS60Gor HB-P160CDS90G
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	187 %	133 %
Prated	11.80 kW	11.40 kW
SCOP	4.75	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.48 kW	10.05 kW
COP Tj = -7°C	2.84	1.97
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.60 kW	6.39 kW
COP Tj = +2°C	4.59	3.37
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.38 kW	4.27 kW
COP Tj = +7°C	6.52	4.49
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.71 kW	3.23 kW
COP Tj = 12°C	8.38	5.94
Cdh Tj = +12 °C	0.900	0.900

Pdh Tj = Tbiv	10.48 kW	10.11 kW
COP Tj = Tbiv	2.84	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.59 kW	8.89 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.73	1.76
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.25 kW	2.54 kW
Annual energy consumption Qhe	5155 kWh	6925 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	115 %
Prated	11.20 kW	10.10 kW
SCOP	4.01	2.93
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.93 kW	6.47 kW
COP Tj = -7°C	3.42	2.58
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.59 kW	3.95 kW
COP Tj = +2°C	4.87	3.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.08 kW	2.70 kW
COP Tj = +7°C	5.99	4.32
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.53 kW	3.28 kW
COP Tj = 12°C	7.78	6.00
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.13 kW	8.20 kW
COP Tj = Tbiv	2.55	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	3.94 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.93	1.09
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.39 kW	6.11 kW
Annual energy consumption Qhe	5872 kWh	8429 kWh
Pdh Tj = -15°C (if TOL	9.13	8.20
COP Tj = -15°C (if TOL	2.55	1.79
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	253 %	171 %
Prated	11.00 kW	12.30 kW
SCOP	6.39	4.36
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.99 kW	11.90 kW
COP Tj = +2°C	3.56	2.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.06 kW	7.91 kW
COP Tj = +7°C	5.81	3.80
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.50 kW	3.68 kW
COP Tj = 12°C	7.84	5.59
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.06 kW	7.91 kW
COP Tj = Tbiv	5.76	3.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.99 kW	11.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.56	2.28
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C

Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.01 kW	0.41 kW
Annual energy consumption Qhe	2291 kWh	3777 kWh

Model MHP-V12WD2RN8 +HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G

Model name	MHP-V12WD2RN8 +HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water
EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	187 %	133 %
Prated	11.80 kW	11.40 kW
SCOP	4.75	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.48 kW	10.05 kW
COP Tj = -7°C	2.84	1.97
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.60 kW	6.39 kW
COP Tj = +2°C	4.59	3.37
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.38 kW	4.27 kW
COP Tj = +7°C	6.52	4.49
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	3.23 kW
COP Tj = 12°C	8.38	5.94
Cdh Tj = +12 °C	0.900	0.900

Pdh Tj = Tbiv	10.48 kW	10.11 kW
COP Tj = Tbiv	2.84	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.59 kW	8.89 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.73	1.76
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.25 kW	2.54 kW
Annual energy consumption Qhe	5156 kWh	6927 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	158 %	115 %
Prated	11.20 kW	10.10 kW
SCOP	4.01	2.93
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	6.93 kW	6.50 kW
COP Tj = -7°C	3.42	2.58
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.59 kW	3.95 kW
COP Tj = +2°C	4.87	3.48
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.08 kW	2.70 kW
COP Tj = +7°C	5.99	4.32
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.53 kW	3.28 kW
COP Tj = 12°C	7.78	6.00
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	9.13 kW	8.20 kW
COP Tj = Tbiv	2.55	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	3.94 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.93	1.09
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.34 kW	6.11 kW
Annual energy consumption Qhe	6872 kWh	8430 kWh
Pdh Tj = -15°C (if TOL	9.13	8.20
COP Tj = -15°C (if TOL	2.55	1.79
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	253 %	171 %
Prated	11.00 kW	12.30 kW
SCOP	6.35	4.35
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.90 kW	11.90 kW
COP Tj = +2°C	3.55	2.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.01 kW	7.91 kW
COP Tj = +7°C	5.76	3.80
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.50 kW	3.68 kW
COP Tj = 12°C	7.84	5.59
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.06 kW	7.91 kW
COP Tj = Tbiv	5.76	3.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.99 kW	11.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.56	2.28
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C

Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.01 kW	0.41 kW
Annual energy consumption Qhe	2295 kWh	3781 kWh

