

Subtype LWD 50A

| | |
|---------------------|------------------------------------|
| Certificate Holder | ait-deutschland GmbH |
| Address | Industriestr. 3 |
| ZIP | 95359 |
| City | Kasendorf |
| Country | DE |
| Certification Body | BRE Global Limited |
| Subtype title | LWD 50A |
| Registration number | 041-K001-20 |
| Heat Pump Type | Outdoor Air/Water |
| Refrigerant | R290 |
| Mass of Refrigerant | 0.95 kg |
| Certification Date | 12.05.2017 |
| Testing basis | HP Keymark Scheme Transition Rules |
| Testing laboratory | Wärmepumpen-Testzentrum (WPZ), CH |

Model alpha innotec LWD 50A-HMD

| | |
|-------------------------------------|---------------------------|
| Model name | alpha innotec LWD 50A-HMD |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| 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 |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 7.10 kW | 6.57 kW |
| El input | 1.48 kW | 1.95 kW |
| COP | 4.80 | 3.37 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 164 % | 125 % |
| Prated | 6.02 kW | 5.41 kW |
| SCOP | 4.16 | 3.20 |
| Tbiv | -5 °C | -5 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 4.70 kW | 4.00 kW |
| COP Tj = -7°C | 3.27 | 1.99 |
| Cdh Tj = -7 °C | 1.00 | 1.00 |
| Pdh Tj = +2°C | 5.60 kW | 5.40 kW |
| COP Tj = +2°C | 4.20 | 3.18 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.20 kW | 7.10 kW |
| COP Tj = +7°C | 5.29 | 4.65 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = 12°C | 8.00 kW | 7.90 kW |
| COP Tj = 12°C | 6.14 | 5.97 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.90 kW | 4.30 kW |
| COP Tj = Tbiv | 3.51 | 2.24 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 3.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.96 | 1.74 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.82 kW | 1.81 kW |
| Annual energy consumption Qhe | 2989 kWh | 3491 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 147 % | 112 % |
| Prated | 5.56 kW | 4.88 kW |
| SCOP | 3.74 | 2.89 |
| Tbiv | -12 °C | -12 °C |
| TOL | -20 °C | -20 °C |
| Pdh Tj = -7°C | 4.80 kW | 4.30 kW |
| COP Tj = -7°C | 3.59 | 2.46 |
| Cdh Tj = -7 °C | 0.99 | 0.99 |
| Pdh Tj = +2°C | 5.70 kW | 5.50 kW |
| COP Tj = +2°C | 4.48 | 3.61 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.30 kW | 7.20 kW |
| COP Tj = +7°C | 5.48 | 5.11 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 8.00 kW | 8.00 kW |
| COP Tj = 12°C | 6.10 | 6.31 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.10 kW | 3.60 kW |
| COP Tj = Tbiv | 3.11 | 2.00 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.00 kW | 2.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 5.56 kW | 4.88 kW |
| Annual energy consumption Qhe | 3661 kWh | 4169 kWh |
| Pdh Tj = -15°C (if TOL | 3.70 | 3.20 |
| COP Tj = -15°C (if TOL | 2.78 | 1.76 |
| Cdh Tj = -15 °C | 1.00 | 1.00 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| η_s | 198 % | 160 % |
| Prated | 7.28 kW | 6.76 kW |
| SCOP | 5.02 | 4.07 |
| Tbiv | 4 °C | 4 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 5.60 kW | 5.20 kW |
| COP Tj = +2°C | 3.82 | 2.39 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 7.20 kW | 6.70 kW |
| COP Tj = +7°C | 5.02 | 3.75 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.90 kW | 7.80 kW |
| COP Tj = 12°C | 5.95 | 5.38 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 6.20 kW | 5.80 kW |
| COP Tj = Tbiv | 4.38 | 2.88 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.60 kW | 5.20 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.82 | 2.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |

| | | |
|--------------------------------------------|-------------|-------------|
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.68 kW | 1.56 kW |
| Annual energy consumption Qhe | 1937 kWh | 2217 kWh |

