



English

## Installation and Operation Instructions

### HeatBloC® K36E

#### DN 25 / DN 32



DN 25



DN 32

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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® K36E 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 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.



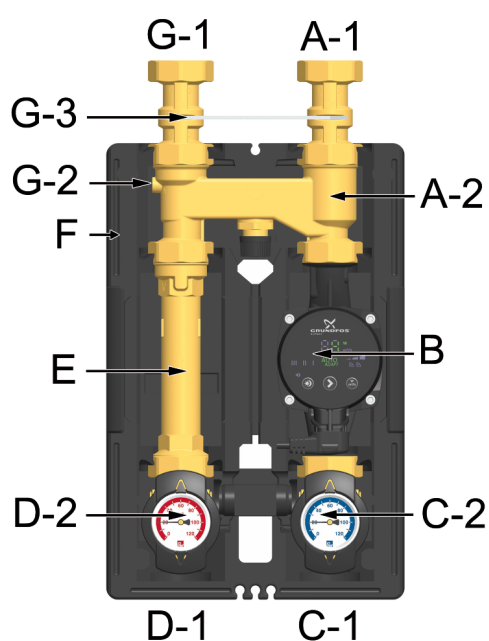
### 3 Product description

## 3 Product description

The HeatBloC® K36E (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.

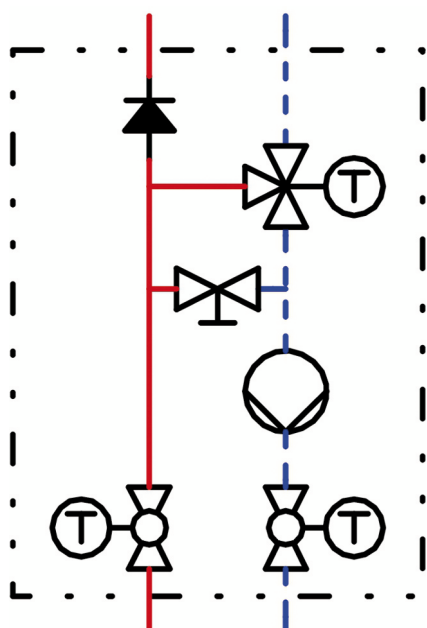
You can mount the PAW HeatBloC® directly onto a wall bracket or under/on a PAW modular distribution manifold. With transition connections, PAW HeatBloC®s can also be mounted under/on PAW modular distribution manifolds of other dimensions.

### 3.1 Equipment



- A-1 Return from the consumer circuit
- A-2 Thermo controller with adjustable overflow valve
- B Heating pump
- C-1 Return to the heat generator
- C-2 Full metal thermometer integrated in the ball valve (return, blue)
- D-1 Flow from the heat generator
- D-2 Full metal thermometer integrated in the ball valve (flow, red)
- E Flow pipe
- F Design insulation with optimised function
- G-1 Flow to the consumer circuit
- G-2 Check valve, can be opened
- G-3 Coupling piece for overhead installation

### 3.2 Function



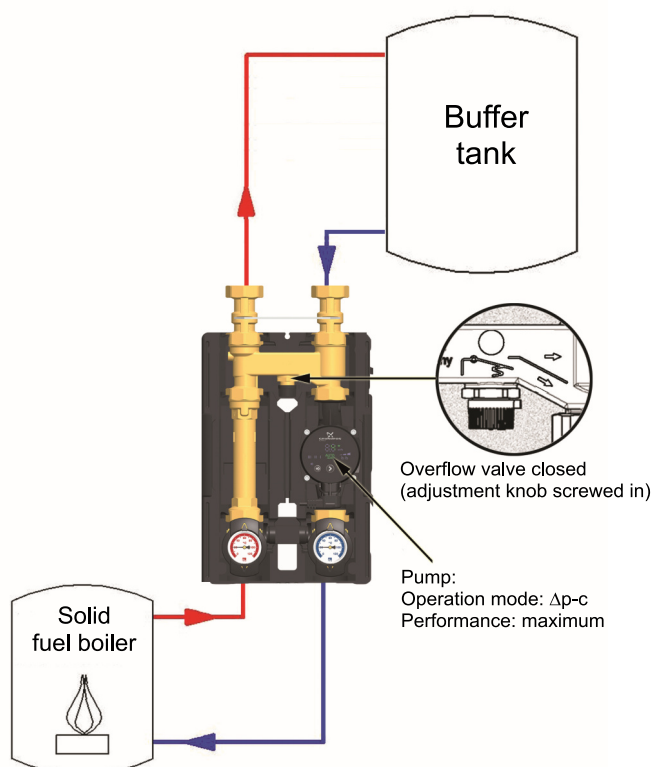
#### **Boiler charging set for the return flow temperature maintenance of solid fuel boilers, wood firing and stove heating systems**

