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English

Installation and Operation Instructions

HeatBloC® K32

DN 25 / DN 32

DN 25

DN 32

Contents

Item no. 993x053x-mub-en – Version V05 – Issued 2020/03

Translation of the original instructions

We reserve the right to make technical changes without notice!

PAW GmbH & Co. KG
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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, function and the operation of the mixed HeatBloC® K32 DN 25 and DN 32.
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 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 of the HeatBloC® 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 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 of this manual

CAUTION

Personal injury and damage to property!

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

The HeatBloC® 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 get lost. We do not assume liability nor provide warranty for damage to property resulting from sealants damaged in this way.

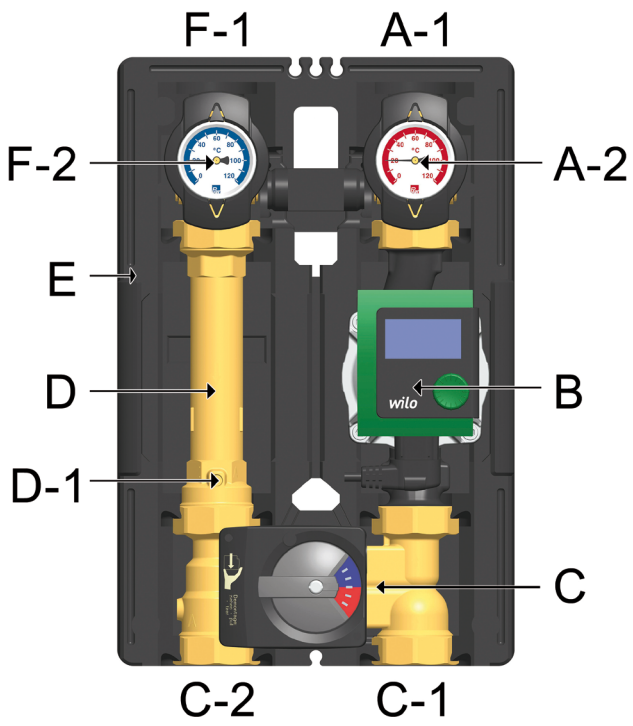
- ➢ It is imperative to avoid that EPDM gets in contact with substances containing mineral oils.
- ➢ Use a lubricant based on silicone or polyalkylene and free from mineral oils, such as Unisilikon L250L and Syntheso Glep 1 of the Klüber company or a silicone spray.

3 Product description

The HeatBloC® K32 is a preassembled group of fittings for heating circuits. The pump can be isolated by means of the ball valves and the mixing valve, maintenance work on the pump can thus be carried out without draining the heating circuit.

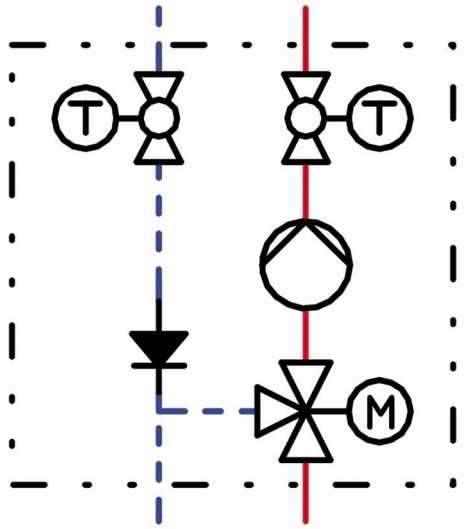
The PAW HeatBloC® is designed such that it can be directly mounted onto a PAW distribution manifold or a mounting plate. With transition connections, PAW HeatBloC®s can also be mounted on PAW modular distribution manifolds of other dimensions.

3.1 Equipment



A-1	Flow to the consumer circuit
A-2	Full metal thermometer with immersion sleeve, integrated in the ball valve (flow)
B	Heating pump
C	3-way mixing valve
C-1	Flow from the heat generator
C-2	Return to the heat generator
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 from the consumer circuit

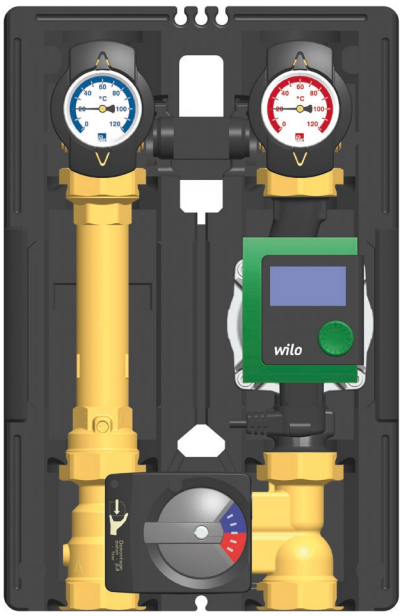
3.2 Function



K32 – HeatBloC® with 3-way mixing valve

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. The ball valves allow a maintenance of the pump, of the boiler / heat generator circuit as well as of the consumer circuit without putting the entire installation out of operation. Two thermometers display the temperatures of the flow and the return and allow thus a function control. The integrated check valve can be opened, it avoids an unwanted circulation and can be put out of operation to flush and fill the installation. The insulation avoids that heat energy gets lost.

