

flexoTHERM 230V

Heat pump technical specification



- The flexoTHERM 230V heat pump is available in 5, 8 and 11kW models
- Connects to two different sources - ground or water
- One of the quietest heat pump ranges in the UK with Sound Safe System
- Green iQ for the highest energy efficiency



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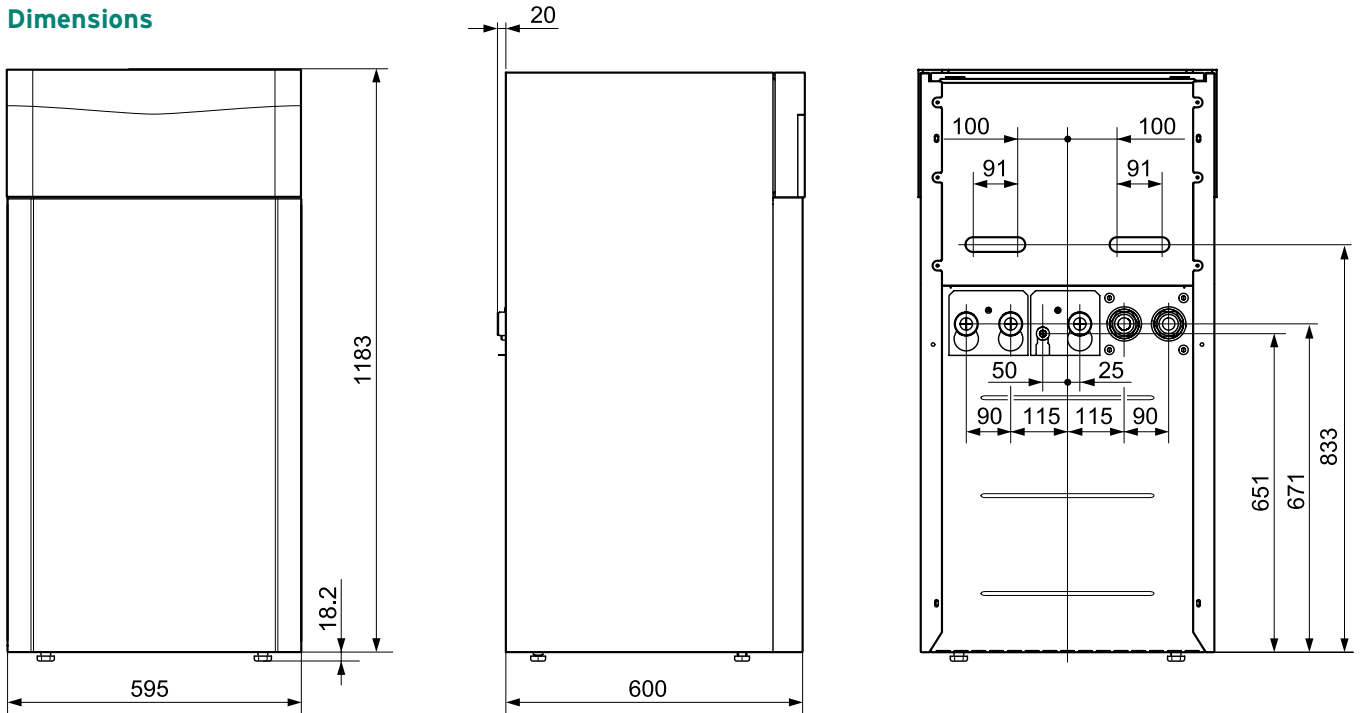
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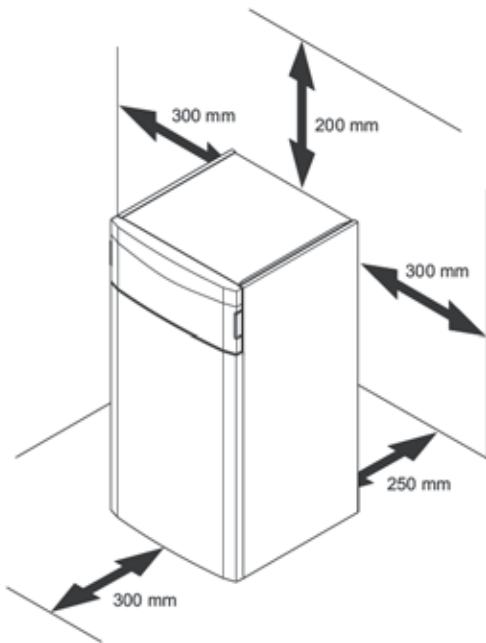
■ Heating ■ Hot water ■ Renewables

