

WPL 34-57

Top heating power from the air

For properties with a high output demand, the air/water heat pump WPL 34 | 47 | 57 is, in many respects, just the job. This appliance has an installation height of just 1.5 metres and can be installed outside the building. The cascade circuit can expand the already impressive output of this power pack even further. As a result, it also offers a tailor-made solution for apartment buildings of varying sizes. Consequently, this efficient heating technology can now also be used in the modernisation of larger properties with little installation effort.

The most important features

- Low height
- Evaporator protected from damage from the outside
- Dual mode operation possible
- Electronic expansion valve
- Suitable for cascade control for a higher output requirements
- Heating flow temperature up to + 60 °C
- With integrated heat and electricity meters
- Optional cascade



Example WPL 34



Type	WPL 34	WPL 47	WPL 57
Type	WPL 34	WPL 47	WPL 57
Part no.	228835	228836	228837
Output at A2/W35 (EN 14511)	18,32 kW	24,82 kW	29,81 kW
Energy efficiency category, average climate, W55/W35	A+/A+	A+/A+	A+/A+

Note on the energy efficiency category: The data corresponds to the official requirements for room heaters, which will be compulsory from September 2015 (EU Regulation no. 811/2013), based on the data from EN 14511 and EN 14825 for heating heat pumps.

Specification	WPL 34	WPL 47	WPL 57
Output at A2/W35 (EN 14511)	18,32 kW	24,82 kW	29,81 kW
Coefficient of performance at A2/W35 (EN 14511)	3,14	3,43	3,30
Output at A-7/W35 (EN 14511)	15,22 kW	21,68 kW	24,02 kW
Coefficient of performance at A-7/W35 (EN 14511)	2,78	3,05	2,84
Sound power level (EN 12102)	67 dB(A)	67 dB(A)	69 dB(A)
Flow rate, heating side	4,00 m ³ /h	5 m ³ /h	5,50 m ³ /h
Flow rate, heat source side	7000 m ³ /h	7000 m ³ /h	7300 m ³ /h
Connection on the heating system side	G 2	G 2	G 2
Power supply	3/N/PE	3/N/PE	3/N/PE
Colour	white	white	white
Height	1485 mm	1485 mm	1485 mm
Width	1860 mm	1860 mm	1860 mm
Depth	2040 mm	2040 mm	2040 mm
Weight	480 kg	540 kg	600 kg

WPL 34

WPM 3 heat pump manager

Part no.	Type	Suitable for	Height	Width	Depth
232980	WPMW 3	Wall mounting enclosure	215 mm	246 mm	140 mm

WPL 47

WPL 57



PIC0001676-00

Air | water heat pump for external installation. The heat pump unit is equipped with a fully hermetically sealed compressor, a soft starter, a condenser, an evaporator, safety equipment such as a high/low pressure limiter, and frost protection. The electronic expansion valve optimises the coefficient of performance over the entire application range. The casing is corrosion protected. The heat pump operates with the safety refrigerant R407C.

At a glance

- » Fully automatic heating water heating up to +60 °C flow temperature
- » Suitable for underfloor and radiator heating systems
- » Extracts energy from the outdoor air down to approx. -20 °C outside temperature
- » Comprises all required operating components and safety equipment
- » Central control of the heating system and safety functions through the heat pump manager
- » Corrosion-protected, external casing panels made from galvanised sheet steel with stove enamelled finish; internal airways made from corrosion-resistant aluminium sheet
- » Compact design, therefore modest space requirement
- » Filled with safety refrigerant R407C.

Function

Heat is extracted from the outdoor air at temperatures ranging from +30 °C to -20 °C by the heat exchanger on the air side (evaporator). Heating water is heated to flow temperature level in the heat exchanger on the water side (condenser) using electric power (compressor). The heat pump manager (WPM) matches the heat pump heating output to the actual heat demand. At air temperatures below approx. +10 °C, the humidity in the air precipitates as hoarfrost on the evaporator fins. This hoarfrost is automatically defrosted. Water created from this defrosting process collects in the defrost pan and is drained off via a hose. The fan is switched off and the heat pump circuit is reversed to activate the defrost cycle. The energy required for defrosting is drawn from the heating system. The heat pump automatically reverts to heating mode at the end of the defrost cycle.

