This information was generated by the HP KEYMARK database on 5 Mar 2021

Summary of	M thermal A Series 8 10kW with 190L tank	Reg. No.	041-K007-07
Certificate Holder			
Name	GD Midea Heating & Ventilating Equipment Co., Ltd.		
Address	Penglai Industry Road	Zip	528311
City	Beijiao, Shunde, Foshan	Country	China
Certification Body	BRE Global Limited		
Subtype title	M thermal A Series 8 10kW with 190L tank		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass Of Refrigerant	1.65 kg		
Certification Date	12.06.2020		
Testing basis	Heat Pump Keymark Scheme Rules Rev 08		

Model: MHA-V8W/D2N8-B+HBT-A100/190C****GN8-B

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	8.30 kW	7.50 kW
El input	1.60 kW	2.36 kW
COP	5.20	3.18

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	205 %	132 %
Prated	8.12 kW	6.60 kW
SCOP	5.21	3.36
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.19 kW	5.84 kW
COP Tj = -7°C	3.35	2.16
Cdh	0.90	0.90
Pdh Tj = +2°C	4.65 kW	3.76 kW
COP Tj = +2°C	5.09	3.30
Cdh	0.90	0.90
Pdh Tj = +7°C	2.90 kW	2.43 kW
COP Tj = +7°C	6.82	4.34
Cdh	0.90	0.90

Pdh Tj = 12°C	1.63 kW	1.40 kW
COP Tj = 12°C	8.35	5.33
Cdh	0.90	0.90
Pdh Tj = Tbiv	7.19 kW	5.84 kW
COP Tj = Tbiv	3.35	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.45 kW	4.91 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.04	1.84
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	electric	electric
Supplementary Heater: PSUP	1.68 kW	1.69 kW
Annual energy consumption Qhe	3223 kWh	4056 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	273 %	176 %
Prated	8.12 kW	7.56 kW
SCOP	6.99	4.47
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.57 kW	7.55 kW
COP Tj = +2°C	3.98	2.59
Cdh	0.90	0.90
Pdh Tj = +7°C	5.22 kW	4.86 kW
COP Tj = +7°C	6.26	3.92
Cdh	0.90	0.90
Pdh Tj = 12°C	2.45 kW	2.32 kW
COP Tj = 12°C	9.02	5.55
Cdh	0.90	0.90
Pdh Tj = Tbiv	5.22 kW	4.86 kW
COP Tj = Tbiv	6.26	3.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.57 kW	7.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.98	2.59
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	electric	electric
Supplementary Heater: PSUP	0.55 kW	0.02 kW
Annual energy consumption Qhe	1569 kWh	2259 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	170 %	112 %
Prated	6.98 kW	5.78 kW
SCOP	4.32	2.88
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C

Pdh Tj = -7°C	4.46 kW	3.86 kW
COP Tj = -7°C	3.66	2.48
Cdh	0.90	0.90
Pdh Tj = +2°C	2.70 kW	2.21 kW
COP Tj = +2°C	5.20	3.35
Cdh	0.90	0.90
Pdh Tj = +7°C	1.66 kW	1.44 kW
COP Tj = +7°C	6.53	4.11
Cdh	0.90	0.90
Pdh Tj = 12°C	1.66 kW	1.47 kW
COP Tj = 12°C	7.96	5.92
Cdh	0.90	0.90
Pdh Tj = Tbiv	5.69 kW	4.71 kW
COP Tj = Tbiv	2.83	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.06 kW	2.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.95	1.22
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	electric	electric
Supplementary Heater: PSUP	2.91 kW	2.99 kW
Annual energy consumption Qhe	3978 kWh	4950 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.69	4.71
COP Tj = -15°C (if TOL<-20°C)	2.83	1.90
Cdh	0.90	0.90

Domestic Hot Water (DHW)

Average Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	125 %
COP	3.02
Heating up time	1:38 h:min
Standby power input	23.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

