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English

Installation and Operation Instructions
HeatBloC® K34 - DN 20

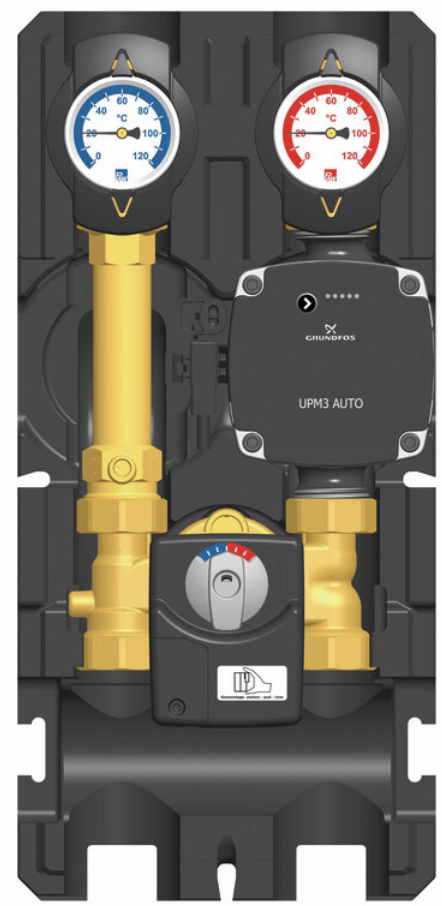




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1 General Information



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 installation, commissioning, functioning and the operation of a mixed HeatBloC®.

For other components of the installation, such as the pump, the controller or the modular distribution manifold, please observe the instructions of the corresponding manufacturer. The chapters called [specialist] are intended for specialists only.

1.2 Designated use

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

It must **not** be used in drinking water applications.

Improper usage excludes any liability claims.

This product complies with the relevant directives and is therefore labelled with the CE mark.
The Declaration of Conformity is available upon request, please contact the manufacturer.

Only use PAW accessories with the product.

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 these instructions

⚠ CAUTION



Personal injury and damage to property!

The product must only be used in heating circuits filled with heating water according to VDI 2035 / Ö-Norm H 5195-1.

► The product must **not** be used in drinking water applications.

NOTICE

Material damage due to mineral oils!

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

► It is imperative to prevent the EPDM sealing elements from making contact with substances containing mineral oils.

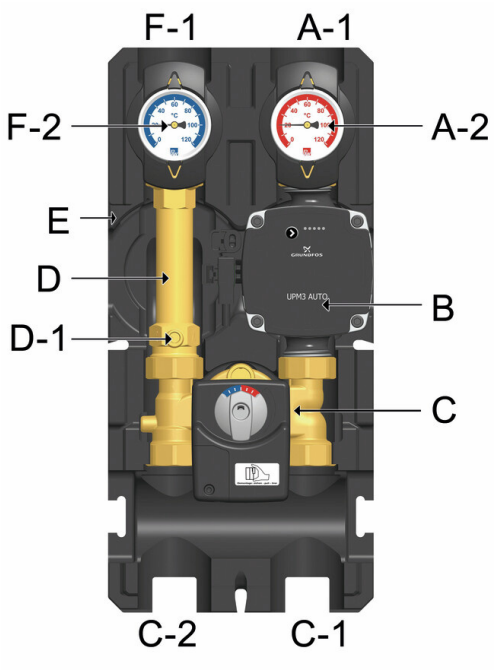
► Use a silicone- or polyalkylene-based lubricant free of mineral oil such as Unisilikon L250L and Syntheso Glep 1 from Klüber or a silicone spray.

3 Product description

The HeatBloC® 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 easily without draining the heating circuit system.

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

3.1 Equipment



A-1 Flow to the consumer circuit

A-2 All-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 from the heat generator

