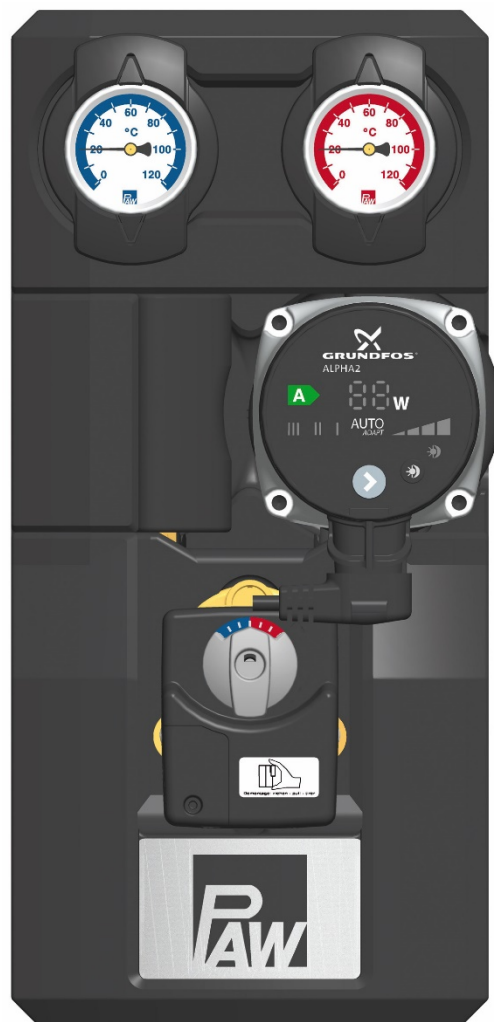
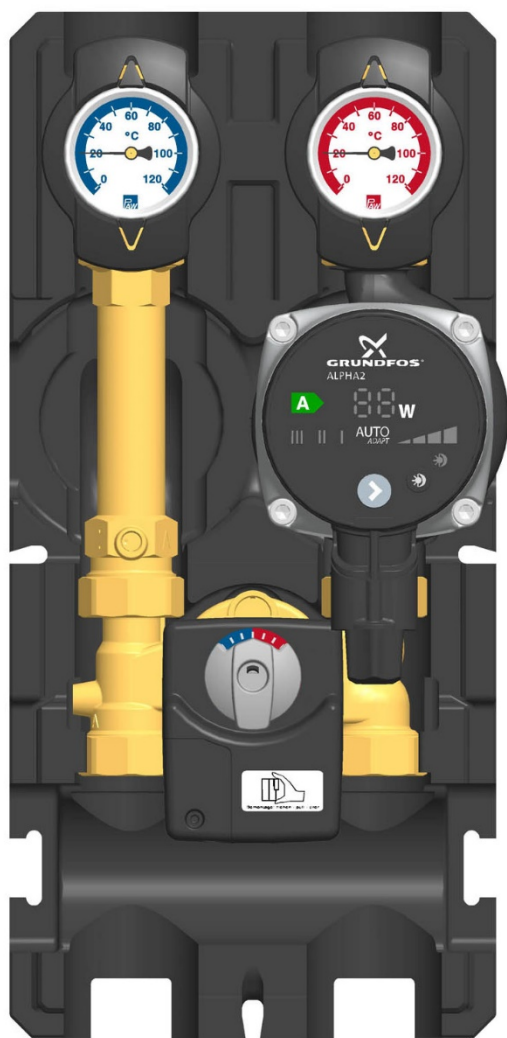




English

Installation and Operation Instructions

HeatBloC® K34 - DN 20



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Translation of the original instructions

We reserve the right to make technical changes without notice!

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PAW GmbH & Co.KG

Böcklerstr. 11

31789 Hameln, Germany

1 General information



Carefully read these instructions before installation and commissioning.
Save these instructions in the vicinity of the installation for future reference.

1.1 Scope of these instructions

These instructions describe the function, installation, commissioning and operation of the mixed HeatBloC® K34. For other components of the installation, such as pumps, controllers or the distribution manifold, see the instructions of the corresponding manufacturer.
The chapters called [specialist] are intended for specialists only.

1.2 Designated use

The HeatBloC® may only be used in heating circuits taking into consideration the technical limit values indicated in these instructions.

The HeatBloC® must **not** be used in drinking water applications.

Improper usage excludes any liability claims.

Only use PAW accessories with the HeatBloC®.


The wrapping materials are made of recyclable materials and can be disposed of with recyclable materials.

2 Safety instructions

The installation and commissioning as well as the connection of electrical components require technical knowledge commensurate with a recognised vocational qualification as a fitter for plumbing, heating and air conditioning technology, or a profession requiring a comparable level of knowledge [specialist].

The following must be observed during installation and commissioning:

- relevant local and national regulations
- accident prevention regulations of the professional association
- instructions and safety instructions mentioned in this manual

	<div style="background-color: yellow; padding: 5px;">CAUTION</div> <p>Personal injury and damage to property!</p> <p>The HeatBloC® must only be used in heating circuits filled with heating water according to VDI 2035 / Ö-Norm H 5195-1.</p> <p>The HeatBloC® must not be used in drinking water applications.</p>
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NOTICE

Material damage due to mineral oils!

Mineral oil products cause lasting damage to seals made of EPDM, whereby the sealant properties get lost. We do not assume liability nor provide warranty for damage to property resulting from sealants damaged in this way.