Safety and quality



Required accessories

185450 WPMW II

Further accessories

185579 FE7

AIR | WATER HEAT PUMP WPL 34/47/57

SPECIFICATION

		WPL 34	WPL 47	WPL 57	WPL 34 A SR	WPL 47 A SR	WPL 57 A SR
Part number		228835	228836	228837	232124	232125	232126
Outputs to EN 14511							
Output at A10/W35 (EN 14511)	kW	23.40	30.50	33.60	23.40	30.50	33.60
Output at A7/W35 (EN 14511)	kW	21.66	27.12	29.87	21.66	27.12	29.87
Output at A2/W35 (EN 14511)	kW	19.23	26.46	29.92	19.23	26.46	29.92
Output at A-7/W35 (EN 14511)	kW	15.50	22.10	23.90	15.50	22.10	23.90
Power consumption							
Power consumption, fan heating max.	kW	0.65	0.65	0.65	0.65	0.65	0.65
Power consumptions to EN 14511							
Power consumption at A10/W35 (EN 14511)	kW	5.60	7.10	8.90	5.60	7.10	8.90
Power consumption at A7/W35 (EN 14511)	kW	5.54	7.06	8.76	5.54	7.06	8.76
Power consumption at A2/W35 (EN 14511)	kW	5.84	7.48	9.12	5.84	7.48	9.12
Power consumption at A-7/W35 (EN 14511)	kW	5.60	7.13	8.90	5.60	7.13	8.90
Coefficients of performance to EN 14511							
Coefficient of performance at A10/W35 (EN 14511)		4.20	4.30	3.80	4.20	4.30	3.80
Coefficient of performance at A7/W35 (EN 14511)		3.91	3.84	3.41	3.91	3.84	3.41
Coefficient of performance at A2/W35 (EN 14511)		3.29	3.53	3.28	3.29	3.53	3.28
Coefficient of performance at A-7/W35 (EN 14511)		2.70	3.10	2.70	2.70	3.10	2.70
Sound data							
Sound power level (EN 12102)	dB(A)	71	73	73	71	73	73
Sound pressure level at 1 m distance in a free field	dB(A)	63	65	65	63	65	65
Sound pressure level at 5 m distance in a free field	dB(A)	49	51	51	49	51	51
Sound pressure level at 10 m distance in a free field	dB(A)	43	45	45	43	45	45
Application limits							
Max. permissible pressure	MPa	0.3	0.3	0.3	0.3	0.3	0.3
Min. application limit on the heating side	°C	15	15	15	15	15	15
Max. application limit on the heating side	°C	60	60	60	60	60	60
Heat source application limit (min.)	°C	-20	-20	-20	-20	-20	-20
Heat source application limit (max.)	°C	40	40	40	40	40	40
Electrical details							
Max. power consumption	kW	10.8	13.4	15.1	10.8	13.4	15.1
Control circuit fuse	A	1 x C 16	1 x C 16	1 x C 16	1 x C 16	1 x C 16	1 x C 16
Fuse - compressor	A	3 x C 25	3 x C 25	3 x C 25	3 x C 25	3 x C 25	3 x C 25
Control phases		1/N/PE	1/N/PE	1/N/PE	1/N/PE	1/N/PE	1/N/PE
Compressor phases		3/N/PE	3/N/PE	3/N/PE	3/N/PE	3/N/PE	3/N/PE
Rated control voltage	V	230	230	230	230	230	230
Rated compressor voltage	V	400	400	400	400	400	400
Frequency	Hz	50	50	50	50	50	50
Current (with/without softstarter)	A	64	70	78	64	70	78
Operating current max.	A	20	22	23	20	22	23
Versions							
Condenser material		1.4401/Cu	1.4401/Cu	1.4401/Cu	1.4401/Cu	1.4401/Cu	1.4401/Cu
Refrigerant		R407 C	R407 C	R407 C	R407 C	R407 C	R407 C
Defrost method		Circuit reversal	Circuit reversal	Circuit reversal	Circuit reversal	Circuit reversal	Circuit reversal
IP-Rating		IP14B	IP14B	IP14B	IP14B	IP14B	IP14B