C-2 Return to the heat generator

D Return pipe

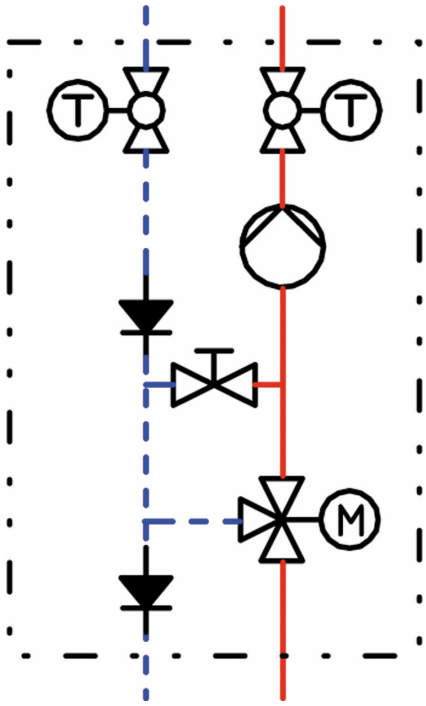
D-1 Check valve, can be opened

E Design insulation with optimised function

F-1 Return from the consumer circuit

F-2 All-metal thermometer with immersion sleeve, integrated in the ball valve (return)

3.2 Function



Application range:

- Consumer circuits with a considerably lower flow temperature than the boiler flow temperature
- Consumer circuits with high flow rates, e.g. radiant floor heating and radiant panel heating systems

3-way mixing valve with bypass 0-50%

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

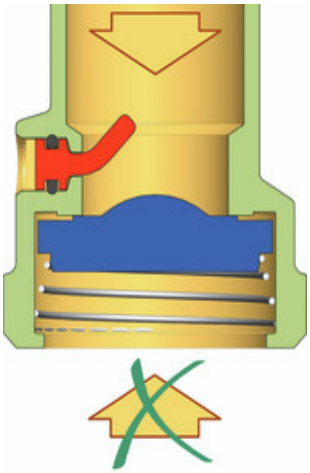
Due to the premixing rate that must be adjusted at the bypass of the mixing valve, a certain amount of cold return water is added to the flow water.
The 3-way actuator can thus work over the whole adjustment range (0-100 %), although only a small amount of water from the boiler is necessary.

Example: Panel heating systems operate on a low temperature level with small temperature differences, but with high flow rates. It is therefore sufficient to add a small amount of hot water to the "warm" return water.

3.2.1 Check valve

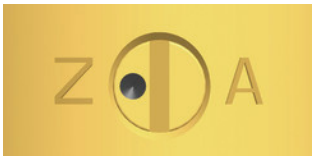
The product is equipped with a check valve in the return pipe. The check valve can be opened.

Operation

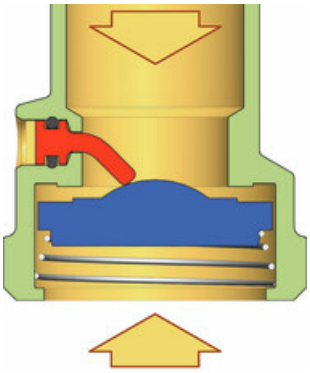


During operation, the marking must point to "Z".

- The check valve is closed.
- Flow only in the direction of the arrow.



Filling, draining, venting



For filling, draining and venting the installation, the marking must point 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 the heating circuit system.

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. Remove the controller / actuator from the mixing valve.
4. Turn the bypass screw of the mixing valve such that the slot is in a vertical position.
5. Turn the nose of the valve cock such that the flow to the pump is closed (for flow on the right: nose points downward, for flow on the left: nose points to the right).

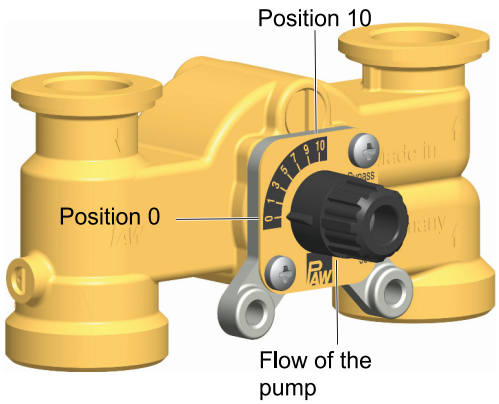
The mixing valve is now closed and drop tight.

3.2.3 3-way mixing valve [specialist]

The 3-way mixing valve (C), driven by an electric actuator, adjusts the flow temperature of the consumer circuit to the required value by means of the flow sensor and the controller.

The mixing valve is equipped with a bypass which must be operated separately. Via this bypass, cold return water can be added to the flow. This can result in an increase of the flow rate of the heating circuit. An open bypass leads to a decrease of the flow temperature!