Model MHP-V14WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G

Model name	MHP-V14WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	184 %	133 %
Prated	13.60 kW	11.90 kW
SCOP	4.66	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.01 kW	10.49 kW
COP Tj = -7°C	2.76	1.97
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.85 kW	6.73 kW
COP Tj = +2°C	4.47	3.37
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.14 kW	4.54 kW
COP Tj = +7°C	6.60	4.57
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.71 kW	3.25 kW
COP Tj = 12°C	8.43	6.02
Cdh Tj = +12 °C	0.900	0.900

Pdh Tj = Tbiv	12.01 kW	10.49 kW
COP Tj = Tbiv	2.76	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.32 kW	8.98 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.25 kW	2.94 kW
Annual energy consumption Qhe	6013 kWh	7204 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	116 %
Prated	12.50 kW	10.80 kW
SCOP	4.00	2.97
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.84 kW	6.73 kW
COP Tj = -7°C	3.39	2.60
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.97 kW	4.21 kW
COP Tj = +2°C	4.84	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.09 kW	2.98 kW
COP Tj = +7°C	6.00	4.60
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.53 kW	3.28 kW
COP Tj = 12°C	7.74	6.15
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.16 kW	8.73 kW
COP Tj = Tbiv	2.49	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.39 kW	3.95 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.87	1.06
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.04 kW	6.85 kW
Annual energy consumption Qhe	7739 kWh	8952 kWh
Pdh Tj = -15°C (if TOL	10.16	8.73
COP Tj = -15°C (if TOL	2.49	1.75
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	258 %	173 %
Prated	12.00 kW	14.20 kW
SCOP	6.51	4.39
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.93 kW	12.87 kW
COP Tj = +2°C	3.41	2.17
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.70 kW	9.11 kW
COP Tj = +7°C	5.78	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.01 kW
COP Tj = 12°C	8.15	5.80
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.70 kW	9.11 kW
COP Tj = Tbiv	5.78	3.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.93 kW	12.87 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.41	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C

Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.07 kW	1.30 kW
Annual energy consumption Qhe	2456 kWh	4310 kWh

Model MHP-V14WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G

Model name	MHP-V14WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G.HB-P160CDS90G
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	184 %	133 %
Prated	13.60 kW	11.90 kW
SCOP	4.66	3.39
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.01 kW	10.49 kW
COP Tj = -7°C	2.76	1.97
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.85 kW	6.73 kW
COP Tj = +2°C	4.47	3.37
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.14 kW	4.54 kW
COP Tj = +7°C	6.60	4.57
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.71 kW	3.25 kW
COP Tj = 12°C	8.43	6.02
Cdh Tj = +12 °C	0.900	0.900

Pdh Tj = Tbiv	12.01 kW	10.49 kW
COP Tj = Tbiv	2.76	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.32 kW	8.98 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.25 kW	2.94 kW
Annual energy consumption Qhe	6014 kWh	7206 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	116 %
Prated	12.50 kW	10.80 kW
SCOP	4.00	2.98
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.84 kW	6.76 kW
COP Tj = -7°C	3.39	2.61
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	4.97 kW	4.21 kW
COP Tj = +2°C	4.84	3.56
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.09 kW	2.98 kW
COP Tj = +7°C	6.00	4.60
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.53 kW	3.28 kW
COP Tj = 12°C	7.74	6.15
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.16 kW	8.73 kW
COP Tj = Tbiv	2.49	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.39 kW	3.95 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.87	1.06
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.04 kW	6.85 kW
Annual energy consumption Qhe	7739 kWh	8953 kWh
Pdh Tj = -15°C (if TOL	10.16	8.73
COP Tj = -15°C (if TOL	2.49	1.75
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	65 dB(A)	65 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	257 %	173 %
Prated	12.00 kW	14.20 kW
SCOP	6.48	4.39
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.90 kW	12.87 kW
COP Tj = +2°C	3.40	2.17
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.65 kW	9.11 kW
COP Tj = +7°C	5.74	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.70 kW	4.01 kW
COP Tj = 12°C	8.15	5.80
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	7.70 kW	9.11 kW
COP Tj = Tbiv	5.78	3.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.93 kW	12.87 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.41	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C

Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.07 kW	1.30 kW
Annual energy consumption Qhe	2461 kWh	4315 kWh

Model MHP-V16WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G

Model name	MHP-V16WD2N8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	131 %
Prated	15.10 kW	12.80 kW
SCOP	4.57	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.32 kW	11.33 kW
COP Tj = -7°C	2.69	1.96
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.47 kW	7.05 kW
COP Tj = +2°C	4.36	3.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.64 kW	4.58 kW
COP Tj = +7°C	6.49	4.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.74 kW	3.25 kW
COP Tj = 12°C	8.42	5.96
Cdh Tj = +12 °C	0.900	0.900

