

Subtype Air Source Heat Pump R290-12

Certificate Holder	Jiangsu Sunrain Solar Energy Co., Ltd.
Address	Ninghai Industrial Zone, 222243 Lianyungang City, Jiangsu Province
ZIP	
City	
Country	CN
Certification Body	BRE Global Limited
Subtype title	Air Source Heat Pump R290-12
Registration number	041-K085-03
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	1.05 kg
Certification Date	01.02.2024
Testing basis	Heat Pump Keymark Scheme Rules Rev 13
Testing laboratory	TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN

Model SMHP-012C1

Model name	SMHP-012C1
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	12.38 kW	12.40 kW
El input	2.66 kW	4.18 kW
COP	4.66	2.97

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	67 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	188 %	148 %
Prated	9.90 kW	10.22 kW
SCOP	4.77	3.77
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.76 kW	9.04 kW
COP Tj = -7°C	3.15	2.28
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.50 kW	5.51 kW
COP Tj = +2°C	4.57	3.64
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.75 kW	3.57 kW

COP Tj = +7°C	6.20	5.11
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.27 kW	4.09 kW
COP Tj = 12°C	9.06	7.09
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.76 kW	9.04 kW
COP Tj = Tbiv	3.15	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.94 kW	9.99 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.74	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	64 °C	64 °C
Poff	13 W	13 W
PTO	38 W	38 W
PSB	13 W	13 W
PCK	83 W	83 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.23 kW
Annual energy consumption Qhe	4286 kWh	5608 kWh

Model SMHP-012C3

Model name	SMHP-012C3
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	12.09 kW	12.49 kW
El input	2.67 kW	4.26 kW
COP	4.53	2.93

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	67 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	187 %	145 %
Prated	9.88 kW	9.93 kW
SCOP	4.74	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.74 kW	8.79 kW
COP Tj = -7°C	3.18	2.35
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	5.54 kW	5.38 kW
COP Tj = +2°C	4.60	3.61
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.50 kW	3.45 kW

COP Tj = +7°C	6.10	4.83
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	4.10 kW	3.94 kW
COP Tj = 12°C	8.18	6.57
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	8.74 kW	8.79 kW
COP Tj = Tbiv	3.18	2.35
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.83 kW	9.92 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.03
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	65 °C	65 °C
Poff	13 W	13 W
PTO	38 W	38 W
PSB	13 W	13 W
PCK	83 W	83 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.05 kW	0.01 kW
Annual energy consumption Qhe	4300 kWh	5547 kWh