Model alpha innotec LWD 50A-HTD

| | |
|-------------------------------------|---------------------------|
| Model name | alpha innotec LWD 50A-HTD |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| 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 |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 7.10 kW | 6.57 kW |
| El input | 1.48 kW | 1.95 kW |
| COP | 4.80 | 3.37 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 164 % | 125 % |
| Prated | 6.02 kW | 5.41 kW |
| SCOP | 4.16 | 3.20 |
| Tbiv | -5 °C | -5 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 4.70 kW | 4.00 kW |
| COP Tj = -7°C | 3.27 | 1.99 |
| Cdh Tj = -7 °C | 1.00 | 1.00 |
| Pdh Tj = +2°C | 5.60 kW | 5.40 kW |
| COP Tj = +2°C | 4.20 | 3.18 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.20 kW | 7.10 kW |
| COP Tj = +7°C | 5.29 | 4.65 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = 12°C | 8.00 kW | 7.90 kW |
| COP Tj = 12°C | 6.14 | 5.97 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.90 kW | 4.30 kW |
| COP Tj = Tbiv | 3.51 | 2.24 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 3.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.96 | 1.74 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.82 kW | 1.81 kW |
| Annual energy consumption Qhe | 2989 kWh | 3491 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 147 % | 112 % |
| Prated | 5.56 kW | 4.88 kW |
| SCOP | 3.74 | 2.89 |
| Tbiv | -12 °C | -12 °C |
| TOL | -20 °C | -20 °C |
| Pdh Tj = -7°C | 4.80 kW | 4.30 kW |
| COP Tj = -7°C | 3.59 | 2.46 |
| Cdh Tj = -7 °C | 0.99 | 0.99 |
| Pdh Tj = +2°C | 5.70 kW | 5.50 kW |
| COP Tj = +2°C | 4.48 | 3.61 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.30 kW | 7.20 kW |
| COP Tj = +7°C | 5.48 | 5.11 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 8.00 kW | 8.00 kW |
| COP Tj = 12°C | 6.10 | 6.31 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.10 kW | 3.60 kW |
| COP Tj = Tbiv | 3.11 | 2.00 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.00 kW | 2.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 5.56 kW | 4.88 kW |
| Annual energy consumption Qhe | 3661 kWh | 4169 kWh |
| Pdh Tj = -15°C (if TOL | 3.70 | 3.20 |
| COP Tj = -15°C (if TOL | 2.78 | 1.76 |
| Cdh Tj = -15 °C | 1.00 | 1.00 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| η_s | 198 % | 160 % |
| Prated | 7.28 kW | 6.76 kW |
| SCOP | 5.02 | 4.07 |
| Tbiv | 4 °C | 4 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 5.60 kW | 5.20 kW |
| COP Tj = +2°C | 3.82 | 2.39 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 7.20 kW | 6.70 kW |
| COP Tj = +7°C | 5.02 | 3.75 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.90 kW | 7.80 kW |
| COP Tj = 12°C | 5.95 | 5.38 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 6.20 kW | 5.80 kW |
| COP Tj = Tbiv | 4.38 | 2.88 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.60 kW | 5.20 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.82 | 2.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |

| | | |
|--------------------------------------------|-------------|-------------|
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.68 kW | 1.56 kW |
| Annual energy consumption Qhe | 1937 kWh | 2217 kWh |