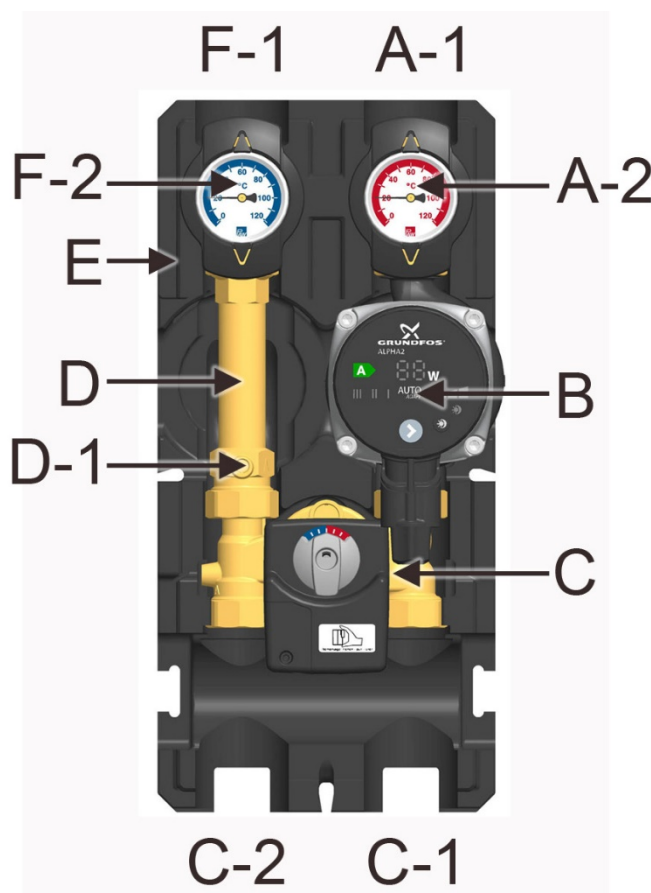
- It is imperative to avoid that EPDM gets in contact with substances containing mineral oils.
- Use a lubricant based on silicone or polyalkylene and free of mineral oils, such as Unisilikon L250L and Syntheso Glep 1 of the Klüber company or a silicone spray.

3 Product description

The HeatBloC® K34 is a preassembled group of fittings for heating circuits. The pump can be isolated by means of the ball valves and the mixing valve. The pump can thus be maintained without draining the heating circuit.

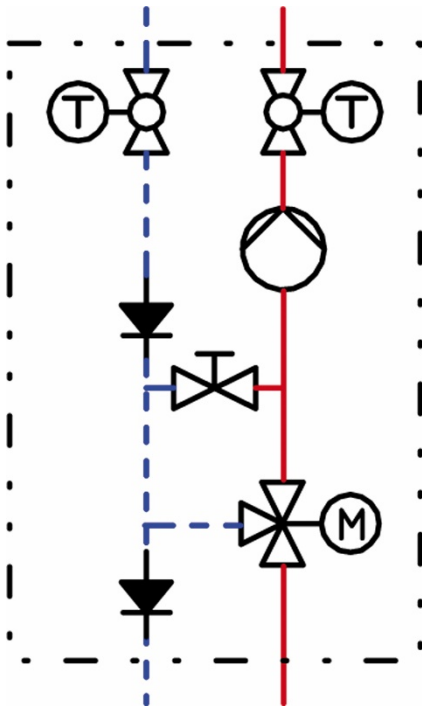
The PAW HeatBloC® is designed such that it can be directly mounted onto a PAW distribution manifold or a mounting plate with thread connections. With adaptor connections, the HeatBloC®s can also be installed on distribution manifolds with other dimensions.

3.1 Equipment



- A-1 Flow (consumer circuit)
- A-2 Full metal thermometer with immersion sleeve integrated in the ball valve (flow)
- B Heating pump
- C 3-way mixing valve with adjustable bypass 0-50 %
- C-1 Flow (boiler)
- C-2 Return (boiler)
- D-1 Check valve, can be opened
- D Return pipe
- E Design insulation with optimised function
- F-2 Full metal thermometer with immersion sleeve integrated in the ball valve (return)
- F-1 Return (consumer circuit)

3.2 Function



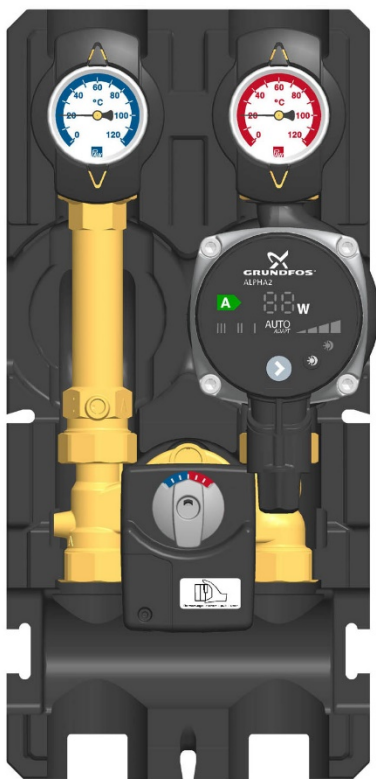
K34 3-way mixing valve with bypass 0-50 %

The flow temperature of the HeatBloC® is controlled by the integrated mixing valve. Hot water from the boiler and cold return water are mixed to obtain the desired flow temperature. The mixing valve is adjusted via an external controller and an electric actuator.

The rate of premixing is adjusted at the mixing valve bypass and a certain amount of cold return water is mixed to the flow water. The three-way actuator can work over the whole adjustment range (0-100%), although only a small amount of water from the boiler is necessary.

Example: Radiant floor or wall heating is operated with a low temperature level and low temperature differences, but high flow rates. It is therefore sufficient to "inject" a small amount of hot water into the warm return water.

The K34 has a lower pressure loss than the K33.



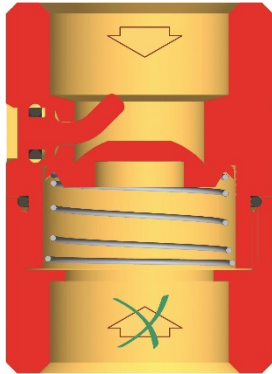
Application ranges:

- Consumer circuits with considerably lower flow temperatures than the boiler flow temperature
- Control of radiant floor or wall heating

3.2.1 Check valve

The HeatBloC® is equipped with a check valve (D-1, opening pressure 200 mm wc) in the return pipe. It can be opened manually.