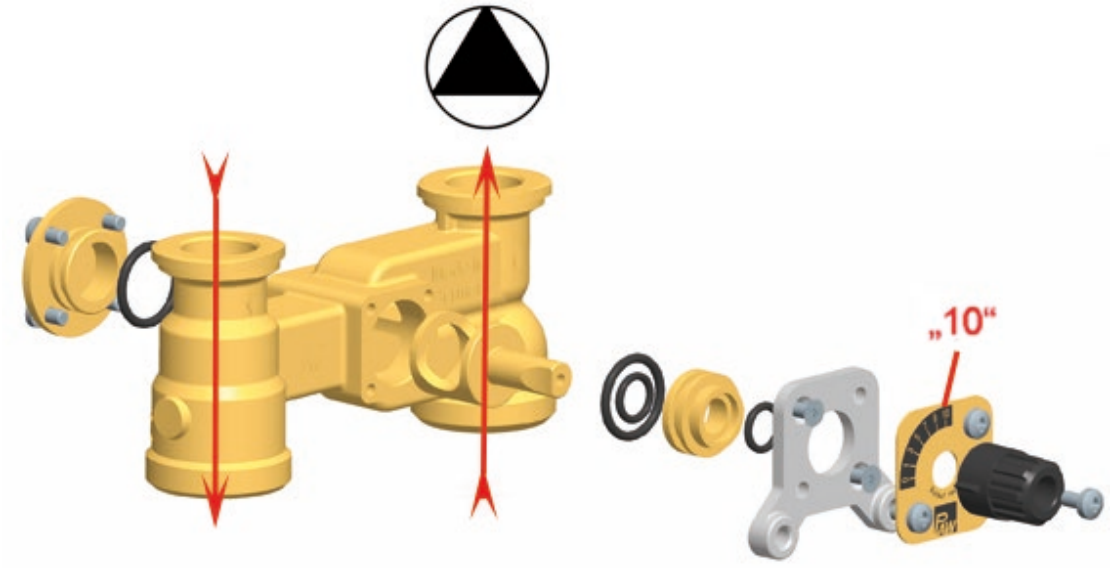


Application ranges:

- Installations with several HeatBloC®s and different flow temperatures (radiators and radiant floor heating)
- Installations with high fluctuations of the flow temperature due to the heat generator (solid fuel boilers, installations with power-heat cogeneration)

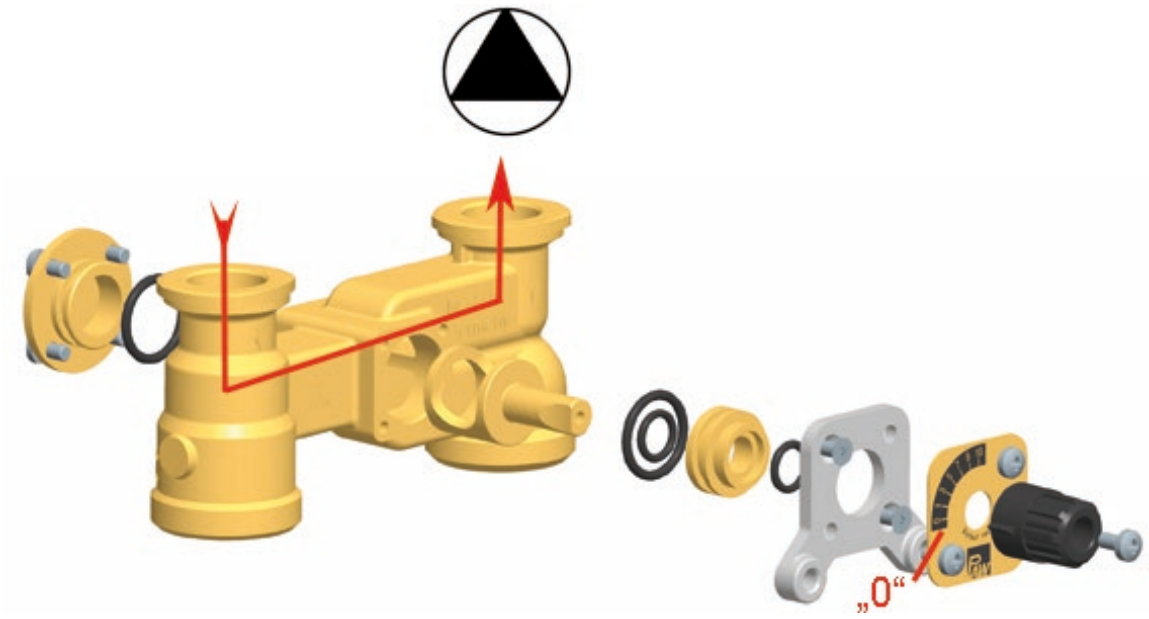
3.2.1 3-way mixing valve [specialist]

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.



Position 10: passage, no mixing

Flow temperature consumer = Flow temperature heat generator



Position 0: 100 % mixing

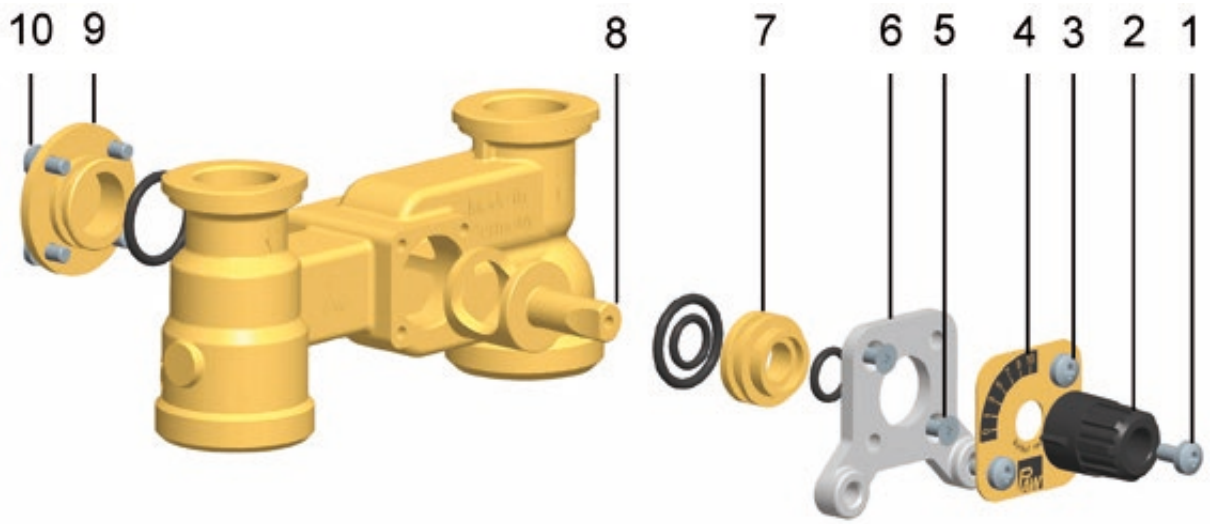
Flow temperature consumer = Return temperature consumer

Change of the flow line [specialist]

