



Technical documentation

High efficiency heat pumps

BWL-1-A, BWL-1-I air source • BWS-1 ground source • BWW-1 ground water source



Wolf high efficiency heat pumps

- In Wolf high efficiency heat pumps, up to 80 % of heating energy comes from free natural energy.
- A Wolf high efficiency heat pump enables you to make an active contribution towards reducing emissions, including CO₂.
- Wolf high efficiency heat pumps are suitable for mono energetic operation covering the entire heat demand of a building.
- No valuable living space is taken up by a boiler or tank room; no need to store fuel.
- No chimney or flue system required.

Wolf high efficiency BWL-1 air source heat pumps



System scheme – external installation



System scheme – internal installation

Description:

Awarded EHPA quality label

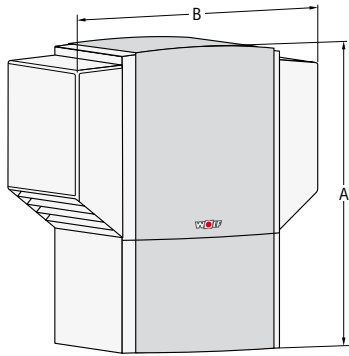


- Air source heat pumps for external or internal installation with a heating output of 8, 10, 12 or 14 kW for heating water temperatures up to 63 °C and air temperatures from -25 °C to 40 °C
- Variable speed EC radial fan
- "Wolf Easy Connect System" with a fully wired connection from heat pump to the WPM-1 heat pump manager incl. BM programming module, 5 m long cable set in the standard delivery for BWL-1-I, available as an accessory for BWL-1-A; may be extended by the WRS Wolf control system for additional energy sources, e.g. solar
- Convenient commissioning due to pre-configured hydraulic schemes in WPM-1
- Extremely quiet operation thanks to compressor with double vibration isolation, integral flexible corrugated stainless steel pipes and noise attenuating casing
- Energy efficient DHW heating with optional ECO mode
- Integral control for high efficiency A-rated pumps and 3-way diverter valve
- Integral electronically controlled electric booster heater, for heating backup in line with demand
- Negligible power consumption in standby mode
- Integral heat meter, can be extended to display SPF/DPF via electricity meter's S interface
- Discharge for internal unit can be connected either to the right or left and can therefore be sited in a corner
- Awarded EHPA quality label for all-round guarantee of quality and highest level of environmental and consumer protection
- All appliance types meet the BAFA subsidy guidelines for efficient heat pumps

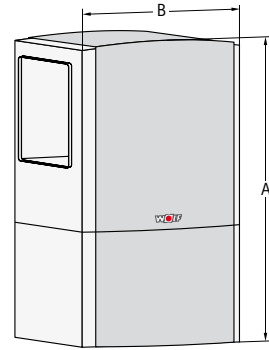
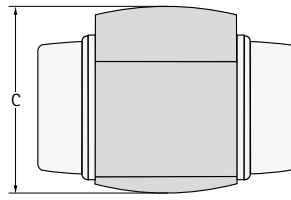
Specification

