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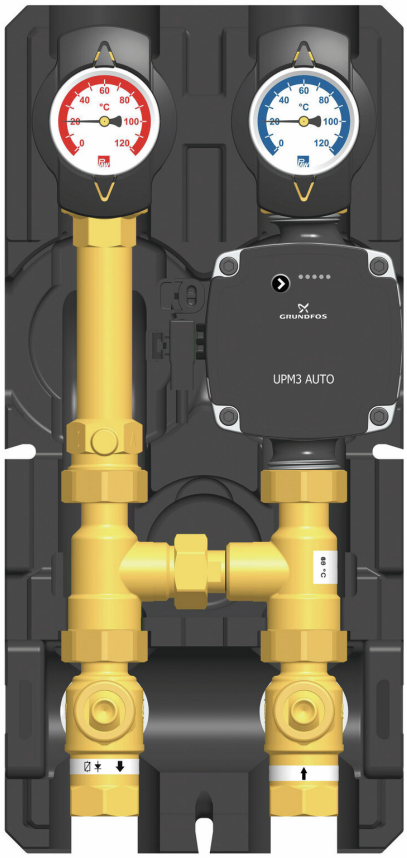
English

Installation and Operation Instructions
HeatBloC® K36 - DN 20
Boiler charging set



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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 HeatBloC® K36.

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.

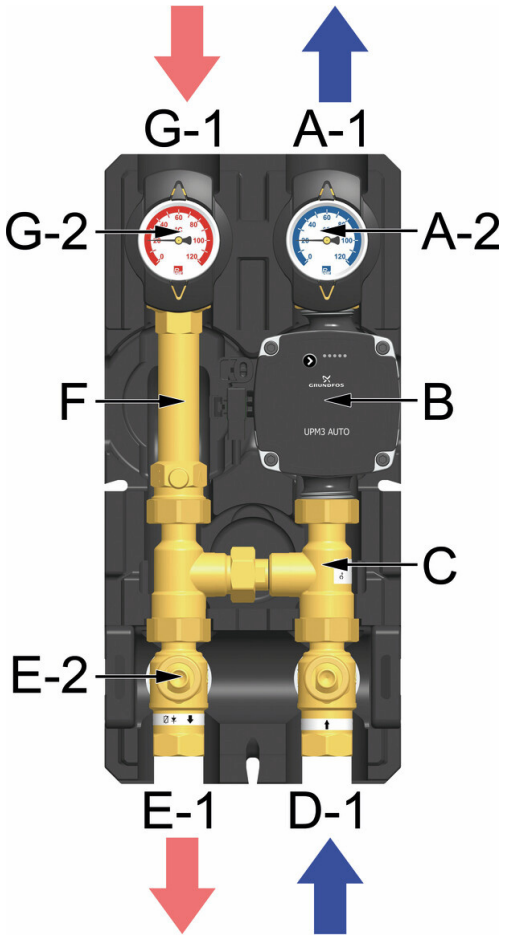
► Use a silicone- or polyalkylene-based lubricant free of mineral oil such as Unisilikon L250L and Syntheso Glep 1 from Klüber or a silicone spray.

3 Product description

The HeatBloC® K36 (boiler charging set) is a preassembled fitting group for boiler circuits. The pump can be isolated by means of the ball valves and maintenance work on the pump can thus be carried out without draining the boiler circuit.

The PAW HeatBloC® is mounted directly to the wall with the enclosed wall bracket.

3.1 Equipment



A-1 Return to the heat generator

A-2 Full metal thermometer integrated in the ball valve (return, blue)

B Heating pump

C Thermal control valve

D-1 Return from the buffer tank

E-1 Flow to the buffer tank

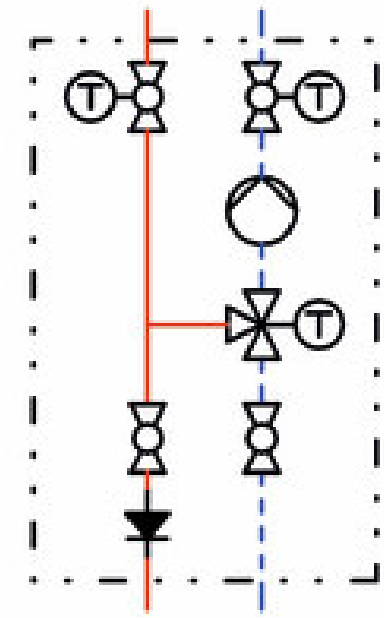
E-2 Ball valve with check valve

F Flow pipe

G-1 Flow from the heat generator

G-2 Full metal thermometer integrated in the ball valve (flow, red)