Mixing valve with flow on the right:



Position 10: passage, no mixing

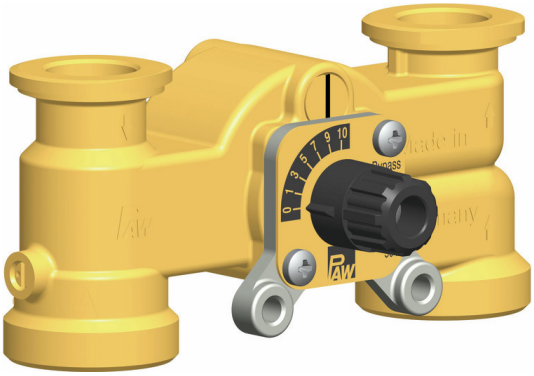
flow temperature consumer = flow temperature heat generator (only if bypass is closed!)

Position 0: 100% mixing

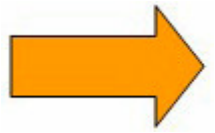
flow temperature consumer = return temperature consumer

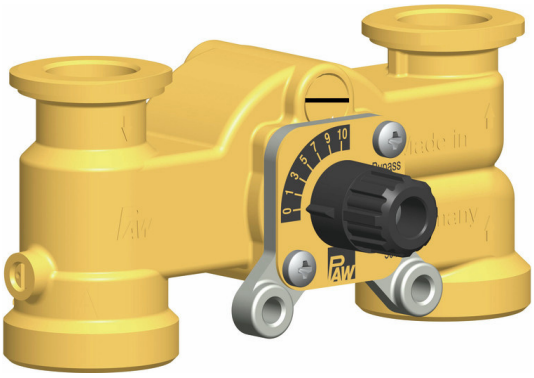
1. During commissioning, determine the optimum bypass position for the operation of the installation. Find out and check the correct adjustment through a trial-and-error process.





If the slot of the bypass screw is in a vertical position, the bypass is closed.





If the slot of the bypass screw is in a horizontal position, the bypass is completely open. A maximum flow rate from the return to the flow line is thus enabled. This adjustment may be necessary for radiant floor heating systems which require a very high water flow volume. Because of the bypass, the flow temperature decreases and the control is affected.

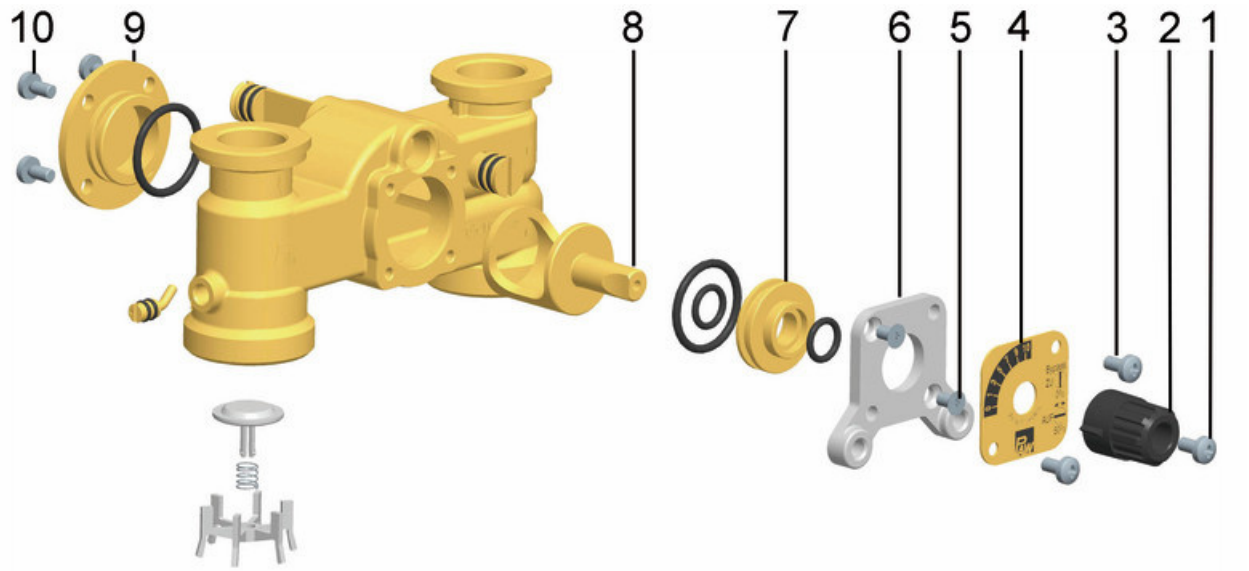
2. Check the position of the bypass during operation. Make sure that the flow rate is sufficient and that the desired temperature is reached.