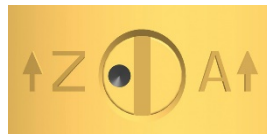
Operation



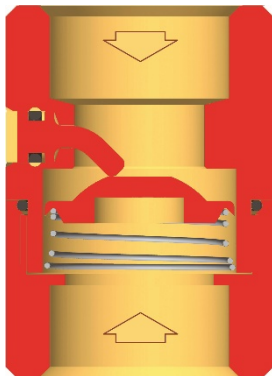
During operation, the mark must be directed to "Z".

→ The check valve is closed.

→ Flow only in the direction of the arrow.



Filling, draining, venting



For filling, draining and venting, the mark must be directed to "A".

→ The check valve is open.

→ Flow in both directions.



3.2.2 Pump [specialist]

The pump can be completely isolated. It can be replaced and maintained without draining of the heating installation.

Isolation of the pump:

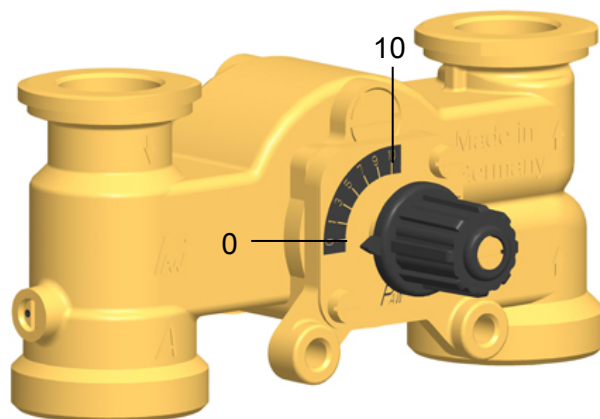
1. Disconnect the expansion tank from the installation.
2. Close the ball valves in the flow and the return (A-2, F-2).
3. Take off the actuator from the mixing valve.
4. Turn the bypass screw of the mixing valve so that the slot is in a vertical position.
5. Turn the nose of the valve cock so that the mixing valve is closed (for flow on the right: nose points downwards, for flow on the left: nose points to the right).

The mixing valve is now closed.

3.2.3 3-way mixing valve [specialist]

The 3-way mixing valve (C) driven by an electric motor adjusts the flow temperature of the consumer circuit to the desired value in combination with a flow sensor and the controller.

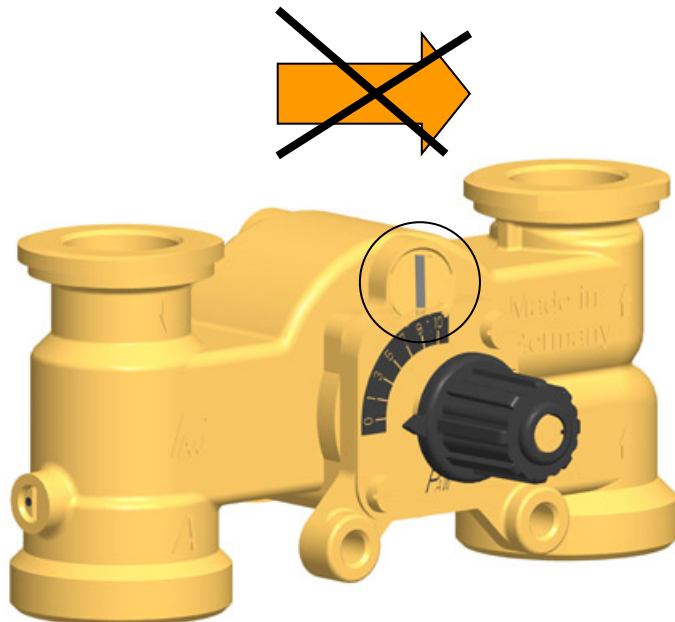
The mixing valve is equipped with a bypass which can be adjusted separately. Cold return water flows through the bypass into the flow, thus increasing the flow rate in the heating circuit.



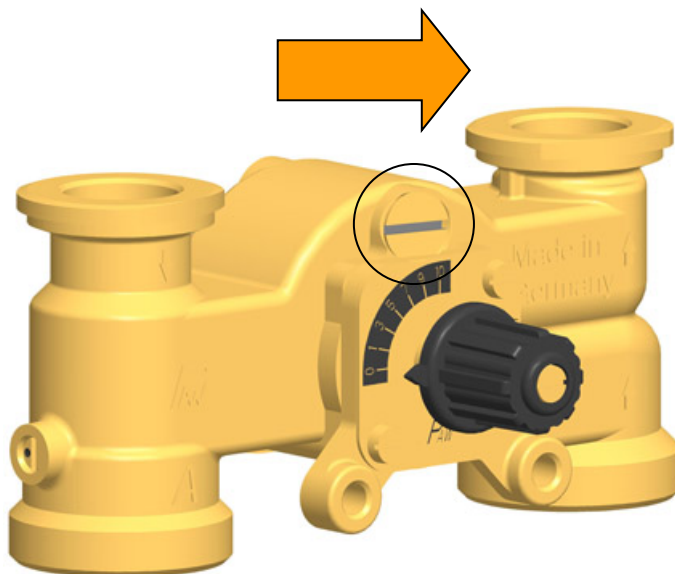
Position 10: Passage,
no mixing, flow temperature
consumer = flow temperature
boiler

Position 0: 100% mixing
flow temperature consumer =
return temperature consumer

1. Determine the optimum bypass position during commissioning in a trial-and-error process.



When the slot of the bypass screw is in a vertical position, the bypass is closed (normal operation).



When the slot of the bypass screw is in a horizontal position, the bypass is completely open. This allows the highest possible flow rate from the return to the flow line. This adjustment may be necessary for radiant floors requiring a very high flow rate. The flow temperature is low and the control may be negatively affected.