AIR | WATER HEAT PUMP WPL 34/47/57

SPECIFICATION

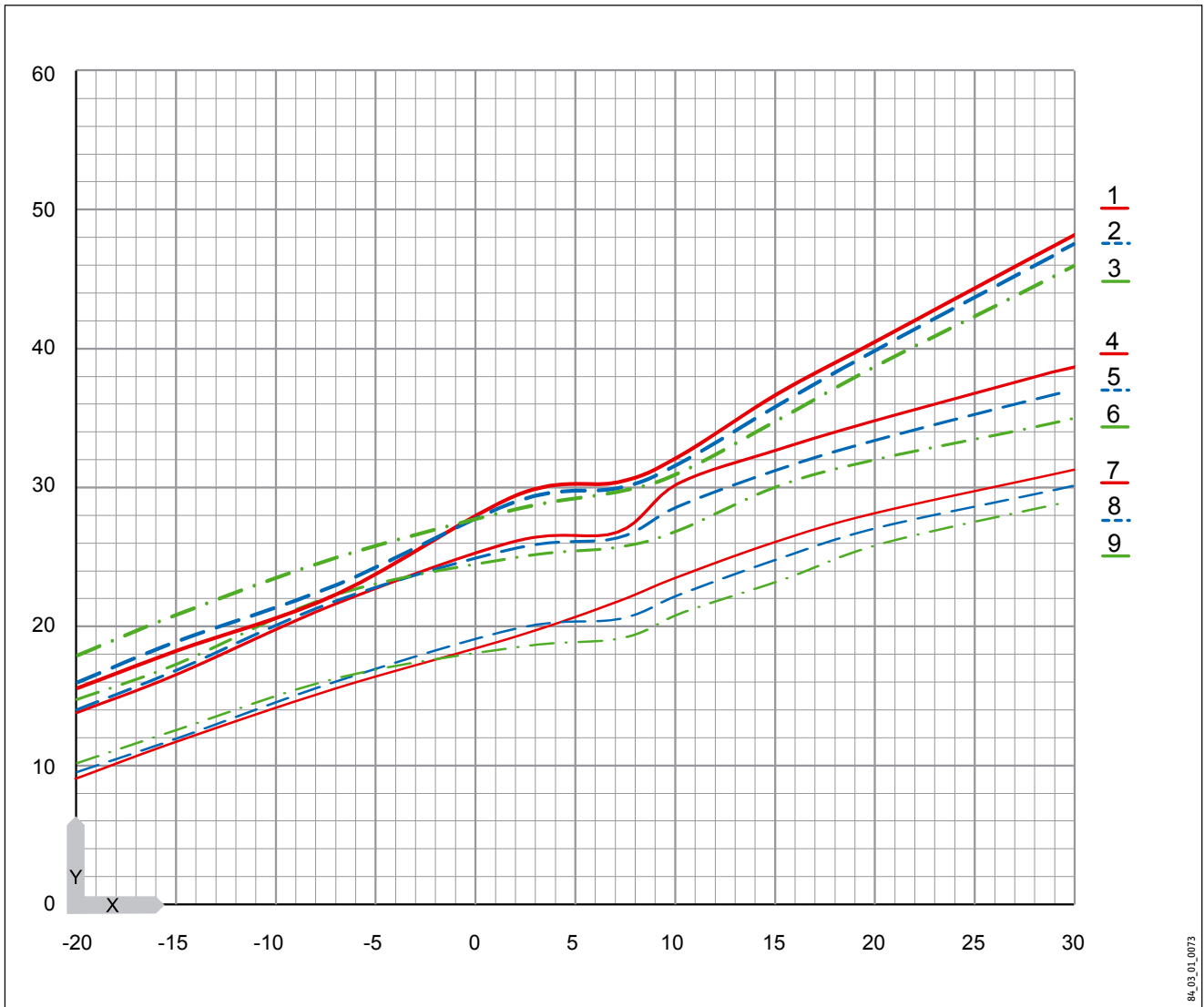
		WPL 34	WPL 47	WPL 57	WPL 34 A SR	WPL 47 A SR	WPL 57 A SR
Dimensions							
Height (external installation)	mm	1485	1485	1485	1485	1485	1485
Width (external installation)	mm	1860	1860	1860	1860	1860	1860
Depth (external installation)	mm	2040	2040	2040	2040	2040	2040
Weights							
Weight	kg	480	540	600	480	540	600
Connections							
Heating flow/return connection		G 2	G 2	G 2	G 2	G 2	G 2
Values							
Refrigerant capacity	kg	6.7	7.3	7.5	6.7	7.3	7.5
Pressure differential, central heating side	hPa	100	100	100	100	100	100
Heating flow rate (min.)	m ³ /h	2.5	3	3.5	2.5	3	3.5
Flow rate, heating side	m ³ /h	4.0	5	5.5	4.0	5	5.5
Flow rate, heat source side	m ³ /h	6500	7000	7000	6500	7000	7000

Output details apply to new appliances with clean heat exchangers.

