



English

## Installation and Operation Instructions

### HeatBloC® K32

#### DN 40 / DN 50



DN 40



DN 50

## Table of Contents

<b>1</b>	<b>General Information.....</b>	<b>3</b>
<b>1.1</b>	<b>Scope of these instructions.....</b>	<b>3</b>
<b>1.2</b>	<b>Designated use.....</b>	<b>3</b>
<b>2</b>	<b>Safety instructions.....</b>	<b>4</b>
<b>3</b>	<b>Product description.....</b>	<b>5</b>
<b>3.1</b>	<b>Equipment.....</b>	<b>5</b>
<b>3.2</b>	<b>Function.....</b>	<b>6</b>
<b>3.2.1</b>	<b>Check valve.....</b>	<b>7</b>
<b>3.2.2</b>	<b>3-way mixing valve [specialist].....</b>	<b>7</b>
<b>3.2.3</b>	<b>Pump [specialist].....</b>	<b>10</b>
<b>3.2.4</b>	<b>Assembly of the actuator.....</b>	<b>10</b>
<b>4</b>	<b>Mounting and installation [specialist].....</b>	<b>12</b>
<b>4.1</b>	<b>Installation of the modular distribution manifold.....</b>	<b>12</b>
<b>4.2</b>	<b>Installation of the HeatBloC® on the modular distribution manifold.....</b>	<b>13</b>
<b>4.3</b>	<b>Installation of the HeatBloC® DN 40 on a wall bracket with mounting plate.....</b>	<b>14</b>
<b>5</b>	<b>Scope of delivery [specialist].....</b>	<b>15</b>
<b>5.1</b>	<b>Spare parts K32 DN 40.....</b>	<b>15</b>
<b>5.2</b>	<b>Spare parts K32 DN 50.....</b>	<b>17</b>
<b>6</b>	<b>Technical data.....</b>	<b>19</b>
<b>6.1</b>	<b>Pressure drop and pump characteristic curves DN 40.....</b>	<b>21</b>
<b>6.2</b>	<b>Pressure drop and pump characteristic curves DN 50.....</b>	<b>21</b>
<b>7</b>	<b>Disposal.....</b>	<b>22</b>
<b>8</b>	<b>Notes.....</b>	<b>23</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 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

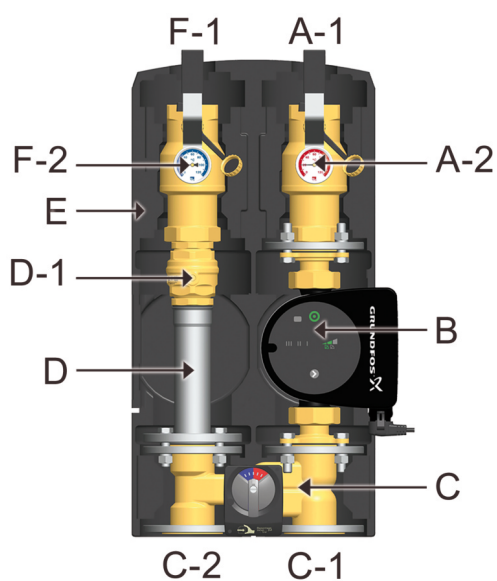
## 3 Product description

The mixed HeatBloC® K32 is a premounted group of fittings for heating circuits. The pump can be isolated, it is thus not necessary to drain the heating circuit during servicing.

The HeatBloC®s DN 40 can be directly mounted on modular distribution manifolds DN 40.

The HeatBloC®s DN 50 can be directly mounted on modular distribution manifolds DN 50.

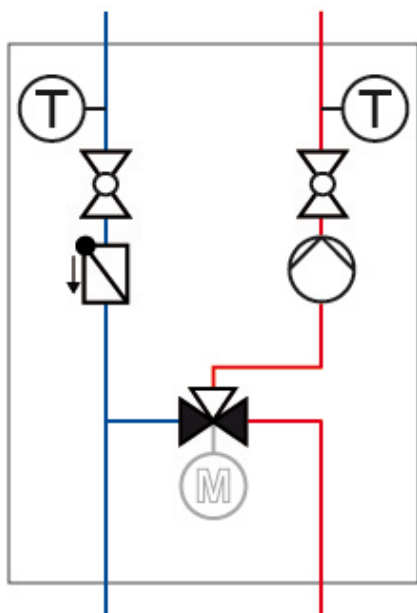
### 3.1 Equipment



**Example: K32 DN 40**

- 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
- 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



#### 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.

#### Application ranges:

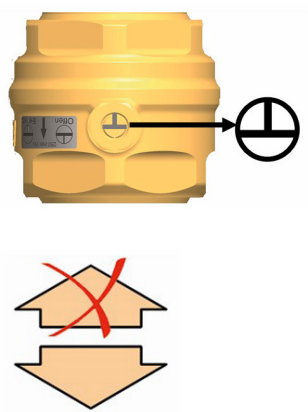
- Installations with several heating circuits and different flow temperatures (radiators and radiant floor heating)
- Installations with high fluctuations of the flow temperature due to the heat generator (solid fuel boilers, installations with power-heat cogeneration)