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

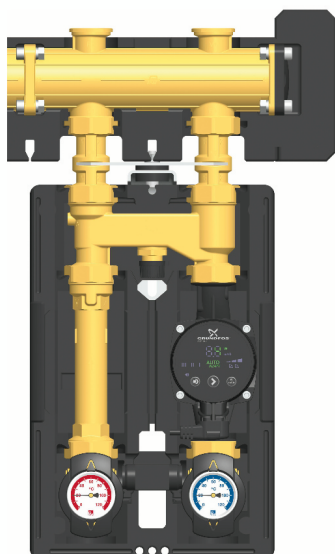
#### **Application ranges:**

- The boiler charging set can be mounted to a buffer tank or to a hydraulic separator. 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 or the hydraulic separator.

The following figure shows the adjustments necessary for this system.

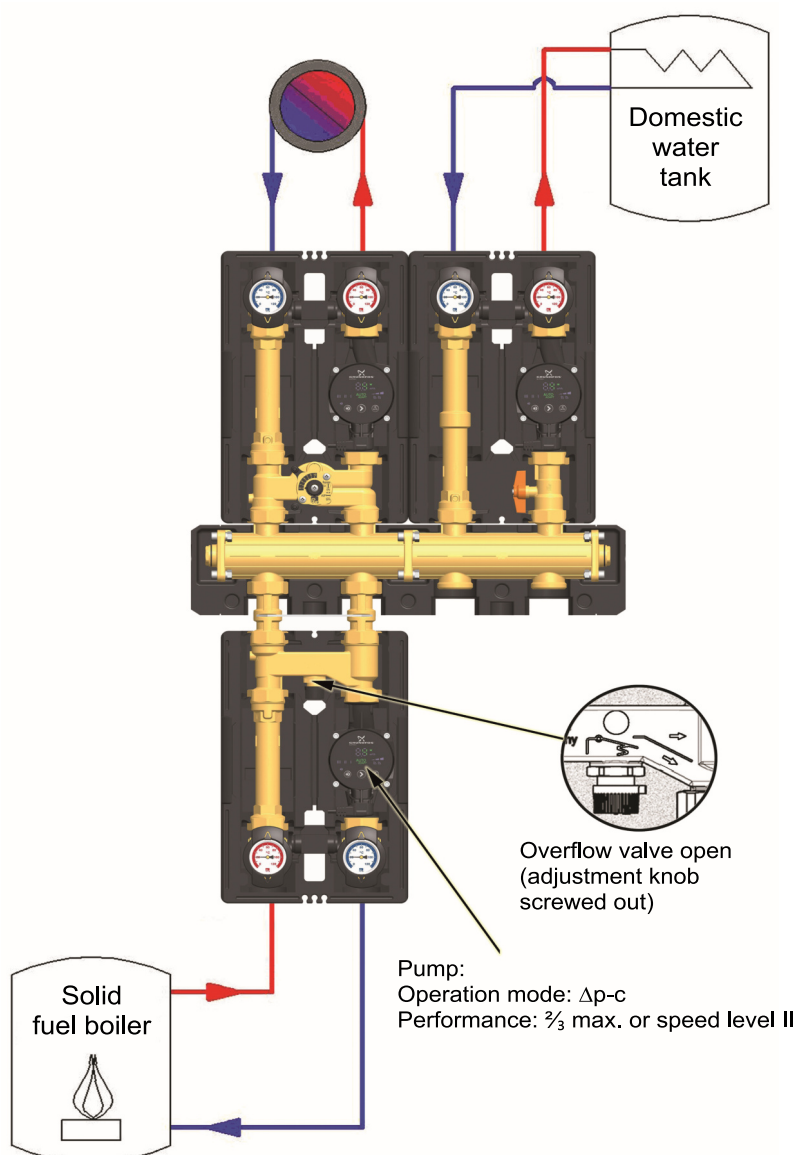


### 3 Product description



- The boiler charging set can be mounted under/on a distribution manifold. In this system the pump exerts a pressure on the entire installation. When the overflow valve in the thermo controller is open, the pressure can be reduced via the valve. Undesired circulation, which could lead to overcharging of the domestic water tank, can thus be prevented.

