

Subtype OPTIMUS PRO Mono 18 22 26 30kW

| | |
|---------------------|--|
| Certificate Holder | NØRDIS Europe Sp. z o.o. |
| Address | Opolska 38 |
| ZIP | 55-011 |
| City | Siechnice |
| Country | PL |
| Certification Body | BRE Global Limited |
| Subtype title | OPTIMUS PRO Mono 18 22 26 30kW |
| Registration number | 041-K105-09 |
| Heat Pump Type | Outdoor Air/Water |
| Refrigerant | R32 |
| Mass of Refrigerant | 5 kg |
| Certification Date | 14.10.2024 |
| Testing basis | HP KEYMARK certification scheme rules rev. no.14 |

Model HOP18WMONO3

| | |
|-------------------------------------|--------------------------------|
| Model name | HOP18WMONO3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | 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 | 18.32 kW | 18.10 kW |
| El input | 3.96 kW | 6.63 kW |
| COP | 4.63 | 2.73 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 71 dB(A) | 71 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 181 % | 125 % |
| Prated | 17.99 kW | 17.67 kW |
| SCOP | 4.60 | 3.21 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 15.90 kW | 15.61 kW |
| COP Tj = -7°C | 2.85 | 1.72 |
| Cdh Tj = -7 °C | 0.900 | 0.900 |
| Pdh Tj = +2°C | 9.66 kW | 9.59 kW |
| COP Tj = +2°C | 4.59 | 3.32 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 6.56 kW | 6.37 kW |

| | | |
|---|-------------|-------------|
| COP Tj = +7°C | 5.99 | 4.48 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 3.76 kW | 3.57 kW |
| COP Tj = 12°C | 7.08 | 5.27 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 15.90 kW | 15.61 kW |
| COP Tj = Tbiv | 2.85 | 1.72 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 17.99 kW | 15.00 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.49 | 1.17 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | | |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 2.64 kW |
| Annual energy consumption Qhe | 8086 kWh | 11375 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 71 dB(A) | 71 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 146 % | 97 % |
| Prated | 17.76 kW | 18.38 kW |
| SCOP | 3.73 | 2.50 |
| Tbiv | -15 °C | -7 °C |
| TOL | -22 °C | -15 °C |
| Pdh Tj = -7°C | 11.21 kW | 11.13 kW |
| COP Tj = -7°C | 3.09 | 1.98 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 6.64 kW | 6.65 kW |
| COP Tj = +2°C | 4.50 | 3.44 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 4.77 kW | 4.66 kW |
| COP Tj = +7°C | 5.85 | 4.35 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 3.95 kW | 3.74 kW |
| COP Tj = 12°C | 7.18 | 5.68 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 14.49 kW | 11.13 kW |

| | | |
|---|-------------|-------------|
| COP Tj = Tbiv | 2.42 | 1.98 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.14 kW | 13.56 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.67 | 1.21 |
| WTOL | 60 °C | 60 °C |
| Poff | 20 W | 20 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.62 kW | 18.38 kW |
| Annual energy consumption Qhe | 11740 kWh | 18156 kWh |
| Pdh Tj = -15°C (if TOL | 14.49 | 13.56 |
| COP Tj = -15°C (if TOL | 2.42 | 1.21 |
| Cdh Tj = -15 °C | 0.90 | 0.90 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 71 dB(A) | 71 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs | 226 % | 157 % |
| Prated | 17.67 kW | 18.07 kW |
| SCOP | 5.74 | 4.00 |
| Tbiv | 7 °C | 7 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 17.67 kW | 18.07 kW |
| COP Tj = +2°C | 3.53 | 2.12 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 11.36 kW | 11.62 kW |
| COP Tj = +7°C | 5.16 | 3.49 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 5.45 kW | 5.35 kW |
| COP Tj = 12°C | 7.01 | 5.09 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 11.36 kW | 11.62 kW |
| COP Tj = Tbiv | 5.16 | 3.49 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 17.67 kW | 18.07 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.53 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | | |
| WTOL | 60 °C | 60 °C |

| | | |
|--|-------------|-------------|
| Poff | 18 W | 18 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 4116 kWh | 6041 kWh |

Model HOP22WMONO3

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|-------------------------------------|--------------------------------|
| Model name | HOP22WMONO3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | 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 | 22.30 kW | 22.10 kW |
| El input | 5.13 kW | 8.33 kW |
| COP | 4.35 | 2.65 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 73 dB(A) | 73 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 178 % | 126 % |
| Prated | 22.31 kW | 22.43 kW |
| SCOP | 4.53 | 3.22 |
| Tbiv | -7 °C | -7 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 19.72 kW | 19.82 kW |
| COP Tj = -7°C | 2.74 | 1.74 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 12.03 kW | 11.89 kW |
| COP Tj = +2°C | 4.41 | 3.32 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 8.00 kW | 7.97 kW |