BWL-1-A

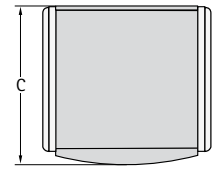
BWL-1-I



BWL-1-A



BWL-1-I



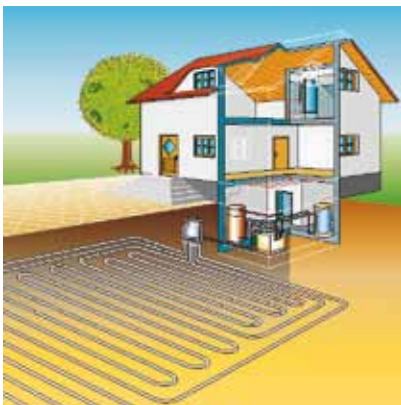
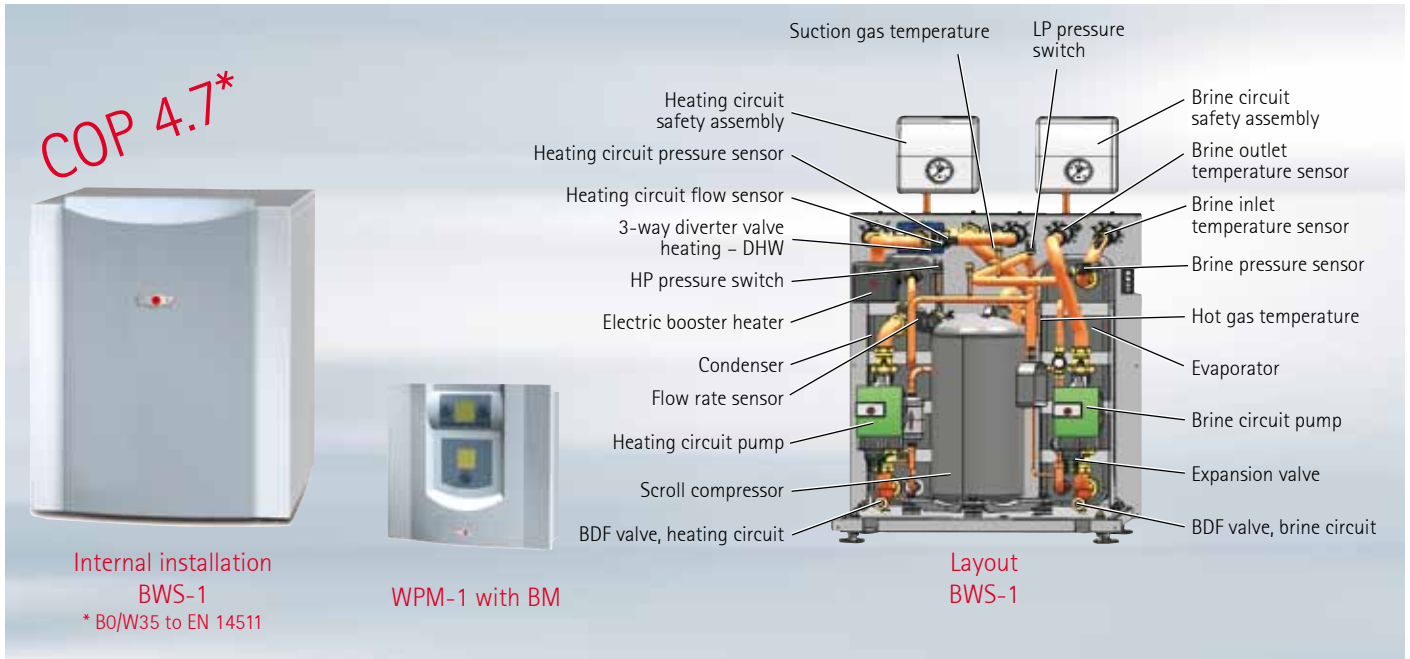
TYPE		BWL-1 -08-A	BWL-1 -08-I	BWL-1 -10-A	BWL-1 -10-I	BWL-1 -12-A	BWL-1 -12-I	BWL-1 -14-A	BWL-1 -14-I
Heating output / CO to EN 14511									
A2/W35	kW / -	8,4 / 3,8		9,6 / 3,7		11,7 / 3,7		13,5 / 3,6	
A7/W35	kW / -	8,7 / 4,5		9,8 / 4,4		11,9 / 4,3		13,6 / 4,2	
A7/W45	kW / -	10,4 / 3,7		11,7 / 3,6		14,4 / 3,5		13,0 / 3,3	
A10/W35	kW / -	9,9 / 4,7		11,1 / 4,6		13,8 / 4,5		13,7 / 4,5	
A-7/W35	kW / -	7,5 / 3,3		8,5 / 3,2		10,4 / 3,1		11,3 / 3,0	
Overall height	A mm	1665	1665	1665	1665	1665	1665	1665	1665
Overall width	B mm	1505	985	1505	985	1505	985	1505	985
Overall depth	C mm	1105	810	1105	810	1105	810	1105	810
Heating flow / heating return / connection	G (fem.)	1½"		1½"		1½"		1½"	
Unrestricted cross-section, air ducts	mm	-	550 x 550	-	550 x 550	-	550 x 550	-	550 x 550
Sound power level (A7/W35)	dB(A)	56	50	56	50	58	52	61	55
Sound pressure level, internal, at 1 m distance averaged around heat pump (in the installation room)	dB(A)	-	46	-	46	-	48	-	50
Sound pressure level, external, at 1 m distance averaged around air connections (free field)	dB(A)	47	-	47	-	49	-	51	-
Sound pressure level, external, at 5 m distance averaged around air connections (free field)	dB(A)	33	-	33	-	35	-	37	-
Sound pressure level, external, at 10 m distance averaged around air connections (free field)	dB(A)	27	-	27	-	29	-	31	-
Temperature, heating water operating limits	°C	+20 to +63		+20 to +63		+20 to +63		+20 to +63	
Max. temp. of heating water at -7 °C outside temp.	°C	+55		+55		+55		+55	
Temperature, air operating limits in °C	°C	-25 to +40		-25 to +40		-25 to +40		-25 to +40	
Refrigerant type / charge (hermetically sealed refrigerant circuit)	- / kg	R407C / 3.4		R407C / 4.4		R407C / 4.5		R407C / 5.1	
Maximum operating pressure, refrigerant circuit	bar	30		30		30		30	
Refrigerant oil		FV50S		FV50S		FV50S		FV50S	
Water flow rate: minimum (7 K) / nominal (5 K) / maximum (4 K) ²⁾	l/min	23 / 32 / 40		25.5 / 35.6 / 44.6		30.9 / 43.2 / 54.2		35.6 / 50 / 62.3	
Heat pump pressure drop at nominal water flow rate	mbar	110		124		165		240	
Air flow rate at a maximum external pressure for A2/W35 to EN 14511	m³/h	3200		3200		3400		3800	
Maximum external pressure (adjustable)	Pa	-	20 - 50	-	20 - 50	-	20 - 50	-	20 - 50
Output, el. booster heater, 3 phases, 400 V	kW	1 to 6		1 to 6		1 to 6		1 to 8	
Max. current drawn, el. booster heater	A	9.6		9.6		9.6		12.8	
Maximum power consumption / compressor current within application limits	kW / A	3.92 / 7.3		4.56 / 8.0		5.59 / 10.0		6.46 / 11.6	
Power consumption / current drawn / cos φ for A2/W35 to EN 14511	kW/A / -	2.21 / 4.5 / 0.71		2.59 / 4.7 / 0.80		3.16 / 5.9 / 0.77		3.75 / 6.9 / 0.78	
Start-up current (soft start)	A	26		31		37		39	
Max. number of compressor starts per hour	1/h	3		3		3		3	
Typical BWL-1 power consumption in standby LP (low power)	W	5.8		5.8		5.8		5.8	
IP rating	IP	IP24		IP24		IP24		IP24	
Weight ¹⁾	kg	202	217	225	242	226	244	237	255
Electrical connection / MCB (omnipolar)									
Compressor		3~ PE / 400 VAC / 50 Hz / 10 A(C)				3~ PE / 400 VAC / 50 Hz / 16 A(C)			
El. booster heater		3~ PE / 400 VAC / 50 Hz / 10 A(B)						3~ PE / 400 VAC / 50 Hz / 16 A(B)	
Control voltage		1~ NPE / 230 VAC / 50 Hz / 10 A(B)							

¹⁾ Additional casing covers for BWL-1-08 A / -10 A / -12 A / -14 A are supplied separately (weight: 37 kg).