The following figure shows the adjustments necessary for this system.



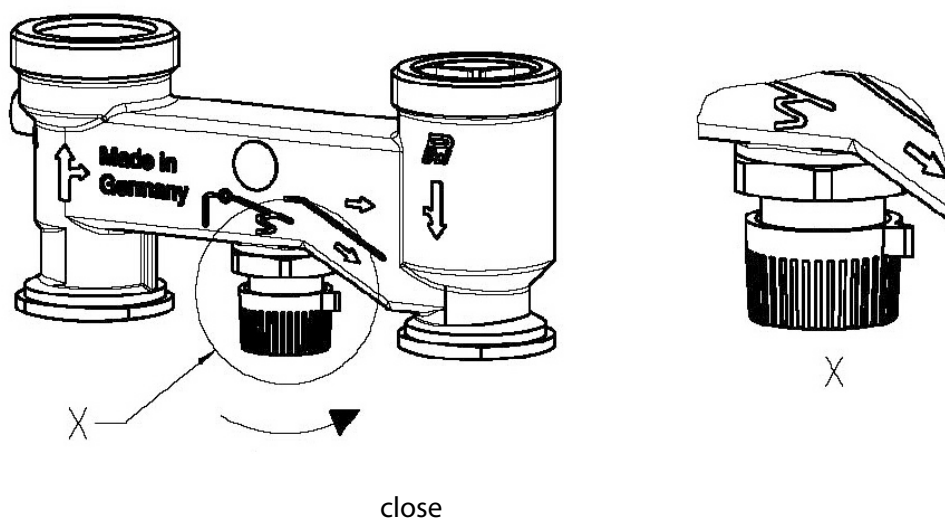
### 3.3 Thermo controller

The thermo controller is equipped with an overflow valve and a thermal control valve.

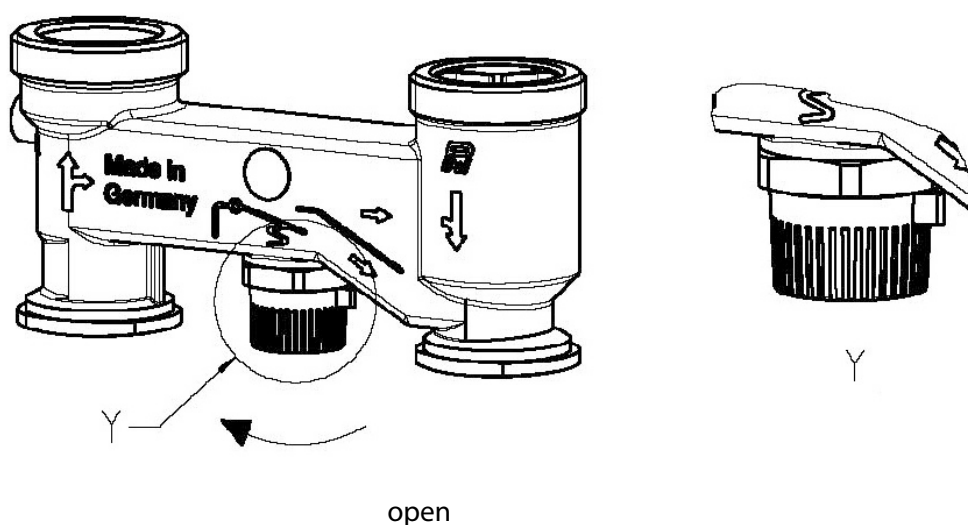
#### Overflow valve

In systems with a distribution manifold, the pump of the boiler charging set exerts an initial pressure on the entire installation. If the overflow valve of the thermo controller is open, the pressure can be reduced via the valve. Undesired circulation, which could lead to an overcharging of the domestic hot water tank, can thus be prevented.