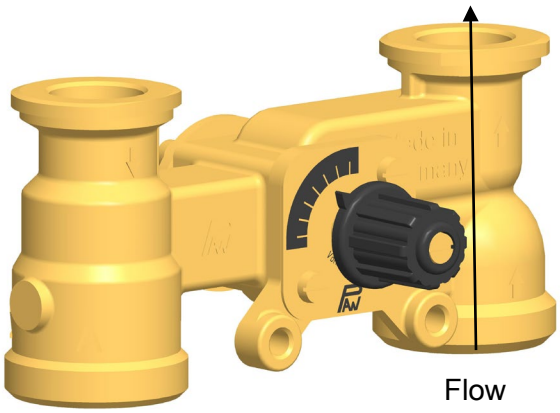
Dismounting the mixing valve

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

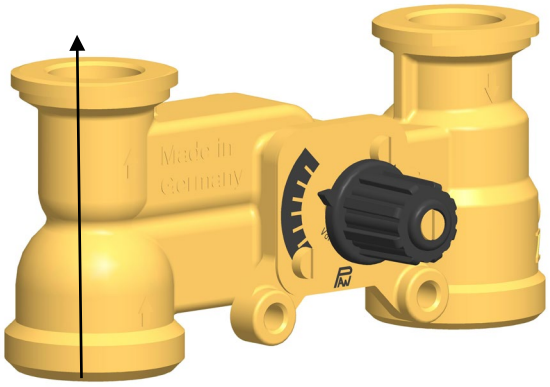
Conversion of the mixing valve



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) and the valve cock (8) from the mixing valve housing.
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) and the valve cock (8) into the channel of the mixing valve.
11. Fix the front cover (6) by using 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 marking PAW is at the bottom and that the scale is positioned as shown on 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 (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.

3.2.2 Pump [specialist]

The pump can be completely isolated. It can be replaced and maintained without draining the HeatBloC®.

Isolation of the pump

1. Close the ball valves in the flow and the return (A-2, F-2).
2. Remove the actuator from the mixing valve.
3. Turn the rotary knob of the mixing valve such that the black nose is directed to "VL zu" (flow closed). The mixing valve is now closed and drop tight if the installation is unpressurised.

3.2.3 Check valve

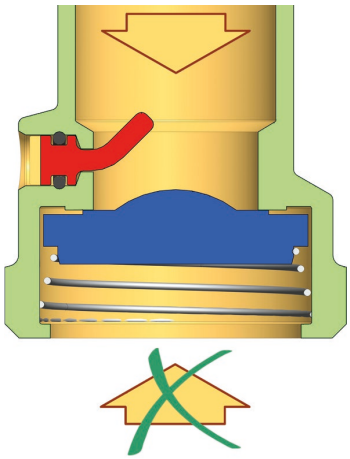
The HeatBloC® is equipped with a check valve (D-1) in the return pipe.
The check valve can be opened.

Operation

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

→ The check valve is closed.

→ Flow only in the direction of the arrow.

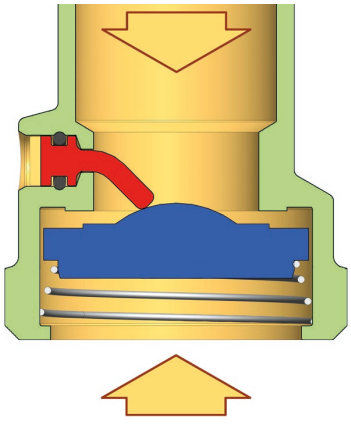


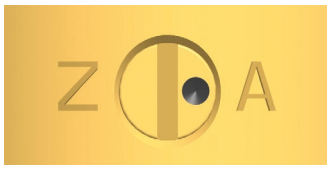
Filling, draining, venting

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

→ The check valve is open.

→ Flow in both directions.



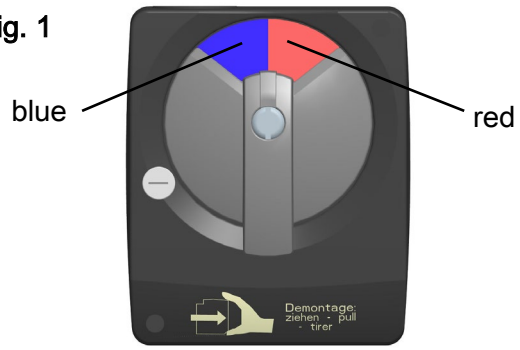


3.2.4 Accessories: Actuator (optional)

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

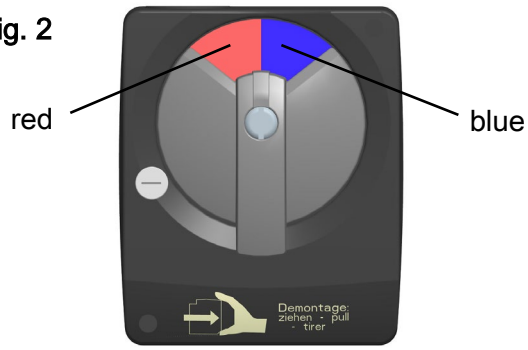
For mixing valves with flow on the left, the scale must be turned by 180°.

Fig. 1



for mixing valve with flow on the right

Fig. 2



for mixing valve with flow on the left

Fig. 3

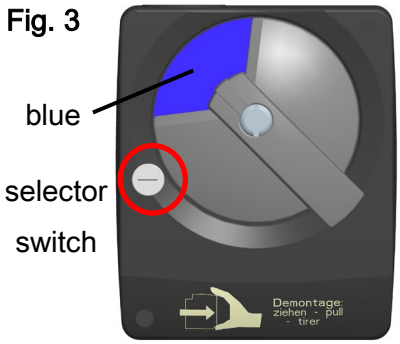


Fig. 4

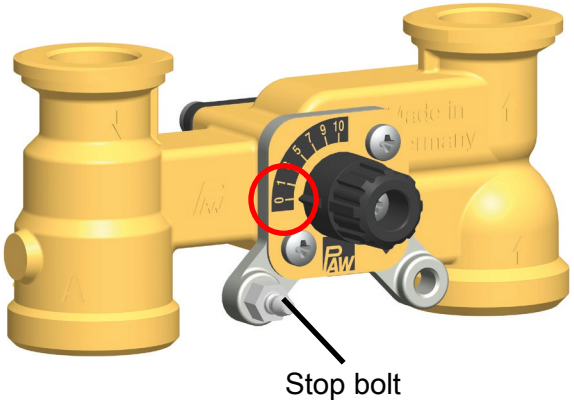
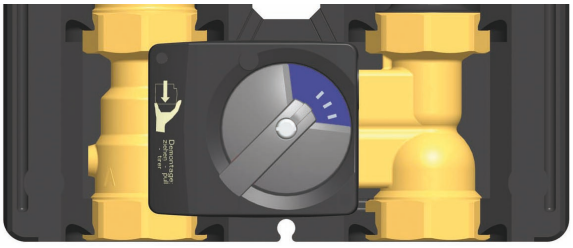