3.2 Function

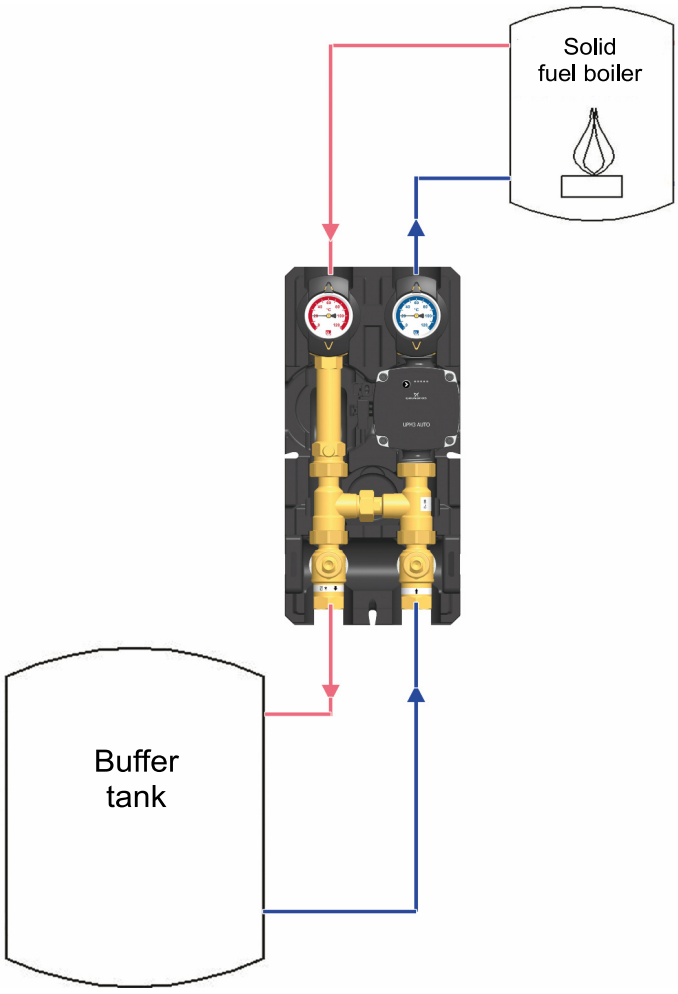


Boiler charging set for the return flow temperature maintenance of solid fuel boilers, wood firing and stove heating systems

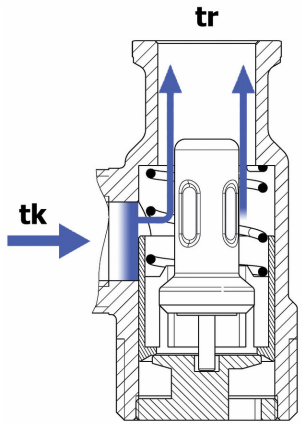
The boiler charging set prevents the temperature in the boiler from falling under the dew point, thus reducing the contamination of the boiler.

Application ranges:

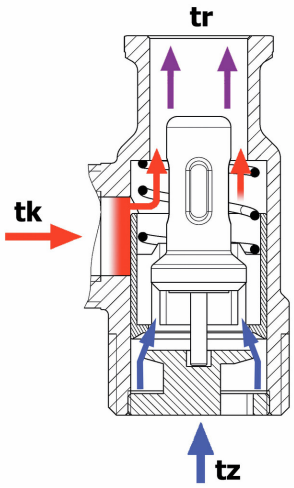
- The boiler charging set is connected to a buffer tank. If the opening temperature of 45 °C or 60 °C is reached in the boiler circuit, the performance of the boiler can be used to charge the tank.



