

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

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 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 $T_j = T_{biv}$	3.29	2.03
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	13.87 kW	9.75 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.01	1.74
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.900	0.900
WTOL	56 °C	56 °C
P _{off}	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 Q _{he}	7117 kWh	7746 kWh