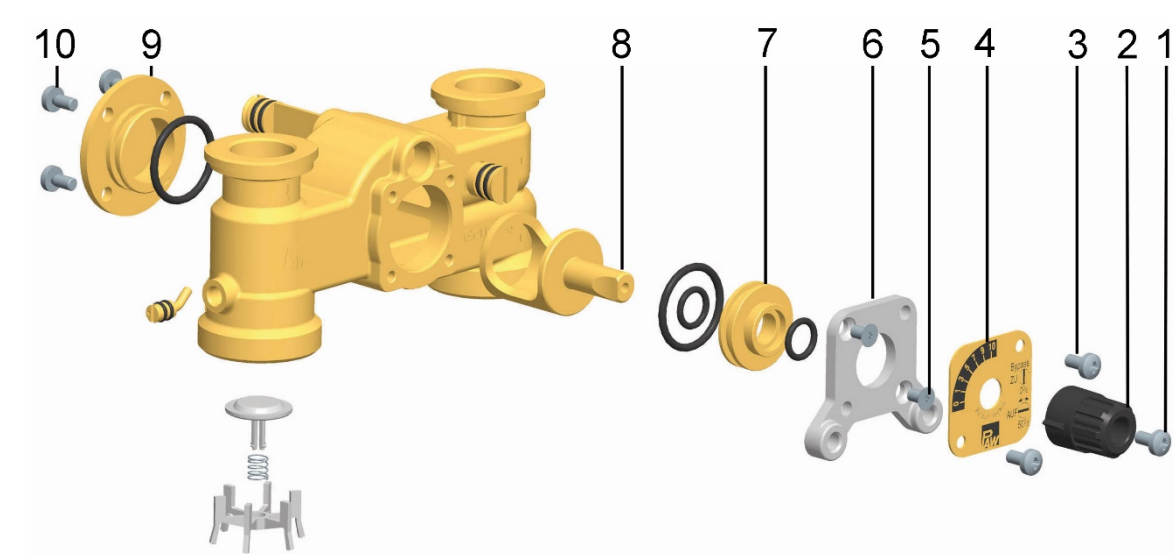
2. Check the bypass position during operation. Make sure that the flow rate is sufficient and that the desired temperature is reached.

Change of the flow line [specialist]

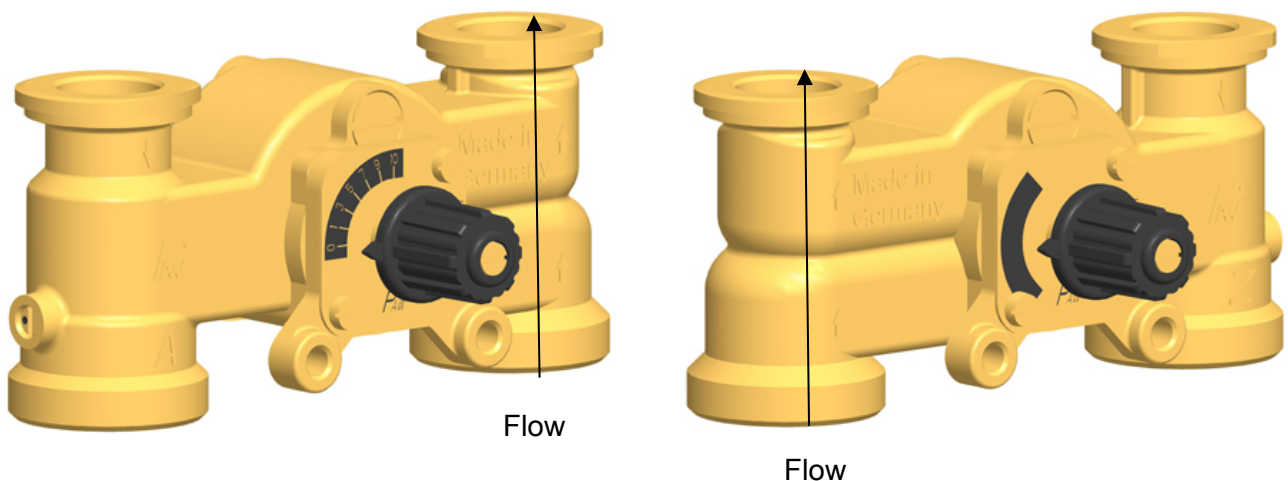
Dismounting the mixing valve

1. Take off the thermometer handles (A-2, F-2) and remove the insulating front shell.
2. Take the heating circuit out of the insulating back shell.
3. Dismount the mixing valve (C).

Conversion of the mixing valve



1. Unscrew the screw (1).
2. Take the rotary knob (2) off the rod of the cock.
3. Unscrew the screw (3).
4. Take off the cover plate (4).
5. Unscrew the two screws (5).
6. Remove the front plate (6).
7. Extract the sealing bush (7) and the valve cock (8) from the mixing valve body.
8. Unscrew the screws (10) on the rear side of the mixing valve.
9. Take off the cover (9) on the rear side and fix it at the other side of the mixing valve using the screws (10).
10. Insert the sealing bush (7) and the valve cock (8) into the channel of the mixing valve.
11. Fix the front cover (6) with the screws (5).



Mixing valve with flow on the right

Mixing valve with flow on the left

12. Turn the cover plate (4) such that the designation PAW is at the bottom and the scale is located as can be seen in the figure above.
13. Fix the cover plate (4) with the screws (3).
14. Put the rotary knob (2) onto the cock rod.
15. Fix the rotary knob (2) to the cock (8) with the screw (1).

Modification and commissioning of the heating circuit

1. Interchange the return pipe (D) and the flow pipe and the pump (B).

Consider the flow direction of the pump!

Turn the pump head such that the terminal head is directed to the top or to the centre of the heating circuit.

2. Dismount and interchange the ball valves.
3. Mount the HeatBloC® and connect it to the installation.
4. Check all union nuts before commissioning and firmly tighten them if necessary.
5. Mount the insulation after the pressure test.
Mount the thermometer handles (A-2, F-2).

3.2.4 Accessories: actuator (not included in delivery)

The PAW actuator for weather-compensated control is available as an accessory.

