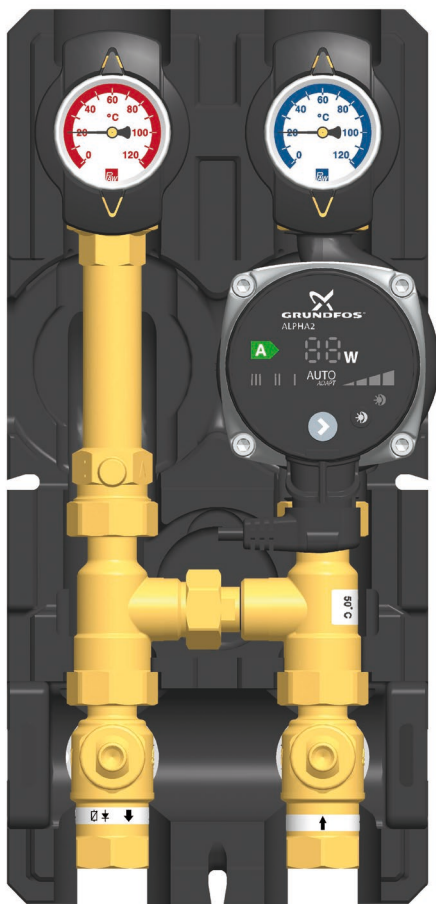




## Installation and Operation Instructions

### HeatBloC® K36 - DN 20

### Boiler Charging Set



## Contents

<b>1</b>	<b>General information .....</b>	<b>3</b>
1.1	Scope of these instructions.....	3
1.2	Designated use.....	3
<b>2</b>	<b>Safety instructions .....</b>	<b>4</b>
<b>3</b>	<b>Product description .....</b>	<b>5</b>
3.1	Equipment .....	5
3.2	Function .....	6
3.3	Thermal control valve .....	7
3.4	Ball valve with check valve .....	9
<b>4</b>	<b>Assembly and installation [specialist].....</b>	<b>10</b>
4.1	Installation of the HeatBloC® and commissioning .....	10
4.2	Accessories: compression fitting (not included in the scope of delivery) .....	12
<b>5</b>	<b>Deinstallation .....</b>	<b>12</b>
<b>6</b>	<b>Scope of delivery [specialist].....</b>	<b>13</b>
<b>7</b>	<b>Technical data.....</b>	<b>15</b>
7.1	Pressure drop and pump characteristics.....	16
<b>8</b>	<b>Disposal.....</b>	<b>17</b>

## 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 HeatBloC® K36. 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 prescriptions
- Accident prevention regulations of the professional association
- Instructions and safety instructions mentioned in this manual

	<div data-bbox="320 920 1418 1003" style="background-color: yellow; padding: 5px;">  <b>CAUTION</b> </div> <p><b>Personal injury and damage to property!</b></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 <b>not</b> be used in drinking water applications.</p>
---	--

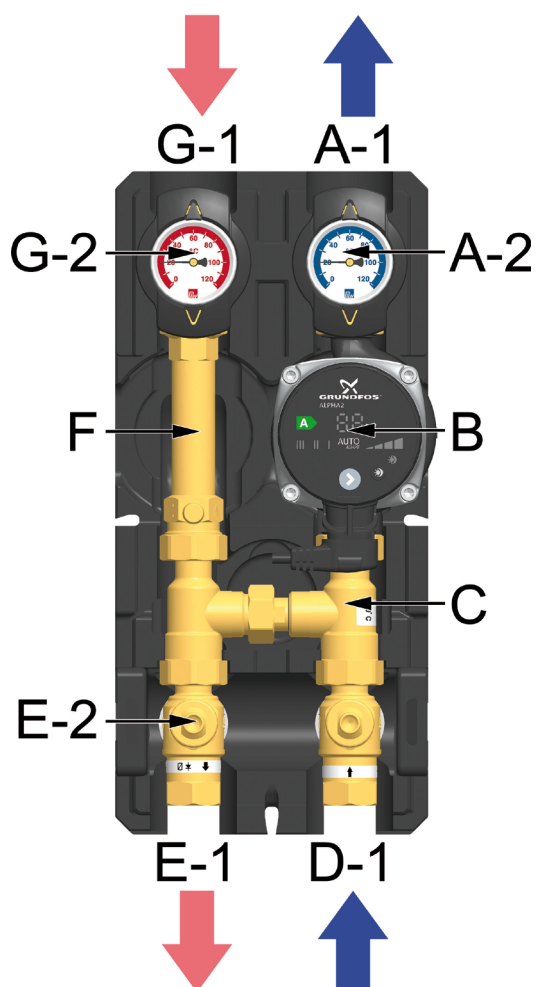
<b>NOTICE</b>
<p><b>Material damage due to mineral oils!</b></p> <p>Mineral oil products cause lasting damage to seals made of EPDM, whereby the sealant properties get lost. We do not assume liability nor provide warranty for damage to property resulting from sealants damaged in this way.</p> <ul style="list-style-type: none"> <li>➤ It is imperative to avoid that EPDM gets in contact with substances containing mineral oils.</li> <li>➤ 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.</li> </ul>