AIR | WATER HEAT PUMP WPL 34/47/57

PERFORMANCE DETAILS

Performance diagram



X Outside temperature [°C]

Y Heating output [kW]

1 Flow temperature 35 °C, WPL 57

2 Flow temperature 45 °C, WPL 57

3 Flow temperature 55 °C, WPL 57

4 Flow temperature 35 °C, WPL 47

5 Flow temperature 45 °C, WPL 47

6 Flow temperature 55 °C, WPL 47

7 Flow temperature 35 °C, WPL 34

8 Flow temperature 45 °C, WPL 34

9 Flow temperature 55 °C, WPL 34

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PERFORMANCE DETAILS

WPL 34

WQA [°C]	Heating output				Power consumption				Coefficient of performance			
	35°C [kW]	45°C [kW]	55°C [kW]	60°C [kW]	35°C [kW]	45°C [kW]	55°C [kW]	60°C [kW]	35°C	45°C	55°C	60°C
-20	9.0	9.5	10.1	10.4	5.2	6.2	7.6	8.3	1.7	1.5	1.3	1.3
-15	11.6	11.9	12.5	12.8	5.3	6.2	7.7	8.5	2.2	1.9	1.6	1.5
-7	15.5	16.0	16.2	16.3	5.6	6.6	7.9	8.6	2.8	2.4	2.1	1.9
2	19.2	19.8	18.4	17.7	5.8	6.9	7.9	8.4	3.3	2.9	2.3	2.1
7	21.7	20.5	19.0	18.3	5.5	6.4	7.2	7.6	3.9	3.2	2.6	2.4
10	23.4	22.2	20.8	20.1	5.6	6.5	7.4	7.9	4.2	3.4	2.8	2.6
15	26.0	24.8	23.2	22.4	5.7	6.6	7.5	8.0	4.6	3.8	3.1	2.8
20	28.1	27.0	25.8	25.2	5.8	6.6	7.7	8.3	4.8	4.1	3.4	3.1

WPL 47

WQA [°C]	Heating output				Power consumption				Coefficient of performance			
	35°C [kW]	45°C [kW]	55°C [kW]	60°C [kW]	35°C [kW]	45°C [kW]	55°C [kW]	60°C [kW]	35°C	45°C	55°C	60°C
-20	14.4	14.6	15.4	15.8	6.6	7.7	9.2	10.0	2.2	1.9	1.7	1.6
-15	17.1	17.4	17.9	18.2	6.9	7.9	9.3	10.0	2.5	2.2	1.9	1.8
-7	22.1	22.3	22.8	23.1	7.4	8.6	10.2	11.0	3.0	2.6	2.2	2.1
2	26.5	26.0	25.4	25.1	7.5	8.7	10.5	11.4	3.5	3.0	2.4	2.2
7	27.1	26.7	26.1	25.8	7.1	8.3	9.7	10.4	3.8	3.2	2.7	2.5
10	30.5	28.9	27.3	26.5	7.1	8.4	9.8	10.5	4.3	3.4	2.8	2.5
15	32.9	31.5	30.4	29.9	7.2	8.5	10.0	10.8	4.6	3.7	3.0	2.8
20	35.0	33.6	32.3	31.7	7.4	8.5	10.2	11.1	4.7	4.0	3.2	2.9

WPL 57

WQA [°C]	Heating output				Power consumption				Coefficient of performance			
	35°C [kW]	45°C [kW]	55°C [kW]	60°C [kW]	35°C [kW]	45°C [kW]	55°C [kW]	60°C [kW]	35°C	45°C	55°C	60°C
-20	16.5	17.0	18.9	19.9	7.9	9.2	11.3	12.4	2.1	1.8	1.7	1.6
-15	19.9	20.5	21.5	22.0	8.4	9.8	11.6	12.5	2.4	2.1	1.9	1.8
-7	23.9	24.7	25.4	25.8	8.9	10.5	12.3	13.2	2.7	2.4	2.1	2.0
2	29.9	30.9	31.5	31.8	9.2	11.1	13.3	14.4	3.3	2.8	2.4	2.2
7	29.9	28.4	27.1	26.5	8.8	10.1	11.5	12.2	3.4	2.8	2.4	2.2
10	33.6	30.2	31.4	32.0	8.9	10.0	11.8	12.7	3.8	3.0	2.7	2.5
15	37.1	35.0	35.1	35.2	9.0	10.5	12.2	13.1	4.1	3.3	2.9	2.7
20	40.6	39.8	38.0	37.1	9.1	11.1	12.5	13.2	4.5	3.6	3.0	2.8