For mixing valves with flow on the left, the scale must be turned by 180°.



for mixing valves with flow on the right

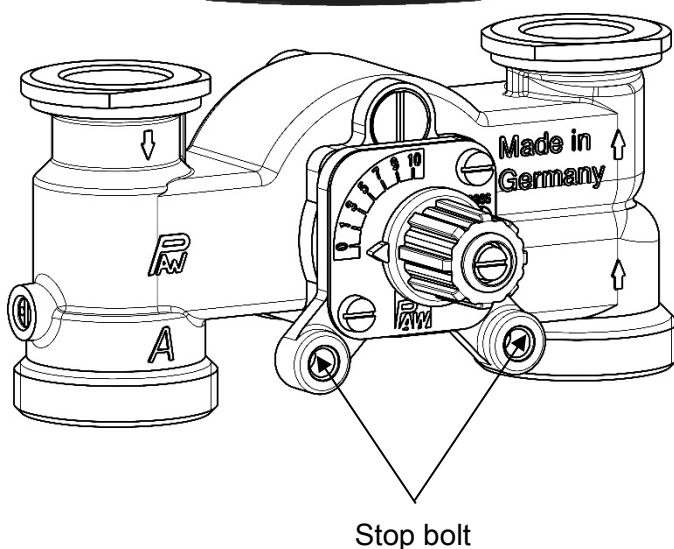


for mixing valves with flow on the left



Assembly of the actuator for mixing valves with flow on the right:

1. Dismount the rotary knob of the mixing valve.
2. Mount the rotary knob delivered with the actuator.
3. Turn the rotary knob to position 0.
4. Set the actuator to manual mode by turning the selector switch.
5. Turn the rotary lever of the actuator to the left to the position shown in the figure.
6. Put the actuator onto the rotary knob and the two stop bolts of the mixing valve.
7. Set the actuator to automatic mode.



4 Assembly and installation [specialist]

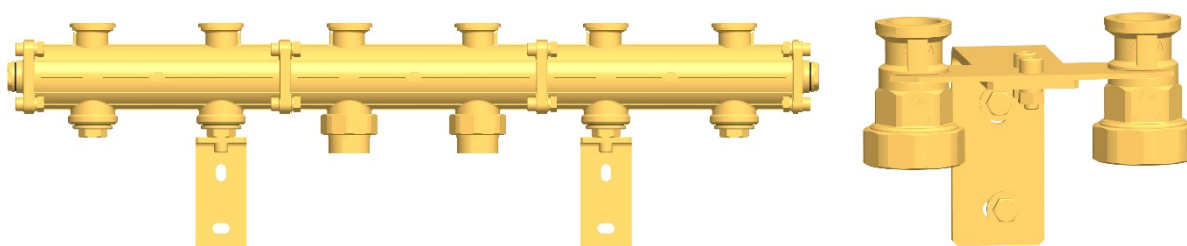
The HeatBloC® K34 must be either installed on a PAW modular distribution manifold or a set of wall bracket and mounting plate. The modular distribution manifold, the wall bracket and the mounting plate are not included in the scope of delivery.

NOTICE

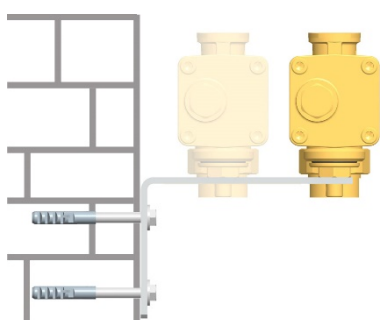
Damage to property!

The location of installation must be dry, load-carrying, frost-proof and protected against ultraviolet radiation to prevent material damage to the installation.

4.1 Installation of the modular distribution manifold / wall bracket with mounting plate



Mount the modular distribution manifold or the wall bracket with mounting plate as described in the separate instructions.

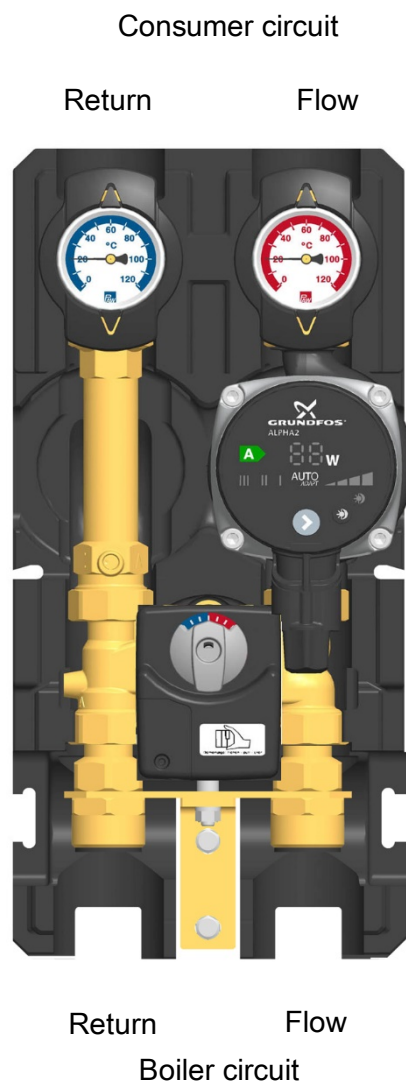
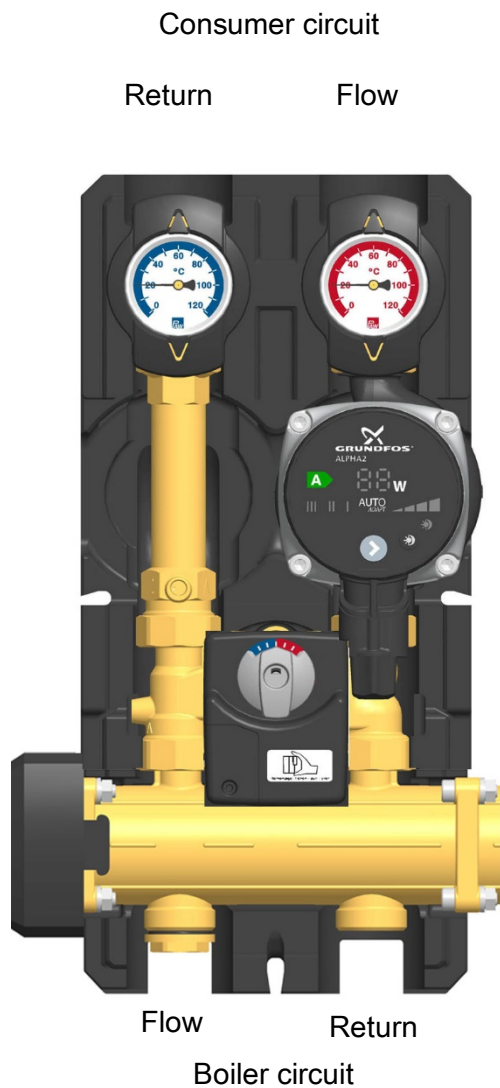