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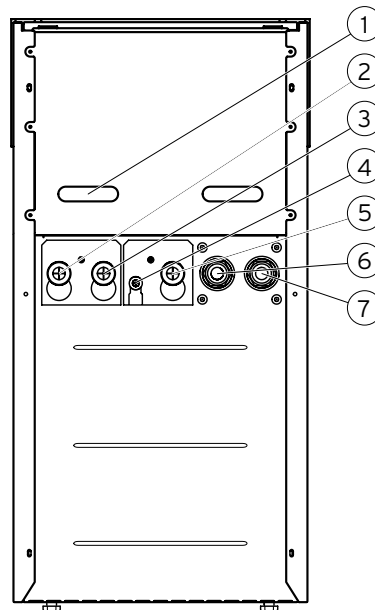
Dimensions



Clearances



Connections



| Connections | |
|-------------|---|
| 1 | Recessed handles and cable duct |
| 2 | Heating flow |
| 3 | Heating return |
| 4 | Heating circuit diaphragm expansion tank connection |
| 5 | Hot water return |
| 6 | Connection: From the heat source to the heat pump (hot brine, A) |
| 7 | Connection: From the heat pump to the heat source (cold brine, B) |

| Dimensions | Unit | 5kW 230 V | 8kW 230 V | 11kW 230 V |
|--|------|--------------|--------------|---------------|
| Product dimensions, height (without adjustable feet) | mm | 1183 | | |
| Product dimensions, width | mm | 595 | | |
| Product dimensions, depth | mm | 600 | | |
| Weight, with packaging | kg | 161 | 176 | 188 |
| Weight, without packaging | kg | 151 | 166 | 178 |
| Weight, ready for operation | kg | 157 | 173 | 185 |

| Electrical data | Unit | 5kW 230 V | 8kW 230 V | 11kW 230 V |
|---|----------|--|-----------------|-----------------|
| Heating circuit / compressor | V/Hz | 230 / 50 | | |
| Auxiliary heating | V/Hz | 230 / 50 | | |
| Power factor | | cos φ = 0.9 | | |
| Required network impedance Z _{max} with inrush current limiter | Ω | 0.42 | 0.14 | 0.15 |
| Fuse characteristic, type C | A | 20 | 25 | 32 |
| Optional building earth leakage circuit breaker | | RCCB type A (type A pulse current sensitive residual-current circuit breakers) or RCCB type B (type B universal current sensitive residual-current circuit breakers) | | |
| Inrush current (with initial current limiter) | A | ≤ 15 | ≤ 19 | ≤ 60 |
| Measuring current for the compressor and electronics | A | 16.6 | 23.8 | 29.6 |
| Output levels for the auxiliary electric heater | kW | 2.0 / 3.5 / 5.5 | 2.0 / 3.5 / 5.5 | 2.0 / 3.5 / 5.5 |
| Minimum electrical power consumption of compressor | kW | 1.40 | 2.10 | 2.60 |
| Maximum electrical power consumption of compressor | kW | 2.10 | 3.10 | 4.10 |
| IP rating | | IP 10B | | |
| Energy-related Products at 35 °C | band | A+++* | | |
| Energy-related Products at 55 °C | band | A+++* | | |
| Hydraulic connection | | | | |
| Heating flow / return | BSP male | G 1½" | | |
| Heat source flow / return | BSP male | G 1½" | | |
| Central heating water expansion vessel | BSP male | G ¾" | | |
| Heating and brine right angle connections | mm | 35 | | |
| Heat source circuit / brine circuit | | | | |
| Volume of the brine circuit in the heat pump | l | 2.5 | 3.1 | 3.6 |
| Minimum pressure of brine fluid | bar | ≥ 0.7 | | |
| Maximum pressure of brine fluid | bar | ≤ 3.0 | | |
| Heating circuit / building circuit | | | | |
| Water volume of the heating circuit in the heat pump | l | 3.2 | 3.9 | 4.4 |
| Minimum pressure | bar | ≥ 0.7 | | |
| Maximum pressure | bar | ≤ 3.0 | | |
| Minimum flow temperature heating | °C | 25 | | |
| Maximum flow temperature heating with compressor | °C | 65 | | |
| Maximum electrical power heating circuit pump | W | 63 | | |
| Refrigerant circuit | | | | |
| Refrigerant type | | R 410 A | | |
| Volume of refrigerant circuit in the heat pump | kg | 1.50 | 2.40 | 2.50 |
| Global warming potential (GWP) in accordance with EU No. 517/2014 | | 2088 | | |
| CO ₂ equivalent | t | 3132 | 5011 | 5220 |
| Global warming potential 100 (GWP ₁₀₀) in accordance with EC No. 842/2006 | | 1975 | | |
| Expansion valve type | | Electronic | | |
| Permissible pressure (relative) | bar | ≤ 46.0 | | |
| Compressor type | | EVI Scroll | | |
| Oil type | | Ester (EMKARATE RL32-3 MAF) | | |
| Oil filling quantity | l | 0.74 | 1.25 | 1.25 |