### 3 Product description

#### 3.2.1 Check valve

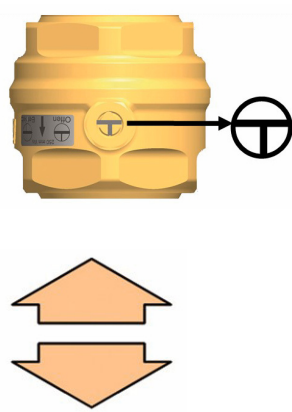
The HeatBloC® is equipped with a check valve in the return line. The check valve can be opened.

**Check valve** (normal flow direction in the figure: downwards)



##### Position 0 ("operation")

Check valve is operating,  
**flow only in flow direction.**



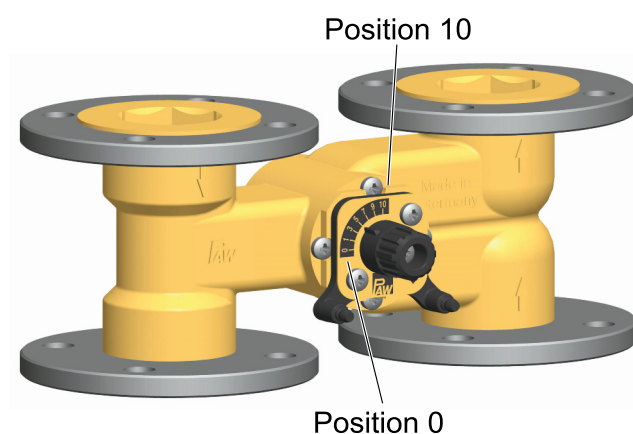
##### Position 180° ("open")

Check valve not operating,  
**flow in both directions.**

#### 3.2.2 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.

**Mixing valve with flow on the right:**



Position 10: passage, no mixing

flow temperature consumer =  
flow temperature heat  
generator

Position 0: 100% mixing

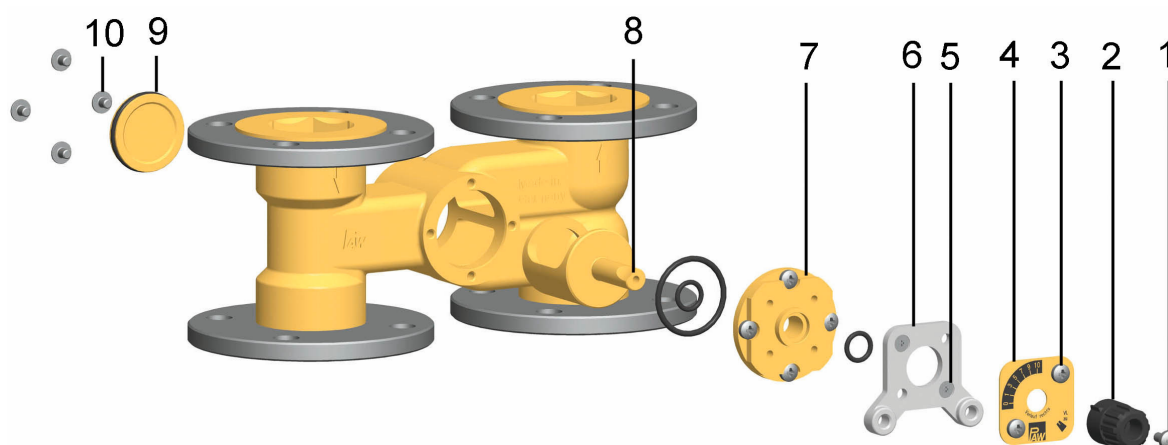
flow temperature consumer =  
return temperature consumer

## Change of the flow line [specialist]

### Dismounting of the mixing valve

1. Remove the thermometers from the handles (A-2, F-2), dismount the handles and take off the insulating front shell.
2. Take off the heating circuit from the insulating back shell.
3. Dismount the mixing valve (C).