| | | |
|---|-------------|-------------|
| COP Tj = +7°C | 6.29 | 4.66 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 3.79 kW | 3.60 kW |
| COP Tj = 12°C | 7.14 | 5.32 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 19.72 kW | 19.82 kW |
| COP Tj = Tbiv | 2.74 | 1.74 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.33 kW | 13.81 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.35 | 1.08 |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.97 kW | 8.60 kW |
| Annual energy consumption Qhe | 10180 kWh | 14390 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 73 dB(A) | 73 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 146 % | 102 % |
| Prated | 21.40 kW | 22.36 kW |
| SCOP | 3.72 | 2.62 |
| Tbiv | -15 °C | -7 °C |
| TOL | -22 °C | -15 °C |
| Pdh Tj = -7°C | 13.30 kW | 13.53 kW |
| COP Tj = -7°C | 3.12 | 2.07 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 8.25 kW | 8.61 kW |
| COP Tj = +2°C | 4.42 | 3.70 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 5.45 kW | 5.21 kW |
| COP Tj = +7°C | 5.87 | 4.49 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 3.98 kW | 3.74 kW |
| COP Tj = 12°C | 7.19 | 5.76 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 17.46 kW | 13.53 kW |
| COP Tj = Tbiv | 2.36 | 2.07 |

| | | |
|---|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.27 kW | 13.78 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.69 | 1.24 |
| WTOL | 60 °C | 60 °C |
| Poff | 20 W | 20 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 8.13 kW | 22.36 kW |
| Annual energy consumption Qhe | 14179 kWh | 21067 kWh |
| Pdh Tj = -15°C (if TOL | 17.46 | 13.78 |
| COP Tj = -15°C (if TOL | 2.36 | 1.24 |
| Cdh Tj = -15 °C | 0.90 | 0.90 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 73 dB(A) | 73 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs | 234 % | 161 % |
| Prated | 21.90 kW | 22.01 kW |
| SCOP | 5.85 | 4.09 |
| Tbiv | 7 °C | 7 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 21.81 kW | 22.01 kW |
| COP Tj = +2°C | 3.31 | 2.12 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 14.08 kW | 14.15 kW |
| COP Tj = +7°C | 5.20 | 3.50 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 6.44 kW | 6.38 kW |
| COP Tj = 12°C | 7.50 | 5.34 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 14.08 kW | 14.15 kW |
| COP Tj = Tbiv | 5.20 | 3.50 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 21.81 kW | 22.01 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.31 | 2.12 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | | |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |

| | | |
|--|-------------|-------------|
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.09 kW | 0.00 kW |
| Annual energy consumption Qhe | 4945 kWh | 7180 kWh |

Model HOP26WMONO3

| | |
|-------------------------------------|--------------------------------|
| Model name | HOP26WMONO3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | 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 | 26.30 kW | 26.06 kW |
| El input | 6.50 kW | 10.72 kW |
| COP | 4.05 | 2.43 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 75 dB(A) | 75 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 177 % | 123 % |
| Prated | 25.04 kW | 26.15 kW |
| SCOP | 4.50 | 3.14 |
| Tbiv | -7 °C | -6 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 22.12 kW | 20.64 kW |
| COP Tj = -7°C | 2.57 | 1.69 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 13.76 kW | 14.26 kW |
| COP Tj = +2°C | 4.44 | 3.12 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 9.36 kW | 9.29 kW |

| | | |
|---|-------------|-------------|
| COP Tj = +7°C | 6.52 | 4.74 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 4.09 kW | 3.89 kW |
| COP Tj = 12°C | 7.35 | 5.48 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 22.12 kW | 22.11 kW |
| COP Tj = Tbiv | 2.57 | 1.88 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.33 kW | 13.86 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.35 | 1.08 |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.68 kW | 12.28 kW |
| Annual energy consumption Qhe | 11489 kWh | 17204 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 75 dB(A) | 75 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 143 % | 101 % |
| Prated | 25.75 kW | 26.27 kW |
| SCOP | 3.64 | 2.59 |
| Tbiv | -12 °C | -7 °C |
| TOL | -22 °C | -15 °C |
| Pdh Tj = -7°C | 15.91 kW | 15.90 kW |
| COP Tj = -7°C | 3.10 | 2.10 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 10.10 kW | 10.17 kW |
| COP Tj = +2°C | 4.45 | 3.58 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 6.30 kW | 6.52 kW |
| COP Tj = +7°C | 6.06 | 4.99 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 4.03 kW | 3.63 kW |
| COP Tj = 12°C | 7.13 | 5.68 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 18.97 kW | 15.90 kW |
| COP Tj = Tbiv | 2.36 | 2.10 |