3.2.4 Change of the flow line [specialist]

Dismounting of the mixing valve

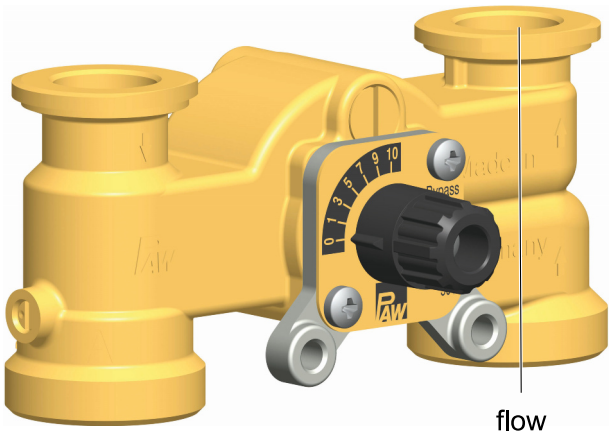
1. Take off the thermometer handles (A-2, F-2) and remove the insulating front shell.
2. Take the group of fittings out of the insulating back shell.
3. Dismount the mixing valve (C).

Retrofitting of the mixing valve

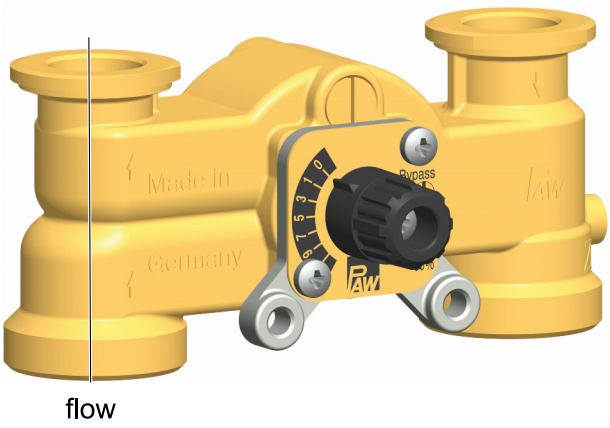


1. Loosen the screw (1).
2. Take off the rotary knob (2) from the cock rod.
3. Loosen the screws (3).
4. Remove the cover plate (4).
5. Loosen the two screws (5).
6. Remove the front plate (6).
7. Extract the sealing bush (7) with the cock plug (8) from the housing of the mixing valve.
8. Loosen the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

11. Screw down the front plate (6) using the screws (5).



Mixing valve with flow on the right



Mixing valve with flow on the left

12. Turn the cover plate (4) in such a way that the marking PAW is at the bottom and that the scale is positioned as shown in the figure above.
13. Fix the cover plate (4) by using the screws (3).
14. Put the rotary knob (2) onto the cock rod.
15. Fix the rotary knob (2) on the cock plug (8) by using the screw (1).

Retrofitting and commissioning of the HeatBloC®

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

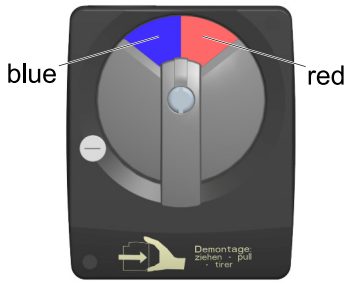
   Consider the flow direction of the pump!

   Turn the pump head such that the terminal box is directed to the top or to the centre of the group of fittings.
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 only after having carried out a pressure test. Mount the thermometer handles (A-2, F-2) in a final step.

