

## Subtype Air Source Heat Pump R290- 22

Certificate Holder	Jiangsu Micoe Solar Energy Co., Ltd
Address	No.199, Yingzhou Road,
ZIP	222000
City	LianyungangCity, Jiangsu Province
Country	CN
Certification Body	BRE Global Limited
Subtype title	Air Source Heat Pump R290- 22
Registration number	041-K061-08
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	1.4 kg
Certification Date	08.08.2023
Testing basis	Heat Pump KEYMARK certification Scheme rules v12

## Model MMHP22D1

Model name	MMHP22D1
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
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 outdoor	70 dB(A)	72 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	189 %	146 %
Prated	16.27 kW	16.44 kW
SCOP	4.81	3.72
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.39 kW	14.54 kW
COP Tj = -7°C	3.01	2.48
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.89 kW	8.91 kW
COP Tj = +2°C	4.70	3.52
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.64 kW	5.73 kW
COP Tj = +7°C	6.21	4.84
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	5.88 kW	5.52 kW
COP Tj = 12°C	8.74	6.85
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	14.39 kW	14.54 kW
COP Tj = Tbiv	3.01	2.48

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.98 kW	15.34 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	2.01
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	64 °C	64 °C
Poff	14 W	14 W
PTO	29 W	29 W
PSB	14 W	14 W
PCK	42 W	42 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.29 kW	1.11 kW
Annual energy consumption Qhe	6987 kWh	9142 kWh

## Model MMHP22D3

Model name	MMHP22D3
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	3x400V 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 outdoor	70 dB(A)	72 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	189 %	145 %
Prated	16.34 kW	16.40 kW
SCOP	4.79	3.71
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.46 kW	14.51 kW
COP Tj = -7°C	3.10	2.48
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	9.08 kW	9.01 kW
COP Tj = +2°C	4.71	3.50
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	5.69 kW	5.74 kW
COP Tj = +7°C	6.04	4.82
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	5.70 kW	5.47 kW
COP Tj = 12°C	7.91	6.91
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	14.46 kW	14.51 kW
COP Tj = Tbiv	3.10	2.48

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.34 kW	15.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.78	2.16
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	29 W	29 W
PSB	14 W	14 W
PCK	43 W	43 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	1.20 kW
Annual energy consumption Qhe	7052 kWh	9145 kWh