Fig. 5



Assembly of the actuator for mixing valves with 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. Turn the rotary knob of the mixing valve into position **0** (fig. 4).
2. Set the actuator to manual mode by turning the selector switch (fig. 3).
3. Turn the rotary knob of the actuator to the left to the position shown on the adjacent figure (fig. 3).
4. Mount the rotation lock / the stop bolt in the **left** opening of the metal plate (fig. 4). The actuator is fixed on a stop bolt.
5. Put the PAW actuator on the rotary knob of the mixing valve and mount the actuator on the stop bolt.

   The PAW actuator must be mounted in a horizontal position as shown in figure 5.
6. Set the actuator to automatic mode.

4 Assembly and installation [specialist]

The HeatBloC® K32 can be mounted on a PAW modular distribution manifold or on a wall bracket. The modular distribution manifold and the wall bracket are optional accessories and are thus not included in the scope of delivery.

NOTICE

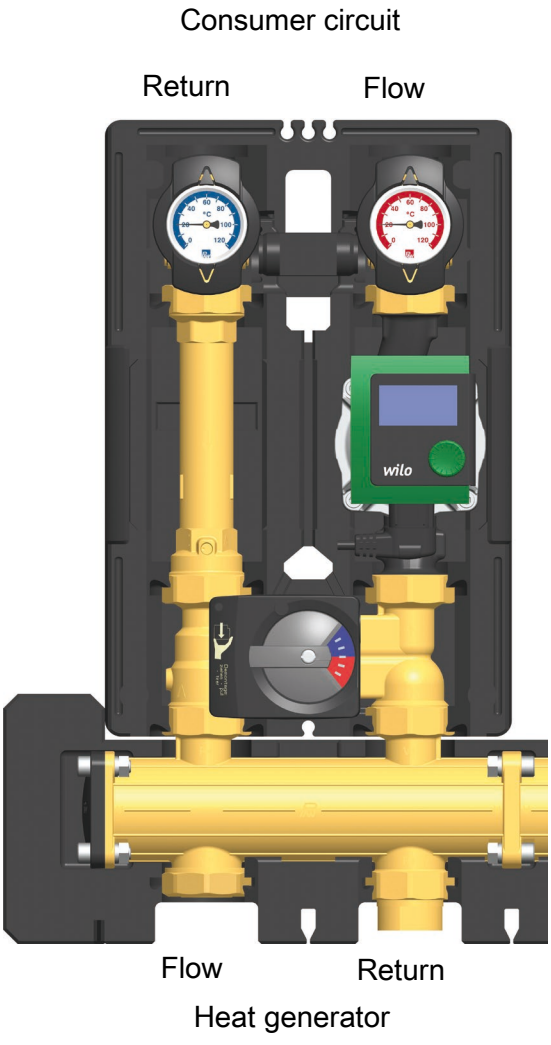
Damage to property!

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

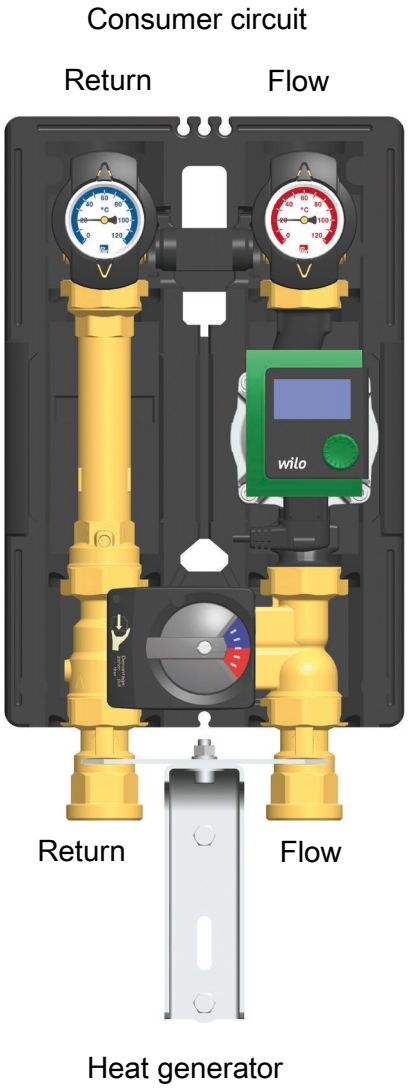
4.1 Installation and commissioning of the HeatBloC®

The HeatBloC® can be installed

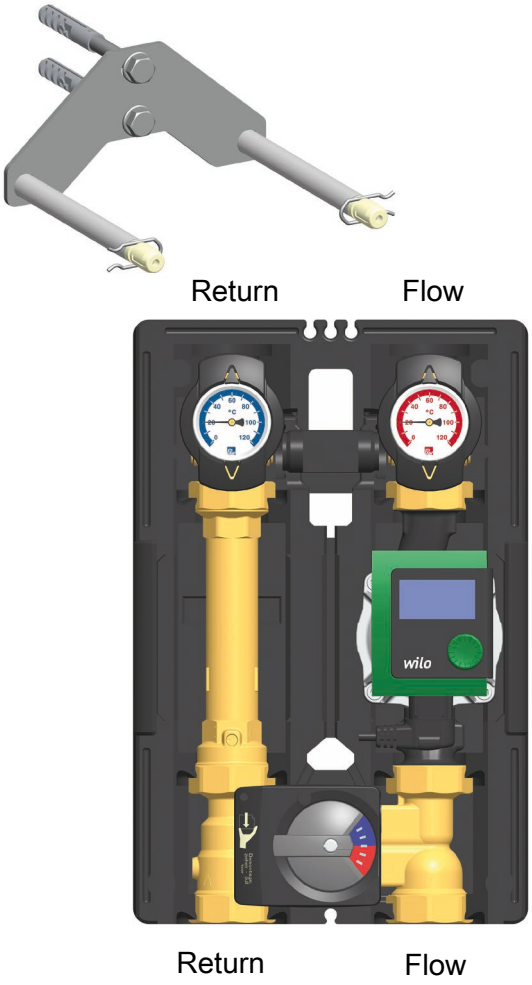
- **Option 1:**
  on a PAW modular distribution manifold.