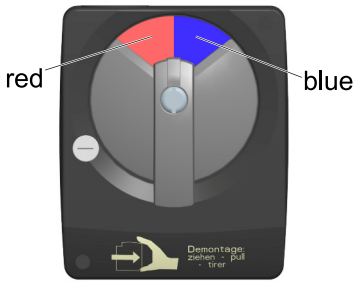
3.3 Accessories: Actuator (optional)

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 valve with flow on the right

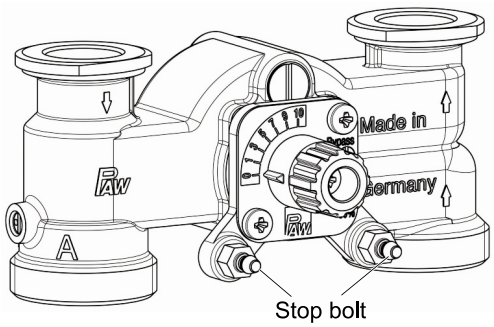


For mixing valve with flow on the left



Assembly of the actuator - flow on the right:
If the PAW actuator has been purchased as an optional accessory, the mixing valve contains a metal plate. To mount the PAW actuator on the mixing valve, proceed as follows:

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 knob of the actuator to the left to the position shown on the adjacent figure.
6. Put the actuator on the adjusting knob of the mixing valve and the two stop bolts.
7. Set the actuator to automatic mode.



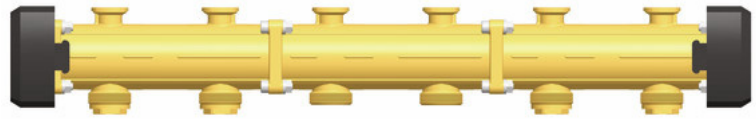
4 Mounting and installation [specialist]

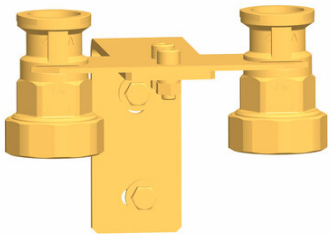
The HeatBloC® can be mounted on a distribution manifold or on a wall bracket with mounting plate. The distribution manifold, the wall bracket and the mounting plate are not included in the scope of delivery.

NOTICE

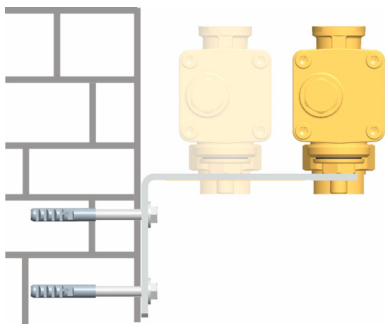
Damage to property!
The installation site must be dry, stable, frost-proof and protected against ultraviolet radiation in order to prevent material damage of the installation.

4.1 Installation of the modular distribution manifold / of the 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 mounting holes with the largest distance to the wall. It is thus easier to mount the insulation of the modular distribution manifold.

4.2 Installation and commissioning of the HeatBloC®

The HeatBloC® can be mounted

Option 1:

on a PAW modular distribution manifold.

consumer circuit

return flow



flow return

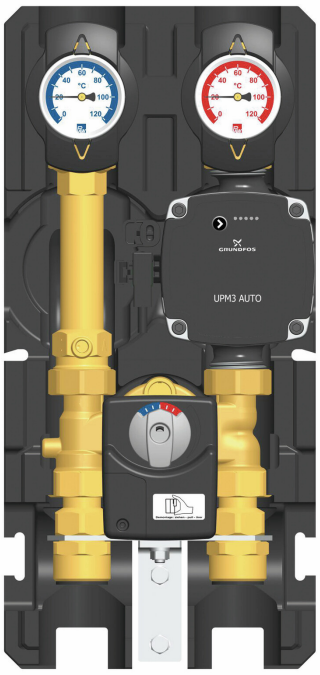
heat generator

Option 2:

on a mounting plate with transition thread connections.