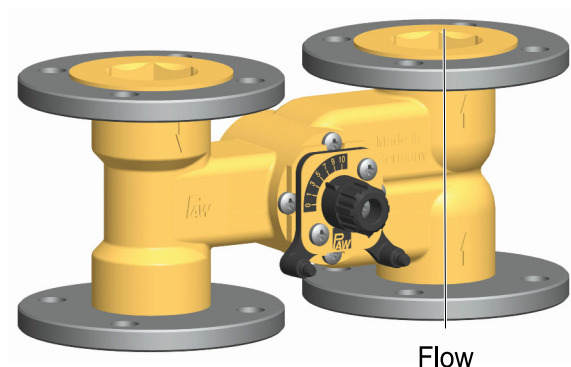
### Retrofitting of the mixing valve



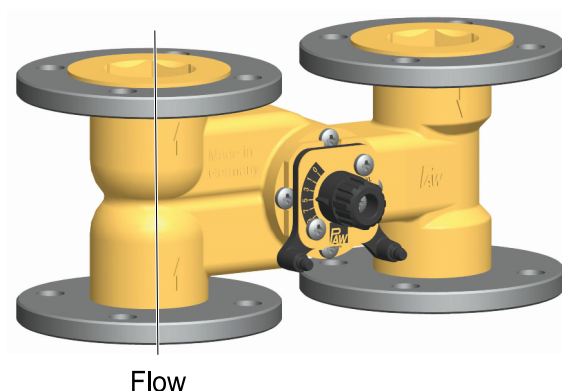
1. Loosen the screw (1).
2. Take off the rotary knob (2) from the cock rod.
3. Loosen the screws (3).
4. Remove the cover plate (scale) (4).
5. Loosen the two screws (5).
6. Remove the front plate (6).
7. Dismount the sealing bush (7). Pull out the valve cock (8) from the housing of the mixing valve.
8. Loosen the screws (10) on the rear side of the mixing valve.
9. Take off the cover (9) from the rear side of the mixing valve.
10. Reverse the housing of the mixing valve such that the two channels lying upon each other are on the flow side. Please observe the flow direction arrows on the housing.
11. Put the mixing valve cover in again on the other side of the mixing valve and fix it by using the screws (10).

### 3 Product description

12. Insert the valve cock (8) from the front into the channel of the mixing valve. Fix the valve cock with screws.
13. Screw down the front plate (6) using the screws (5).



Mixing valve with flow on the right



Mixing valve with flow on the left

14. 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.
15. Fix the cover plate (4) by using the screws (3).
16. Put the rotary knob (2) onto the cock rod.
17. 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) with the check valve and ball valve and the flow line with the pump (B) and the ball valve.

#### **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. Mount the heating circuit and connect it to the installation.
3. Check all connections before commissioning and firmly tighten them if necessary.
4. Mount the insulation only after having carried out a pressure test.

### 3.2.3 Pump [specialist]

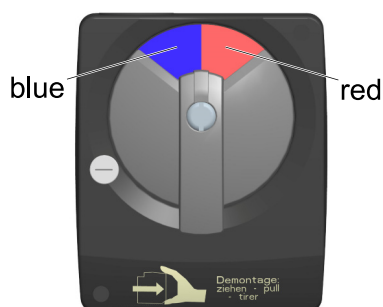
The pump can be completely isolated. It can be replaced and maintained without draining the heating circuit system.

#### Isolation of the pump

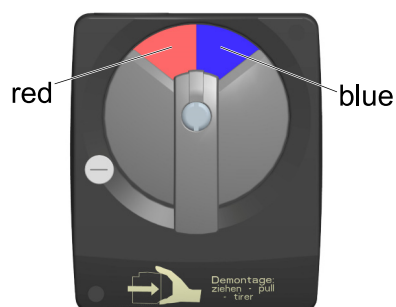
1. Close the ball valves in the flow and the return (A-2, F-2).
2. Remove the actuator from the mixing valve.
3. Turn the rotary knob of the mixing valve such that the black nose is directed to "VL zu" (flow closed).
4. Cut off the expansion tank to depressurise the installation. The mixing valve is now closed and drop tight. The pump can be dismantled.