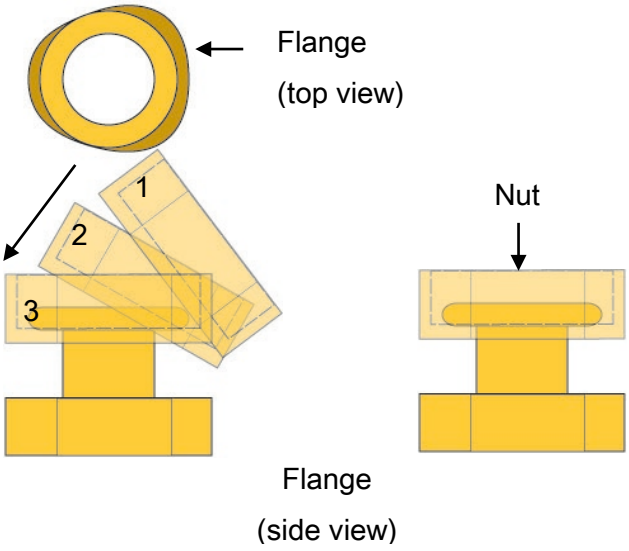
- **Option 2:**
  on a mounting plate with
  transition thread connections.



- **Option 3:**
  directly on a wall bracket



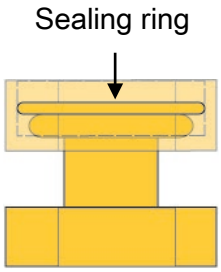
Please observe the separate and respectively corresponding instructions regarding the installation of the distribution manifold, of the mounting plate and of the wall bracket.



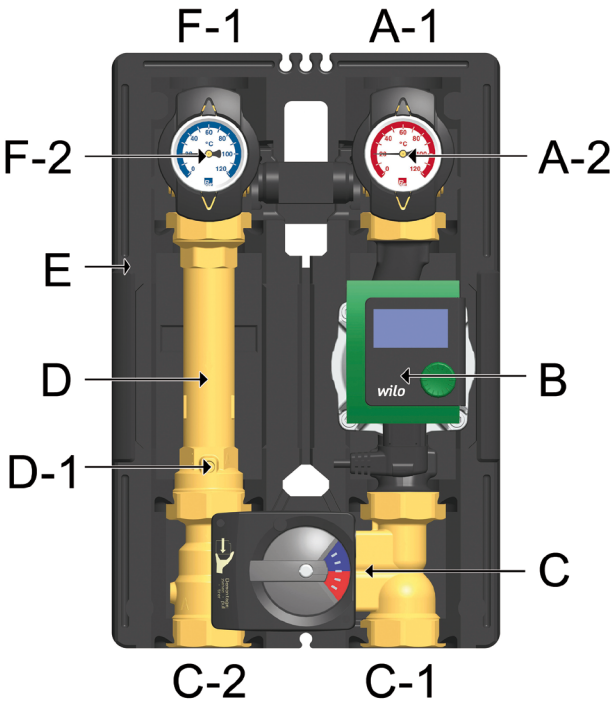
1. Take off the thermometer handles (A-2, F-2) and remove the insulating front shell of the HeatBloC®.
2. Unscrew the nuts on the lower connections of the HeatBloC® and take out the sealing rings.

If PAW modular distribution manifold or transition connection is used:

3. Put the two nuts over the flanges.



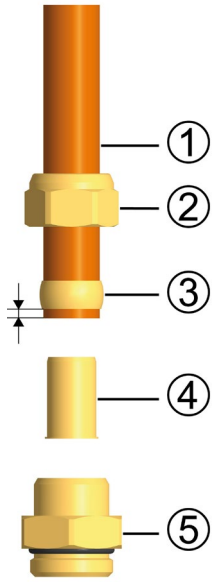
4. Insert the sealing rings into the nuts.
5. Put the HeatBloC® onto the two nuts.
6. Tighten the nuts. Make sure that the nuts do not get jammed and that the sealing rings do not slip.



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).

4.2 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 housing 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 housing of the compression fitting ⑤ against distort, in order to avoid damaging the sealing ring.