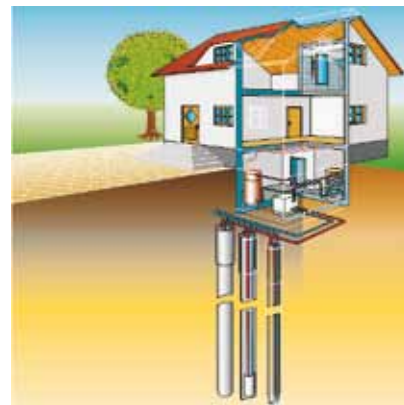
²⁾ The flow rate should not fall below the nominal flow rate in order to ensure the heat pump operates with high energy efficiency.

The information provided in this table assumes a clean heat exchanger.

Wolf high efficiency BWS-1 ground source heat pumps



System scheme - geothermal collector



System scheme - geothermal probe

Description:

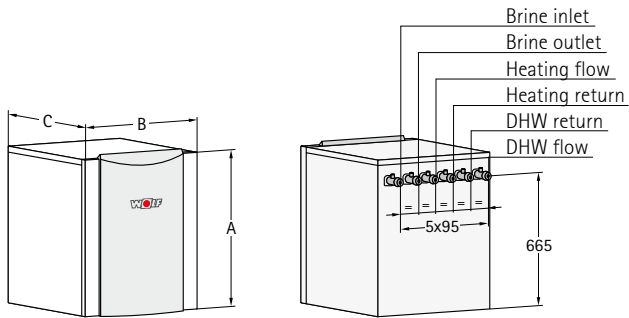
Awarded EHPA quality label



- Ground source heat pumps for using natural energy through geothermal collectors or geothermal probes with a heating output of 6, 8, 10, 12 or 16 kW; for heating water temperatures up to 63 °C and a min. brine temperature of -5 °C
- Small footprint due to compact design
- Clear appliance layout; all the essential components accessible from the front
- "Wolf Easy Connect System" with a fully wired cable set (4 m long) from heat pump to the WPM-1 heat pump manager incl. BM programming module, may be extended by the WRS Wolf control system for additional energy sources, e.g. solar
- Fitted with energy efficient high efficiency A-rated pumps for heating circuit and brine circuit and 3-way diverter valve for DHW cylinder heating
- Energy efficient DHW heating with optional ECO mode
- Extremely quiet operation thanks to compressor with double vibration isolation, integral hydraulic compensators and noise attenuating casing
- Integral electronically controlled electric booster heater, for heating backup in line with demand
- Integral heat meter, can be extended to display SPF/DPF via electricity meter's S interface
- Can be combined with CEW-1-200 DHW cylinder to form a heating centre
- Safety assemblies for the heating and brine circuit
- Extension with BKM cooling module for passive cooling (option)
- Awarded EHPA quality label for all-round guarantee of quality and highest level of environmental and consumer protection
- All appliance types meet the BAFA subsidy guidelines for efficient heat pumps