### 3 Product description

The HeatBloC® K36 is a preassembled group of fittings for heating circuits.

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

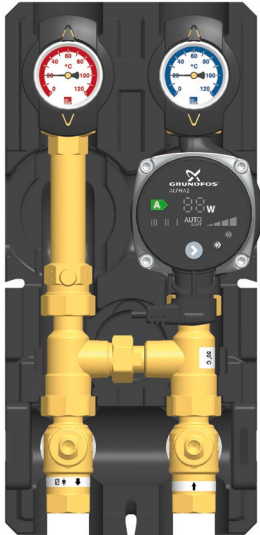
#### 3.1 Equipment



- A-1 Return to the boiler
- 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 tube
- G-2 Full metal thermometer integrated in the ball valve (flow, red)
- G-1 Flow from the boiler

### 3.2 Function

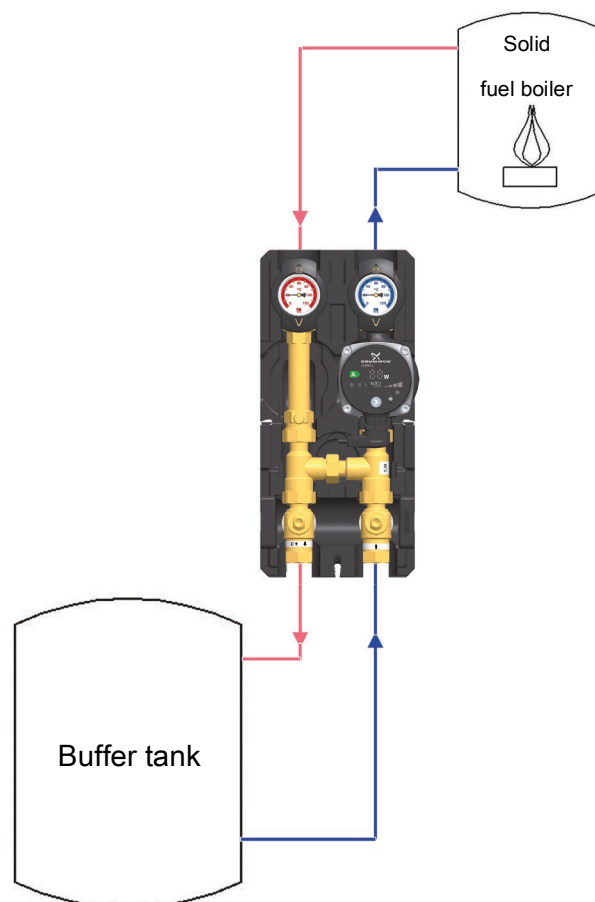
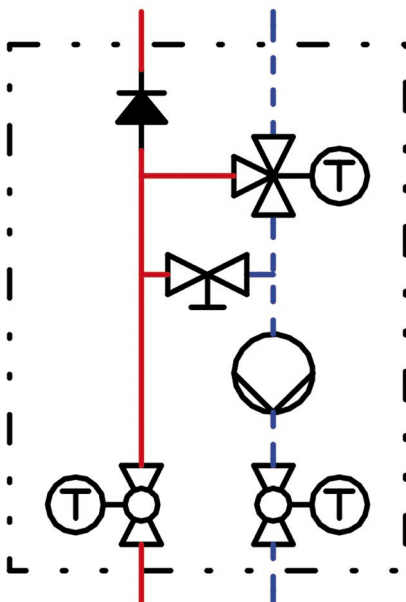
#### K36 boiler charging set for return flow temperature maintenance of solid fuel boilers, wood firing and stove heating systems



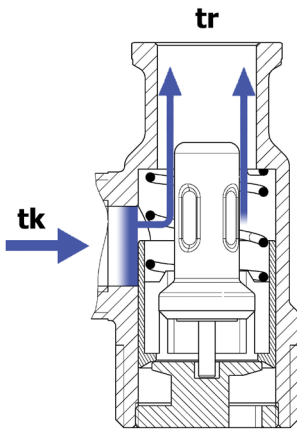
The boiler charging set prevents the temperature in the boiler from falling under the dew point, thus reducing the contamination of the boiler.