Warmer Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	151 %
COP	3.66
Heating up time	1:30 h:min
Standby power input	21.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

Colder Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	41 %
COP	2.61
Heating up time	1:32 h:min
Standby power input	25.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

Model: MHA-V10W/D2N8-B+HBT-A100/190C****GN8-B

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	10.00 kW	9.50 kW
El input	2.00 kW	3.06 kW
COP	5.00	3.10

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	205 %	137 %
Prated	9.17 kW	7.67 kW
SCOP	5.19	3.49
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.11 kW	6.78 kW
COP Tj = -7°C	3.23	2.24
Cdh	0.90	0.90
Pdh Tj = +2°C	5.18 kW	4.29 kW
COP Tj = +2°C	5.01	3.42
Cdh	0.90	0.90
Pdh Tj = +7°C	3.32 kW	2.77 kW
COP Tj = +7°C	7.08	4.52
Cdh	0.90	0.90

Pdh Tj = 12°C	1.65 kW	1.58 kW
COP Tj = 12°C	8.58	5.68
Cdh	0.90	0.90
Pdh Tj = Tbiv	8.11 kW	6.78 kW
COP Tj = Tbiv	3.23	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.40 kW	5.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.96	1.83
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	electric	electric
Supplementary Heater: PSUP	1.76 kW	2.28 kW
Annual energy consumption Qhe	3647 kWh	4539 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	279 %	180 %
Prated	8.58 kW	8.63 kW
SCOP	7.12	4.58
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.44 kW	8.06 kW
COP Tj = +2°C	3.84	2.59
Cdh	0.90	0.90
Pdh Tj = +7°C	5.52 kW	5.55 kW
COP Tj = +7°C	6.18	4.10
Cdh	0.90	0.90
Pdh Tj = 12°C	2.62 kW	2.53 kW
COP Tj = 12°C	9.04	5.82
Cdh	0.90	0.90
Pdh Tj = Tbiv	5.52 kW	5.55 kW
COP Tj = Tbiv	6.18	4.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.44 kW	8.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.84	2.61
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	electric	electric
Supplementary Heater: PSUP	0.14 kW	0.48 kW
Annual energy consumption Qhe	1628 kWh	2516 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	170 %	116 %
Prated	7.75 kW	6.71 kW
SCOP	4.32	2.99
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C

Pdh Tj = -7°C	4.83 kW	4.27 kW
COP Tj = -7°C	3.60	2.54
Cdh	0.90	0.90
Pdh Tj = +2°C	2.94 kW	2.57 kW
COP Tj = +2°C	5.26	3.51
Cdh	0.90	0.90
Pdh Tj = +7°C	1.92 kW	1.66 kW
COP Tj = +7°C	7.08	4.37
Cdh	0.90	0.90
Pdh Tj = 12°C	1.66 kW	1.48 kW
COP Tj = 12°C	7.96	5.96
Cdh	0.90	0.90
Pdh Tj = Tbiv	6.32 kW	5.48 kW
COP Tj = Tbiv	2.64	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.63 kW	2.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.97	1.22
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	electric	electric
Supplementary Heater: PSUP	3.13 kW	3.91 kW
Annual energy consumption Qhe	4424 kWh	5540 kWh
Pdh Tj = -15°C (if TOL<-20°C)	6.32	5.48
COP Tj = -15°C (if TOL<-20°C)	2.64	2.00
Cdh	0.90	0.90

Domestic Hot Water (DHW)

Average Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	125 %
COP	3.02
Heating up time	1:38 h:min
Standby power input	23.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

Warmer Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	151 %
COP	3.66
Heating up time	1:30 h:min
Standby power input	21.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l

Colder Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	107 %
COP	2.61
Heating up time	1:31 h:min
Standby power input	25.0 W
Reference hot water temperature	47.0 °C
Mixed water at 40°C	200 l