Pdh Tj = Tbiv	13.32 kW	11.33 kW
COP Tj = Tbiv	2.69	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.37 kW	10.12 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.45	1.76
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.68 kW	2.68 kW
Annual energy consumption Qhe	6807 kWh	7905 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	119 %
Prated	13.60 kW	11.50 kW
SCOP	3.97	3.05
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.19 kW	7.48 kW
COP Tj = -7°C	3.32	2.59
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.18 kW	4.31 kW
COP Tj = +2°C	4.79	3.69
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.56 kW	2.89 kW
COP Tj = +7°C	6.39	4.68
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.30 kW	3.38 kW
COP Tj = 12°C	7.31	6.20
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.07 kW	9.40 kW
COP Tj = Tbiv	2.40	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.70 kW	4.96 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.93	1.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.84 kW	6.57 kW
Annual energy consumption Qhe	8429 kWh	9320 kWh
Pdh Tj = -15°C (if TOL	11.07	9.40
COP Tj = -15°C (if TOL	2.40	1.82
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	242 %	174 %
Prated	13.00 kW	14.20 kW
SCOP	6.22	4.42
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.99 kW	13.21 kW
COP Tj = +2°C	3.32	2.26
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.33 kW	9.11 kW
COP Tj = +7°C	5.31	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.82 kW	3.99 kW
COP Tj = 12°C	8.02	5.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.33 kW	9.11 kW
COP Tj = Tbiv	5.31	3.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.99 kW	13.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.32	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C

Poff	14 W	14 W
PTO	24 W	24 W
PSB	14 W	14 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.01 kW	0.96 kW
Annual energy consumption Qhe	2780 kWh	4284 kWh

Model MHP-V16WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G

Model name	MHP-V16WD2RN8+HB-P160CG,HB-P160CD30G,HB-P160CDS60G,HB-P160CDS90G
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Colder, Warmer, Warmer Climate, Colder Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	180 %	131 %
Prated	15.10 kW	12.80 kW
SCOP	4.57	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.32 kW	11.33 kW
COP Tj = -7°C	2.69	1.96
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.47 kW	7.05 kW
COP Tj = +2°C	4.36	3.28
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.64 kW	4.58 kW
COP Tj = +7°C	6.49	4.52
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.74 kW	3.25 kW
COP Tj = 12°C	8.42	5.96
Cdh Tj = +12 °C	0.900	0.900

Pdh Tj = Tbiv	13.32 kW	11.33 kW
COP Tj = Tbiv	2.69	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.37 kW	10.12 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.45	1.76
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.68 kW	2.68 kW
Annual energy consumption Qhe	6808 kWh	7906 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	156 %	119 %
Prated	13.60 kW	11.50 kW
SCOP	3.97	3.05
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	8.19 kW	7.51 kW
COP Tj = -7°C	3.32	2.60
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.18 kW	4.31 kW
COP Tj = +2°C	4.79	3.69
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.56 kW	2.89 kW
COP Tj = +7°C	6.39	4.68
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.30 kW	3.38 kW
COP Tj = 12°C	7.31	6.20
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.07 kW	9.40 kW
COP Tj = Tbiv	2.40	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.70 kW	4.96 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.93	1.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	20 °C	20 °C
Poff	30 W	30 W
PTO	20 W	20 W
PSB	0 W	0 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.84 kW	6.57 kW
Annual energy consumption Qhe	8430 kWh	9321 kWh
Pdh Tj = -15°C (if TOL	11.07	9.40
COP Tj = -15°C (if TOL	2.40	1.82
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	246 %	174 %
Prated	13.00 kW	14.20 kW
SCOP	6.19	4.41
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.90 kW	13.21 kW
COP Tj = +2°C	3.32	2.26
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	8.28 kW	9.11 kW
COP Tj = +7°C	5.28	3.89
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.82 kW	3.99 kW
COP Tj = 12°C	8.02	5.76
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.33 kW	9.11 kW
COP Tj = Tbiv	5.31	3.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.99 kW	13.21 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.32	2.26
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C

Poff	20 W	20 W
PTO	30 W	30 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.01 kW	0.96 kW
Annual energy consumption Qhe	2784 kWh	4288 kWh