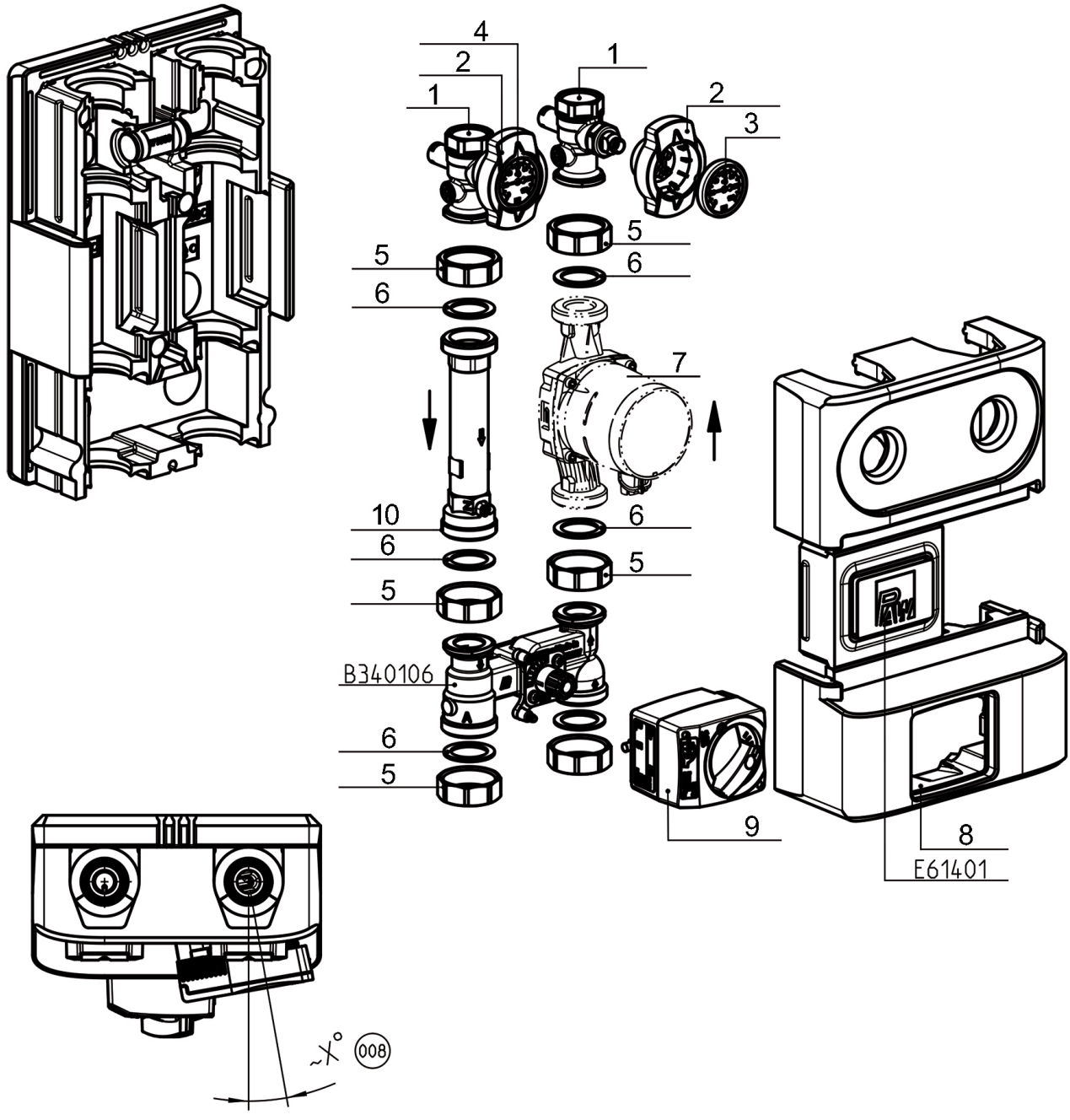
5 Scope of delivery [specialist]

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.

5.1 Spare parts DN 25

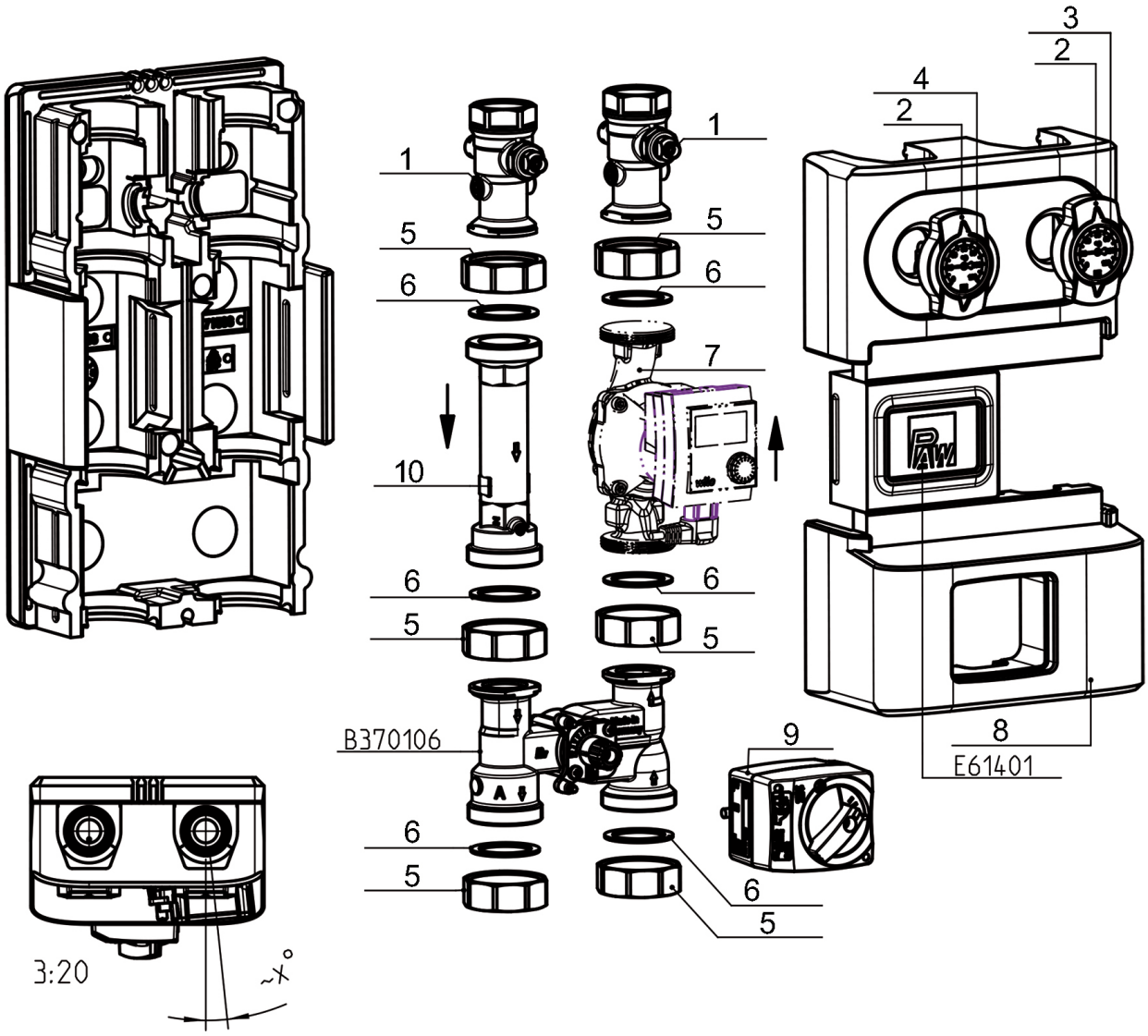


Position	Spare part	Item number
1	Thermometer ball valve DN 25, F1" x 1" int. thread	N00244
2	Thermometer handle for ball valve 1"	N00248
3	Dial thermometer, red scale, d=50 mm, 0-120 °C	N00242
4	Dial thermometer, blue scale, d=50 mm, 0-120 °C	N00243
5	Union nut G 1½"	2155
6	Gasket 1", for threaded connection 1½"	N00131
7	Pump see following table	
8	Insulation for HeatBloC® DN 25	N00016
9	Actuator 5 Nm, 230 V, 50 Hz	705001
10	Brass pipe DN 25, 2x 1½" ext. thread, 180 mm, with check valve	N00018
	Sealing set for mixing valve	37013

