

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | | |
|----------------------------|---|----------|------------|
| Summary of | Vitocal 2xx-G B08 | Reg. No. | 011-1W0286 |
| Certificate Holder | | | |
| Name | Viessmann Wärmepumpen GmbH | | |
| Address | Viessmannstr. 1 | Zip | 35107 |
| City | Allendorf/Eder | Country | Germany |
| Certification Body | DIN CERTCO Gesellschaft für Konformitätsbewertung mbH | | |
| Name of testing laboratory | Heat Pump Test Center WPZ | | |
| Subtype title | Vitocal 2xx-G B08 | | |
| Heat Pump Type | Brine/Water | | |
| Refrigerant | R410a | | |
| Mass Of Refrigerant | 1.95 kg | | |
| Certification Date | 11.07.2019 | | |

Model: VITOCAL 200-G BWC 201.B08

General Data

| | |
|--------------|-------------|
| Power supply | 3x400V 50Hz |
|--------------|-------------|

Heating

EN 14511-2

| | Low temperature | Medium temperature |
|------------------------|------------------------|------------------------|
| Heat output | 7.54 kW | 6.95 kW |
| El input | 1.62 kW | 2.51 kW |
| COP | 4.64 | 2.74 |
| Indoor water flow rate | 1.83 m ³ /h | 1.51 m ³ /h |

EN 14511-4

| Shutting off the heat transfer medium flow | passed |
|--|--------|
| Complete power supply failure | passed |
| Defrost test | passed |
| Starting and operating test | passed |

Average Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 12102-1

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

EN 14825

| | | Low temperature | Medium temperature |
|---------------------------------------|---------|-----------------|--------------------|
| P _{designh} | 7.57 kW | | |
| η_s | 201 % | 143 % | |
| P _{rated} | 8.60 kW | 7.95 kW | |
| SCOP | 5.23 | 3.79 | |
| T _{biv} | -7 °C | -7 °C | |
| TOL | -10 °C | -10 °C | |
| P _{dh} T _j = -7°C | 7.57 kW | 6.99 kW | |
| COP T _j = -7°C | 4.93 | 3.16 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +2°C | 7.63 kW | 7.19 kW | |
| COP T _j = +2°C | 5.23 | 3.77 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +7°C | 7.69 kW | 7.31 kW | |
| COP T _j = +7°C | 5.56 | 4.23 | |
| C _{dh} | 0.99 | 0.99 | |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| Pdh Tj = 12°C | 7.76 kW | 7.45 kW |
| COP Tj = 12°C | 5.91 | 4.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.57 kW | 6.99 kW |
| COP Tj = Tbiv | 4.93 | 3.16 |
| Pdh Tj = TOL | 7.55 kW | 6.92 kW |
| COP Tj = TOL | 4.88 | 2.99 |
| Cdh | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 1.05 kW | 1.03 kW |
| Backup Heater | 0.00 kW | |
| Annual energy consumption Qhe | 3398 kWh | 4338 kWh |

Warmer Climate

| EN 12102-1 | | |
|--------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 205 % | 143 % |
| Prated | 7.61 kW | 6.92 kW |
| SCOP | 5.32 | 3.76 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 7.55 kW | 6.92 kW |
| COP Tj = +2°C | 4.85 | 2.99 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.61 kW | 7.09 kW |
| COP Tj = +7°C | 5.15 | 3.45 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.73 kW | 7.34 kW |
| COP Tj = 12°C | 5.69 | 4.34 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.55 kW | 6.92 kW |
| COP Tj = Tbiv | 4.85 | 2.99 |
| Pdh Tj = TOL | 7.55 kW | 6.92 kW |
| COP Tj = TOL | 4.85 | 2.99 |
| Cdh | 0.99 | 1.00 |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 1897 kWh | 2449 kWh |