### 3.2.4 Assembly of the actuator

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

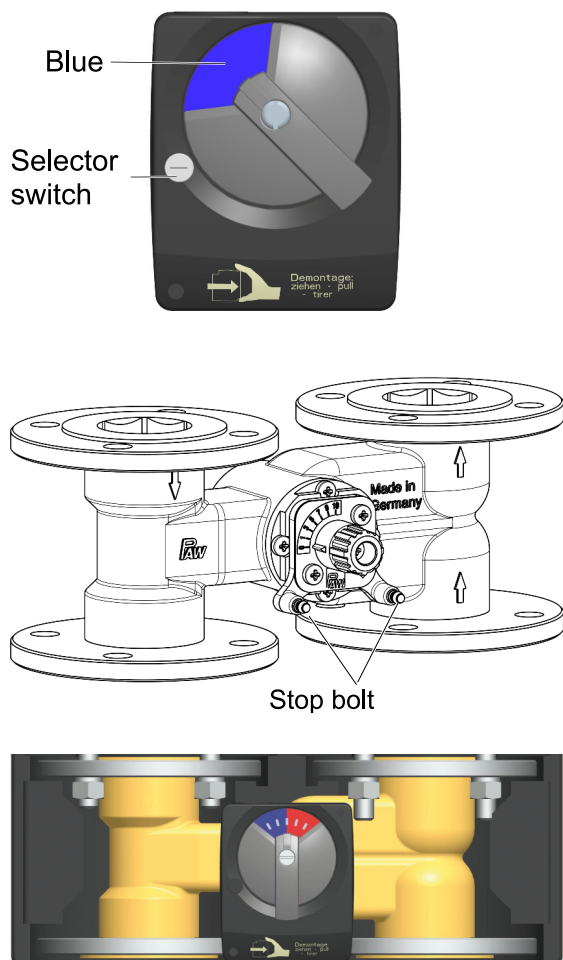


For mixing valve with flow on the right



For mixing valve with flow on the left

### 3 Product description



#### Assembly of the actuator - flow on the right:

1. Turn the rotary knob of the mixing valve into **Position 0**.
2. Set the actuator to manual mode by turning the selector switch.
3. Turn the rotary knob of the actuator to the left to the position shown on the adjacent figure.
4. Only for K32: Mount the stop bolts.
5. Put the actuator on the adjusting knob of the mixing valve and the two stop bolts. The actuator must be mounted as shown in the adjacent figure.
6. Set the actuator to automatic mode.

## 4 Mounting and installation [specialist]

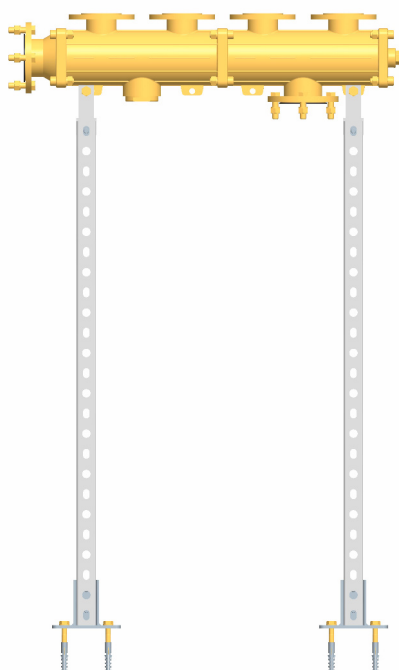
The mixed HeatBloC® K32 is mounted on a modular distribution manifold DN 40, DN 50 or on a bracket. The modular distribution manifold and the floor or wall bracket are not included in the scope of delivery.

### NOTICE

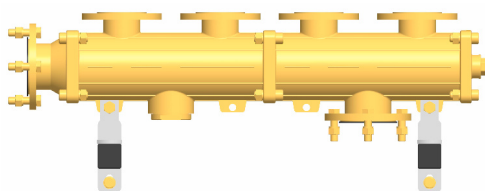
#### Damage to property!

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



**Floor bracket (1)**



**Wall bracket (2)**

1. Determine the location of installation.

**Floor bracket (1):** The distance to the wall must be about 25 cm. Anchor the floor bracket in the floor with appropriate screws and wall plugs. The height of the floor bracket can be adapted by shortening the support rails.

**Wall bracket (2):** Anchor the wall bracket in the wall with appropriate wall plugs and screws.

2. Take off the insulating front shell of the modular distribution manifold.
3. Put the distribution manifold onto the bracket and push the screws of the bracket through the ears at the manifold.
4. Fix the modular distribution manifold to the bracket by using screws.

