

Subtype DC Inverter Air to Water Heat Pump Thermal Plus 09

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|---------------------|--|
| 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 09 |
| Registration number | 041-K053-07 |
| Heat Pump Type | Outdoor Air/Water |
| Refrigerant | R32 |
| Mass of Refrigerant | 1.4 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 9 / Thermal(b) Plus 9

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|-------------------------------------|---------------------------------------|
| Model name | Thermal(b) Plus 9 / Thermal(b) Plus 9 |
| 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 | 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 | 5.72 kW | 8.04 kW |
| El input | 1.09 kW | 3.16 kW |
| COP | 5.26 | 2.54 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level indoor | 45 dB(A) | 46 dB(A) |
| Sound power level outdoor | 53 dB(A) | 54 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 181 % | 130 % |
| Prated | 6.39 kW | 5.97 kW |
| SCOP | 4.61 | 3.32 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 5.65 kW | 5.28 kW |
| COP Tj = -7°C | 3.19 | 1.94 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 3.52 kW | 3.41 kW |
| COP Tj = +2°C | 4.43 | 3.34 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |

| | | |
|---|-------------|-------------|
| Pdh Tj = +7°C | 3.36 kW | 3.15 kW |
| COP Tj = +7°C | 6.36 | 4.60 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 3.96 kW | 3.73 kW |
| COP Tj = 12°C | 8.37 | 6.49 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 5.65 kW | 5.28 kW |
| COP Tj = Tbiv | 3.19 | 1.94 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.32 kW | 4.80 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.82 | 1.71 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900 | 0.900 |
| WTOL | 57 °C | 57 °C |
| Poff | 10 W | 10 W |
| PTO | 19 W | 19 W |
| PSB | 10 W | 10 W |
| PCK | 27 W | 27 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.07 kW | 1.17 kW |
| Annual energy consumption Qhe | 2864 kWh | 3720 kWh |