Colder Climate

| EN 12102-1 | | |
|--------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 195 % | 142 % |
| Prated | 12.50 kW | 11.63 kW |
| SCOP | 5.08 | 3.80 |
| Tbiv | -7 °C | -7 °C |
| TOL | -22 °C | -22 °C |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|---------------|---------|---------|
| Pdh Tj = -7°C | 7.65 kW | 7.21 kW |
| COP Tj = -7°C | 5.56 | 3.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +2°C | 7.70 kW | 7.36 kW |
| COP Tj = +2°C | 5.90 | 4.33 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.76 kW | 7.76 kW |
| COP Tj = +7°C | 6.16 | 4.86 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.77 kW | 7.58 kW |
| COP Tj = 12°C | 6.24 | 5.25 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.65 kW | 7.21 kW |
| COP Tj = Tbiv | 5.56 | 3.80 |
| Pdh Tj = TOL | 7.57 kW | 6.96 kW |
| COP Tj = TOL | 5.11 | 3.09 |
| Cdh | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|---|----------|----------|
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 4.93 kW | 4.67 kW |
| Annual energy consumption Q _{he} | 6143 kWh | 7633 kWh |
| P _{dh} T _j = -15°C (if TOL<-20°C) | 7.62 | 7.10 |
| COP T _j = -15°C (if TOL<-20°C) | 5.11 | 3.46 |
| C _{dh} | 0.99 | 0.99 |

Model: VITOCAL 200-G BWC 201.B08 SC

General Data

| | |
|--------------|-----|
| Power supply | n/a |
|--------------|-----|

Heating

EN 14511-2

| | Low temperature | Medium temperature |
|------------------------|------------------------|------------------------|
| Heat output | 7.54 kW | 6.95 kW |
| El input | 1.62 kW | 2.51 kW |
| COP | 4.64 | 2.74 |
| Indoor water flow rate | 1.83 m ³ /h | 1.51 m ³ /h |

EN 14511-4

| Shutting off the heat transfer medium flow | passed |
|--|--------|
| Complete power supply failure | passed |
| Defrost test | passed |
| Starting and operating test | passed |

Average Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 12102-1

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

EN 14825

| | | Low temperature | Medium temperature |
|---------------------------------------|---------|-----------------|--------------------|
| P _{designh} | 7.57 kW | | |
| η_s | 201 % | 143 % | |
| P _{rated} | 8.60 kW | 7.95 kW | |
| SCOP | 5.23 | 3.79 | |
| T _{biv} | -7 °C | -7 °C | |
| TOL | -10 °C | -10 °C | |
| P _{dh} T _j = -7°C | 7.57 kW | 6.99 kW | |
| COP T _j = -7°C | 4.93 | 3.16 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +2°C | 7.63 kW | 7.19 kW | |
| COP T _j = +2°C | 5.23 | 3.77 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +7°C | 7.69 kW | 7.31 kW | |
| COP T _j = +7°C | 5.56 | 4.23 | |
| C _{dh} | 0.99 | 0.99 | |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| Pdh Tj = 12°C | 7.76 kW | 7.45 kW |
| COP Tj = 12°C | 5.91 | 4.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.57 kW | 6.99 kW |
| COP Tj = Tbiv | 4.93 | 3.16 |
| Pdh Tj = TOL | 7.55 kW | 6.92 kW |
| COP Tj = TOL | 4.88 | 2.99 |
| Cdh | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 1.05 kW | 1.03 kW |
| Backup Heater | 0.00 kW | |
| Annual energy consumption Qhe | 3398 kWh | 4338 kWh |

Warmer Climate

| EN 12102-1 | | |
|--------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 205 % | 143 % |
| Prated | 7.61 kW | 6.92 kW |
| SCOP | 5.32 | 3.76 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 7.55 kW | 6.92 kW |
| COP Tj = +2°C | 4.85 | 2.99 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.61 kW | 7.09 kW |
| COP Tj = +7°C | 5.15 | 3.45 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.73 kW | 7.34 kW |
| COP Tj = 12°C | 5.69 | 4.34 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.55 kW | 6.92 kW |
| COP Tj = Tbiv | 4.85 | 2.99 |
| Pdh Tj = TOL | 7.55 kW | 6.92 kW |
| COP Tj = TOL | 4.85 | 2.99 |
| Cdh | 0.99 | 1.00 |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Qhe | 1897 kWh | 2449 kWh |