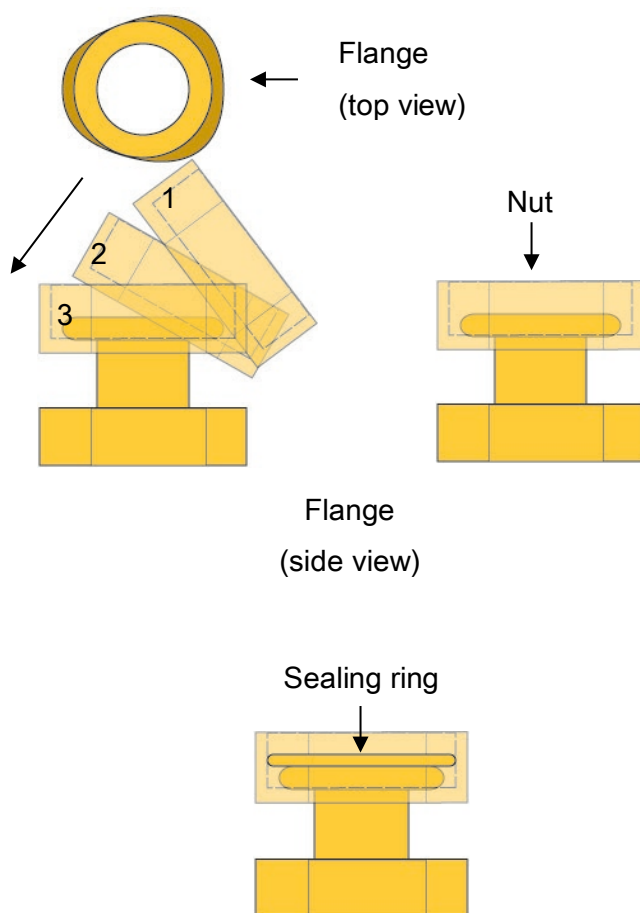
If possible, choose the largest distance to the wall.
In this way it is easier to mount the insulation of the distribution manifold.

4.2 Installation of the HeatBloC® and commissioning

The HeatBloC® can be installed

- **Option 1:** on a PAW modular distribution manifold.
- **Option 2:** on a mounting plate with thread connections.

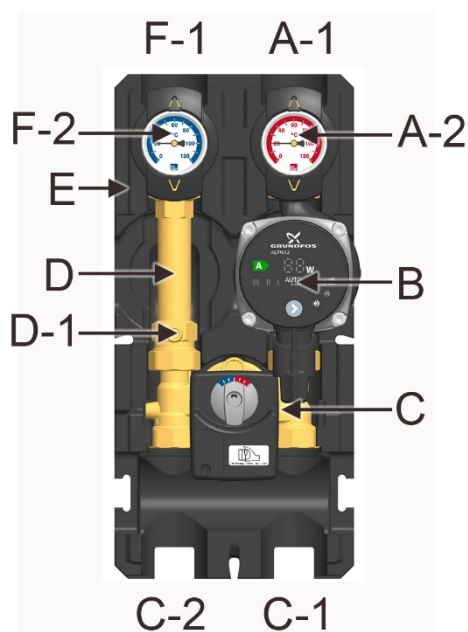




1. Take off the thermometer handles (A-2, F-2) and remove the insulating front shell of the HeatBloC®.
2. Unscrew the nuts on the lower connections of the HeatBloC® and take out the sealing rings.
3. Flip the two nuts over the flanges.

4. Insert the sealing rings into the nuts.
5. Put the HeatBloC® onto the two nuts.
6. Tighten the nuts.

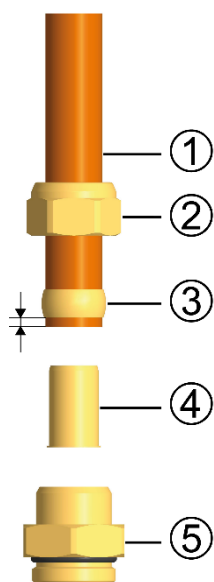
Take care that the nuts do not get jammed and that the sealing rings do not slip.



7. Connect the HeatBloC® to the installation. The installation to the piping must be carried out without any tension.
8. Connect the pump.
9. Carry out a pressure test and check all thread connections.
10. Mount the insulating front shell and the thermometer handles (A-2, F-2).

4.3 Accessories: compression fitting (not included in delivery)

The connection to the heating installation can be carried out fast, pressure-proof and without soldering when you use the optionally available compression fittings.



Not included in
the scope of delivery!