#### Application ranges:

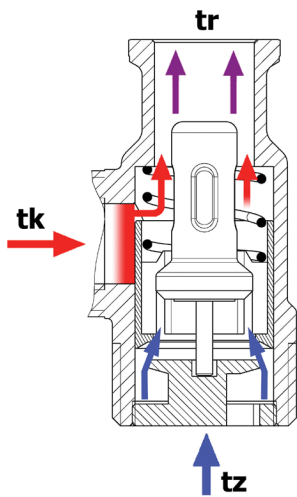
- The boiler charging set is connected to a buffer tank. When the opening temperature of 50 °C or 60 °C is reached in the boiler circuit, the pump can charge the buffer tank.



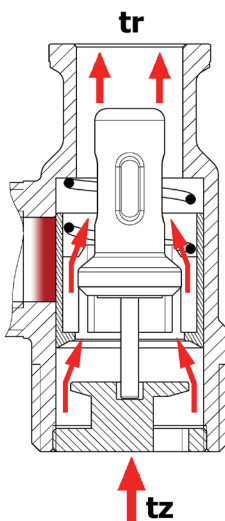
### 3.3 Thermal control valve



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 K36 circulates the water in the boiler circuit through the automatic bypass which is completely open.



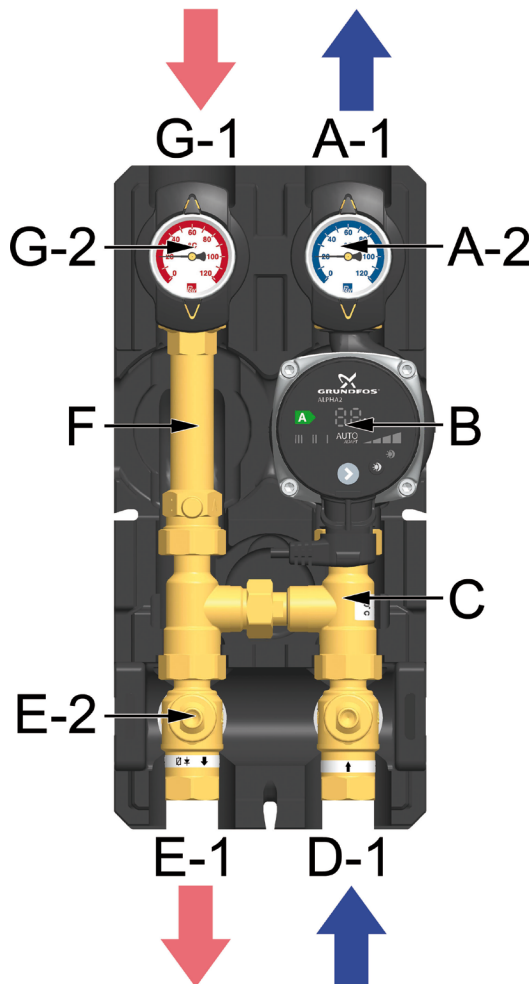
When the water in the boiler circuit [tk] has obtained the opening temperature (+/- 3 K) of the thermal control valve, the valve opens the connection from/to the tank. The bypass shuts off to the same extent as the connection to the tank is opened. The control valve opens the return line from the tank 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 line which leads 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. The temperature of the return line 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).



### 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 HeatBloC® out of the insulating back shell.
3. Unscrew the union nuts of the thermal control valve (C).

### Modification and commissioning of the HeatBloC®

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

### Consider the direction of flow!

Turn the pump head such that the terminal head is directed to the top or to the centre of the HeatBloC®.

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.

Mount the insulation after the pressure test.  
Mount the thermometer handles (A-2, G-2).