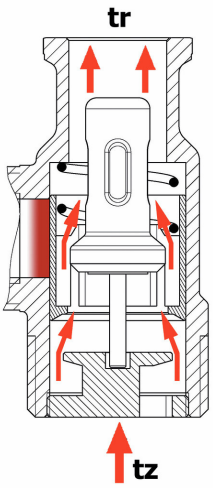
3.3 Thermal control valve



The thermal valve shuts off the connection to the tank, as long as the water in the boiler circuit [tk] is colder than the opening temperature of the thermal control valve. The pump in the boiler charging set K36 circulates the water in the boiler circuit through the automatic bypass which is completely open.



When the water in the boiler circuit [tk] has obtained the opening temperature (+/- 3 K) of the thermal control valve, the valve opens the connection from/to the tank. The bypass shuts off to the same extent as the connection to the tank is opened. The control valve opens the return line from the tank and thus enables the water to circulate in the tank circuit. The cold water from the tank return line is mixed in the control valve with the hot water from the bypass. Depending on the temperature and the flow rate of the water from the return line the thermal control valve shuts off or opens the line to the tank. Thus, the return to the boiler [tr] always remains at a certain temperature level.

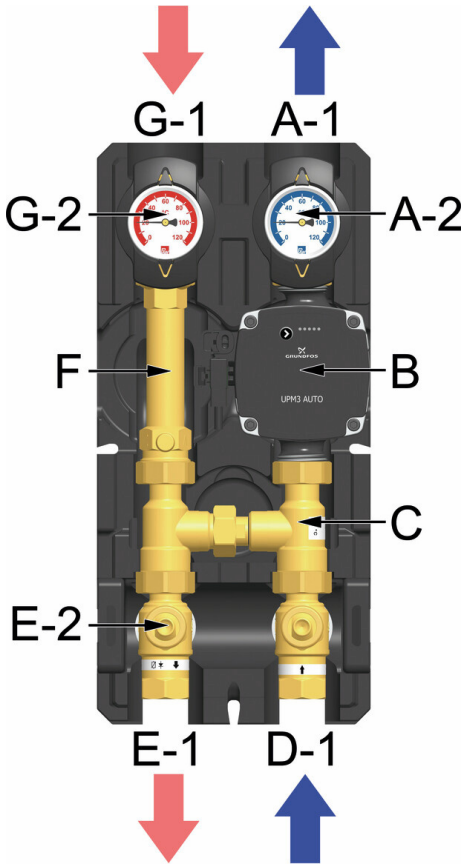


With rising temperature in the flow line of the boiler or with rising temperature from the return line of the tank [tz], the thermal control valve opens the connection to the tank. During operation, the temperature of the return of the boiler remains nearly constant (+/ -3 K).

Please note:

When the boiler output is controlled by the boiler temperature, the boiler must heat up 20 K above the opening temperature of the K36. Otherwise, there will not be enough power available (the boiler output may be reduced before the thermal control valve opens completely).

3.4 Change of the flow line [specialist]



1. Take off the thermometer handles (A-2, G-2) and remove the insulating front shells.
2. Take the group of fittings out of the insulating back shell.
3. Unscrew the union nuts of the thermal control valve (C).

Retrofitting and commissioning of the heating circuit

1. Interchange the flow line with the return line, the thermal control valve (C) and the pump (B).

   Consider the flow direction of the pump!

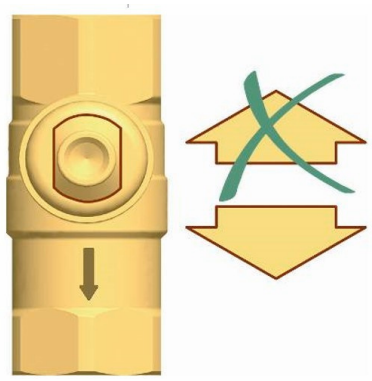
   Turn the pump head such that the terminal box is directed to the top or to the centre of the group of fittings.
2. Interchange the lower ball valves so that the ball valve with integrated check valve (E-2) is mounted in the flow line.
3. Mount the HeatBloC® and connect it to the installation.
4. Check 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, G-2).