| | | |
|---|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.07 kW | 13.37 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.67 | 1.20 |
| WTOL | 60 °C | 60 °C |
| Poff | 20 W | 20 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 12.68 kW | 26.27 kW |
| Annual energy consumption Qhe | 17421 kWh | 24967 kWh |
| Pdh Tj = -15°C (if TOL | 18.95 | 13.37 |
| COP Tj = -15°C (if TOL | 2.27 | 1.20 |
| Cdh Tj = -15 °C | 0.90 | 0.90 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 75 dB(A) | 75 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs | 231 % | 168 % |
| Prated | 26.08 kW | 26.22 kW |
| SCOP | 5.85 | 4.26 |
| Tbiv | 7 °C | 7 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 25.50 kW | 26.22 kW |
| COP Tj = +2°C | 3.00 | 1.99 |
| Cdh Tj = +2 °C | 0.900 | 0.900 |
| Pdh Tj = +7°C | 16.77 kW | 16.86 kW |
| COP Tj = +7°C | 5.02 | 3.47 |
| Cdh Tj = +7 °C | 0.900 | 0.900 |
| Pdh Tj = 12°C | 7.65 kW | 7.58 kW |
| COP Tj = 12°C | 7.78 | 5.94 |
| Cdh Tj = +12 °C | 0.900 | 0.900 |
| Pdh Tj = Tbiv | 16.77 kW | 16.86 kW |
| COP Tj = Tbiv | 5.02 | 3.47 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 25.50 kW | 26.22 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.00 | 1.99 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | | |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |

| | | |
|--|-------------|-------------|
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 0.58 kW | 0.00 kW |
| Annual energy consumption Q _{he} | 5959 kWh | 8218 kWh |

Model HOP30WMONO3

| | |
|-------------------------------------|--------------------------------|
| Model name | HOP30WMONO3 |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | 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 | 29.93 kW | 29.68 kW |
| El input | 8.02 kW | 12.97 kW |
| COP | 3.73 | 2.29 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 77 dB(A) | 77 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 165 % | 123 % |
| Prated | 29.18 kW | 29.69 kW |
| SCOP | 4.19 | 3.14 |
| Tbiv | -5 °C | -5 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 21.90 kW | 20.11 kW |
| COP Tj = -7°C | 2.54 | 1.63 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 16.16 kW | 16.49 kW |
| COP Tj = +2°C | 4.16 | 3.09 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 10.64 kW | 10.50 kW |

| | | |
|---|-------------|--------------|
| COP Tj = +7°C | 6.38 | 4.75 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 4.54 kW | 4.64 kW |
| COP Tj = 12°C | 7.72 | 5.91 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 23.51 kW | 23.97 kW |
| COP Tj = Tbiv | 2.71 | 2.02 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 20.37 kW | 13.82 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.35 | 1.07 |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 8.75 kW | 15.86 kW |
| Annual energy consumption Qhe | 14165 kWh | 19316.17 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 77 dB(A) | 77 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 138 % | 100 % |
| Prated | 29.13 kW | 30.41 kW |
| SCOP | 3.52 | 2.56 |
| Tbiv | -10 °C | -7 °C |
| TOL | -22 °C | -15 °C |
| Pdh Tj = -7°C | 18.49 kW | 18.40 kW |
| COP Tj = -7°C | 3.07 | 2.10 |
| Cdh Tj = -7 °C | 0.90 | 0.90 |
| Pdh Tj = +2°C | 11.88 kW | 11.22 kW |
| COP Tj = +2°C | 4.42 | 3.51 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 7.53 kW | 7.42 kW |
| COP Tj = +7°C | 6.15 | 5.18 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 4.11 kW | 3.64 kW |
| COP Tj = 12°C | 6.87 | 5.73 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 19.93 kW | 18.40 kW |
| COP Tj = Tbiv | 2.44 | 2.10 |

| | | |
|---|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 13.17 kW | 13.06 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 1.67 | 1.18 |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 15.96 kW | 30.41 kW |
| Annual energy consumption Qhe | 20390 kWh | 29238 kWh |
| Pdh Tj = -15°C (if TOL | 18.61 | 13.06 |
| COP Tj = -15°C (if TOL | 2.24 | 1.18 |
| Cdh Tj = -15 °C | 0.90 | 0.90 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 77 dB(A) | 77 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|---|-----------------|--------------------|
| ηs | 213 % | 163 % |
| Prated | 30.44 kW | 29.73 kW |
| SCOP | 5.39 | 4.15 |
| Tbiv | 7 °C | 7 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 26.29 kW | 26.41 kW |
| COP Tj = +2°C | 2.94 | 1.99 |
| Cdh Tj = +2 °C | 0.90 | 0.90 |
| Pdh Tj = +7°C | 19.57 kW | 19.11 kW |
| COP Tj = +7°C | 4.75 | 3.37 |
| Cdh Tj = +7 °C | 0.90 | 0.90 |
| Pdh Tj = 12°C | 8.90 kW | 8.92 kW |
| COP Tj = 12°C | 7.53 | 6.09 |
| Cdh Tj = +12 °C | 0.90 | 0.90 |
| Pdh Tj = Tbiv | 19.57 kW | 19.11 kW |
| COP Tj = Tbiv | 4.75 | 3.37 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 26.29 kW | 26.41 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.94 | 1.99 |
| WTOL | 60 °C | 60 °C |
| Poff | 18 W | 18 W |
| PTO | 96 W | 96 W |
| PSB | 18 W | 18 W |

| | | |
|--|-------------|-------------|
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 4.15 kW | 3.32 kW |
| Annual energy consumption Qhe | 7540 kWh | 9580 kWh |