

flexoTHERM

Intelligent Heat Pump Technical Specification



- The flexoTHERM intelligent heat pump is available in 5, 8, 11, 15 and 19kW models
- Connects to three different sources - ground, water or air
- The quietest heat pump range in the UK with Sound Safe System
- Internet ready with remote monitoring available
- Green iQ for the highest energy efficiency



■ Heating ■ Hot water ■ Renewables

Because  **Vaillant** thinks ahead.

Electrical data		VWF 57/4 230V	VWF 87/4 230V	VWF 117/4 230V	VWF 157/4	VWF 197/4
Nominal voltage / rated voltage						
- heating circuit / compressor	V / Hz	1~/N/PE 230 / 50		2~/PE 230 / 50	3~/N/PE 400 / 50	
- auxiliary heating	V / Hz	1~/N/PE 230 / 50		2~/PE 230 / 50	3~/N/PE 400 / 50	
Power factor		cos ϕ = 0.75 - 0.9				
Required network impedance Z _{max} with inrush current limiter	Ω	≤ 0.472				
Fuse type, characteristic C, delay, three-pole switching (interrupt of the three power lines in one switching operation)	A	Designing in accordance with the selected connection diagrams			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 currents - with initial current limiter	A	≤ 15	≤ 19	≤ 60	≤ 26	≤ 30
Rated current (compressor + auxiliary heater)	A	11.9	19.1	24.9	26.1	31.2
min. electrical power consumption of compressor	kW	1.40	2.10	2.60	3.30	4.70
max. electrical power consumption of compressor	kW	2.10	3.10	4.10	15.60	17.80
Protection class		IP 10B				
Hydraulic connection						
Heating flow / return		G 1 1/2"				
Heat source flow / return		G 1 1/2"				
Central heating water expansion vessel		G 3/4"				
Heat source circuit / brine circuit						
Volume of the brine circuit in the heat pump	l	2.5	3.1	3.6	4.5	5.3
Materials of the brine circuit in the heat pump		Cu, CuZn-Alloy, Stainless Steel, EPDM, Brass, Fe				
min. pressure Brine liquid	MPa (bar)	$\geq 0,07$ ($\geq 0,7$)				
max. pressure Brine liquid	MPa (bar)	$\leq 0,3$ (≤ 3)				
Heating circuit / building circuit						
Water volume of the heating circuit in the heat pump	l	3.2	3.9	4.4	5.8	6.5
Materials of the heating circuit		Cu, CuZn-Alloy, Stainless Steel, EPDM, Brass, Fe				
min. pressure	MPa (bar)	$\geq 0,07$ ($\geq 0,7$)				
max. pressure	MPa (bar)	$\leq 0,3$ (≤ 3)				
min. flow temperature heating	$^{\circ}\text{C}$	25				
max. flow temperature heating with compressor	$^{\circ}\text{C}$	65				
min. flow temperature cooling	$^{\circ}\text{C}$	5				
max. electrical power heating circuit pump	W	63			140	
Type of pump		High efficiency				
Refrigerant circuit						
Refrigerant type		R 410 A				
Volume of refrigerant circuit in the heat pump	kg	1.50	2.40	2.50	3.05	3.95
Global warming potential in accordance with (EU) No. 517/2014		2088				
CO ₂ equivalent	t	3132	5011	5220	6368	8248
Global warming potential 100 (GWP100) in accordance with (EU) No. 842/2006		1975			1774	
Type expansion valve		Electronic				
Permissible pressure (relative)		$\leq 4,6$ ($\leq 46,0$)				

		VWF 57/4 230V	VWF 87/4 230V	VWF 117/4 230V	VWF 157/4	VWF 197/4
Compressor type		EVI Scroll				
Oil type		Ester (EMKARATE RL32-3 MAF)				
Oil filling quantity		0.74	1.25		1.24	1.89

Heat source circuit / brine circuit						
min. resource input temperature (Brine warm) when heating	°C	-10				
max. resource input temperature (Brine warm) when heating	°C	25				
min. resource input temperature (Brine warm) when cooling	°C	0				
Nominal flow rate T 3K at B0/W35	l/h	1300	2110	2870	3590	4780
min. flow rate during continuous operation at the application limits	l/h	1190	1990	2570	3380	4300
max. flow rate during continuous operation at the application limits	l/h	1300	2110	2870	3590	4780
max. rest pressure head T 3K at BOW35	mbar	0.630	0.410	0.550	0.980	0.820
Electrical power for brine pump at B0/W35 T 3K at 250 mbar Pressure drop in the external source circuit	W	49	78	80	83	121
Kind of Brine		Ethylene glycol 30 % vol.				
Heating circuit						
Nominal flow rate ΔT 5K	l/h	930	1450	1930	2450	3320
Rest pressure head ΔT 5K	bar	0.650	0.440	0.30	0.730	0.450
Nominal flow rate ΔT 8K	l/h	600	930	1290	1600	2180
Max. remaining feed head with ΔT 8K	bar	0.680	0.650	0.540	0.860	0.800
min. flow rate at continuous working on the limitation of use	l/h	710	1120	1510	1600	2180
max. flow rate at continuous working on the limitation of use	l/h	1025	1730	2270	2450	3320
Electrical power heating circuit pump for B0/W35 T 5K at 250 mbar Pressure drop in the external heating circuit	W	24	37	49	60	74
Performance data						
BOW35 Δt5K -> EN 14511						
Heating power	kW	5.40	8.40	11.50	14.50	19.70
Power consumption	kW	1.40	2.10	2.80	3.40	4.70
COP		4.50	4.40	4.60	4.90	4.70
BOW45 Δt5K -> EN 14511						
Heating power	kW	5.30	8.50	11.40	14.10	19.60
Power consumption	kW	1.70	2.60	3.50	4.20	5.80
COP		3.50	3.50	3.50	3.80	3.70
BOW55 t8K -> EN 14511						
Heating power	kW	5.40	8.70	11.70	14.70	20.00
Power consumption	kW	2.00	3.10	4.10	5.00	6.60
COP		2.90	3.00	3.10	3.20	
ErP - Data heating mode						
Label 35		A++				
Label 55		A++				
Sound power level indoors (LWI)	dB(A)	43.8	45.6	48.5	49.9	48.4

MCS SCoP Performance Table

flexoTHERM Ground Source Heat Pump	35°C	40°C	45°C	50°C	55°C
flexoTHERM 5kW 230v	4.90	4.17	3.85	3.51	3.57
flexoTHERM 8kW 230v	4.67	4.12	3.78	3.50	3.63
flexoTHERM 11kW 230v	4.99	4.23	3.87	3.60	3.73
flexoTHERM 15kW 415v	5.39	4.61	4.23	3.89	3.74
flexoTHERM 19kW 415v	5.07	4.36	4.05	3.76	3.68

flexoTHERM with floCOLLECT water source	35°C	40°C	45°C	50°C	55°C
flexoTHERM 5kW 230v	4.94	4.41	4.02	3.87	3.87
flexoTHERM 8kW 230v	5.2	4.6	4.16	3.98	3.95
flexoTHERM 11kW 230v	5.22	4.63	4.19	4.03	4.02
flexoTHERM 15kW 415v	5.91	5.2	4.64	4.42	4.34
flexoTHERM 19kW 415v	5.63	4.97	4.46	4.27	4.23

flexoTHERM with aroCOLLECT (air source)	35°C	40°C	45°C	50°C	55°C
flexoTHERM 15kW 415v	4.51	3.91	3.46	3.37	3.42
flexoTHERM 19kW 415v	4.08	3.57	3.21	3.16	3.27