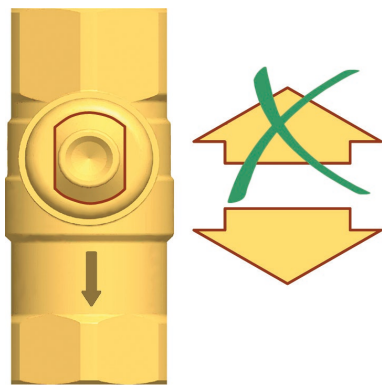


### 3.4 Ball valve with check valve

The HeatBloC® is equipped with a ball valve with integrated check valve (E-2) in the flow line.

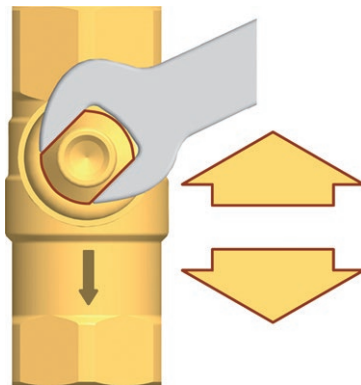
During operation, the check valve must be closed (position 0°).

For filling, draining and venting, the check valve must be opened manually. Therefore, turn the ball valve to the position 45°.



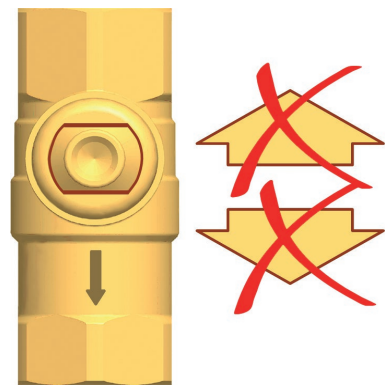
0°

Check valve is operating,  
flow only in flow direction.



45°

Check valve is not operating,  
flow in both directions.



90°

Ball valve closed,  
no flow.

## 4 Assembly and installation [specialist]

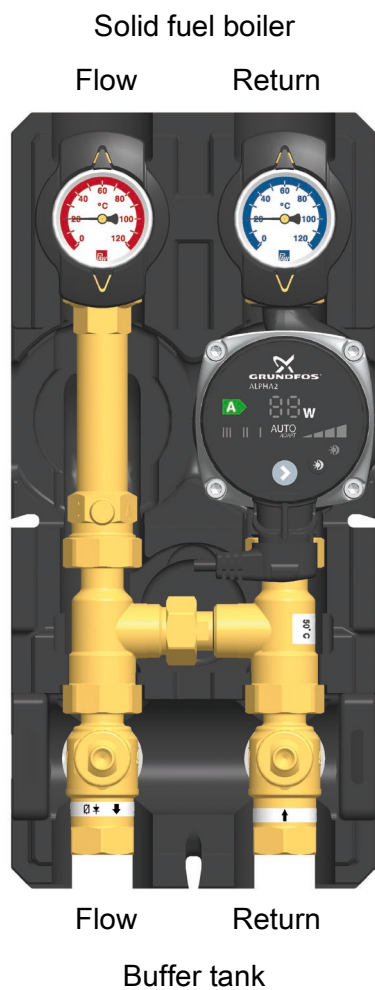
### NOTICE

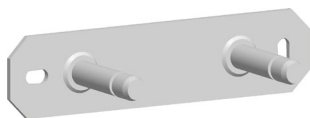
#### Damage to property!

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 HeatBloC® and commissioning

The HeatBloC® K36 is mounted directly to the wall with the enclosed wall bracket.

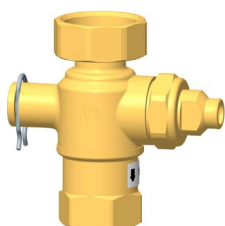




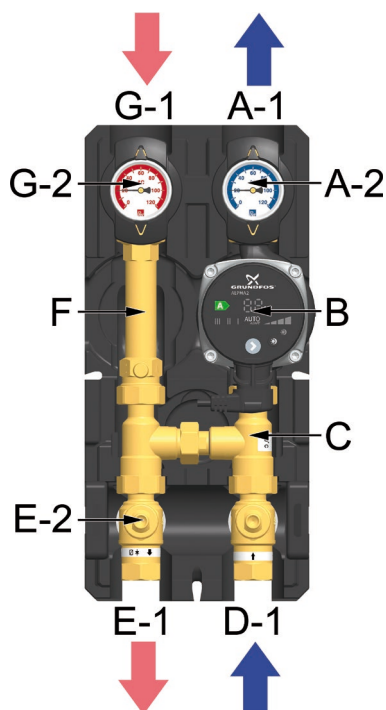
1. Fix the wall bracket to the wall with appropriate screws and washers.