Specification

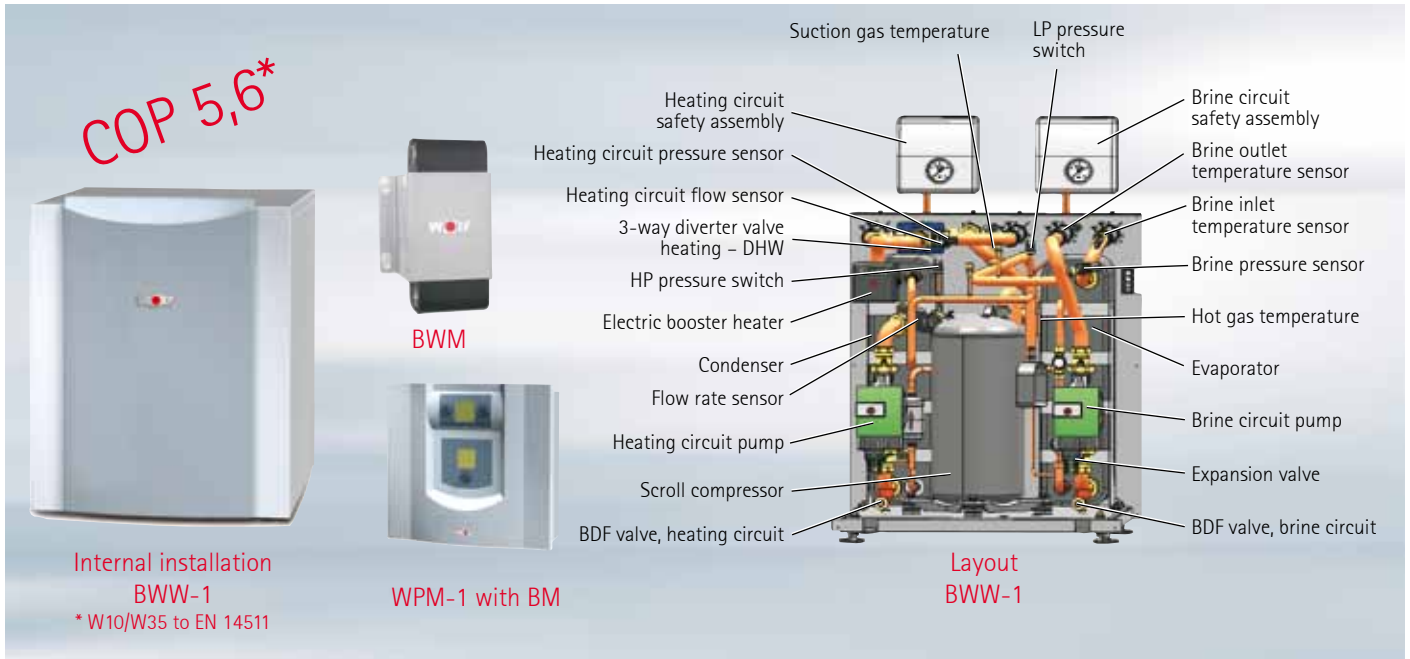
BWS-1



TYPE		BWS-1-06	BWS-1-08	BWS-1-10	BWS-1-12	BWS-1-16
Heating output / COP to EN 255						
B0/W35	kW / -	5,9 / 4,7	8,4 / 4,7	10,8 / 4,7	12,0 / 4,7	16,8 / 4,6
B0/W55	kW / -	5,3 / 2,8	7,4 / 2,8	9,2 / 2,9	10,5 / 2,8	15,8 / 2,8
B5/W35	kW / -	6,9 / 5,3	9,7 / 5,4	12,3 / 5,4	13,8 / 5,3	19,9 / 5,3
B-5/W45	kW / -	4,8 / 3,1	6,8 / 3,2	8,6 / 3,1	9,7 / 3,1	14,7 / 3,2
Overall height	A mm	740	740	740	740	740
Overall width	B mm	600	600	600	600	600
Overall depth	C mm	650	650	650	650	650
Heating flow/return, DHW flow/return, brine inlet/outlet	G (male)	1½"	1½"	1½"	1½"	1½"
Sound power level	dB(A)	41	42	42	43	43
Sound pressure level at 1 m distance averaged around heat pump (inside the room)	dB(A)	39	40	40	41	41
Temperature, heating water operating limits	°C	+20 to +63	+20 to +63	+20 to +63	+20 to +63	+20 to +63
Temperature, brine operating limits	°C	-5 to +20	-5 to +20	-5 to +20	-5 to +20	-5 to +20
Refrigerant type / charge (hermetically sealed refrigerant circuit)	-/kg	R407C / 1.8	R407C / 2.0	R407C / 2.25	R407C / 2.8	R407C / 3.1
Maximum operating pressure, refrigerant circuit	bar	30	30	30	30	30
Refrigerant oil		FV50S	FV50S	FV50S	FV50S	FV50S
Water flow rate: minimum (7 K) / nominal (5 K) / maximum (4 K) ¹⁾	l/min	12.1 / 16.6 / 21.6	17.2 / 24 / 30	22.0 / 30.8 / 38.3	24.6 / 34.1 / 43.3	34.4 / 48.3 / 60
Residual head at ΔT 5 K	mbar	580	510	450	480	440
3-way valve for DHW heating circuit		Integral	Integral	Integral	Integral	Integral
High efficiency heating circuit pump		Wilco Yonos Para 25/7,5	Wilco Yonos Para 25/7,5	Wilco Yonos Para 25/7,5	Wilco Stratos Para 25/1-8	Wilco Stratos Para 25/1-8
Brine flow rate: minimum (5 K) / nominal (4 K) / maximum (3 K)	l/h	15 / 18.3 / 25	20 / 25.8 / 34.3	26.6 / 33.3 / 44.1	29.1 / 36.6 / 48.3	40.8 / 50.8 / 67.8
Residual head at ΔT 4 K (30 % brine / 0 °C)	mbar	480	440	410	550	440
Minimum brine concentration / frost protection	% / °C	25 / -13	25 / -13	25 / -13	25 / -13	25 / -13
High efficiency brine circuit pump		Wilco Stratos Para 25/1-7	Wilco Stratos Para 25/1-7	Wilco Stratos Para 25/1-7	Wilco Stratos Para 25/1-8	Wilco Stratos Para 25/1-8
Output, el. booster heater, 3 phases, 400 V	kW	1 to 6	1 to 6	1 to 6	1 to 6	1 to 6
Max. current drawn, el. booster heater	A	9.6	9.6	9.6	9.6	9.6
Maximum power consumption / compressor current within application limits	kW / A	2.28 / 4.2	3.2 / 5.8	3.85 / 7.0	4.71 / 8.4	6.53 / 11.7
Power consumption / current drawn cos φ for B0/W35	kW / A / -	1.26 / 2.5 / 0.72	1.79 / 3.2 / 0.80	2.3 / 4.4 / 0.76	2.55 / 4.6 / 0.79	3.65 / 6.9 / 0.76
Power consumption of heating circuit pump at nominal flow rate	W	45	55	60	100	110
Power consumption of brine pump at nominal flow rate	W	55	60	65	110	120
Direct start-up current / soft start	A	27/-	-/21	-/26	-/31	-/39
Max. no. of compressor starts	1/h	3	3	3	3	3
Typical BWS-1 power consumption in standby LP (low power)	W	5.8	5.8	5.8	5.8	5.8
IP rating	IP	IP20	IP20	IP20	IP20	IP20
Weight	kg	141	145	149	169	174
Power supply / MCB (omnipolar)		3~ PE / 400 VAC / 50 Hz / 10 A(C)				3~ PE / 400 VAC / 50 Hz / 16 A(C)
Compressor		3~ PE / 400 VAC / 50 Hz / 10 A(B)				
El. booster heater		3~ PE / 400 VAC / 50 Hz / 10 A(B)				
Control voltage		1~ NPE / 230 VAC / 50 Hz / 10 A(B)				

¹⁾ The flow rate should not fall below the nominal flow rate in order to ensure the heat pump operates with high energy efficiency. The information provided in this table assumes a clean heat exchanger.