AIR | WATER HEAT PUMP WPL 34/47/57

EXTERNAL INSTALLATION

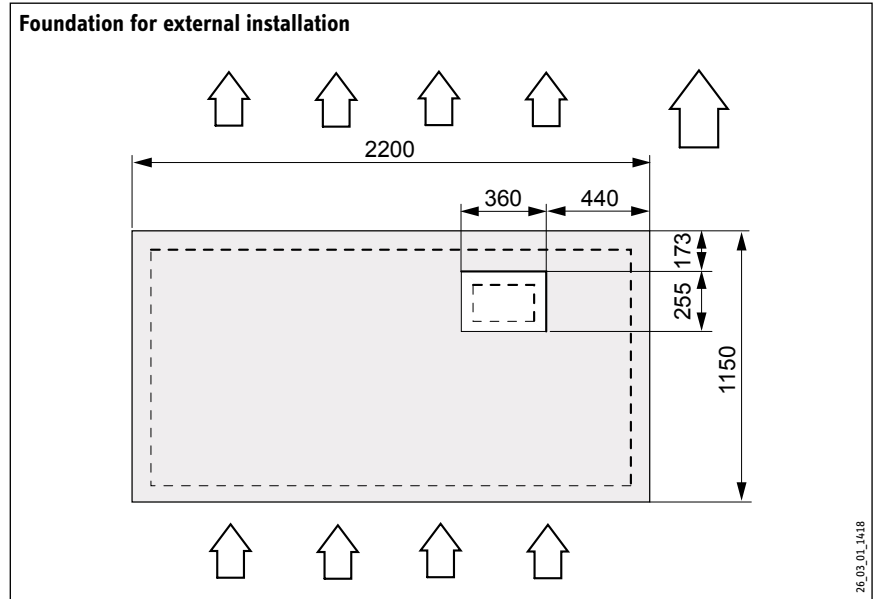
General information

Ensure that the surface on which the heat pump is to be installed, is horizontal, level, solid and permanent. The entire heat pump frame should be in contact with the substrate. Uneven substrates can increase the noise emissions of the heat pump. The heat pump must be accessible from all sides.

Recommended substrate:

- » Cast concrete foundation
- » Kerb stones
- » Stone slabs

Provide a recess (space) underneath the heat pump to enable water and electrical pipes/cables to be connected from below.

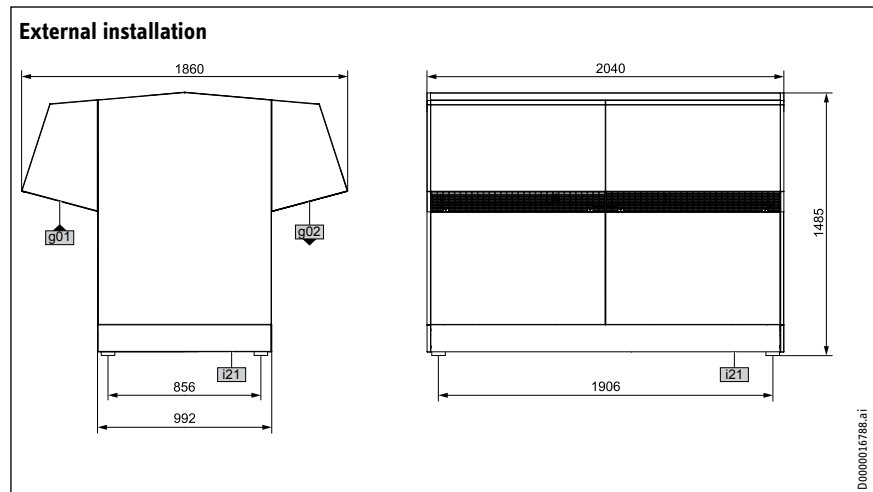


Protection of heating water lines against frost and moisture

In external installations protect the flow and return lines against frost by means of adequate thermal insulation and by routing them inside conduits to protect them against moisture. Insulation thickness in accordance with Energy Saving Ordinance.

The frost stat inside the heat pump that automatically starts the circulation pump in the heat pump circuit at $<+10\text{ }^{\circ}\text{C}$ and thereby safeguards circulation in all water-bearing components, offers additional frost protection.