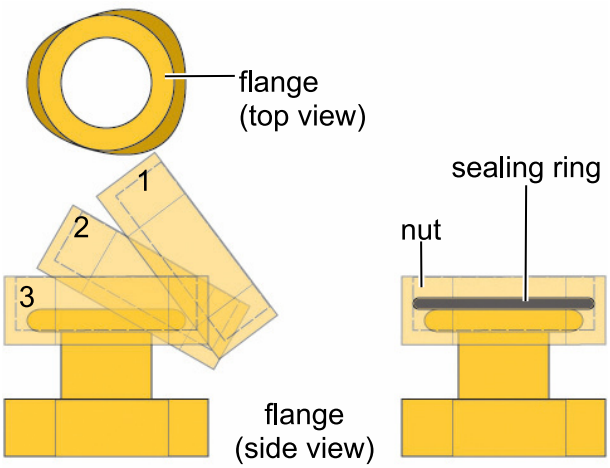
consumer circuit

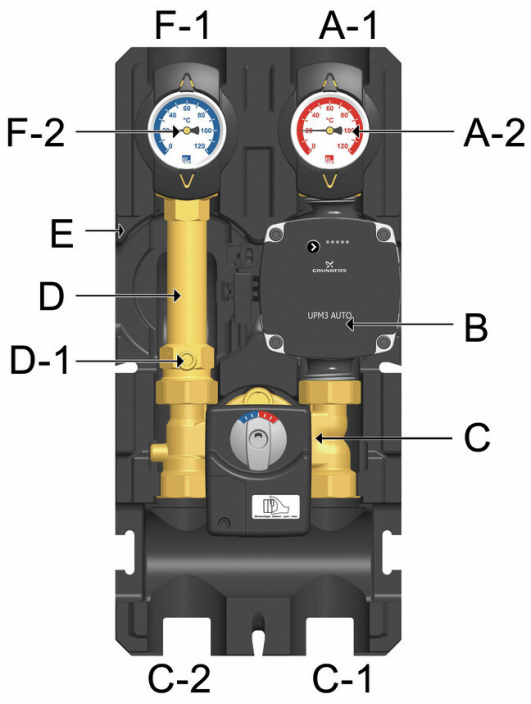
return flow



return flow

heat generator





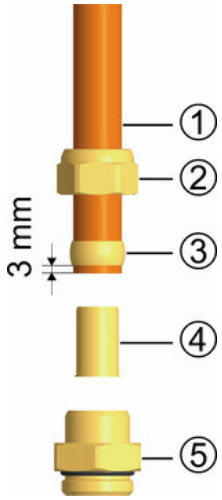
1. Take off the thermometer handles (A-2, F-2) and remove the insulating front shell of the HeatBloC®.
2. Unscrew the nuts on the lower connections of the HeatBloC® and take out the sealing rings.

If a PAW modular distribution manifold or transition connection is used:

3. Put 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. Make sure that the nuts do not get jammed and that the sealing rings do not slip.
7. Connect the HeatBloC® to the installation by using the pipes. 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: Cutting-ring compression fitting (not included in the scope of delivery)

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



Not included in the scope of delivery!

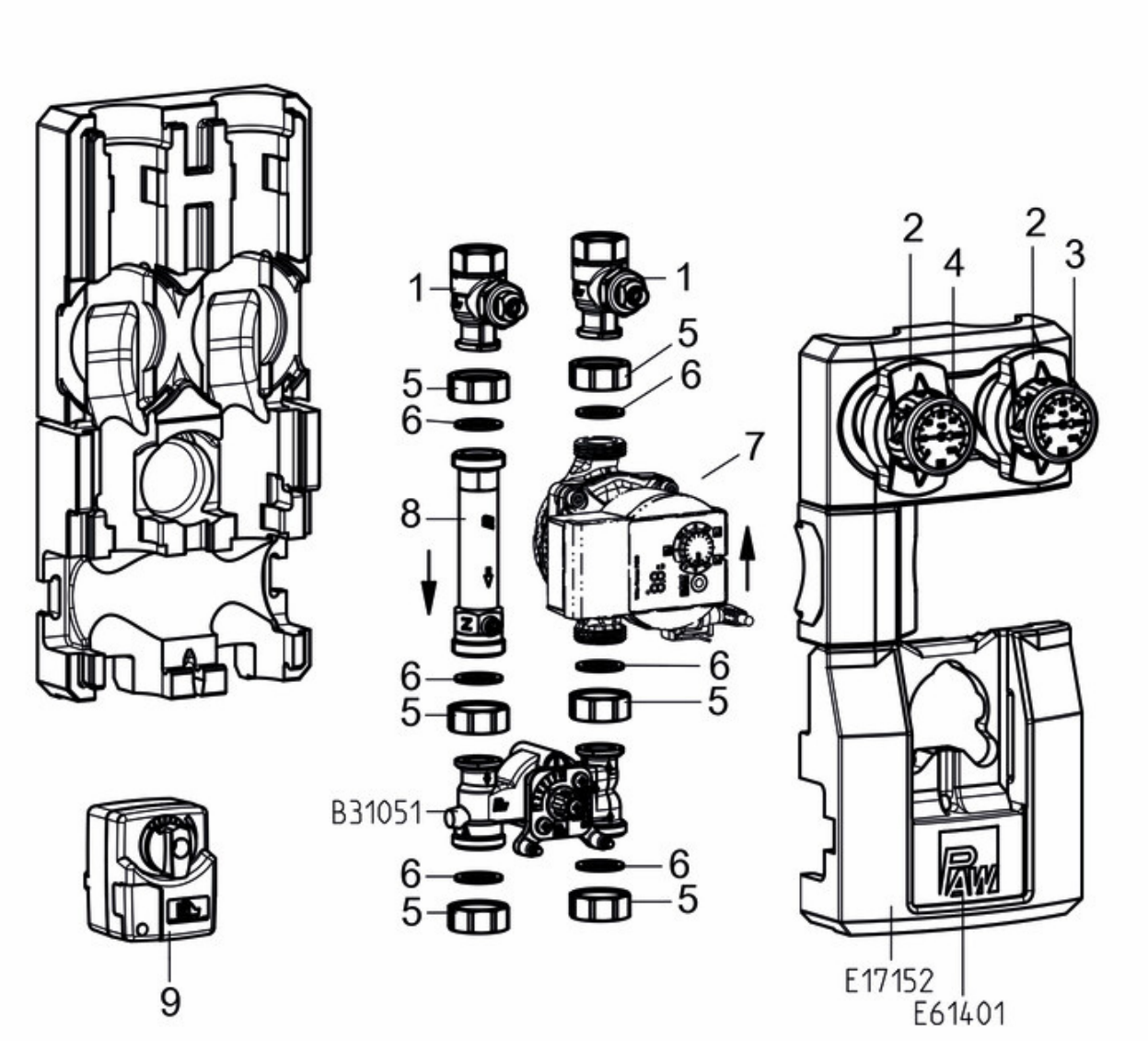
1. Push the union nut ② and the cutting ring ③ onto the copper pipe ①. The pipe must protrude at least 3 mm from the cutting ring in order to ensure the force transmission and the sealing.
2. Insert the support sleeve ④ into the copper pipe.
3. Insert the copper pipe with the plugged-on individual parts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

