

Subtype DC Inverter Air to Water Heat Pump Thermal Plus 19

Certificate Holder	REFSYSTEM Sp. z o.o.
Address	Street Metalowców 5,
ZIP	86-300
City	Grudziądz
Country	PL
Certification Body	BRE Global Limited
Subtype title	DC Inverter Air to Water Heat Pump Thermal Plus 19
Registration number	041-K053-10
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	2.6 kg
Certification Date	12.05.2023
Testing basis	Heat Pump Keymark Scheme Rules Rev 11
Testing laboratory	TÜV SÜD Certification and Testing Co., Ltd. Guangzhou Branch, CN

Model Thermal(b) Plus 19 / Thermal(b) Plus 19

Model name	Thermal(b) Plus 19 / Thermal(b) Plus 19
Application	Heating (medium temp)
Units	Indoor, 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	13.37 kW	13.81 kW
El input	2.72 kW	5.17 kW
COP	4.92	2.67

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	39 dB(A)
Sound power level outdoor	57 dB(A)	62 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	185 %	128 %
Prated	16.19 kW	12.29 kW
SCOP	4.70	3.28
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.32 kW	10.87 kW
COP Tj = -7°C	3.29	2.03
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	8.77 kW	6.70 kW
COP Tj = +2°C	4.57	3.31
Cdh Tj = +2 °C	0.900	0.900

Pdh Tj = +7°C	7.09 kW	7.41 kW
COP Tj = +7°C	6.18	4.55
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	9.14 kW	8.74 kW
COP Tj = 12°C	7.86	5.98
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	14.32 kW	10.87 kW
COP Tj = Tbiv	3.29	2.03
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.87 kW	9.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.01	1.74
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	56 °C	56 °C
Poff	13 W	13 W
PTO	39 W	39 W
PSB	13 W	13 W
PCK	42 W	42 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.32 kW	2.53 kW
Annual energy consumption Qhe	7117 kWh	7746 kWh