#### Overflow valve open



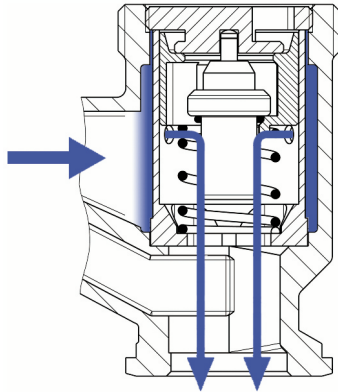
#### Overflow valve closed



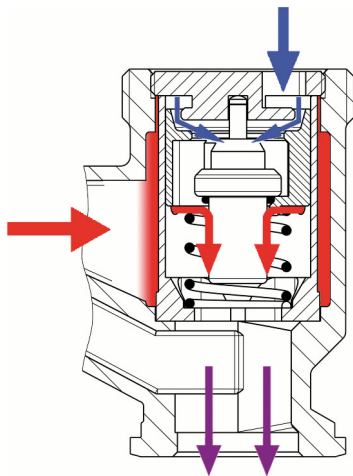
### 3 Product description

#### Thermal control valve

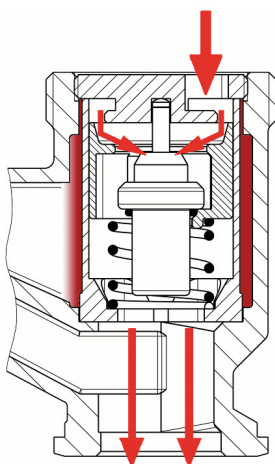
The thermal control valve serves as a bypass in the startup phase.



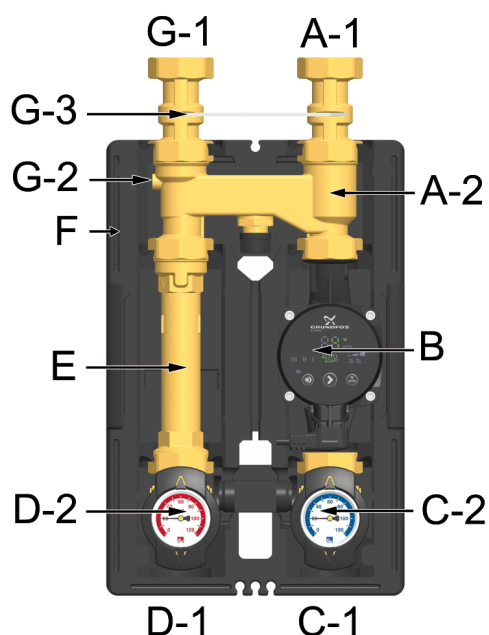
1. If the water temperature in the boiler circuit is lower than the opening temperature of the thermal control valve, this valve is closed and thus also the line to the consumers. The water circulates in the boiler circuit via the completely open bypass.



2. As soon as the water in the boiler circuit has reached the opening temperature ( $\pm 3$  K), the thermal control valve starts opening the line from/to the consumers. This enables the circulation in the consumer circuit. The cold water from the consumer return line is mixed with the hot water from the bypass at the control valve. Depending on the temperature and the flow rate of the water from the return line, the thermal control valve shuts or opens the line to the consumers. Thus, the return to the boiler always remains at a certain temperature level.



3. With increasing temperature in the return line of the consumers, the thermal control valve completely opens the line to the consumers. During operation, the temperature of the return of the boiler remains nearly constant ( $\pm 3$  K), until the buffer tank is completely charged.



### Change of the flow line [specialist]

1. Take off the thermometer handles (C-2, D-2) and remove the insulating front shells.
2. Take the group of fittings out of the insulating back shell.
3. Loosen the union nuts at the thermo controller (A-2).
4. Dismount the thermo controller and turn it by 180° around the vertical axis.

### Retrofitting and commissioning of the heating circuit

1. Interchange the flow line with the return line and the pump (B).
2. Re-install the thermo controller and tighten the union nuts.

### 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.

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 (C-2, D-2) in a final step.

### 3 Product description

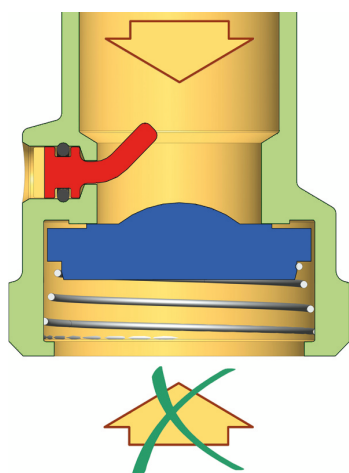
#### 3.4 Check valve

The HeatBloC® is equipped with a check valve (G-2) in the housing of the thermo controller (A-2). The check valve can be opened manually.