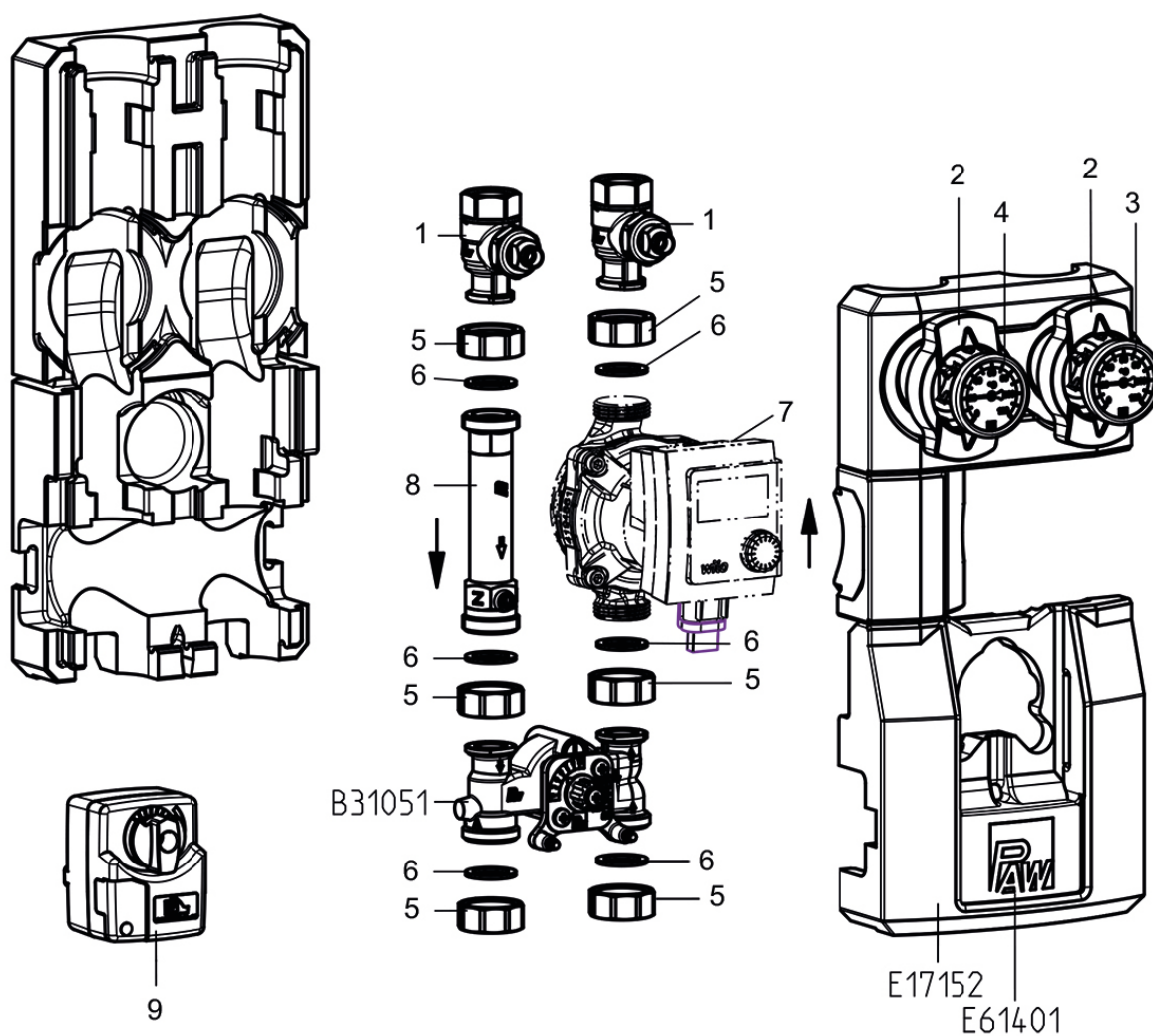
1. Push the union nut ② and the cutting ring ③ onto the copper pipe ①. The pipe must protrude at least 3 mm from the cutting ring in order to ensure the force transmission and the sealing.
2. Insert the support sleeve ④ into the copper pipe.
3. Insert the copper pipe with the the plugged-on individual parts (②, ③ and ④) all the way into the housing of the cutting-ring fitting ⑤.
4. First screw the union nut ② manually.
5. Tighten the union nut ② by rotating one full turn. Secure the housing of the compression fitting ⑤ against distort in order to avoid damaging the sealing ring.

5 Scope of delivery [specialist]

NOTICE

Complaints and requests/orders of spare parts will only be processed with information on the serial number!

The serial number is placed on the return pipe of the heating circuit.



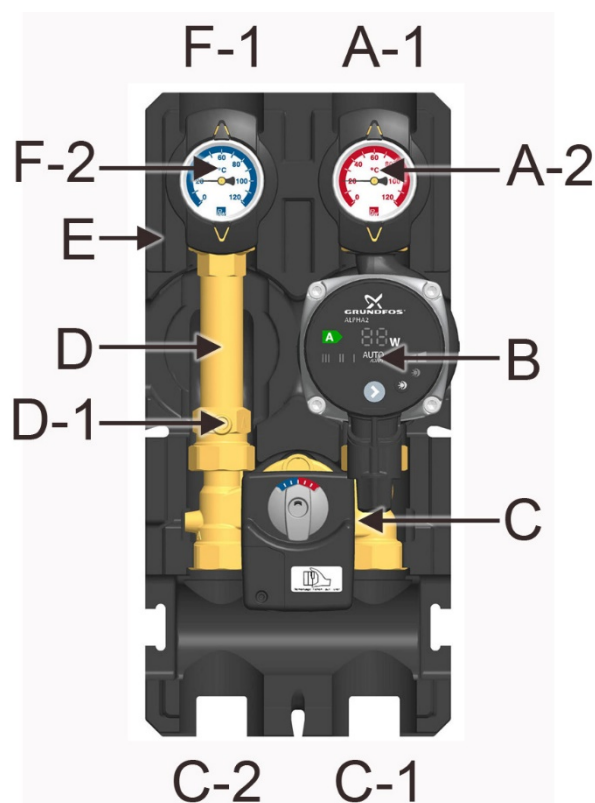
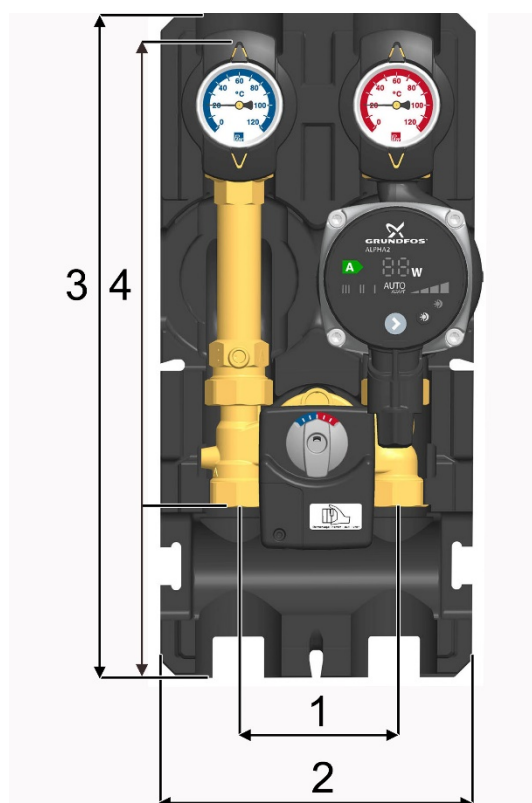
Position	Spare part	Item number
1	Thermometer ball valve DN 20, F ½" x ¾" int. thread	N00202
2	Thermometer handle for ball valve 1"	N00248
3	Dial thermometer, red scale, d=50 mm, 0-120 °C	N00242
4	Dial thermometer, blue scale, d=50 mm, 0-120 °C	N00243
5	Union nut G 1"	2055
6	Gasket ½", for threaded connection 1"	N00129
7	Pump see following table	
8	Brass pipe DN 20, 2x 1" ext. thread, 130 mm, with check valve	N00141
9	Actuator 2 Nm, 230 V	N00070