Wolf high efficiency BWW-1 ground water source heat pumps



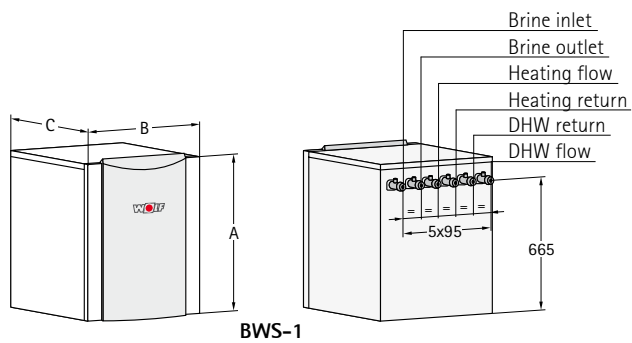
System scheme – extraction and absorbing well



Description:

- Water source heat pumps for using natural energy through well water with a heating output of 7, 11, 13, 15 or 21kW; for heating water temperatures up to 63°C and a well water temperature of 7 – 22°C
- Intermediate heat exchanger consisting of NI-soldered stainless steel panels, diffusion tight insulated
- Small footprint due to compact design
- Clear appliance layout; all the essential components accessible from the front
- „Wolf Easy Connect System“ with a fully wired cable set (4 m long) from heat pump to the WPM-1 heat pump manager incl. BM programming module, may be extended by the WRS Wolf control system for additional energy sources, e.g. solar
- Fitted with energy efficient high efficiency A-rated pumps for heating circuit and brine circuit and 3-way diverter valve for DHW cylinder heating
- Energy efficient DHW heating with optional ECO mode
- Extremely quiet operation thanks to compressor with double vibration isolation, integral hydraulic compensators and noise attenuating casing
- Integral electronically controlled electric booster heater, for heating backup in line with demand
- Integral heat meter, can be extended to display SPF/DPF via electricity meter's S interface
- Can be combined with CEW-1-200 DHW cylinder to form a heating centre
- Safety assemblies for the heating and brine circuit
- Extension with BKM cooling module for passive cooling (option)
- All appliance types meet the BAFA subsidy guidelines for efficient heat pumps

Specification BWW-1



TYPE		BWW-1-07	BWW-1-11	BWW-1-13	BWW-1-15	BWW-1-21
:		BWS-1-06 + BWM-S	BWS-1-08 + BWM-S	BWS-1-10 + BWM-S	BWS-1-12 + BWM-L	BWS-1-16 + BWM-L
Heating output / COP to EN14511						
W10/W35	kW / -	7,1 / 5,4	10,5 / 5,6	13,3 / 5,6	15,0 / 5,5	20,8 / 5,5
W10/W45	kW / -	6,9 / 4,2	10,0 / 4,4	12,2 / 4,3	14,0 / 4,3	19,3 / 4,3
W10/W55	kW / -	6,2 / 3,2	9,3 / 3,3	11,5 / 3,2	13,5 / 3,3	17,0 / 3,3
Overall height BWS-1	A mm	740	740	740	740	740
Overall width BWS-1	B mm	600	600	600	600	600
Overall depth BWS-1	C mm	650	650	650	650	650
Overall height BWM	D mm	355	355	355	545	545
Overall width BWM	E mm	245	245	245	245	245
Overall depth BWM	F mm	200	200	200	200	200
Heating flow/return, DHW flow/return, brine inlet/outlet	G (male)	1½"	1½"	1½"	1½"	1½"
Connections of BWM	G (AG)	1¼"	1¼"	1¼"	1¼"	1¼"
Sound power level	dB(A)	41	42	42	43	43
Sound pressure level at 1 m distance averaged around heat pump (inside the room)	dB(A)	39	40	40	41	41
Max. operating pressure heating/brine/well circuit	bar	3 / 3 / 3	3 / 3 / 3	3 / 3 / 3	3 / 3 / 3	3 / 3 / 3
Temperature, heating water operating limits	°C	+20 bis +63	+20 bis +63	+20 bis +63	+20 bis +63	+20 bis +63
Temperature, well water operating limits	°C	+7 bis +22	+7 bis +22	+7 bis +22	+7 bis +22	+7 bis +22
Refrigerant type / charge (hermetically sealed refrigerant circuit)	- / kg	R407C / 1,8	R407C / 2,0	R407C / 2,25	R407C / 2,8	R407C / 3,1
Maximum operating pressure, refrigerant circuit	bar	30	30	30	30	30
Refrigerant oil		FV50S	FV50S	FV50S	FV50S	FV50S
Brine capacity in BWS-1 with BWM	Ltr.	4,7	5,2	5,7	7,3	7,8
Water flow rate: minimum (7 K) / nominal (5 K) / maximum (4 K) ¹⁾	Ltr./min	14,6 / 20,3 / 25,4	21,4 / 30,1 / 37,6	27,3 / 38,1 / 47,6	30,7 / 43,0 / 53,7	42,6 / 59,6 / 74,5
Residual head at ΔT 5 K	mbar	530	430	340	420	150
3-way valve for DHW heating circuit		integriert	integriert	integriert	integriert	integriert
High efficiency heating circuit pump		Wilco Yonos Para 25/7,5	Wilco Yonos Para 25/7,5	Wilco Yonos Para 25/7,5	Wilco Stratos Para 25/1-8	Wilco Stratos Para 25/1-8
Residual head for pipework brine circuit (for flow rate l/min)	mbar	160 (42)	200 (42)	210 (42)	140 (58)	140 (58)
Minimum brine concentration/frost protection up to High efficiency pump (EEL < 0,23) brine circuit	‰/°C	25 / -13	25 / -13	25 / -13	25 / -13	25 / -13
Nominal flow rate at ΔT 4K	Ltr./min	27	42	52	58	82
Pressure drop well water in BWM at nominal flow rate	mbar	24	53	85	134	257
Output, el. booster heater, 3 phases, 400V	kW	1 bis 6	1 bis 6	1 bis 6	1 bis 6	1 bis 6
Max. current drawn, el. booster heater	A	9,6	9,6	9,6	9,6	9,6
Maximum power consumption / compressor current within application limits	kW / A	2,89 / 4,2	3,2 / 5,8	3,85 / 7,0	4,71 / 8,4	6,53 / 11,7
Power consumption / current drawn cos φ for B0/W35	kW/A/-	1,35 / 2,5 / 0,75	1,85 / 3,2 / 0,81	2,3 / 4,4 / 0,76	2,64 / 4,7 / 0,79	3,79 / 7,0 / 0,81
Power consumption of heating circuit pump at nominal flow rate	W	45	55	60	100	110
Power consumption of brine pump at nominal flow rate	W	55	60	65	110	120
Direct start-up current / soft start	A	27 / -	- / 21	- / 26	- / 31	- / 39
Max. no. of compressor starts	1/h	3	3	3	3	3
Typical BWS-1 power consumption in standby LP (low power)	W	5,8	5,8	5,8	5,8	5,8
IP rating	IP	IP20	IP20	IP20	IP20	IP20
Weight	kg	151	156	160	185	190
Power supply / MCB (omnipolar)						3~ PE / 400VAC / 50Hz / 16A(C)
Compressor		3~ PE / 400VAC / 50Hz / 10A(C)				50Hz / 16A(C)
El. booster heater		3~ PE / 400VAC / 50Hz / 10A(B)				
Control voltage		1~ NPE / 230VAC / 50Hz / 10A(B)				