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.



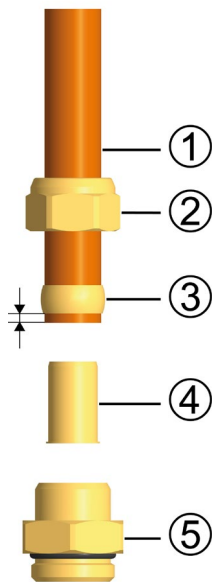
4. Insert the clip springs in the lower ball valves.



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

#### 4.2 Accessories: compression fitting (not included in the scope of delivery)

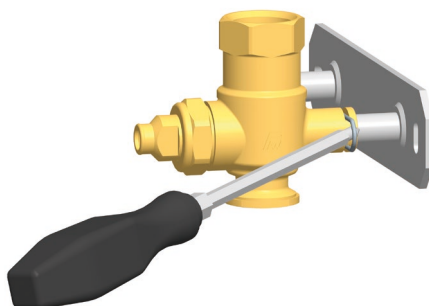
The connection to the heating installation can be carried out fast, pressure-proof and without soldering when you use the optionally available compression fittings.



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 plugged-on individual parts (②, ③ and ④) all the way 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 Deinstallation

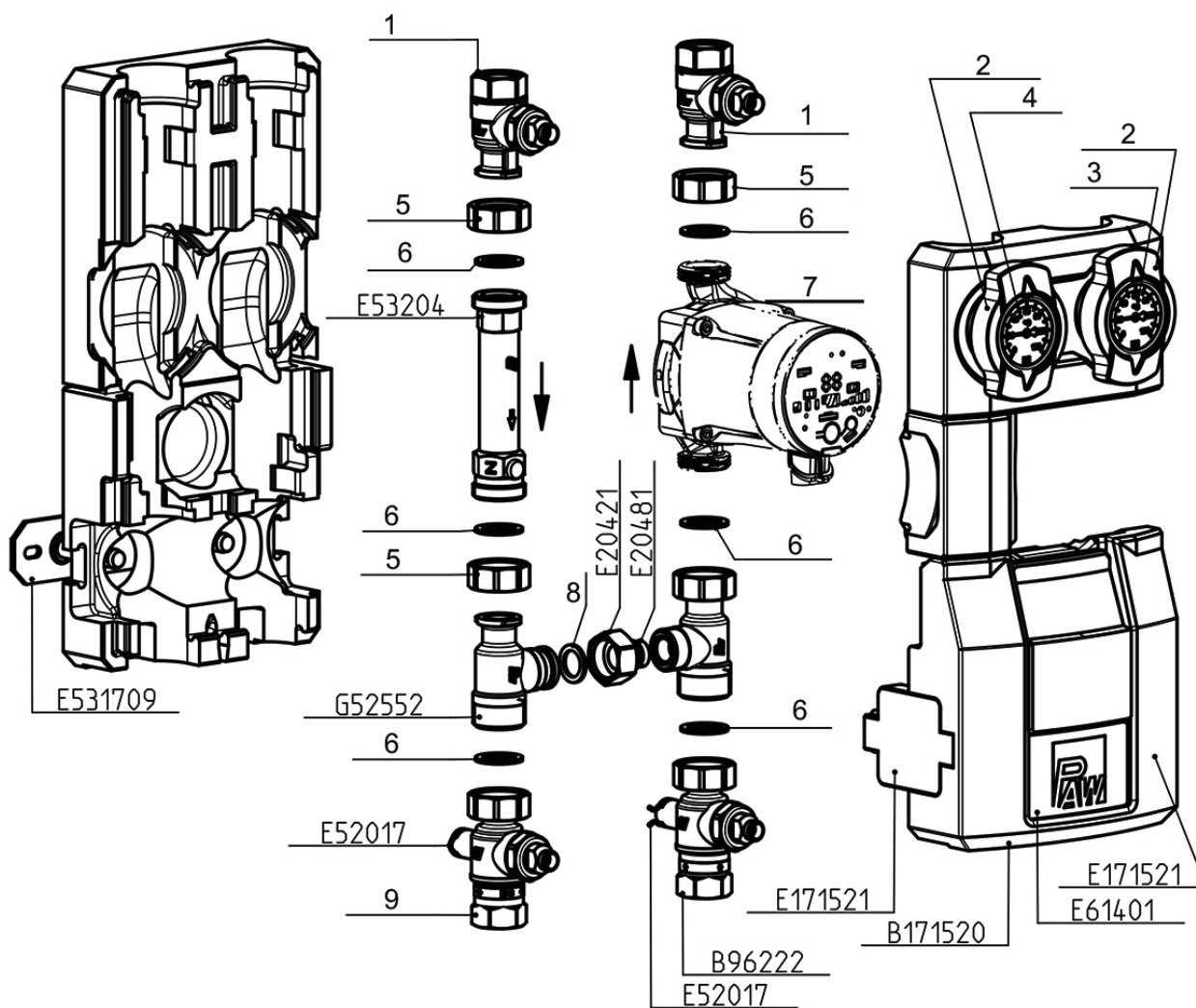