Item number heating circuit*	Pump	Item no.	EEI
32063(M)WP6	Wilo Para SC 15/6-43	N00258	< 0.20
32063(M)WH6	Wilo-Stratos PICO 15/1-6	E1239615	< 0.20
32063(M)GM6	Grundfos UPM3 Auto L 15-70 PP3	E1212360	< 0.20
32063(M)GH6	Grundfos Alpha2.1 15-60	E121221	< 0.17

*Heating circuits with an actuator additionally contain a M in the item number, f. ex. 36063MWH6 (without actuator = 36063WH6)

6 Technical data

K34	DN 20 (¾")
Dimensions	
Centre distance (1)	90 mm
Width insulation (2)	180 mm
Height insulation (3)	385 mm
Installation length (4)	255 mm
Connections	
Outlet (A-1, F-1)	¾" internal thread
Inlet (C-1, C-2)	1" external thread
Technical data	
Opening pressure check valve (D-1)	200 mm wc, can be opened
Materials	
Valves and fittings	Brass
Gaskets	EPDM / NBR
Insulation	EPP

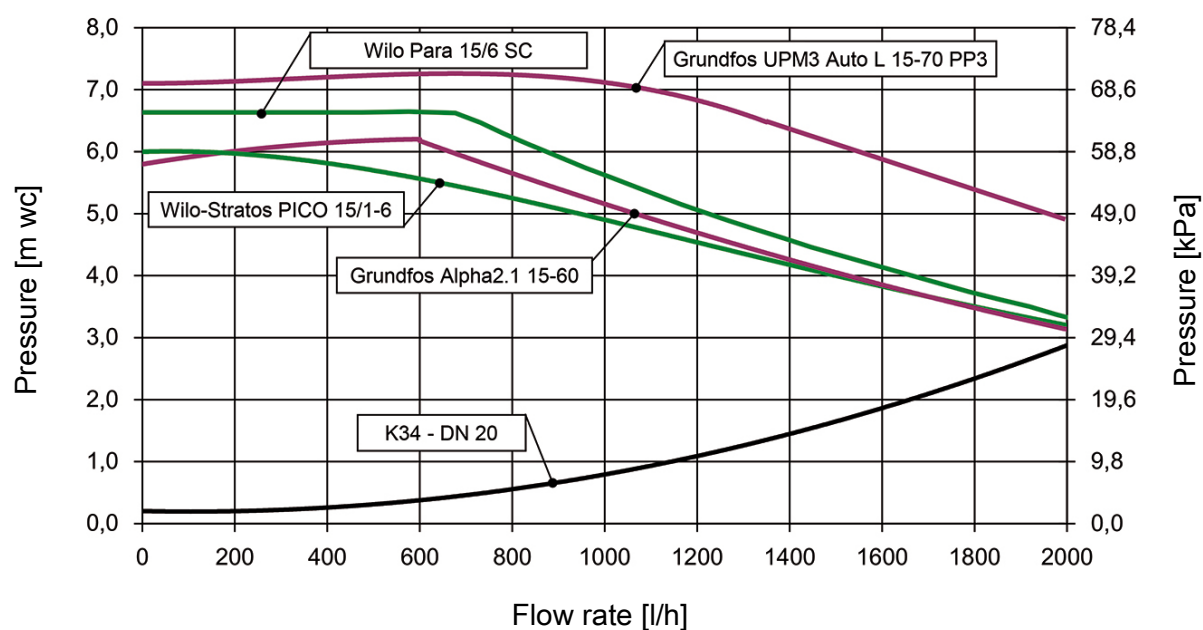


K34 DN 20 (¾")

Hydraulics

Maximum pressure	6 bars
Maximum temperature	110 °C
K _{VS} value [m³/h]	3.7

6.1 Pressure drop and pump characteristic curves



7 Disposal

NOTICE

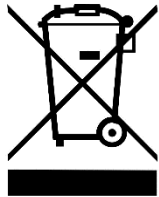
Electrical and electronic devices must not be disposed of in the household waste.

For your return, there are free collection points for electrical appliances and, if necessary, additional points of acceptance for the reuse of the devices in your area. The addresses can be obtained from your city or communal administration.

If the old electrical or electronic device contains personal data, you are responsible for deleting it before you return it.

Batteries and rechargeable batteries must be removed prior to the disposal of the product. Depending on the product equipment (partly with optional accessories), single components can also contain batteries and rechargeable batteries.

Please observe the disposal symbols on the components.



PAW GmbH & Co.KG
Böcklerstraße 11
31789 Hameln - Germany

www.paw.eu
Phone: +49 (0) 5151 9856 - 0
Fax: +49 (0) 5151 9856 - 98