Colder Climate

| EN 12102-1 | | |
|--------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 195 % | 142 % |
| Prated | 12.50 kW | 11.63 kW |
| SCOP | 5.08 | 3.80 |
| Tbiv | -7 °C | -7 °C |
| TOL | -22 °C | -22 °C |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|---------------|---------|---------|
| Pdh Tj = -7°C | 7.65 kW | 7.21 kW |
| COP Tj = -7°C | 5.56 | 3.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +2°C | 7.70 kW | 7.36 kW |
| COP Tj = +2°C | 5.90 | 4.33 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.76 kW | 7.76 kW |
| COP Tj = +7°C | 6.16 | 4.86 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.77 kW | 7.58 kW |
| COP Tj = 12°C | 6.24 | 5.25 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.65 kW | 7.21 kW |
| COP Tj = Tbiv | 5.56 | 3.80 |
| Pdh Tj = TOL | 7.57 kW | 6.96 kW |
| COP Tj = TOL | 5.11 | 3.09 |
| Cdh | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|---|----------|----------|
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 4.93 kW | 4.67 kW |
| Annual energy consumption Q _{he} | 6095 kWh | 7633 kWh |
| P _{dh} T _j = -15°C (if TOL<-20°C) | 7.62 | 7.10 |
| COP T _j = -15°C (if TOL<-20°C) | 5.11 | 3.46 |
| C _{dh} | 0.99 | 0.99 |

Model: VITOCAL 222-G BWT 221.B08

General Data

| | |
|------------------|-------------|
| Power supply | 3x400V 50Hz |
| Off-peak product | Yes |

Heating

EN 14511-2

| | Low temperature | Medium temperature |
|------------------------|------------------------|------------------------|
| Heat output | 7.54 kW | 6.95 kW |
| El input | 1.62 kW | 2.51 kW |
| COP | 4.64 | 2.74 |
| Indoor water flow rate | 1.83 m ³ /h | 1.51 m ³ /h |

EN 14511-4

| Shutting off the heat transfer medium flow | passed |
|--|--------|
| Complete power supply failure | passed |
| Defrost test | passed |
| Starting and operating test | passed |

Average Climate

EN 12102-1

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

EN 14825

| | | Low temperature | Medium temperature |
|---------------------------------------|---------|-----------------|--------------------|
| P _{designh} | 7.57 kW | | |
| η_s | 201 % | 143 % | |
| P _{rated} | 8.60 kW | 7.95 kW | |
| SCOP | 5.23 | 3.79 | |
| T _{biv} | -7 °C | -7 °C | |
| TOL | -10 °C | -10 °C | |
| P _{dh} T _j = -7°C | 7.57 kW | 6.99 kW | |
| COP T _j = -7°C | 4.93 | 3.16 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +2°C | 7.63 kW | 7.19 kW | |
| COP T _j = +2°C | 5.23 | 3.77 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +7°C | 7.69 kW | 7.31 kW | |
| COP T _j = +7°C | 5.56 | 4.23 | |
| C _{dh} | 0.99 | 0.99 | |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| Pdh Tj = 12°C | 7.76 kW | 7.45 kW |
| COP Tj = 12°C | 5.91 | 4.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.57 kW | 6.99 kW |
| COP Tj = Tbiv | 4.93 | 3.16 |
| Pdh Tj = TOL | 7.55 kW | 6.92 kW |
| COP Tj = TOL | 4.88 | 2.99 |
| Cdh | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 1.05 kW | 1.03 kW |
| Backup Heater | 0.00 kW | |
| Annual energy consumption Qhe | 3398 kWh | 4338 kWh |

Warmer Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 12102-1

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 205 % | 143 % |
| Prated | 7.61 kW | 6.92 kW |
| SCOP | 5.32 | 3.76 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 7.55 kW | 6.92 kW |
| COP Tj = +2°C | 4.85 | 2.99 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.61 kW | 7.09 kW |
| COP Tj = +7°C | 5.15 | 3.45 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.73 kW | 7.34 kW |
| COP Tj = 12°C | 5.69 | 4.34 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.55 kW | 6.92 kW |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| COP $T_j = T_{biv}$ | 4.85 | 2.99 |
| P _{dh} $T_j = TOL$ | 7.55 kW | 6.92 kW |
| COP $T_j = TOL$ | 4.85 | 2.99 |
| C _{dh} | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| P _{off} | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Q _{he} | 1897 kWh | 2449 kWh |

