

## Subtype Air Source Heat Pump R32- 20

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 R32- 20
Registration number	041-K061-04
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	3.5 kg
Certification Date	08.08.2023
Testing basis	Heat Pump KEYMARK certification Scheme rules v12
Testing laboratory	TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN

## Model MMHP-020B1

Model name	MMHP-020B1
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 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	18.74 kW	18.52 kW
El input	4.12 kW	6.14 kW
COP	4.55	3.02

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	71 dB(A)	71 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	178 %	129 %
Prated	14.04 kW	13.47 kW
SCOP	4.52	3.30
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.42 kW	11.92 kW
COP Tj = -7°C	3.42	2.47
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.64 kW	7.37 kW
COP Tj = +2°C	4.37	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.49 kW	5.87 kW

COP Tj = +7°C	5.51	3.88
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.29 kW	6.77 kW
COP Tj = 12°C	8.24	5.10
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.42 kW	11.92 kW
COP Tj = Tbiv	3.42	2.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.29 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.11	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	51 °C	51 °C
Poff	11 W	11 W
PTO	37 W	37 W
PSB	11 W	11 W
PCK	40 W	40 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.76 kW	2.00 kW
Annual energy consumption Qhe	6412 kWh	8435 kWh

## Model MMHP-020C1

Model name	MMHP-020C1
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 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	18.74 kW	18.52 kW
El input	4.12 kW	6.14 kW
COP	4.55	3.02

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	Low temperature	Medium temperature
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Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.42 kW	11.92 kW
COP Tj = Tbiv	3.42	2.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.29 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.11	2.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	51 °C	51 °C
Poff	11 W	11 W
PTO	37 W	37 W
PSB	11 W	11 W
PCK	40 W	40 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.76 kW	2.00 kW
Annual energy consumption Qhe	6412 kWh	8435 kWh

## Model MMHP-020B2

Model name	MMHP-020B2
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 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	18.62 kW	18.66 kW
El input	4.05 kW	5.99 kW
COP	4.60	3.12

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	70 dB(A)	71 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	178 %	128 %
Prated	13.75 kW	13.73 kW
SCOP	4.53	3.28
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.17 kW	12.15 kW
COP Tj = -7°C	3.41	2.52
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	7.39 kW	7.36 kW
COP Tj = +2°C	4.39	3.30
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.46 kW	5.86 kW

COP Tj = +7°C	5.62	3.82
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.28 kW	6.83 kW
COP Tj = 12°C	7.99	5.12
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	12.17 kW	12.15 kW
COP Tj = Tbiv	3.41	2.52
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.39 kW	11.03 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.10	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	51 °C	51 °C
Poff	11 W	11 W
PTO	37 W	37 W
PSB	11 W	11 W
PCK	40 W	40 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.37 kW	2.70 kW
Annual energy consumption Qhe	6271 kWh	8646 kWh

## Model MMHP-020C2

Model name	MMHP-020C2
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

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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.10	2.20
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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.37 kW	2.70 kW
Annual energy consumption Qhe	6271 kWh	8646 kWh