Model NOVELAN LAD 5 - CSD

| | |
|-------------------------------------|-----------------------|
| Model name | NOVELAN LAD 5 - CSD |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| 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 |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 7.10 kW | 6.57 kW |
| El input | 1.48 kW | 1.95 kW |
| COP | 4.80 | 3.37 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 164 % | 125 % |
| Prated | 6.02 kW | 5.41 kW |
| SCOP | 4.16 | 3.20 |
| Tbiv | -5 °C | -5 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 4.70 kW | 4.00 kW |
| COP Tj = -7°C | 3.27 | 1.99 |
| Cdh Tj = -7 °C | 1.00 | 1.00 |
| Pdh Tj = +2°C | 5.60 kW | 5.40 kW |
| COP Tj = +2°C | 4.20 | 3.18 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.20 kW | 7.10 kW |
| COP Tj = +7°C | 5.29 | 4.65 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = 12°C | 8.00 kW | 7.90 kW |
| COP Tj = 12°C | 6.14 | 5.97 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.90 kW | 4.30 kW |
| COP Tj = Tbiv | 3.51 | 2.24 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 3.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.96 | 1.74 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.82 kW | 1.81 kW |
| Annual energy consumption Qhe | 2989 kWh | 3491 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 147 % | 112 % |
| Prated | 5.56 kW | 4.88 kW |
| SCOP | 3.74 | 2.89 |
| Tbiv | -12 °C | -12 °C |
| TOL | -20 °C | -20 °C |
| Pdh Tj = -7°C | 4.80 kW | 4.30 kW |
| COP Tj = -7°C | 3.59 | 2.46 |
| Cdh Tj = -7 °C | 0.99 | 0.99 |
| Pdh Tj = +2°C | 5.70 kW | 5.50 kW |
| COP Tj = +2°C | 4.48 | 3.61 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.30 kW | 7.20 kW |
| COP Tj = +7°C | 5.48 | 5.11 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 8.00 kW | 8.00 kW |
| COP Tj = 12°C | 6.10 | 6.31 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.10 kW | 3.60 kW |
| COP Tj = Tbiv | 3.11 | 2.00 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.00 kW | 2.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 5.56 kW | 4.88 kW |
| Annual energy consumption Qhe | 3661 kWh | 4169 kWh |
| Pdh Tj = -15°C (if TOL | 3.70 | 3.20 |
| COP Tj = -15°C (if TOL | 2.78 | 1.76 |
| Cdh Tj = -15 °C | 1.00 | 1.00 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| η_s | 198 % | 160 % |
| Prated | 7.28 kW | 6.76 kW |
| SCOP | 5.02 | 4.07 |
| Tbiv | 4 °C | 4 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 5.60 kW | 5.20 kW |
| COP Tj = +2°C | 3.82 | 2.39 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 7.20 kW | 6.70 kW |
| COP Tj = +7°C | 5.02 | 3.75 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.90 kW | 7.80 kW |
| COP Tj = 12°C | 5.95 | 5.38 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 6.20 kW | 5.80 kW |
| COP Tj = Tbiv | 4.38 | 2.88 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.60 kW | 5.20 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.82 | 2.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |

| | | |
|--------------------------------------------|-------------|-------------|
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.68 kW | 1.56 kW |
| Annual energy consumption Qhe | 1937 kWh | 2217 kWh |

Model NOVELAN LAD 5 - HID

| | |
|-------------------------------------|-----------------------|
| Model name | NOVELAN LAD 5 - HID |
| Application | Heating (medium temp) |
| Units | Outdoor |
| Climate zone (for heating) | n/a |
| 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 |

EN 14511-2 | Heating

| | Low temperature | Medium temperature |
|-------------|-----------------|--------------------|
| Heat output | 7.10 kW | 6.57 kW |
| El input | 1.48 kW | 1.95 kW |
| COP | 4.80 | 3.37 |