*Reported efficiency when used with VRC 700 / VRC 700f controller

Ground source technical specification

| Heat source circuit / brine circuit | Unit | 5kW 230 V | 8kW 230 V | 11kW 230 V |
|--|-------|----------------------------|--------------|---------------|
| Minimum brine input temperature when heating | °C | -10 | | |
| Maximum brine input temperature when heating | °C | 25 | | |
| Nominal flow rate ΔT 3K at B0/W35 | l/h | 1300 | 2110 | 2870 |
| Minimum flow rate during continuous operation at the application limits | l/h | 1190 | 1990 | 2570 |
| Maximum flow rate during continuous operation at the application limits | l/h | 1300 | 2110 | 2870 |
| Maximum remaining feed head with ΔT 3K at B0/W35 | bar | 0.63 | 0.41 | 0.55 |
| Electrical power for brine pump at B0/W35 ΔT 3K at 250 mbar | W | 49 | 78 | 80 |
| Brine fluid type | | Ethylene glycol 30% volume | | |
| Building circuit / heating circuit | | | | |
| Nominal flow rate ΔT 5K | l/h | 930 | 1450 | 1930 |
| Maximum remaining feed head with ΔT 5K | bar | 0.65 | 0.44 | 0.30 |
| Nominal flow with ΔT 8K | l/h | 600 | 930 | 1290 |
| Maximum remaining feed head with ΔT 8K | bar | 0.68 | 0.65 | 0.54 |
| Minimum flow rate during continuous operation at the application limits | l/h | 600 | 930 | 1290 |
| Maximum flow rate during continuous operation at the application limits | l/h | 930 | 1450 | 1930 |
| Heating pump electrical power consumption for B0/W35 ΔT 3K with an external pressure loss of 250 mbar in the heating circuit | W | 24 | 37 | 49 |
| Heating output B0/W35 ΔT 5K | kW | 5.30 | 8.90 | 11.20 |
| Power consumption B0/W35 ΔT 5K | kW | 1.13 | 1.75 | 2.24 |
| Output figure B0/W35 ΔT 5K / coefficient of performance EN 14511 | | 4.70 | 5.08 | 5.00 |
| Heating output B0/W45 ΔT 5K | kW | 5.30 | 8.80 | 11.20 |
| Power consumption B0/W45 ΔT 5K | kW | 1.51 | 2.32 | 2.95 |
| Output figure B0/W45 ΔT 5K / coefficient of performance EN 14511 | | 3.50 | 3.80 | 3.80 |
| Heating output B0/W55 ΔT 8K | kW | 5.40 | 9.00 | 11.40 |
| Power consumption B0/W55 ΔT 8K | kW | 1.80 | 2.73 | 3.56 |
| Output figure B0/W55 ΔT 8K / coefficient of performance EN 14511 | | 3.00 | 3.30 | 3.20 |
| Sound power level B0/W35 EN 12102/EN 14511 L_{w_i} in heating mode | dB(A) | 43.8 | 45.6 | 48.5 |

Water source technical specification

| Heat source circuit / brine circuit | Unit | 5kW 230 V | 8kW 230 V | 11kW 230 V |
|---|-------|----------------------------|--------------|---------------|
| Heat source module | | VWW 11/4 SI | | |
| Nominal flow of groundwater at ΔT 3K with W10/W35 | l/h | 1300 | 2160 | 3100 |
| Brine fluid type | | Ethylene glycol 30% volume | | |
| Building circuit / heating circuit | | | | |
| Nominal flow at ΔT 5K | l/h | 1025 | 1730 | 2270 |
| Maximum remaining feed head with ΔT 5K | bar | 0.80 | 2.19 | 4.22 |
| Nominal flow at ΔT 8K | l/h | 710 | 1120 | 1510 |
| Maximum remaining feed head with ΔT 8K | bar | 0.62 | 2.10 | 4.05 |
| Minimum flow rate during continuous operation at the application limits | l/h | 710 | 1120 | 1510 |
| Maximum flow rate during continuous operation at the application limits | l/h | 1025 | 1730 | 2270 |
| Heating pump electrical power consumption for W10/W35 ΔT 5K with an external pressure loss of 250 mbar in the heating circuit | W | 24 | 37 | 49 |
| Heating output W10/W35 ΔT 5K | kW | 6.40 | 10.00 | 12.90 |
| Power consumption W10/W35 ΔT 5K | kW | 1.33 | 1.92 | 2.53 |
| Output figure W10/W35 ΔT 5K / coefficient of performance EN 14511 | | 4.80 | 5.20 | 5.10 |
| Heating output W10/W45 ΔT 5K | kW | 6.30 | 10.10 | 12.90 |
| Power consumption W10/W45 ΔT 5K | kW | 1.70 | 2.46 | 3.23 |
| Output figure W10/W45 ΔT 5K / coefficient of performance EN 14511 | | 3.70 | 4.10 | 4.00 |
| Heating output W10/W55 ΔT 8K | kW | 6.30 | 10.30 | 13.30 |
| Power consumption W10/W55 ΔT 8K | kW | 2.10 | 2.94 | 4.03 |
| Output figure W10/W55 ΔT 8K / coefficient of performance EN 14511 | | 3.00 | 3.50 | 3.30 |
| Sound power level W10/W35 EN 12102/EN 14511 L_{w} in heating mode | dB(A) | 43.3 | 46.9 | 50.0 |