To remove the boiler charging set from the mounting plate, push the clips sideways with a screwdriver. The boiler charging set can then be pulled forwards (consider the tubing!).

## 6 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.

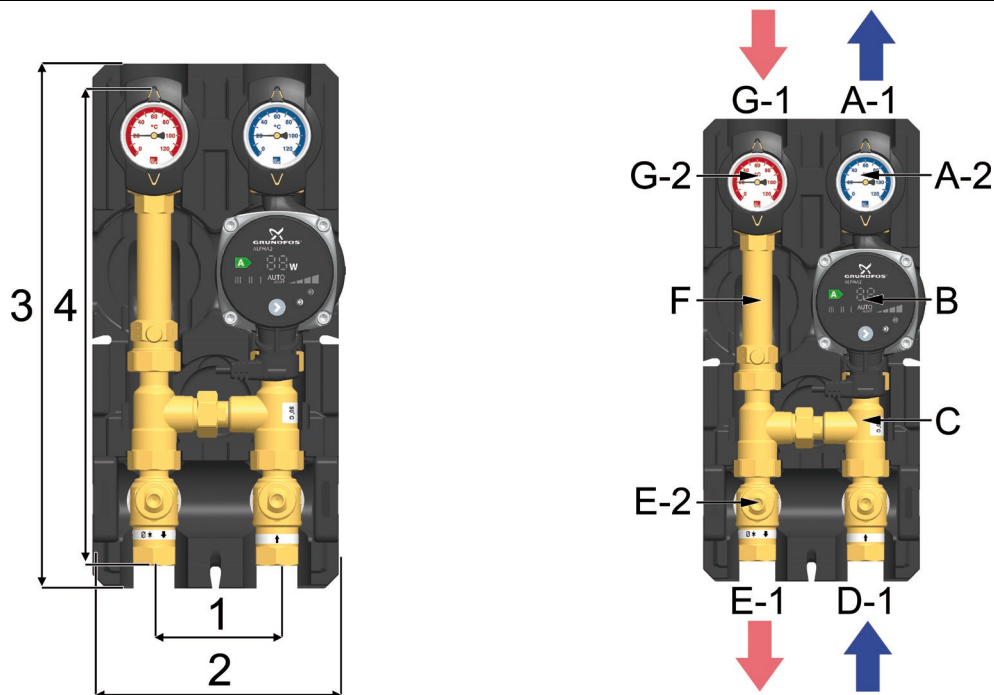


Position	Spare part	Item number
1	Thermometer ball valve DN 20, F ½" x ¾" int. thread	N00202
2	Thermometer handle for ball valve 1"	N00248
3	Dial thermometer, red scale, d=50 mm, 0-120 °C	N00242
4	Dial thermometer, blue scale, d=50 mm, 0-120 °C	N00243
5	Union nut G 1"	2055
6	Gasket ½", for threaded connection 1"	N00129
7	Pump see following table	
8	Gasket ¼", for threaded connection ¾"	N00030
9	Thermometer ball valve DN 20, F ¾" x ¾" int. thread	N00289
	Cartridge for thermal control valve, for opening temperature 50 °C	G3809
	Cartridge for thermal control valve, for opening temperature 60 °C	G3810