5 Scope of delivery [specialist]

NOTICE

Serial number

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 product.



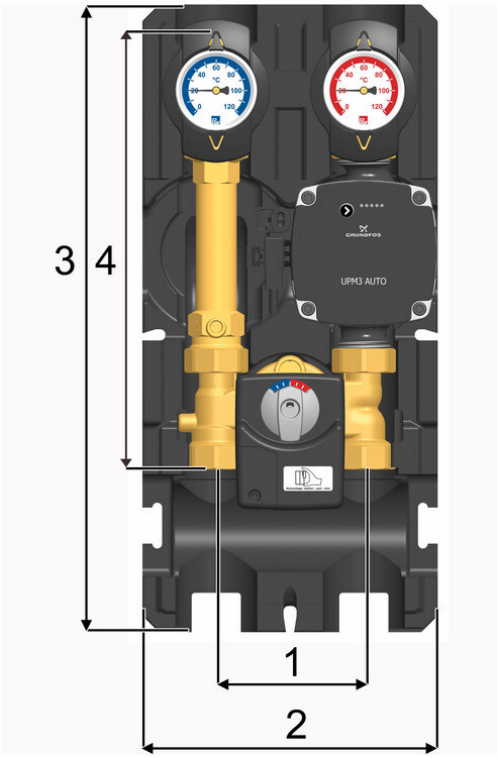
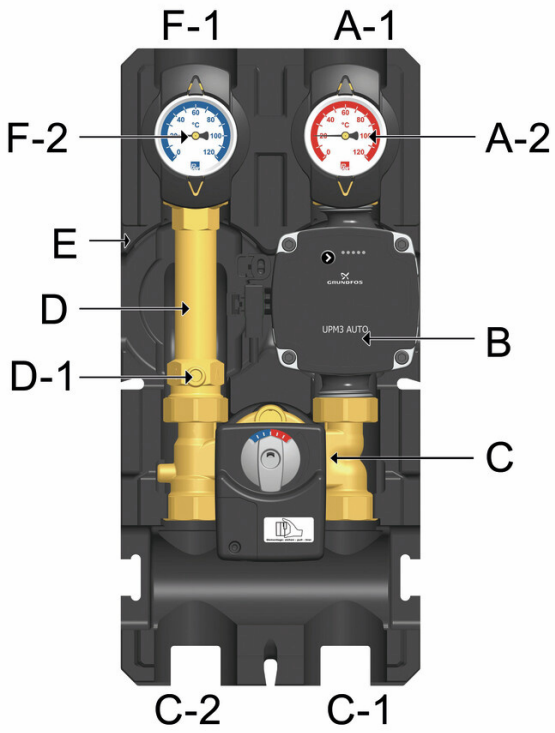
Position	Spare part	Item number
1	Thermometer ball valve DN 20, F ½" x ¾" int. thread	N00202
2	Thermometer handle for thermometer ball valve 1"	N00248
3	Dial thermometer, red scale, d = 50 mm, 0-120 °C	N00242
4	Dial thermometer, blue scale, d = 50 mm, 0-120 °C	N00243
5	Union nut G 1"	2055
6	Gasket ½", 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 no. heating circuit*	Pump	Item no. pump	EEI
32063(M)WP6	Wilo Para SC 15/6-43	N00258	< 0.20
32063(M)WN06	Wilo Yonos PICO 15/1-6	N00315	< 0.20
32063(M)GM6	Grundfos UPM3 Auto L 15-70 PP3	N00333	< 0.20
32063(M)GH6	Grundfos Alpha2.1 15-60	N00336	< 0.17