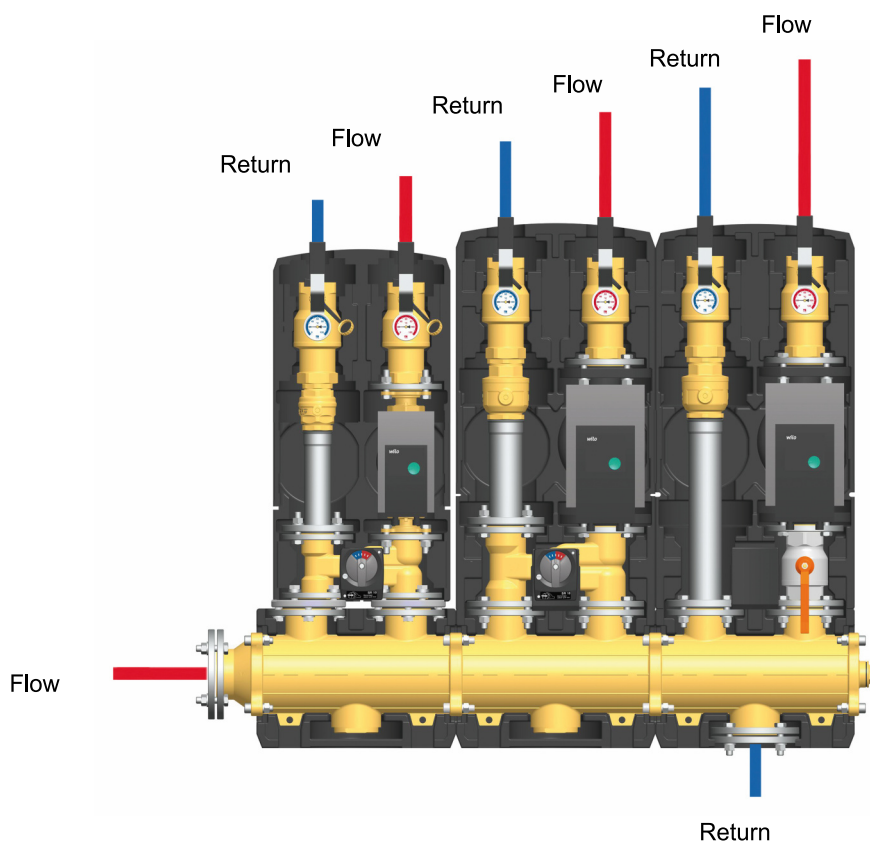


## 4 Mounting and installation [specialist]

### 4.2 Installation of the HeatBloC® on the modular distribution manifold

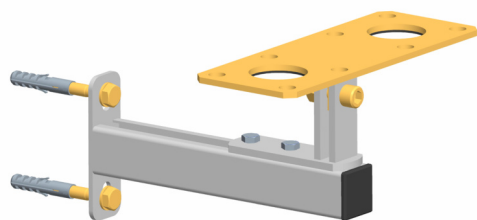
#### Mounting example:

For the installation of a HeatBloC® DN 40 on a distribution manifold DN 50, reducing flanges (item no. 51610) are necessary!



1. Remove the thermometers from the handles, dismount the ball valve handles and take off the insulating front shell of the heating circuit.
2. Put the heating circuit with the gaskets onto the flanges of the distribution manifold and screw the flanges together.
3. Connect the heating circuit to the installation by using the pipes. The installation to the piping must be carried out without any tension. Connect the pump. Consider the flow direction of the pump!
4. Check all thread connections and carry out a pressure test.
5. Mount the insulating shells and the ball valve handles and insert the thermometers.

### 4.3 Installation of the HeatBloC® DN 40 on a wall bracket with mounting plate



1. Anchor the wall bracket in the wall with appropriate wall plugs and screws.
2. Put the heating circuit on the wall bracket and connect the heating circuit to the installation by using the pipes. Do not forget to insert gaskets above and below the mounting plate. The installation to the piping must be carried out without any tension.
3. Connect the pump.
4. Check all thread connections and carry out a pressure test.
5. Mount the insulating front shell and the handles and insert the thermometers.

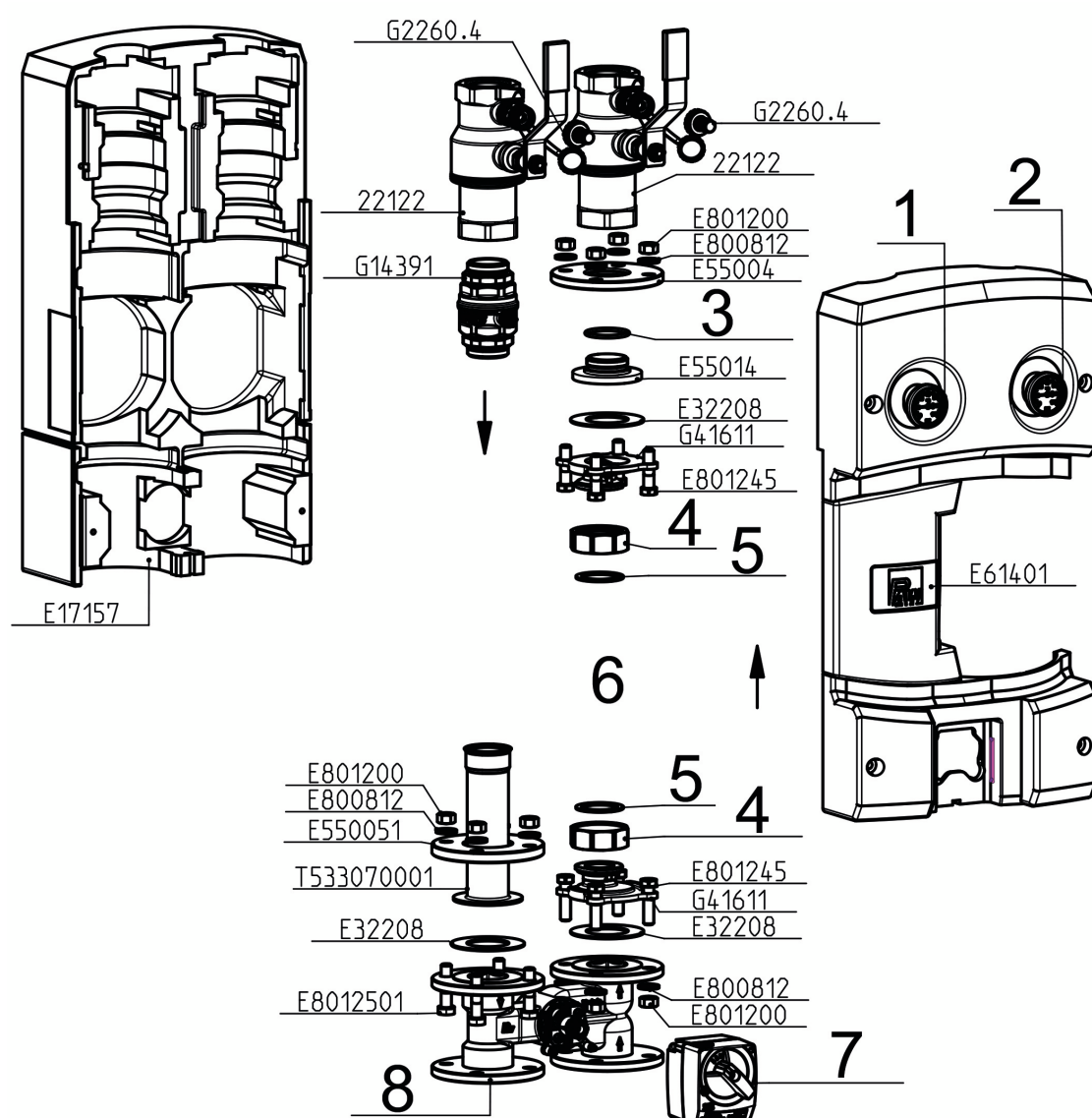
## 5 Scope of delivery [specialist]