Item number heating circuit*	Pump	Item no.	EEI
36053(M)WP6	Wilo Para SC 25/6-43	N00259	< 0.20
36053(M)WP8	Wilo Para SC 25/8-60/O	N00271	< 0.20
36053(M)WH6	Wilo-Stratos PICO 25/1-6	E1239625	< 0.20
36053(M)GL9	Grundfos UPML 25-95 Auto	E121394	< 0.23
36053(M)GM6	Grundfos UPM3 Auto L 25-70 PP3	N00237	< 0.20
36053(M)GH6	Grundfos Alpha2.1 25-60	N00236	< 0.17

*Heating circuits with an actuator additionally contain a M in the item number, f. ex. 36053**M**WH6 (without actuator = 36053WH6)

5.2 Spare parts DN 32



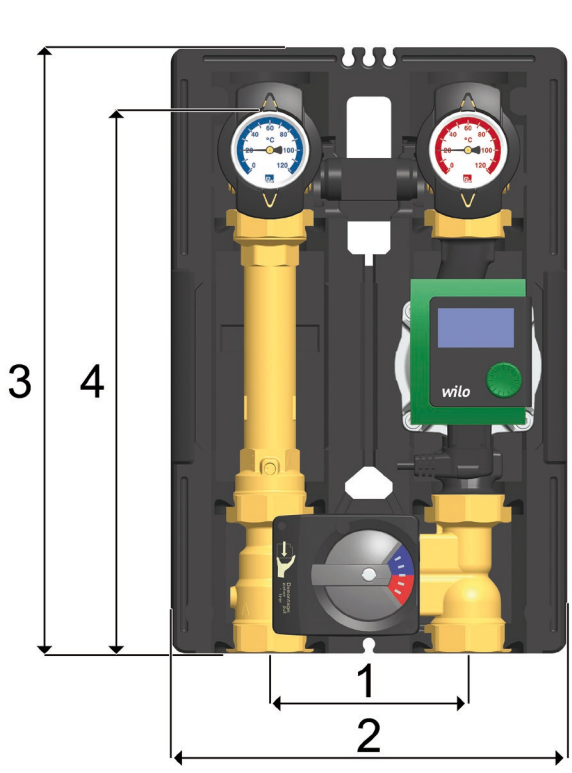
Position	Spare part	Item number
1	Thermometer ball valve DN 32, F1¼" x 1¼" int. thread	N00245
2	Thermometer handle for ball valve 1"	N00248
3	Dial thermometer, red scale, d=50 mm, 0-120 °C	N00242
4	Dial thermometer, blue scale, d=50 mm, 0-120 °C	N00243
5	Union nut G 2"	2156
6	Gasket 1¼", for threaded connection 2"	N00133
7	Pump see following table	
8	Insulation for HeatBloC® DN 32	N00027
9	Actuator 5 Nm, 230 V, 50 Hz	705001
10	Brass pipe DN 32, 2x 2" ext. thread, 180 mm, with check valve	N00139
	Sealing set for mixing valve	41013

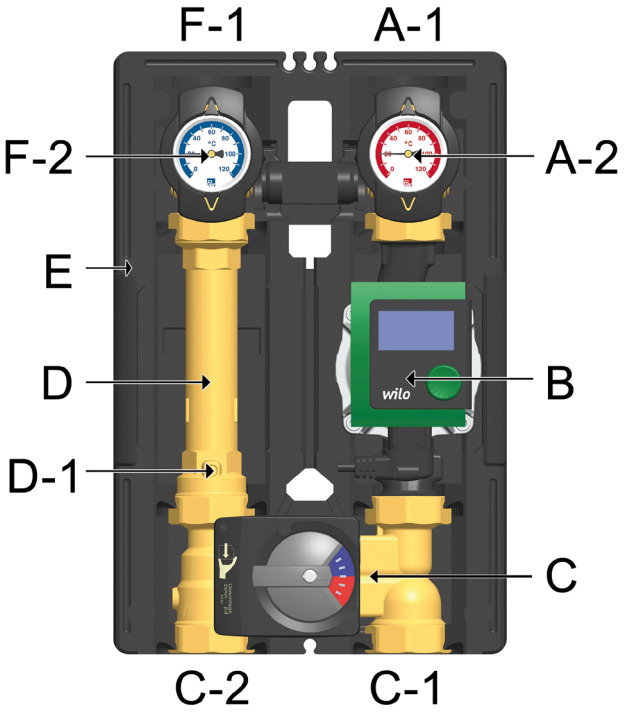
Item number heating circuit*	Pump	Item no.	EEI
39053(M)WP6	Wilo Para SC 30/6-43	N00261	< 0.20
39053(M)WH6	Wilo-Stratos PICO 30/1-6	E1239630	< 0.20
39053(M)WY10	Wilo-Yonos PARA HF 30/0.5-10	E12361510	< 0.23
39053(M)GM6	Grundfos UPM3 Auto L 32-70 PP3	N00240	< 0.20
39053(M)GH6	Grundfos Alpha2.1 32-60	N00239	< 0.17
39053(M)GL9	Grundfos UPML 32-95 Auto	E121704	< 0.23

*Heating circuits with an actuator additionally contain a M in the item number, f. ex. 39053MWH6 (without actuator = 39053WH6)