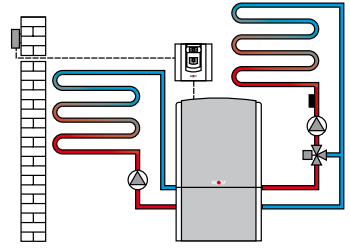
¹⁾ The flow rate should not fall below the nominal flow rate in order to ensure the heat pump operates with high energy efficiency. The information provided in this table assumes a clean heat exchanger.

Control unit



WPM-1 heat pump manager with BM programming module (incl. outside temperature sensor)

- Room temperature-dependent/weather-compensated temperature controller with time programs for central and DHW heating for regulating one heating circuit, one circuit with mixer, and DHW heating
- Flexible wall mounting
- Fully wired electrical connection from the heat pump to the WPM-1 with "Wolf Easy Connect System"
- The entire system can be disconnected from the power supply with a single mains isolator in the WPM-1
- Easy commissioning due to pre-configured hydraulic schemes
- Heat meter
- SPF (Seasonal Performance Factor) display plus DPF (Daily Performance Factor) display possible through connection of the pulse signal from the on-site electricity meter with S interface
- Programmable input for DHW circulation key, HTG/DHW block, external demand (ON/OFF, 0-10 V)
- Programmable output for DHW circulation pump (time control or pushbutton), alarm output, swimming pool heating pump
- Floating contact for starting a second heat source
- Acoustic alarm
- eBUS interface

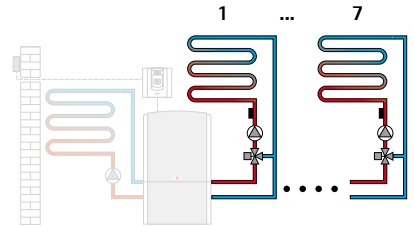


2-wire eBUS connection



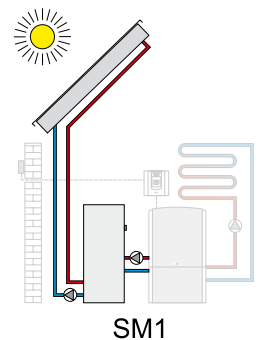
MM mixer module

- Extension module for regulating one mixer circuit
- Weather-compensated flow temperature control
- Easy controller configuration by selecting one of the preset system versions
- BM programming module can be clipped into the boiler or extended as a remote control with wall mounting base
- Rast 5 connection technology
- Incl. flow temperature sensor



SM1 solar module

- Extension module for regulating one solar circuit
- In conjunction with Wolf boilers, greater energy savings through intelligent cylinder reheating, i.e. blocking cylinder reheating when there is sufficient solar energy (solar boiler stop)
- Temperature differential control for one heat consumer
- Maximum cylinder temperature limit
- Display of the set and actual values on the BM programming module
- Integral hours run meter
- Optional connection of heat meters
- Rast 5 connection technology
- Incl. collector sensor and cylinder sensor, each with sensor well



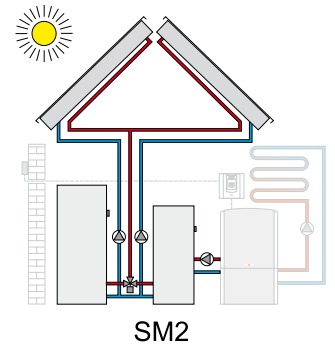
Control unit

2-wire eBUS connection



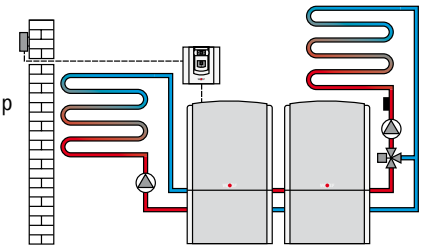
SM2 solar module

- Extension module to control a solar thermal system with up to 3 cylinders and 2 collector arrays, incl. 1 collector sensor and 1 cylinder sensor, each with sensor well
- Easy controller configuration by selecting one of the preset system versions
- In conjunction with Wolf boilers, greater energy savings through intelligent cylinder reheating, i.e. blocking cylinder reheating when there is sufficient solar energy (solar boiler stop)
- Capturing the amount of heat
- Display of the set and actual values on the BM programming module
- eBUS interface
- Rast 5 connection technology



Cascade module KM

- Extension module for cascade configuration of up to five heat pumps including electric heating
- Extension module for cascade configuration of up to four heat pumps in combination with an additional heat source (i.e. CGB-2 or COB)
- Optional automatic changeover to the additional heat source for shw preparation
- Automatic changeover to the additional heat source when value falls below the adjusted bivalence point
- Automatic changeover from heat pump to additional heat source during lockout period through electric supply company



Radio clock (DCF77 signal) with outside temperature sensor
for automatic time adjustment.