3.5 Ball valve with check valve

The product is equipped with a ball valve with integrated check valve in the flow line.

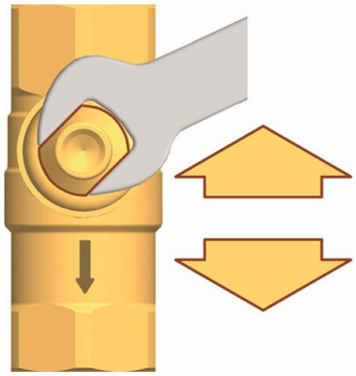
During operation, the check valve must be closed (position 0°). For filling, draining and venting the check valve must be opened manually. For this purpose, turn the ball valve into position 45°.

position 0°



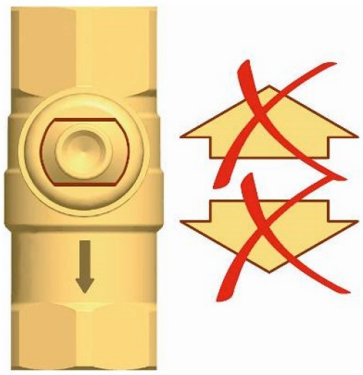
Check valve is operating,
flow only in flow direction.

position 45°



Check valve not operating,
flow in both directions.

position 90°



Ball valve closed,
no flow.

4 Mounting and installation [specialist]

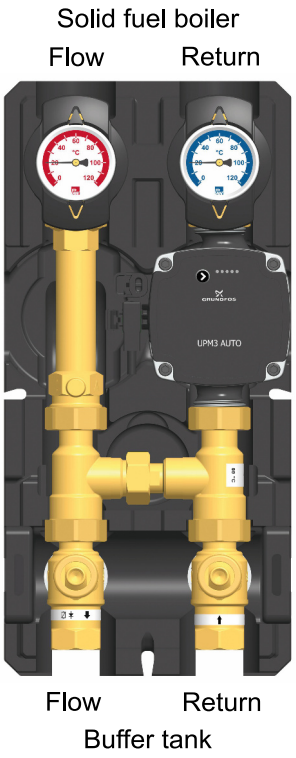
NOTICE

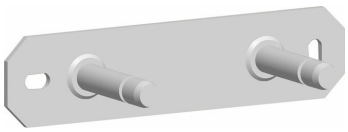
Damage to property!

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

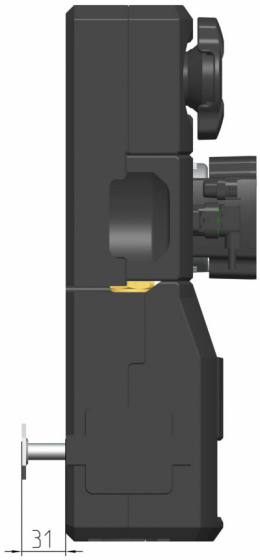
4.1 Installation and commissioning of the HeatBloC®

The PAW HeatBloC® is mounted to the wall with the enclosed wall bracket.

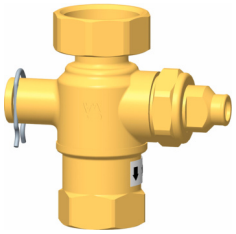




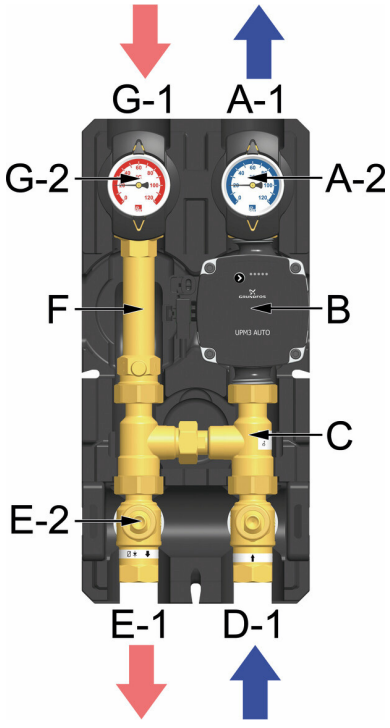
1. Fix the wall bracket to the wall by using appropriate screws and the washers.