Colder Climate

| EN 12102-1 | | |
|--------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 195 % | 142 % |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|---------------|----------|----------|
| Prated | 12.50 kW | 11.63 kW |
| SCOP | 5.08 | 3.80 |
| Tbiv | -7 °C | -7 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 7.65 kW | 7.21 kW |
| COP Tj = -7°C | 5.56 | 3.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +2°C | 7.70 kW | 7.36 kW |
| COP Tj = +2°C | 5.90 | 4.33 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.76 kW | 7.76 kW |
| COP Tj = +7°C | 6.16 | 4.86 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.77 kW | 7.58 kW |
| COP Tj = 12°C | 6.24 | 5.25 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.65 kW | 7.21 kW |
| COP Tj = Tbiv | 5.56 | 3.80 |
| Pdh Tj = TOL | 7.57 kW | 6.96 kW |
| COP Tj = TOL | 5.11 | 3.09 |
| Cdh | 0.99 | 1.00 |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 4.93 kW | 4.67 kW |
| Annual energy consumption Qhe | 6095 kWh | 7633 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 7.62 | 7.10 |
| COP Tj = -15°C (if TOL<-20°C) | 5.11 | 3.46 |
| Cdh | 0.99 | 0.99 |

Domestic Hot Water (DHW)

Average Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 16147 | |
|---------------------------------|------------|
| Declared load profile | XL |
| Efficiency η_{DHW} | 130 % |
| COP | 3.14 |
| Heating up time | 1:47 h:min |
| Standby power input | 63.0 W |
| Reference hot water temperature | 54.1 °C |
| Mixed water at 40°C | 293 l |

Warmer Climate

| EN 16147 | |
|---------------------------------|------------|
| Declared load profile | XL |
| Efficiency η_{DHW} | 130 % |
| COP | 3.14 |
| Heating up time | 1:47 h:min |
| Standby power input | 63.0 W |
| Reference hot water temperature | 54.1 °C |
| Mixed water at 40°C | 293 l |

Colder Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 16147 | |
|---------------------------------|------------|
| Declared load profile | XL |
| Efficiency η_{DHW} | 130 % |
| COP | 3.14 |
| Heating up time | 1:47 h:min |
| Standby power input | 63.0 W |
| Reference hot water temperature | 54.1 °C |
| Mixed water at 40°C | 293 l |

Model: VITOCAL 222-G BWT 221.B08 SC

General Data

| | |
|------------------|-------------|
| Power supply | 3x400V 50Hz |
| Off-peak product | Yes |

Heating

EN 14511-2

| | Low temperature | Medium temperature |
|------------------------|------------------------|------------------------|
| Heat output | 7.54 kW | 6.95 kW |
| El input | 1.62 kW | 2.51 kW |
| COP | 4.64 | 2.74 |
| Indoor water flow rate | 1.83 m ³ /h | 1.51 m ³ /h |

EN 14511-4

| Shutting off the heat transfer medium flow | passed |
|--|--------|
| Complete power supply failure | passed |
| Defrost test | passed |
| Starting and operating test | passed |

Average Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 12102-1

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

EN 14825

| | | Low temperature | Medium temperature |
|---------------------------------------|---------|-----------------|--------------------|
| P _{designh} | 7.57 kW | | |
| η_s | 201 % | 143 % | |
| P _{rated} | 8.60 kW | 7.95 kW | |
| SCOP | 5.23 | 3.79 | |
| T _{biv} | -7 °C | -7 °C | |
| TOL | -10 °C | -10 °C | |
| P _{dh} T _j = -7°C | 7.57 kW | 6.99 kW | |
| COP T _j = -7°C | 4.93 | 3.16 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +2°C | 7.63 kW | 7.19 kW | |
| COP T _j = +2°C | 5.23 | 3.77 | |
| C _{dh} | 0.99 | 0.99 | |
| P _{dh} T _j = +7°C | 7.69 kW | 7.31 kW | |
| COP T _j = +7°C | 5.56 | 4.23 | |
| C _{dh} | 0.99 | 0.99 | |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| Pdh Tj = 12°C | 7.76 kW | 7.45 kW |
| COP Tj = 12°C | 5.91 | 4.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.57 kW | 6.99 kW |
| COP Tj = Tbiv | 4.93 | 3.16 |
| Pdh Tj = TOL | 7.55 kW | 6.92 kW |
| COP Tj = TOL | 4.88 | 2.99 |
| Cdh | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 1.05 kW | 1.03 kW |
| Backup Heater | 0.00 kW | |
| Annual energy consumption Qhe | 3398 kWh | 4338 kWh |

Warmer Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 12102-1

| | Low temperature | Medium temperature |
|--------------------------|-----------------|--------------------|
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

