

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

<b>Configure model</b>	
Model name	MHA-V8W/D2N8-B+HBT-A100/190C****GN8-B
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

<b>General Data</b>	
Power supply	1x230V 50Hz

### Heating

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

<b>EN 14511-2</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Heat output	8.30 kW	7.50 kW
El input	1.60 kW	2.36 kW
COP	5.20	3.18

### Average Climate

This information was generated by the HP KEYMARK database on 10 Dec 2021

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	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 Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	4.65 kW	3.76 kW
COP Tj = +2°C	5.09	3.30
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	2.90 kW	2.43 kW
COP Tj = +7°C	6.82	4.34
Cdh Tj = +7 °C	0.90	0.90

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Pdh Tj = 12°C	1.63 kW	1.40 kW
COP Tj = 12°C	8.35	5.33
Cdh Tj = +12 °C	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	Electricity	Electricity
Supplementary Heater: PSUP	1.68 kW	1.69 kW
Annual energy consumption Qhe	3223 kWh	4056 kWh

## Warmer Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

This information was generated by the HP KEYMARK database on 10 Dec 2021

**EN 14825**

	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	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 Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.22 kW	4.86 kW
COP Tj = +7°C	6.26	3.92
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	2.45 kW	2.32 kW
COP Tj = 12°C	9.02	5.55
Cdh Tj = +12 °C	0.900	0.900
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
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

This information was generated by the HP KEYMARK database on 10 Dec 2021

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	0.55 kW	0.01 kW
Annual energy consumption Qhe	1569 kWh	2259 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	42 dB(A)	42 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	170 %	112 %
Prated	6.98 kW	5.78 kW
SCOP	4.32	2.88
Tbiv	-15 °C	-15 °C

This information was generated by the HP KEYMARK database on 10 Dec 2021

TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.46 kW	3.86 kW
COP Tj = -7°C	3.66	2.48
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	2.70 kW	2.21 kW
COP Tj = +2°C	5.20	3.35
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	1.66 kW	1.44 kW
COP Tj = +7°C	6.53	4.11
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	1.66 kW	1.47 kW
COP Tj = 12°C	7.96	5.92
Cdh Tj = +12 °C	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

This information was generated by the HP KEYMARK database on 10 Dec 2021

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.91 kW	2.99 kW
Annual energy consumption Q <sub>he</sub>	3978 kWh	4950 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL<-20°C)	5.69	4.71
COP T <sub>j</sub> = -15°C (if TOL<-20°C)	2.83	1.90
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.90	0.90

## Domestic Hot Water (DHW)

### Average Climate

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	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

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	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

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	107 %
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