2. Take off the thermometer handles (A-2, G-2) and take the group of fittings out of the insulation.
3. Push the insulating back shell onto the wall bracket.



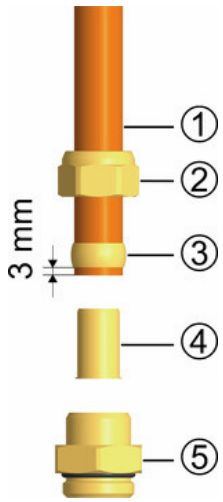
4. Insert the clip springs in the lower ball valves.



5. Push the group of fittings onto the wall bracket.
6. Connect the heating module to the installation by using the pipes. The installation to the piping must be carried out without any tension.
7. Connect the pump.
8. Carry out a pressure test and check all thread connections.
9. Mount the insulating front shells and the thermometer handles (A-2, G-2).

4.2 Accessories: Cutting-ring compression fitting (not included in the scope of delivery)

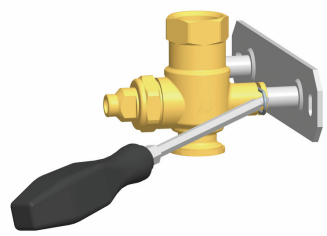
The connection to the heating installation can be carried out fast, pressure-proof and without soldering if you use the optionally available compression fittings.



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 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.

4.3 Deinstallation



To remove the boiler charging set from the mounting plate, push the clips to the side by using a screwdriver.

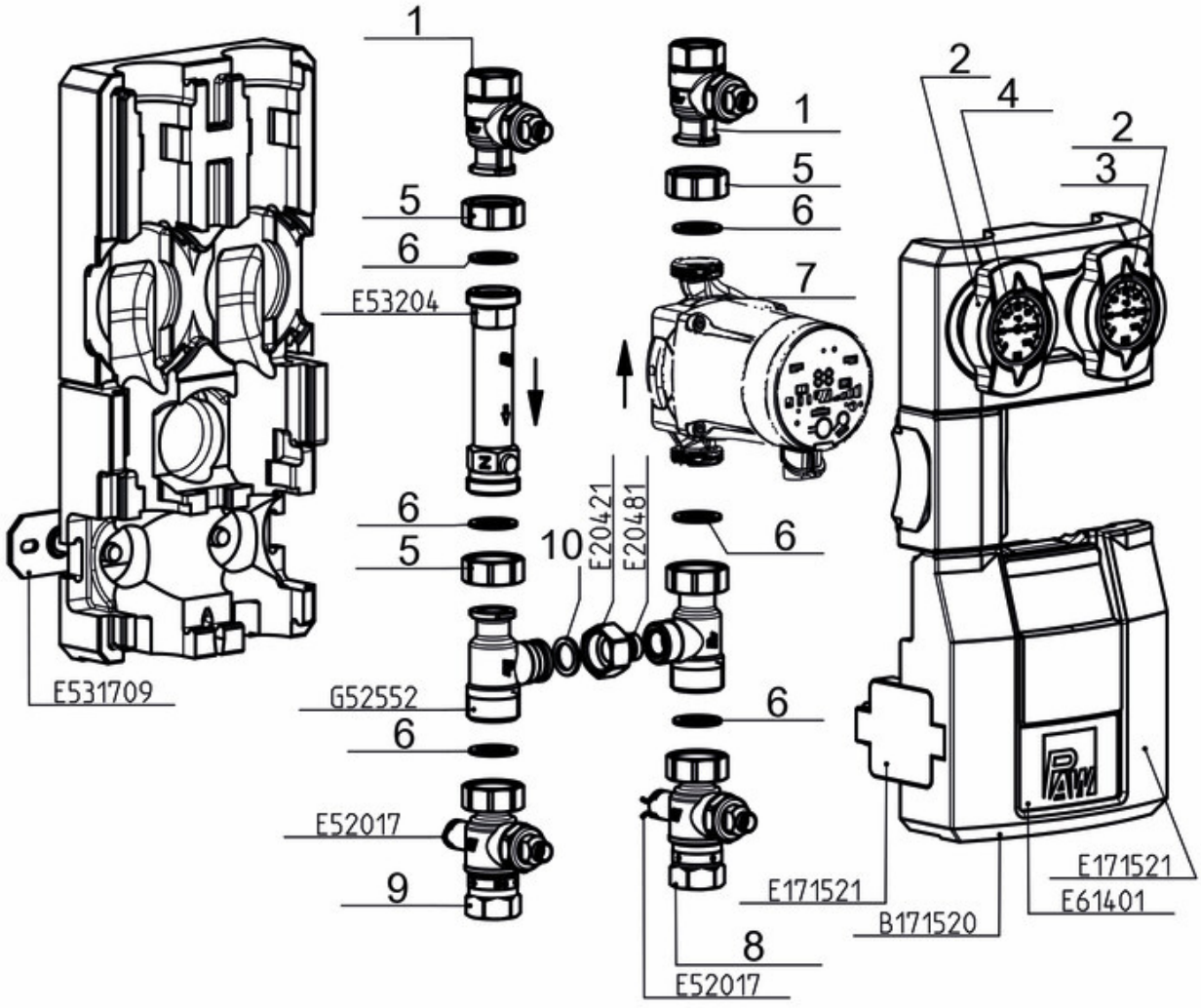
The boiler charging set can then be pulled forwards (consider the tubing!).