MCS SCoP performance table

| flexoTHERM ground source heat pump | 35°C | 40°C | 45°C | 50°C | 55°C |
|------------------------------------|------|------|------|------|------|
| flexoTHERM 5kW 230V | 4.67 | 4.15 | 3.64 | 3.50 | 3.36 |
| flexoTHERM 8kW 230V | 4.64 | 4.14 | 3.65 | 3.52 | 3.38 |
| flexoTHERM 11kW 230V | 4.73 | 4.23 | 3.73 | 3.61 | 3.49 |

| flexoTHERM with fluoCOLLECT water source heat pump | 35°C | 40°C | 45°C | 50°C | 55°C |
|--|------|------|------|------|------|
| flexoTHERM 5kW 230V | 4.82 | 4.39 | 3.96 | 3.89 | 3.81 |
| flexoTHERM 8kW 230V | 5.10 | 4.59 | 4.08 | 3.96 | 3.83 |
| flexoTHERM 11kW 230V | 4.97 | 4.48 | 3.99 | 3.89 | 3.79 |

flexoTHERM heat pumps

| Description | Article number |
|----------------------|----------------|
| flexoTHERM 5kW 230V | 0020257358 |
| flexoTHERM 8kW 230V | 0020257359 |
| flexoTHERM 11kW 230V | 0020257360 |

NOTE: Article numbers include flexoTHERM, VR 10 sensor, right angle connection set, schematic and installation guide

Accessories

| Description | Article number |
|--|----------------|
| fluoCOLLECT up to 11kW (water source) | 0010016719 |
| Passive cooling module up to 11kW | 0010016721 |
| flexoTHERM straight connection | 0020212715 |
| Brine filling station | 0020106265 |
| Glycol discharge vessel | 0020145563 |
| 18 litre brine expansion vessel (5-11kW) | 302097 |
| Expansion vessel bracket | 0020173592 |
| Heat pump brine de-airer | 0020261123 |

Controls

| Description | Article number |
|---|----------------|
| Wired VRC 700 control unit | 0020236291 |
| Wired VRC 700 underfloor heating control pack | 0020236292 |
| Wired VRC 700 two zone pack and DHW | 0020236293 |
| Wired VRC 700 three zone pack and DHW | 0020236294 |
| Wired VRC 700 one zone pack and solar DHW | 0020236295 |
| Wired VRC 700 two zone pack and solar DHW | 0020259834 |
| Wireless VRC 700f control unit | 0020259829 |
| Wireless VRC 700f underfloor heating control pack | 0020259830 |
| Wireless VRC 700f two zone pack and DHW | 0020259831 |
| Wireless VRC 700f three zone pack and DHW | 0020259832 |
| Wireless VRC 700f one zone pack and solar DHW | 0020259833 |
| Wireless VRC 700f two zone pack and solar DHW | 0020259835 |
| VR 70 wiring centre | 0020184844 |
| VR 71 wiring centre | 0020184847 |
| Wired VR 91 programmable room thermostat | 0020171334 |
| Wireless VR 91f programmable room thermostat | 0020231566 |
| VR 40 multifunctional module 2-in-7 | 0020017744 |
| VR 32 eBUS coupler | 0020139895 |

Sales Support

Vaillant products are available to purchase from reputable heating merchants in the UK. To find contact details for your nearest Vaillant sales representative:

Telephone: 0345 602 0262

Technical Enquiries

For technical assistance:

Telephone: 0330 100 3540

Email: aftersales@vaillant.co.uk

General Enquiries

If you have a general enquiry our friendly reception staff will happily point you in the right direction:

Telephone: 0345 602 2922

Renewable Service

For renewable products aftersales servicing and commissioning:

Telephone: 0330 100 3540

Email: aftersales@vaillant.co.uk

Training Enquiries

Vaillant provide many different training courses. For more information:

Telephone: 0345 601 8885

Email: training.enquiriesuk@vaillant-group.com

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