Wireless outside temperature sensor
(only in conjunction with a receiver for wireless outside temperature sensor and remote control, part no. 27 44 209).



Wireless receiver for wireless outside temperature sensor and wireless remote control
incl. radio clock (DCF77 signal).



Wireless remote control
(only in conjunction with a receiver for wireless outside temperature sensor and remote control)
One wireless remote control per mixer circuit.

Heat pump accessories

CEW-1-200 DHW cylinder

- Dimensions and design matched to the Wolf heat pump range
- Can be installed in combination with BWS-1-06/08/10 stacked or side by side as a heating centre. Can be combined side by side with BWL-1-08/10
- Can be installed as a Hydrotower in combination with the CPM-1-70/7 buffer module
- Protective anode accessible from the front; interior with special enamel coating
- Rigid PU foam thermal insulation for lowest radiation losses
- Highly efficient internal indirect dual coil for convenient DHW heating



DHW cylinder	CEW-1-200
Height	1290 mm
Width	600 mm
Depth	650 mm
Capacity	180 l
Operating pressure	10 bar
Indirect coil surface area	2.3 m ²
Heating connection	G 1½" male
Weight	147 kg



BWS-1 heating centre with CEW-1-200
stacked



BWS-1 and CEW-1-200
side by side

Heat pump accessories

CPM-1-70 buffer module

- Fully plumbed and wired as separating cylinder (functions like a low loss header) or cylinder in series
- CPM-1-70/7 can be installed as a Hydrotower in combination with the CEW-1-200 DHW cylinder
- Rigid PU foam thermal insulation for lowest radiation losses
- High efficiency A-rated heating circuit pump already fitted
- Safety assembly with thermal insulation
- 3-way valve for DHW heating already fitted
- 4 m connecting cable to the WPM-1 heat pump manager

CPM-1-70/7 (7 m pump) for BWL-1-08, BWL-1-10

CPM-1-70/8 (8 m pump) for BWL-1-12



Buffer module	CPM-1-70
Height	740 mm
Width	600 mm
Depth	650 mm
Capacity	70 l
Operating pressure	3 bar
Connections	G 1½" male
Weight	62 kg



BWL-1-10-I with adjacent
CPM-1-70/7 and CEW-1-200 Hydrotower



BWL-1-10-A with
CPM-1-70/7 and CEW-1-200 Hydrotower

Heat pump accessories

SEW-1 DHW cylinder

- SEW-1-300 for heat pumps with approximate heating output of up to 15 kW for a DHW draw-off rate of up to 367 litres at 40 °C
SEW-1-400 for heat pumps with approximate heating output of up to 20 kW for a DHW draw-off rate of up to 482 litres at 40 °C
- Internal indirect dual coil for short heat-up times and convenient DHW heating
- Highly effective rigid PU foam thermal insulation below the foil jacket for low heat losses; silver
- The interior of the cylinder is protected by a special enamel coating and a protective magnesium anode
- Inspection and cleaning apertures for easy maintenance



DHW cylinder	Type	SEW-1	300	400
Cylinder capacity		l	288	375
Cold water connection		A mm	55	55
Central heating return		B mm	222	222
Sensor well		C mm	656	791
DHW circulation		D mm	786	921
Central heating flow		E mm	886	1156
DHW connection		F mm	1229	1586
Overall height		G mm	1310	1660
Service flange		H mm	277	277
Diameter incl. thermal insulation		I mm	705	705
Heating water (primary)		bar / °C	10 / 110	10 / 110
DHW (secondary)		bar / °C	10 / 95	10 / 95
Cold water connection		Rp	1 1/4"	1 1/4"
Central heating return		female	1 1/4"	1 1/4"
DHW circulation		female	3/4"	3/4"
Central heating flow		female	1 1/4"	1 1/4"
DHW connection		Rp	1 1/4"	1 1/4"
Indirect coil surface area		m ²	3.5	5.1
Coil content		l	27	39
Weight		kg	134	185

SEM-1W-360 DHW cylinder for additional connection of solar collectors

- Up to approx. 12 kW heating output; highly efficient internal indirect dual coil for convenient DHW heating
- Additional dual coil for use with solar
- Highly effective rigid PU foam thermal insulation below the foil jacket for low heat losses; silver
- The interior of the cylinder is protected by a special enamel coating and a protective magnesium anode
- Inspection and cleaning apertures for easy maintenance



Solar DHW cylinder	Type	SEM-1W	360
Cylinder capacity		l	360
Cold water connection		A mm	55
Heating / solar return		B mm	606/221
Heating / solar cylinder sensor		C mm	965/385
DHW circulation		D mm	860
Heating / solar flow		E mm	1146/470
DHW connection		F mm	1526
Electric booster heater (opt.)		G mm	540
Thermometer connection		H mm	1400
Overall height		I mm	1630
Diameter incl. insulation		J mm	705
Service flange		L mm	277
Heating water (primary)		bar / °C	10 / 110
DHW (secondary)		bar / °C	10 / 95
Cold water connection		Rp	1 1/4"
Central heating return		female	1 1/4"
DHW circulation		female	3/4"
Central heating flow		female	1 1/4"
DHW connection		Rp	1 1/4"
Indirect coil surface area (heating)		m ²	3.2
Solar indirect coil surface area		m ²	1.3
Indirect coil content (heating)		l	27
Solar indirect coil content		l	11
Weight		kg	182

Heat pump accessories

SPU-1-200 buffer cylinder

for optimising heat pump runtimes

- Steel buffer cylinder with 200 litre water capacity
- Operation as a separating cylinder or a cylinder in series for heating water
- Highly effective rigid PU foam thermal insulation below the foil jacket for low heat losses; silver
- Five 1½" female connections for heating water and electric booster heater
- Boiler drain & fill valve and sensor well already fitted