### 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.

#### 5.1 Spare parts K32 DN 40



Position	Spare part	Item no.
1	Dial thermometer, blue scale, d=50 mm, 0-120 °C	N00243
2	Dial thermometer, red scale, d=50 mm, 0-120 °C	N00242
3	Set of seals for distribution manifold DN 40 / DN 50	N00061
4	Union nut G 2"	N00270
5	Seal 55.0 x 42.0 x 2.0, 1¼", for thread connection 2", 10 pieces	N00047
6	Pump see following table	
7	Actuator 10 Nm, 230V, 50Hz	705002
8	3-way mixing valve DN 40	N00607*

\*Only for heating circuits without actuator

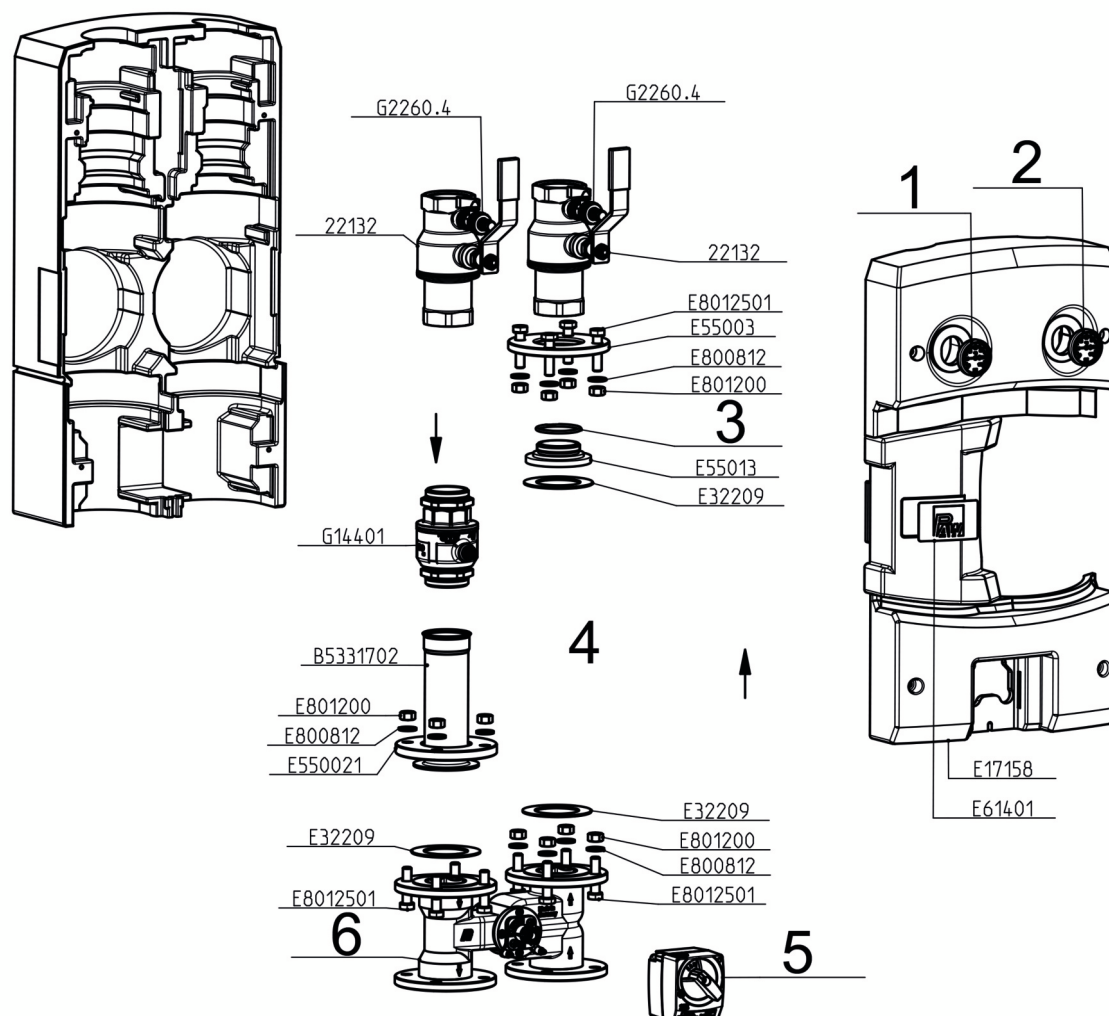
Item no. heating circuit*	Pump	Item no. pump	EEL
41221MWY8	Wilos Yonos MAXO plus 40/0.5-8	E12343708	< 0,20
41221MWY10	Wilos Yonos MAXO plus 30/0.5-10	N00398	< 0,20
41051WY10			
41221MWY12	Wilos Yonos MAXO plus 40/0.5-12	E12343712	< 0,20
41051WY12			
41221(M)GL10	Grundfos Magna1 32-100	E1217310	< 0,21
41221(M)GL12	Grundfos Magna1 40-120 F	E121761	< 0,21
41221(M)GH12	Grundfos Magna3 40-120 F	N00545	< 0,18