6 Technical data

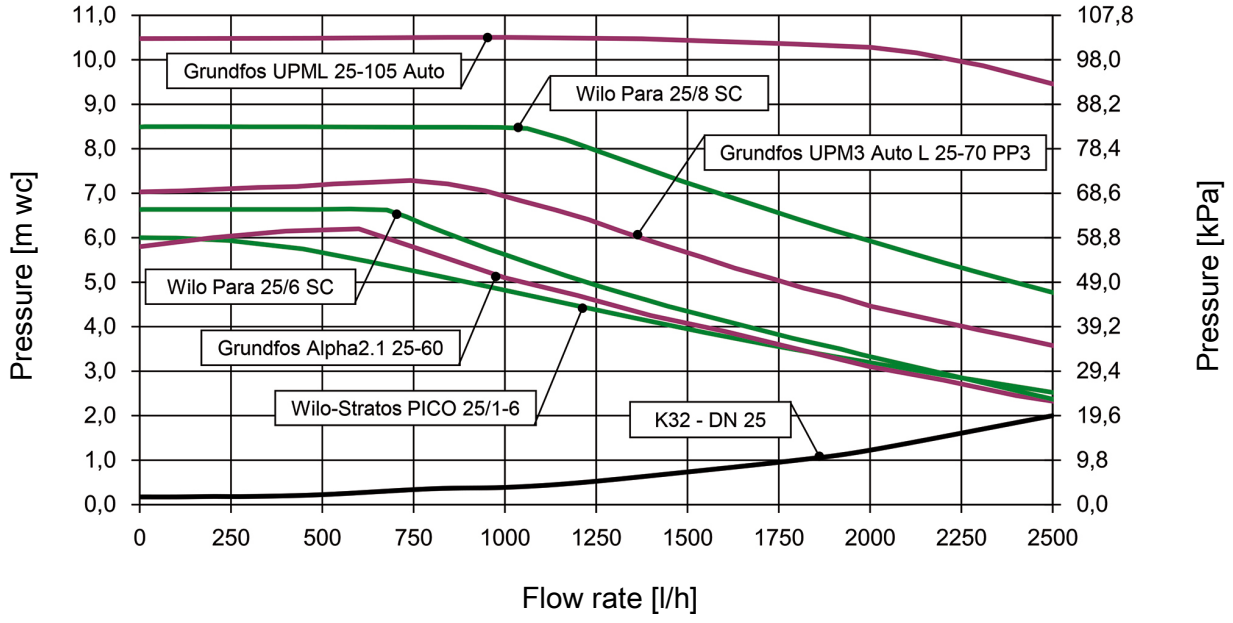
K32	DN 25 (1")	DN 32 (1¼")
Dimensions		
Centre distance (1)	125 mm	125 mm
Width insulation (2)	250 mm	250 mm
Height insulation (3)	383 mm	441 mm
Installation length (4)	340 mm	400 mm
Connections		
Outlet (A-1, F-1)	1" internal thread	1¼" internal thread
Inlet (C-1, C-2)	1½" external thread	2" external thread
Technical data		
Opening pressure check valve (D-1)	200 mm wc, can be opened	
Materials		
Valves and fittings	Brass	
Gaskets	EPDM	
Insulation	EPP	



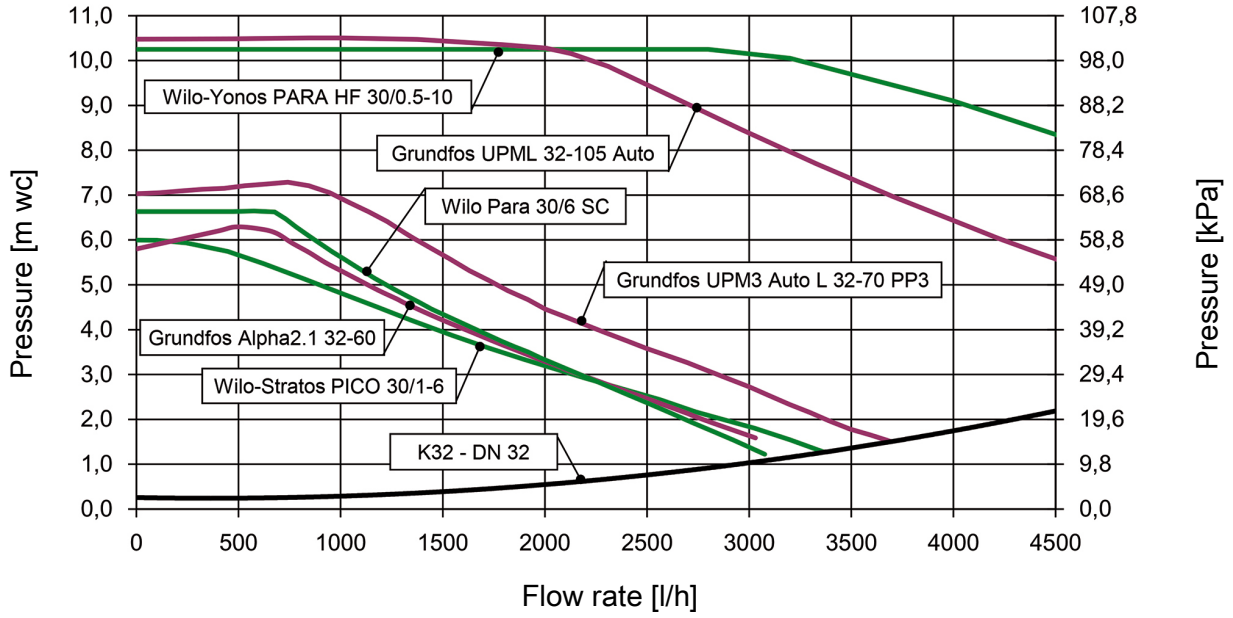


K32	DN 25 (1")	DN 32 (1¼")
Hydraulics		
Maximum pressure	6 bars	6 bars
Maximum temperature	110 °C	110 °C
K_{VS} value [m³/h]	5.7	9.6

6.1 Pressure drop and pump characteristic curves DN 25



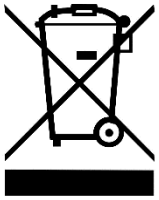
6.2 Pressure drop and pump characteristic curves DN 32



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.

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