Buffer cylinder	Type	SPU-1	200
Cylinder capacity		l	200
Drain and fill connection		A mm	85
Heating water connection		B mm	256
Sensor well, sensor / thermostat		C mm	358
Electric booster heater (max. 6 kW)		D mm	460
Heating water connection		E mm	910
Air vent valve / safety valve		F mm	1140
Overall height		G mm	1140
Diameter incl. thermal insulation		H mm	610
Max. operating pressure		bar	3
Max. operating temperature		°C	95
Heating water connection (4 pce)		female	1½"
Electric booster heater		female	1½"
Sensor / thermostat		female	½"
BDF valve		female	½"
Air vent valve / safety valve		female	1"
Weight		kg	48

(further cylinders can be found in the "Cylinder systems" documentation)

Heat pump accessories

BKM cooling module

- Preassembled unit for passive cooling with BWS-1-06/08/10/12/16 ground source heat pump
- Utilisation of the cool temperatures under ground in summer by means of geothermal probes
- Most affordable and environmentally responsible way to cool, as it requires no compressor operation
- High transfer rate due to large heat exchanger surface area



Nominal cooling output at B5 / W20 (2,3 m³/h - 1,9 m³/h)	kW	19
Cooling output if heating and cooling source have been designed for heating:		
with BWS-1-06	kW	ca. 2
with BWS-1-08	kW	ca. 3
with BWS-1-10	kW	ca. 3
with BWS-1-12	kW	ca. 4
with BWS-1-16	kW	ca. 5
Height	mm	401
Width	mm	498
Depth	mm	188
Weight	kg	16
Threaded connections:		
Heating inlet, external thread	G	1 1/4"
Heating outlet, external thread	G	1 1/4"
Brine inlet, internal thread	Rp	1 1/4"
Brine outlet, internal thread	Rp	1 1/4"
Max. permiss. pressure heating/cooling circuit	bar	3
Max. permiss. Pressure brine circuit	bar	3
Pressure drop heating/cooling circuit at 1,9 m ³ /h	mbar	43
Pressure drop brine circuit with cooling operation at 2,3 m ³ /h	mbar	90
Pressure drop brine circuit with heating operation at 2,3 m ³ /h	mbar	37
Permiss. temperature range heating/cooling circuit	°C	3 - 110
Permiss. temperature range brine circuit in cooling operation	°C	3 - 25
Permiss. temperature range brine circuit in heating operation	°C	2 - 25
Power consumption	VA	0 - 5

Attention

The cooling module is not approved for use with geothermal collectors (surface collectors), as the soil risks to be dried out as a consequence of unfavourable soil structure. This may cause a lock out of the contact to the collector.

Wolf high efficiency heat pump

Standard delivery/accessories	● Part of standard delivery ○ Accessory	BWL-1- ..A	BWL-1- ..I	BWS-1	BWW-1
WPM-1 heat pump manager for wall mounting (always essential)	○	○	○	○	○
Intermediate heat exchanger BWM-1	-	-	-	-	●
Controlled electric booster heater 6 kW (8 kW for BWL-1-14)	●	●	●	●	●
Rotating field and phase monitor	●	●	●	●	●
Electronically controlled soft start for compressor	●	●	● 8/10/12/16kW	● 11/13/15/21kW	●
Heat meter	●	●	●	●	●
CEW-1-200 DHW cylinder; capacity 180 litres up to 10 kW	○	○	○	○	○
CPM-1-70 buffer module with high efficiency heating circuit pumps, 3-way diverter valve for DHW heating, DHW assembly and safety assembly	○	○	-	-	-
DHW diverter valve	○	○	●	●	●
High efficiency A-rated heating circuit pump	○	○	●	●	●
High efficiency A-rated brine circuit pump	-	-	●	●	●
Connection set for expansion vessel with cap valve for heating	○	○	○	○	○
Heating safety assembly (safety valve, pressure gauge, autom. air vent valve)	○	○	●	●	●
Brine safety assembly	-	-	●	●	●
Manual heating air vent valve	●	●	●	●	●
Heating overflow valve	○	○	○	○	○
Flexible connection set, heating	○	○	○	○	○
Flexible connection set, brine	-	-	○	-	-
SEW-1-300 DHW cylinder, 300 litre capacity	○	○	○	○	○
SEW-1-400 DHW cylinder, 400 litre capacity	○	○	○	○	○
SEM-1W-360 DHW cylinder, 360 litre capacity	○	○	○	○	○
SPU-1-200 buffer cylinder, 200 litre capacity	○	○	○	○	○
SPU-2 buffer cylinder (500/800/1000/1500)	○	○	○	○	○
BSP-W1000 / BSP-W-SL1000 stratification cylinder with freshwater module for solar DHW heating and central heating backup	○	○	○	○	○
Air duct (short or long)	-	○	-	-	-
Air duct bend	-	○	-	-	-
Air duct bezel	-	○	-	-	-
Weather grille	-	○	-	-	-
Guard grille	-	○	-	-	-
Air duct sealing tape set	-	○	-	-	-
Power and control cables ("Wolf Easy Connect System")	● / ○	● / ○	●	●	●
Sensor for mixer, cylinder or buffer	○	○	○	○	○
Brine distributor	-	-	○	-	-
Brine concentrate 20 litre	-	-	○	-	-
Brine concentrate 3 litre	-	-	-	○	○
BKM cooling module	-	-	○	○	○



The extensive equipment range of the system supplier Wolf offers the ideal solution for commercial and industrial buildings, in new build and modernisation projects alike. The range of Wolf control units can meet any demand for heating convenience. All equipment is easy to operate and works with high energy efficiency and reliability. Photovoltaic and solar thermal systems can be quickly integrated into existing systems. Wolf equipment is easily and quickly installed and maintained.

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