\*Heating circuits with an actuator additionally contain a M in the item number, e. g. 41221**M**GL10  
(without actuator = 41221GL10)

Description	Item number
Sealing set for mixing valve	41013

## 5 Scope of delivery [specialist]

### 5.2 Spare parts K32 DN 50



Position	Spare part	Item no.
1	Dial thermometer, blue scale, d=50 mm, 0-120 °C	N00243
2	Dial thermometer, red scale, d=50 mm, 0-120 °C	N00242
3	Set of seals for distribution manifold DN 40 / DN 50	N00061
4	Pump see following table	
5	Actuator 10 Nm, 230V, 50Hz	705002
6	3-way mixing valve DN 50	N00608*

\*Only for heating circuits without actuator

Item no. heating circuit*	Pump	Item no. pump	EEl
51221MWY9	Wilo Yonos MAXO plus 50/0.5-9	E12343809	< 0,20
51051WY9			
51221MWM12	Wilo Yonos MAXO plus 50/0.5-12	E12343812	< 0,20
51051WM12			
51221(M)GL12	Grundfos Magna1 50-120 F	E121781	< 0,21
51221(M)GH12	Grundfos Magna3 50-120 F	N00546	< 0,18

\*Heating circuits with an actuator additionally contain a M in the item number, e. g. 51221**M**GL12  
(without actuator = 51221GL12)

Description	Item number
Sealing set for mixing valve	51013

## 6 Technical data

HeatBloC® K32	DN 40 (1½")	DN 50 (2")
<p>Technical drawing of the HeatBloC K32 unit showing dimensions: 1 (centre distance), 2 (width insulation), 3 (height insulation), and 4 (installation length).</p>	<p>Technical drawing of the HeatBloC K32 unit showing connections: F-1, A-1, F-2, A-2, E, D-1, D, B, C, C-2, and C-1.</p>	
<b>Dimensions</b>		
Centre distance (1)	160 mm	180 mm
Width insulation (2)	320 mm	360 mm
Height insulation (3)	610 mm	660 mm
Installation length (4)	560 mm	630 mm
Minimum distance pipe axis - wall	200 mm	220 mm
<b>Connections</b>		
Connection consumer (A-1, F-1)	1½" female thread	2" internal thread
Connection generator (C-1, C-2)	Flange DN 40 / PN 6	Flange DN 50 / PN 6
<b>Operating data</b>		
Max. pressure	6 bar	6 bar
Max. temperature	110 °C	110 °C
K <sub>VS</sub> value [m³/h]	17.7	25.7
Opening pressure check valve (D-1)	200 mm wc, can be opened	250 mm wc, can be opened