Fill the heating system with antifreeze if the power supply cannot be guaranteed for a longer period of time.



g01 Air intake

g02 Air discharge

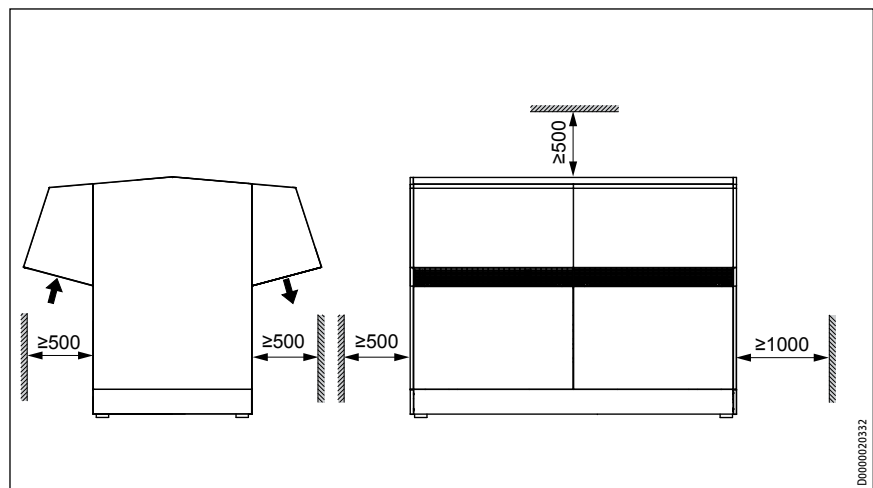
i21 Entry supply line

WPL

Condensate drain

Route the condensate drain hose with a steady fall or to the side out of the heat pump.

When installing the heat pump outside, route the condensate to an existing drain or into a coarse gravel soakaway. For this, ensure an installation that is free from the risk of frost.



AIR | WATER HEAT PUMP WPL 34/47/57

HEATING SYSTEM CONNECTION

Heating connection

Implement the heat consumer system (WNA) in accordance with the engineering documentation.

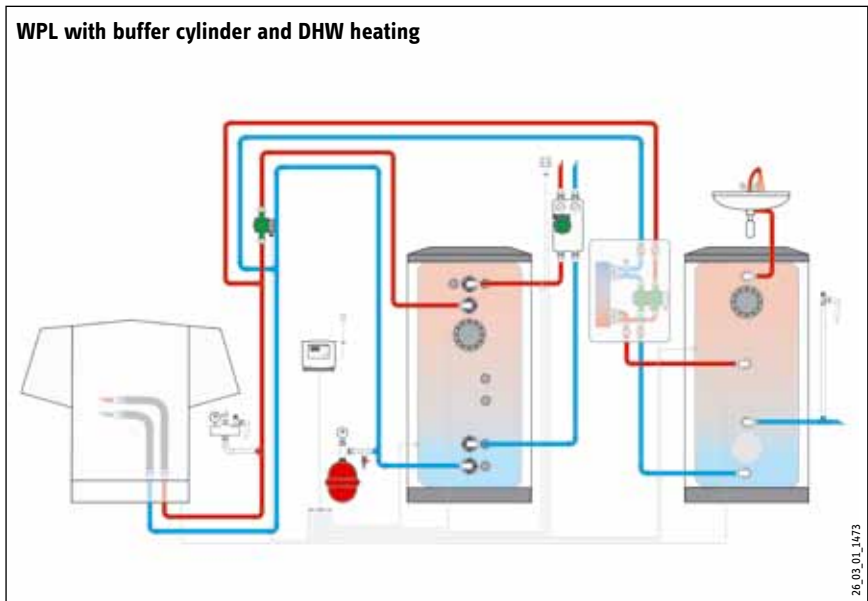
Connect the heat pump into the heating water side of heating systems in accordance with the standard circuit diagram.

Prior to connecting the heat pump, flush out the heating system, check for tightness and carefully vent it.

Observe the correct connection of heating flow and return as well as the correct pipework cross-section.

Use flexible pressure hoses to reduce structure-borne noise on the water side.

Carry out thermal insulation in accordance with the Energy Saving Ordinance [Germany].



Heat pump circulation pump

(max. 10 m pipeline between heat pump and buffer cylinder)

Heat pump Type	Flow rate m ³ /h	Pressure differential hPa	Circulation pump Type	Copper pipe DN
WPL 34	2.3	200	UP 30/1-8 E	35 * 1.5
WPL 47	3.2	200	UP 30/1-8 E	42 * 1.5
WPL 57	3.3	200	UP 30/1-8 E	42 * 1.5