## Subtype Ondo series 08 10

| | |
|---|---|
| Certificate Holder | SYSTHERM Danuta Gazińska s.j. |
| Address | ul. Św. Wincentego 7 |
| ZIP | 61-003 |
| City | Poznań |
| Country | PL |
| Certification Body | BRE Global Limited |
| Subtype title | Ondo series 08 10 |
| Registration number | 041-K107-01 |
| Heat Pump Type | Outdoor Air/Water |
| Refrigerant | R32 |
| Mass of Refrigerant | 1.65 kg |
| Certification Date | 31.10.2024 |
| Testing basis | Heat Pump Keymark Scheme Rules Rev 14 |

| Model KN-THF-10D/HBpO-A / KN-SMKLd-10S/HBp-A | |
|---|---|
| Model name | KN-THF-10D/HBpO-A / KN-SMKLd-10S/HBp-A |
| Application | Heating (medium temp) |
| Units | Indoor, Outdoor |
| Climate zone (for heating) | Colder, Warmer, Warmer Climate, Colder Climate |
| 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 | 9.5 kW | 9 kW |
| El input | 1.98 kW | 3 kW |
| COP | 4.8 | 3 |

| EN 12102-1 \| Average Climate | | |
|---|---|---|
| | Low temperature | Medium temperature |
| Sound power level indoor | 42 dB(A) | 42 dB(A) |
| Sound power level outdoor | 61 dB(A) | 61 dB(A) |

| EN 14825 \| Average Climate | | |
|---|---|---|
| | Low temperature | Medium temperature |
| ηs | 192 % | 133 % |
| Prated | 9.00 kW | 8.00 kW |
| SCOP | 4.87 | 3.41 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 7.90 kW | 7.10 kW |
| COP Tj = -7°C | 3.02 | 2.12 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 4.70 kW | 4.20 kW |
| COP Tj = +2°C | 4.62 | 3.22 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |

| | | |
|---|---|---|
| Pdh Tj = +7°C | 3.30 kW | 2.70 kW |
| COP Tj = +7°C | 6.68 | 4.64 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 2.30 kW | 2.30 kW |
| COP Tj = 12°C | 8.97 | 6.86 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 7.90 kW | 7.10 kW |
| COP Tj = Tbiv | 3.02 | 2.12 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.60 kW | 6.10 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.73 | 1.85 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900 | 0.900 |
| WTOL | 65 °C | 65 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 15 W | 15 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.40 kW | 1.90 kW |
| Annual energy consumption Qhe | 3791 kWh | 4895 kWh |

## EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---|---|---|
| Sound power level indoor | 42 dB(A) | 42 dB(A) |
| Sound power level outdoor | 61 dB(A) | 61 dB(A) |

## EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|---|---|---|
| ηs | 160 % | 110 % |
| Prated | 8.00 kW | 7.00 kW |
| SCOP | 4.07 | 2.82 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 5.20 kW | 4.30 kW |
| COP Tj = -7°C | 3.48 | 2.47 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 3.10 kW | 2.60 kW |
| COP Tj = +2°C | 4.99 | 3.26 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 2.10 kW | 1.90 kW |
| COP Tj = +7°C | 6.19 | 4.18 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 2.40 kW | 2.30 kW |
| COP Tj = 12°C | 7.64 | 5.73 |

| | | |
|---|---|---|
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 6.40 kW | 5.80 kW |
| COP Tj = Tbiv | 2.57 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.90 kW | 2.70 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.49 | 1.18 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900 | 0.900 |
| WTOL | 65 °C | 65 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 15 W | 15 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.10 kW | 4.30 kW |
| Annual energy consumption Qhe | 4748 kWh | 6270 kWh |
| Pdh Tj = -15°C (if TOL | 6.40 | 5.80 |
| COP Tj = -15°C (if TOL | 2.57 | 1.84 |
| Cdh Tj = -15 °C | 0.900 | 0.900 |

## EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---|---|---|
| Sound power level indoor | 42 dB(A) | 42 dB(A) |
| Sound power level outdoor | 61 dB(A) | 61 dB(A) |

## EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|---|---|
| ηs | 256 % | 174 % |
| Prated | 9.00 kW | 8.00 kW |
| SCOP | 6.48 | 4.42 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 8.50 kW | 7.80 kW |
| COP Tj = +2°C | 3.73 | 2.30 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 5.70 kW | 5.10 kW |
| COP Tj = +7°C | 5.81 | 3.83 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 2.40 kW | 2.20 kW |
| COP Tj = 12°C | 7.93 | 5.66 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 8.50 kW | 7.80 kW |
| COP Tj = Tbiv | 3.73 | 2.30 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 8.50 kW | 7.80 kW |

| | | |
|---|---|---|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.73 | 2.30 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900 | 0.900 |
| WTOL | 65 °C | 65 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 15 W | 15 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 1756 kWh | 2386 kWh |

| Model KN-THF-8D/HBpO-A / KN-SMKLd-8S/HBp-A | |
|---|---|
| Model name | KN-THF-8D/HBpO-A / KN-SMKLd-8S/HBp-A |
| Application | Heating (medium temp) |
| Units | Indoor, Outdoor |
| Climate zone (for heating) | Colder, Warmer, Warmer Climate, Colder Climate |
| 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 | 8 kW | 7.4 kW |
| El input | 1.6 kW | 2.38 kW |
| COP | 5 | 3.11 |

| EN 12102-1 \| Average Climate | | |
|---|---|---|
| | Low temperature | Medium temperature |
| Sound power level indoor | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 60 dB(A) | 60 dB(A) |

| EN 14825 \| Average Climate | | |
|---|---|---|
| | Low temperature | Medium temperature |
| ηs | 193 % | 135 % |
| Prated | 8.00 kW | 7.00 kW |
| SCOP | 4.89 | 3.44 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 7.10 kW | 6.10 kW |
| COP Tj = -7°C | 3.07 | 2.07 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 4.40 kW | 3.80 kW |
| COP Tj = +2°C | 4.62 | 3.33 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |

| | | |
|---|---|---|
| Pdh Tj = +7°C | 2.90 kW | 2.50 kW |
| COP Tj = +7°C | 6.70 | 4.53 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 2.30 kW | 2.30 kW |
| COP Tj = 12°C | 8.97 | 6.85 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 7.10 kW | 6.10 kW |
| COP Tj = Tbiv | 3.07 | 2.07 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.60 kW | 6.10 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.73 | 1.85 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900 | 0.900 |
| WTOL | 65 °C | 65 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 15 W | 15 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.40 kW | 0.90 kW |
| Annual energy consumption Qhe | 3404 kWh | 4205 kWh |

## EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---|---|---|
| Sound power level indoor | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 60 dB(A) | 60 dB(A) |

## EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|---|---|---|
| ηs | 159 % | 111 % |
| Prated | 7.00 kW | 6.00 kW |
| SCOP | 4.04 | 2.84 |
| Tbiv | -15 °C | -15 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 4.30 kW | 3.80 kW |
| COP Tj = -7°C | 3.58 | 2.39 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 2.70 kW | 2.20 kW |
| COP Tj = +2°C | 4.88 | 3.42 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 2.00 kW | 1.90 kW |
| COP Tj = +7°C | 5.61 | 4.22 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 2.40 kW | 2.30 kW |
| COP Tj = 12°C | 6.82 | 6.18 |

| | | |
|---|---|---|
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 5.70 kW | 4.80 kW |
| COP Tj = Tbiv | 2.68 | 1.84 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.40 kW | 2.70 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.65 | 1.18 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900 | 0.900 |
| WTOL | 65 °C | 65 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 15 W | 15 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 3.60 kW | 3.30 kW |
| Annual energy consumption Qhe | 4328 kWh | 5197 kWh |
| Pdh Tj = -15°C (if TOL | 5.70 | 4.80 |
| COP Tj = -15°C (if TOL | 2.68 | 1.84 |
| Cdh Tj = -15 °C | 0.900 | 0.900 |

## EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---|---|---|
| Sound power level indoor | 41 dB(A) | 41 dB(A) |
| Sound power level outdoor | 60 dB(A) | 60 dB(A) |

## EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|---|---|
| ηs | 253 % | 174 % |
| Prated | 8.00 kW | 8.00 kW |
| SCOP | 6.41 | 4.42 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 7.90 kW | 7.80 kW |
| COP Tj = +2°C | 3.68 | 2.30 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 5.10 kW | 5.10 kW |
| COP Tj = +7°C | 5.86 | 3.83 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 2.40 kW | 2.20 kW |
| COP Tj = 12°C | 7.71 | 5.66 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 7.90 kW | 7.80 kW |
| COP Tj = Tbiv | 3.68 | 2.30 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 7.90 kW | 7.80 kW |

| | | |
|---|---|---|
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.68 | 2.30 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.900 | 0.900 |
| WTOL | 65 °C | 65 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 15 W | 15 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 1658 kWh | 2386 kWh |