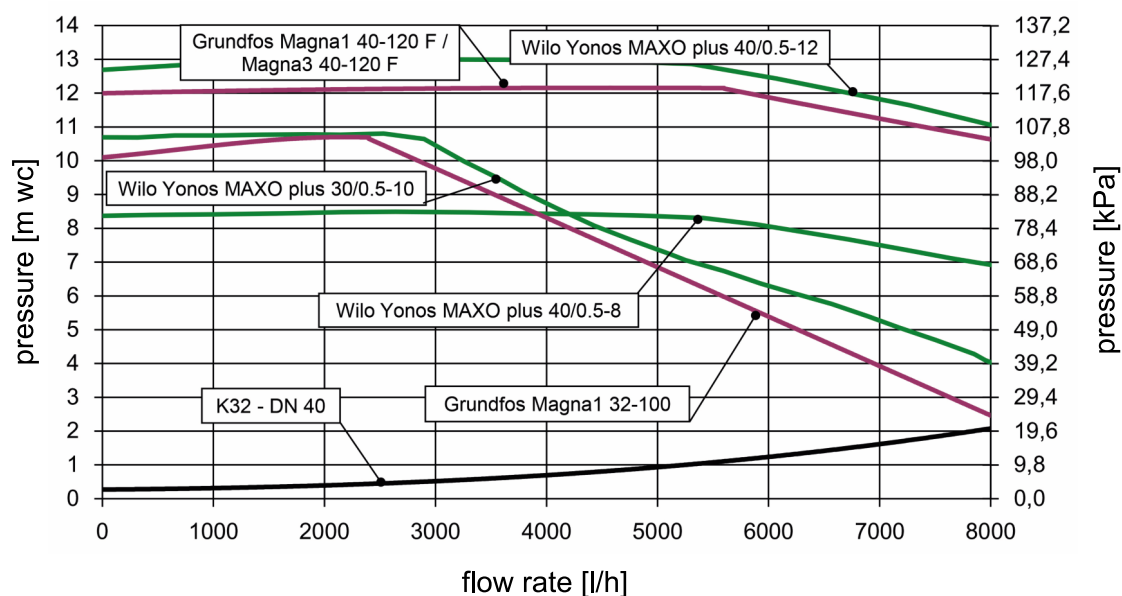


<b>HeatBloC® K32</b>	<b>DN 40 (1½")</b>	<b>DN 50 (2")</b>
<b>Materials</b>		
Valves and fittings	Brass	
Seals	EPDM / NBR / AFM34	
Insulation	EPP	

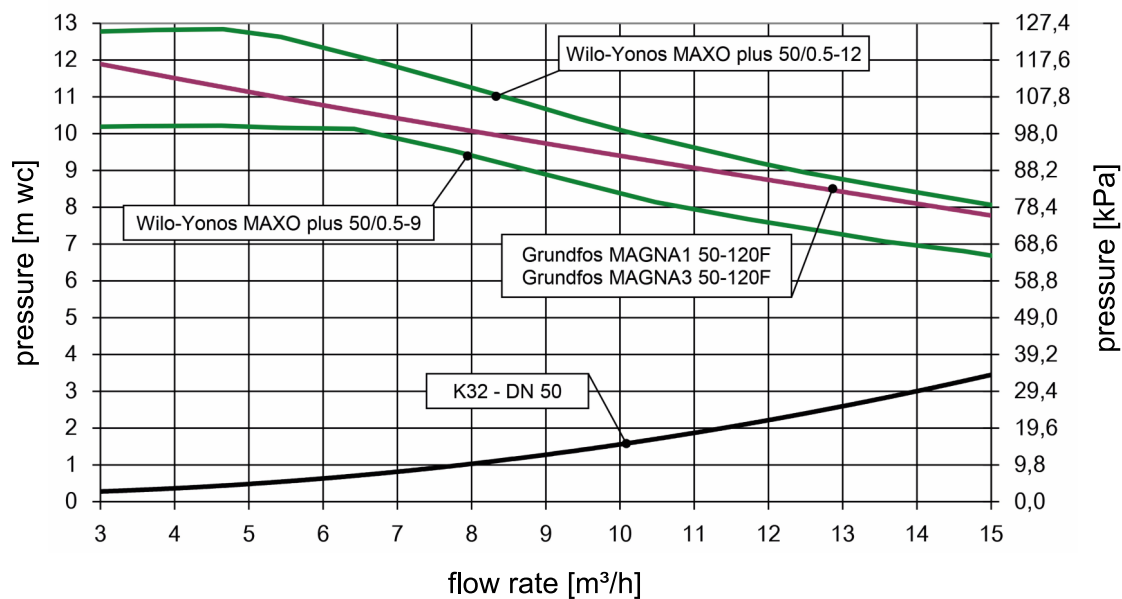


## 6 Technical data

### 6.1 Pressure drop and pump characteristic curves DN 40

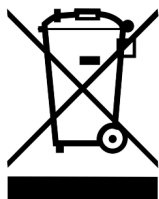


### 6.2 Pressure drop and pump characteristic curves DN 50



## 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

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## 8 Notes

Item no. 99x1221Mx-mub-en

Translation of the original instructions

We reserve the right to make technical changes without notice!

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PAW GmbH & Co. KG

Böcklerstraße 11

31789 Hameln, Germany

[www.paw.eu](http://www.paw.eu)

Phone: +49-5151-9856-0

Fax: +49-5151-9856-98