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.

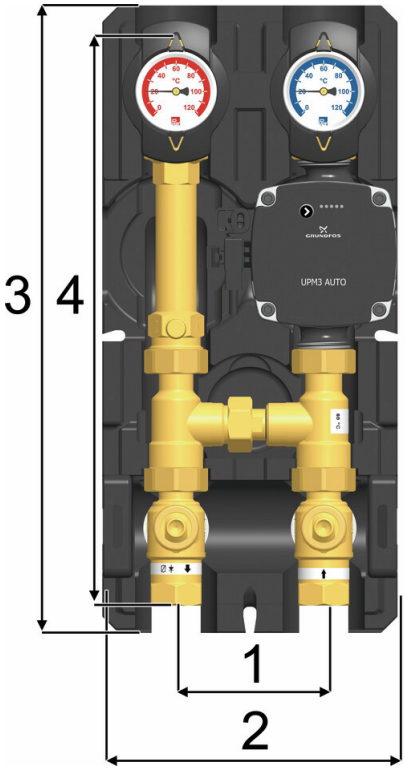
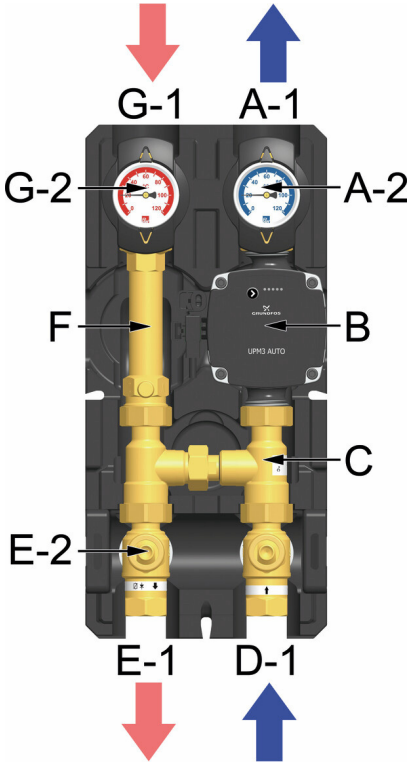