EN 12102-1 | Average Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Average Climate

| | Low temperature | Medium temperature |
|----------------|-----------------|--------------------|
| η_s | 164 % | 125 % |
| Prated | 6.02 kW | 5.41 kW |
| SCOP | 4.16 | 3.20 |
| Tbiv | -5 °C | -5 °C |
| TOL | -10 °C | -10 °C |
| Pdh Tj = -7°C | 4.70 kW | 4.00 kW |
| COP Tj = -7°C | 3.27 | 1.99 |
| Cdh Tj = -7 °C | 1.00 | 1.00 |
| Pdh Tj = +2°C | 5.60 kW | 5.40 kW |
| COP Tj = +2°C | 4.20 | 3.18 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.20 kW | 7.10 kW |
| COP Tj = +7°C | 5.29 | 4.65 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = 12°C | 8.00 kW | 7.90 kW |
| COP Tj = 12°C | 6.14 | 5.97 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.90 kW | 4.30 kW |
| COP Tj = Tbiv | 3.51 | 2.24 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 4.20 kW | 3.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.96 | 1.74 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.82 kW | 1.81 kW |
| Annual energy consumption Qhe | 2989 kWh | 3491 kWh |

EN 12102-1 | Colder Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Colder Climate

| | Low temperature | Medium temperature |
|-----------------|-----------------|--------------------|
| ηs | 147 % | 112 % |
| Prated | 5.56 kW | 4.88 kW |
| SCOP | 3.74 | 2.89 |
| Tbiv | -12 °C | -12 °C |
| TOL | -20 °C | -20 °C |
| Pdh Tj = -7°C | 4.80 kW | 4.30 kW |
| COP Tj = -7°C | 3.59 | 2.46 |
| Cdh Tj = -7 °C | 0.99 | 0.99 |
| Pdh Tj = +2°C | 5.70 kW | 5.50 kW |
| COP Tj = +2°C | 4.48 | 3.61 |
| Cdh Tj = +2 °C | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.30 kW | 7.20 kW |
| COP Tj = +7°C | 5.48 | 5.11 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 8.00 kW | 8.00 kW |
| COP Tj = 12°C | 6.10 | 6.31 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 4.10 kW | 3.60 kW |
| COP Tj = Tbiv | 3.11 | 2.00 |

| | | |
|-----------------------------------------------------|-------------|-------------|
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 3.00 kW | 2.60 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 2.25 | 1.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 5.56 kW | 4.88 kW |
| Annual energy consumption Qhe | 3661 kWh | 4169 kWh |
| Pdh Tj = -15°C (if TOL | 3.70 | 3.20 |
| COP Tj = -15°C (if TOL | 2.78 | 1.76 |
| Cdh Tj = -15 °C | 1.00 | 1.00 |

EN 12102-1 | Warmer Climate

| | Low temperature | Medium temperature |
|---------------------------|-----------------|--------------------|
| Sound power level outdoor | 57 dB(A) | 57 dB(A) |

EN 14825 | Warmer Climate

| | Low temperature | Medium temperature |
|-----------------------------------------------------|-----------------|--------------------|
| η_s | 198 % | 160 % |
| Prated | 7.28 kW | 6.76 kW |
| SCOP | 5.02 | 4.07 |
| Tbiv | 4 °C | 4 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 5.60 kW | 5.20 kW |
| COP Tj = +2°C | 3.82 | 2.39 |
| Cdh Tj = +2 °C | 1.00 | 1.00 |
| Pdh Tj = +7°C | 7.20 kW | 6.70 kW |
| COP Tj = +7°C | 5.02 | 3.75 |
| Cdh Tj = +7 °C | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.90 kW | 7.80 kW |
| COP Tj = 12°C | 5.95 | 5.38 |
| Cdh Tj = +12 °C | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 6.20 kW | 5.80 kW |
| COP Tj = Tbiv | 4.38 | 2.88 |
| Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 5.60 kW | 5.20 kW |
| COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh | 3.82 | 2.39 |
| Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh | 0.90 | 0.90 |

| | | |
|--------------------------------------------|-------------|-------------|
| WTOL | 62 °C | 62 °C |
| Poff | 15 W | 15 W |
| PTO | 15 W | 15 W |
| PSB | 15 W | 15 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | Electricity | Electricity |
| Supplementary Heater: PSUP | 1.68 kW | 1.56 kW |
| Annual energy consumption Qhe | 1937 kWh | 2217 kWh |