Subtype M thermal A series semi mono 12 14 16 kW

Certificate Holder	GD Midea Heating & Ventilating Equipment Co., Ltd.
Address	Penglai Industry Road
ZIP	528311
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
Testing laboratory	Intertek Testing Services Shenzhen LTD. Guangzhou Branch, CN

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 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	12.00 kW	11.70 kW
El input	2.45 kW	3.90 kW
COP	4.90	3.00
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
ηs	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
ηs	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
ηs	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 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	12.00 kW	11.70 kW
El input	2.45 kW	3.90 kW
COP	4.90	3.00

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
ηs	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
ηs	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
ηs	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 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	14.40 kW	13.60 kW
El input	3.16 kW	4.68 kW
COP	4.55	2.90

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
ηs	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
ηs	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
ηs	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 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	14.40 kW	13.60 kW
El input	3.16 kW	4.68 kW
COP	4.55	2.90

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
ηs	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
ηs	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
ηs	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 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	15.80 kW	15.80 kW
El input	3.55 kW	5.61 kW
COP	4.45	2.80

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
ηs	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
ηs	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
ηs	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 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	15.80 kW	15.80 kW
El input	3.55 kW	5.61 kW
COP	4.45	2.80

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
ηs	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
ηs	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
ηs	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