##### Operation

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

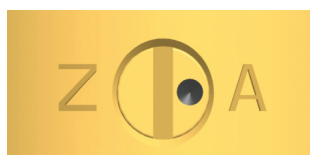
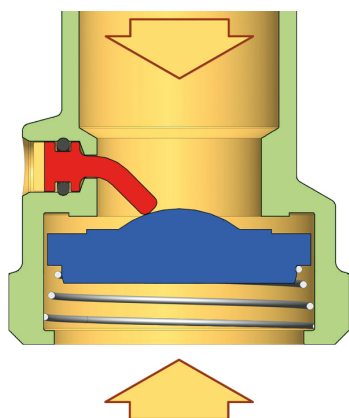
- The check valve is closed.
- Flow only in the direction of the arrow.



##### 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.



## 4 Mounting and installation [specialist]]

The HeatBloC® K36E can be mounted under/on a PAW modular distribution manifold or on a wall bracket. The K36E is prepared for assembly **under** a PAW distribution manifold DN 25 when it is delivered. If you want to mount the K36E **on** a PAW modular distribution manifold, remove the coupling piece for overhead installation (G-3). The modular distribution manifold and the wall bracket are optional accessories and are thus not included in the scope of delivery.

### WARNING

#### Damage to property!

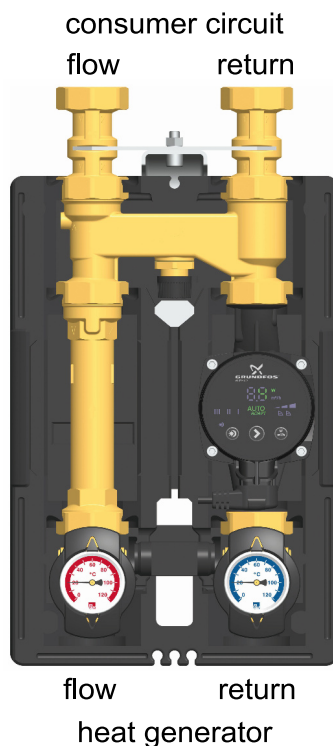
The installation site must be dry, stable, frost-proof and protected against ultraviolet radiation in order to prevent material damage of the installation.

### 4.1 Installation and commissioning of the HeatBloC®

The HeatBloC® can be mounted

#### Option 1:

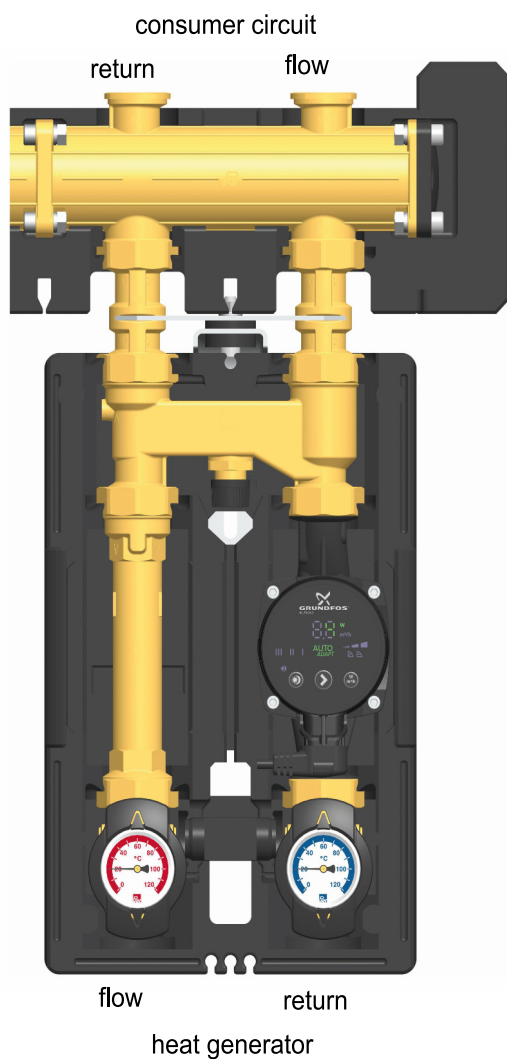
directly to the wall with a mounting bracket (item no. 34722)