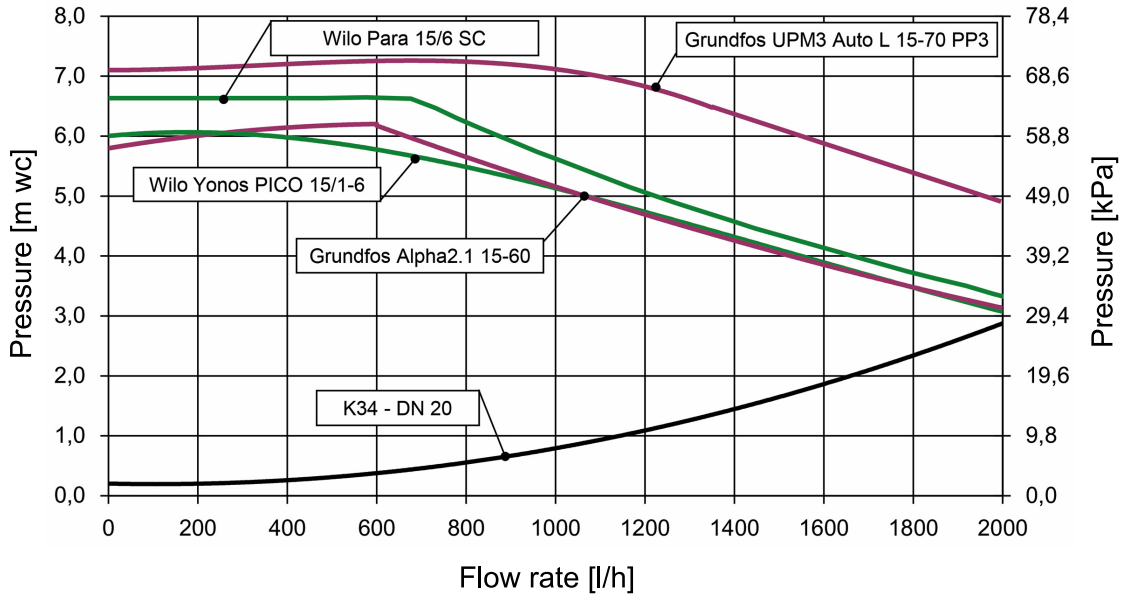
*Heating circuits with an actuator additionally contain a M in the item number, e. g. 32063**M**GM6

(without actuator = 32063GM6)

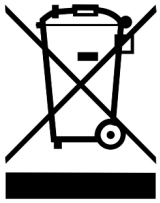
6 Technical data

HeatBloC® 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, flat sealing
Operating data	
Max. pressure	6 bar
Max. temperature	95 °C
K_{VS}value [m^3/h]	3.0
Opening pressure check valve (D-1)	200 mm wc, can be opened
Materials	
Valves and fittings	Brass
Seals	EPDM
Insulation	EPP

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 returning the device. 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.

NOTICE	
	**Disposal of transport and packaging materials** The packaging materials are made of recyclable materials and can be disposed of with recyclable materials.

8 Notes

Item no. 9932063x-mub-en
Translation of the original instructions
We reserve the right to make technical changes without notice!
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