Position	Spare part	Item number
1	Thermometer ball valve DN 20, F ½" x ¾" int. thread	N00202
2	Thermometer handle for thermometer ball valve 1"	N00248
3	Dial thermometer, red scale, d = 50 mm, 0-120 °C	N00242
4	Dial thermometer, blue scale, d = 50 mm, 0-120 °C	N00243
5	Union nut G 1"	2055
6	Sealing kit 30.0 x 21.0 x 2.0, ½", for thread connection 1", 10 pieces	N00129
7	Pump see following table	
8	Thermometer ball valve DN 20, flange ¾" x ¾" int. thread	N00579
9	Thermometer ball valve DN 20, flange ¾" x ¾" int. thread	N00282
10	Sealing kit 24.0 x 17.0 x 2.0, ¼", for thread connection ¾", 10 pieces	N00030
	Working element for thermal control valve, for opening temperature 50 °C	G3809
	Working element for thermal control valve, for opening temperature 60 °C	G3810

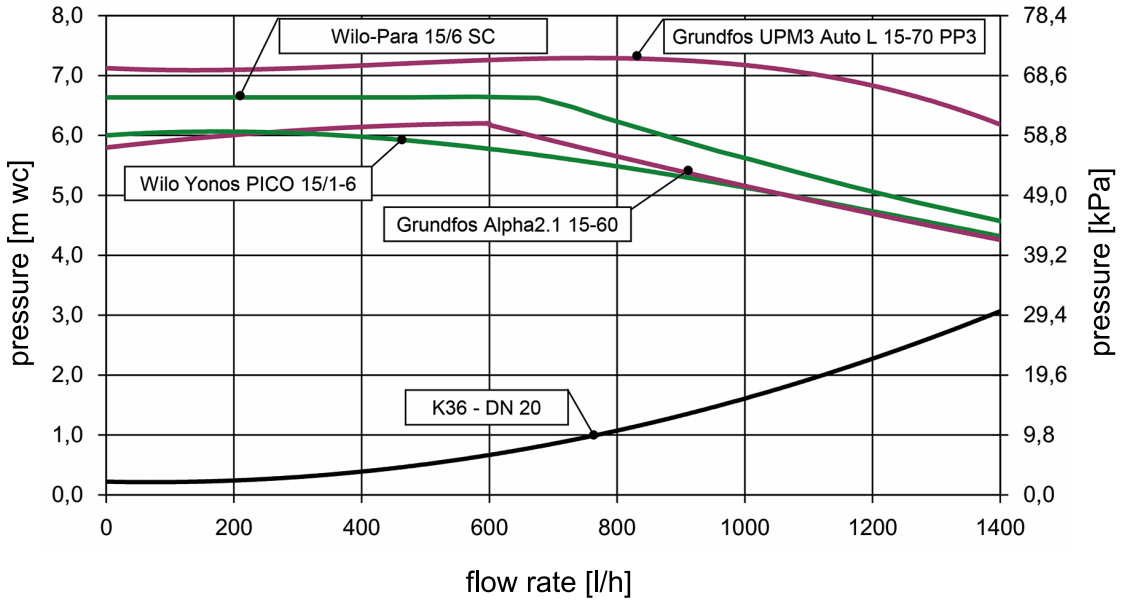
Item no. heating circuit*	Pump	Item no. pump	EEI
3203x3WP6	Wilo Para 15/6-43	N00258	< 0.20
3203x3WN06	Wilo Yonos PICO 15/1-6	N00315	< 0.20
3203x3GM6	Grundfos UPM3 Auto L 15-70 PP3	N00333	< 0.20
3203x3GH6	Grundfos Alpha2.1 15-60	N00336	< 0.17

*320353 for thermal valve 45 °C, 320373 for thermal valve 60 °C

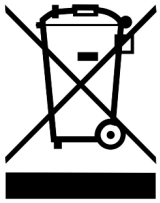
6 Technical data

HeatBloC® K36 DN 20 (¾")	
	
Dimensions	
Centre distance (1)	90 mm
Width insulation (2)	180 mm
Height insulation (3)	385 mm
Installation length (4)	347 mm
Connections	
Flow and return	¾" internal thread
Operating data	
Max. pressure	6 bar
Max. temperature	95 °C
K_{VS} value [m^3/h]	2.5
Opening pressure check valve (D-1)	200 mm wc, can be opened
Opening temperature	45 °C / 60 °C
Materials	
Valves and fittings	Brass
Gaskets	EPDM / NBR
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. 993203x3x-mub-en
Translation of the original instructions
We reserve the right to make technical changes without notice!
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