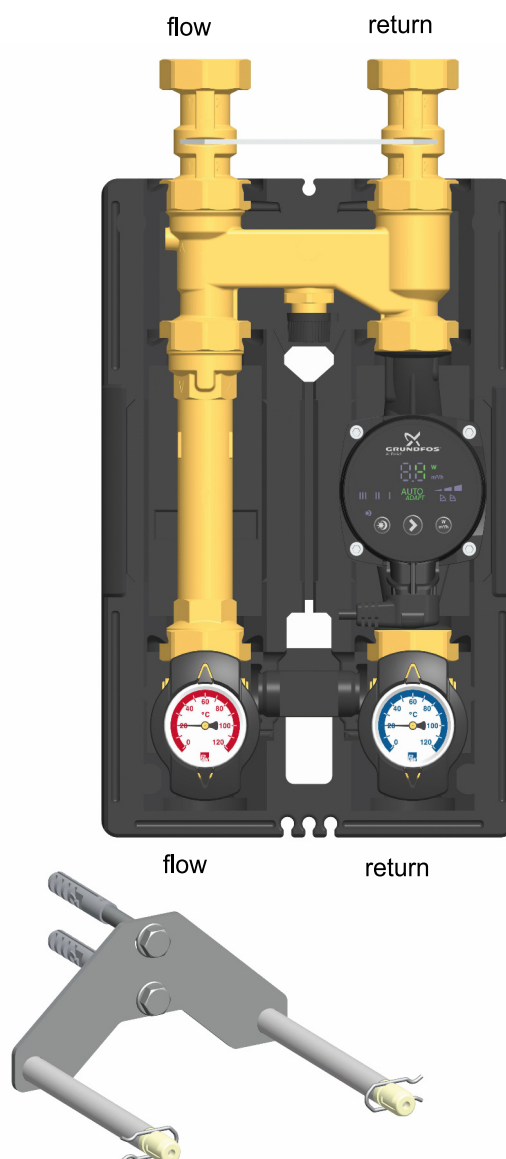
## Option 2:

under a PAW modular distribution manifold

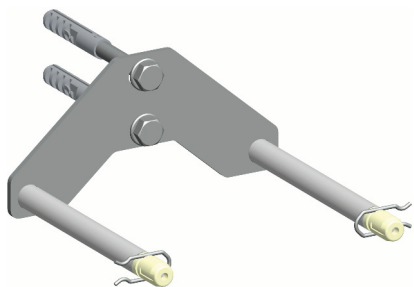


## Option 3:

directly on a wall bracket

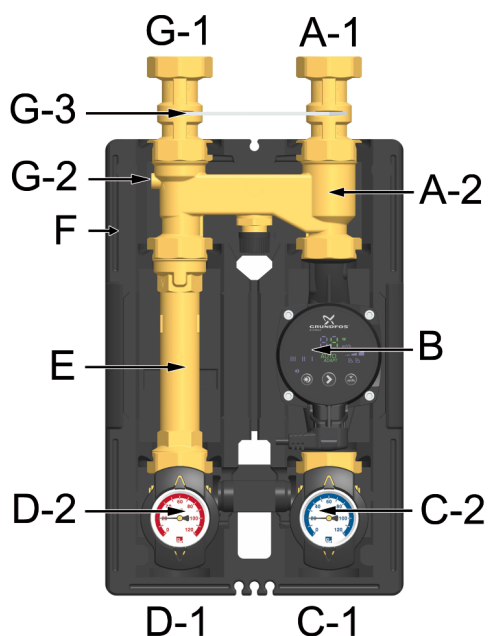


Please observe the separate and respectively corresponding instructions regarding the installation of the distribution manifold, of the mounting bracket and of the wall bracket.



### Assembly with wall bracket

- Fix the wall bracket to the wall with the enclosed screws and washers.
- Insert the clip springs in the lower ball valves.
- First insert the back part of the insulation and then the valves and fittings on the wall bracket.



### Assembly with mounting bracket

- Fix the mounting bracket to the wall with the enclosed screws and washers.
- Screw the HeatBloC® with the coupling piece for overhead installation (G-3) to the mounting bracket.

### Only for the assembly under a modular distribution manifold

- Mount the modular distribution manifold with the PAW mounting brackets. You can mount the HeatBloC® K36E directly on the connections of the modular distribution manifold. Remove the plugs in the pipe connections of the modular distribution manifold if necessary.