EN 14825

| | Low temperature | Medium temperature |
|---------------|-----------------|--------------------|
| η_s | 205 % | 143 % |
| Prated | 7.61 kW | 6.92 kW |
| SCOP | 5.32 | 3.76 |
| Tbiv | 2 °C | 2 °C |
| TOL | 2 °C | 2 °C |
| Pdh Tj = +2°C | 7.55 kW | 6.92 kW |
| COP Tj = +2°C | 4.85 | 2.99 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.61 kW | 7.09 kW |
| COP Tj = +7°C | 5.15 | 3.45 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.73 kW | 7.34 kW |
| COP Tj = 12°C | 5.69 | 4.34 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.55 kW | 6.92 kW |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| COP $T_j = T_{biv}$ | 4.85 | 2.99 |
| P _{dh} $T_j = TOL$ | 7.55 kW | 6.92 kW |
| COP $T_j = TOL$ | 4.85 | 2.99 |
| C _{dh} | 0.99 | 1.00 |
| WTOL | 65 °C | 65 °C |
| P _{off} | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 0.00 kW | 0.00 kW |
| Annual energy consumption Q _{he} | 1897 kWh | 2449 kWh |

Colder Climate

| EN 12102-1 | | |
|--------------------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| Sound power level indoor | 43 dB(A) | 43 dB(A) |

| EN 14825 | | |
|-----------------|------------------------|---------------------------|
| | Low temperature | Medium temperature |
| η_s | 195 % | 142 % |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|---------------|----------|----------|
| Prated | 12.50 kW | 11.63 kW |
| SCOP | 5.08 | 3.80 |
| Tbiv | -7 °C | -7 °C |
| TOL | -22 °C | -22 °C |
| Pdh Tj = -7°C | 7.65 kW | 7.21 kW |
| COP Tj = -7°C | 5.56 | 3.80 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +2°C | 7.70 kW | 7.36 kW |
| COP Tj = +2°C | 5.90 | 4.33 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = +7°C | 7.76 kW | 7.76 kW |
| COP Tj = +7°C | 6.16 | 4.86 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = 12°C | 7.77 kW | 7.58 kW |
| COP Tj = 12°C | 6.24 | 5.25 |
| Cdh | 0.99 | 0.99 |
| Pdh Tj = Tbiv | 7.65 kW | 7.21 kW |
| COP Tj = Tbiv | 5.56 | 3.80 |
| Pdh Tj = TOL | 7.57 kW | 6.96 kW |
| COP Tj = TOL | 5.11 | 3.09 |
| Cdh | 0.99 | 1.00 |

This information was generated by the HP KEYMARK database on 17 Dec 2020

| | | |
|--|----------|----------|
| WTOL | 65 °C | 65 °C |
| Poff | 0 W | 0 W |
| PTO | 0 W | 0 W |
| PSB | 12 W | 12 W |
| PCK | 0 W | 0 W |
| Supplementary Heater: Type of energy input | electric | electric |
| Supplementary Heater: PSUP | 4.93 kW | 4.67 kW |
| Annual energy consumption Qhe | 6095 kWh | 7633 kWh |
| Pdh Tj = -15°C (if TOL<-20°C) | 7.62 | 7.10 |
| COP Tj = -15°C (if TOL<-20°C) | 5.11 | 3.46 |
| Cdh | 0.99 | 0.99 |

Domestic Hot Water (DHW)

Average Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 16147 | |
|---------------------------------|------------|
| Declared load profile | XL |
| Efficiency η_{DHW} | 130 % |
| COP | 3.14 |
| Heating up time | 1:47 h:min |
| Standby power input | 63.0 W |
| Reference hot water temperature | 54.1 °C |
| Mixed water at 40°C | 293 l |

Warmer Climate

| EN 16147 | |
|---------------------------------|------------|
| Declared load profile | XL |
| Efficiency η_{DHW} | 130 % |
| COP | 3.14 |
| Heating up time | 1:47 h:min |
| Standby power input | 63.0 W |
| Reference hot water temperature | 54.1 °C |
| Mixed water at 40°C | 293 l |

Colder Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

| EN 16147 | |
|---------------------------------|------------|
| Declared load profile | XL |
| Efficiency η_{DHW} | 130 % |
| COP | 3.14 |
| Heating up time | 1:47 h:min |
| Standby power input | 63.0 W |
| Reference hot water temperature | 54.1 °C |
| Mixed water at 40°C | 293 l |