Item number heating circuit*	Pump	Opening temperature.	Item no.	EEI
320353WP6	Wilo Para SC 15/6-43	50 °C	N00258	< 0,20
320353WH6	Wilo-Stratos PICO 15/1-6	50 °C	E1239615	< 0,20
320353GM6	Grundfos UPM3 Auto L 15-70 PP3	50 °C	E1212360	< 0,20
320353GH6	Grundfos Alpha2.1 15-60	50 °C	E121221	< 0,17
320373WP6	Wilo Para SC 15/6-43	60 °C	N00258	< 0,20
320373WH6	Wilo-Stratos PICO 15/1-6	60 °C	E1239615	< 0,20
320373GM6	Grundfos UPM3 Auto L 15-70 PP3	60 °C	E1212360	< 0,20
320373GH6	Grundfos Alpha2.1 15-60	60 °C	E121221	< 0,17

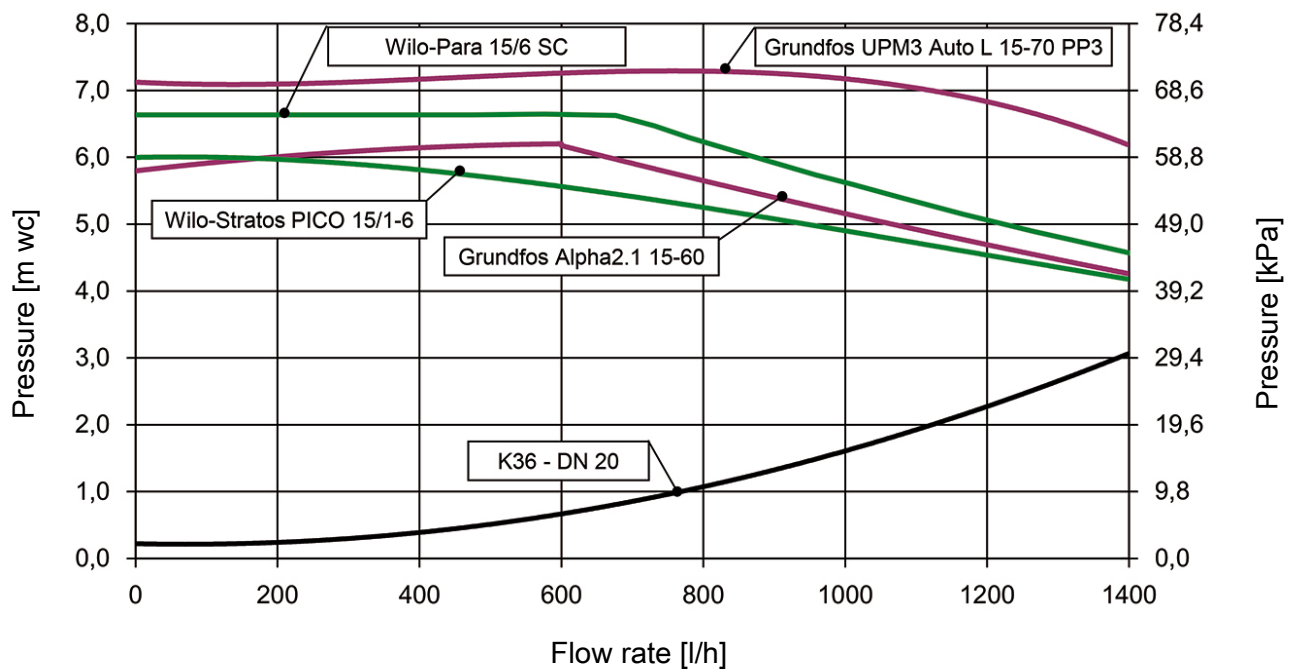
## 7 Technical data

K36	DN 20 (¾")
<b>Dimensions</b>	
Centre distance (1)	90 mm
Width insulation (2)	180 mm
Height insulation (3)	385 mm
Installation length (4)	347 mm
Connections	¾" internal thread
<b>Technical data</b>	
Opening pressure check valve (E-2)	200 mm wc, can be opened
Opening temperature	50 °C / 60 °C
<b>Materials</b>	
Valves and fittings	Brass
Gaskets	EPDM/NBR
Insulation	EPP



K36	DN 20 (¾")
Hydraulics	
Maximum pressure	6 bars
Maximum temperature	110 °C
K <sub>VS</sub> value [m³/h]	2.5

### 7.1 Pressure drop and pump characteristics



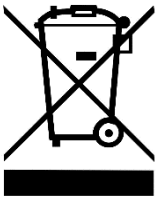


## 8 Disposal

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