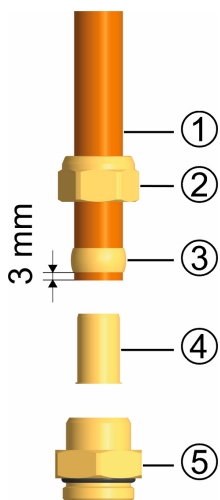
### Piping

1. Connect the HeatBloC® to the installation by using the pipes. The hydraulic schemes for both assembly versions can be found in chapter 3.2. The installation to the pipes must be carried out without any tension.
2. Connect the pump.
3. Carry out a pressure test and check all thread connections.
4. After commissioning, mount first the front insulating elements and then the ball valve handles with thermometer.

## 4 Mounting and installation [specialist]

### 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.

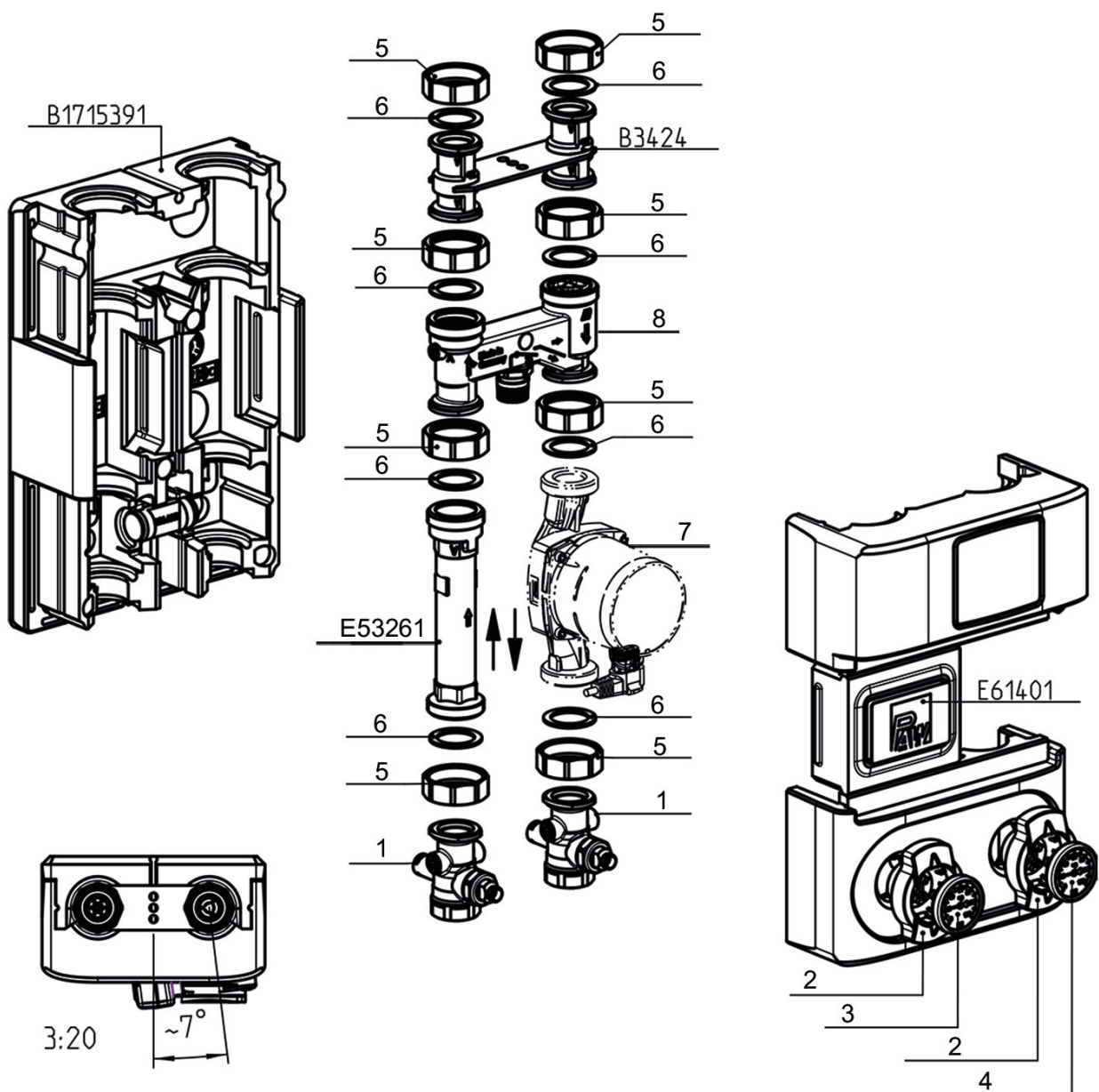
## 5 Scope of delivery [specialist]

## 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 DN 25

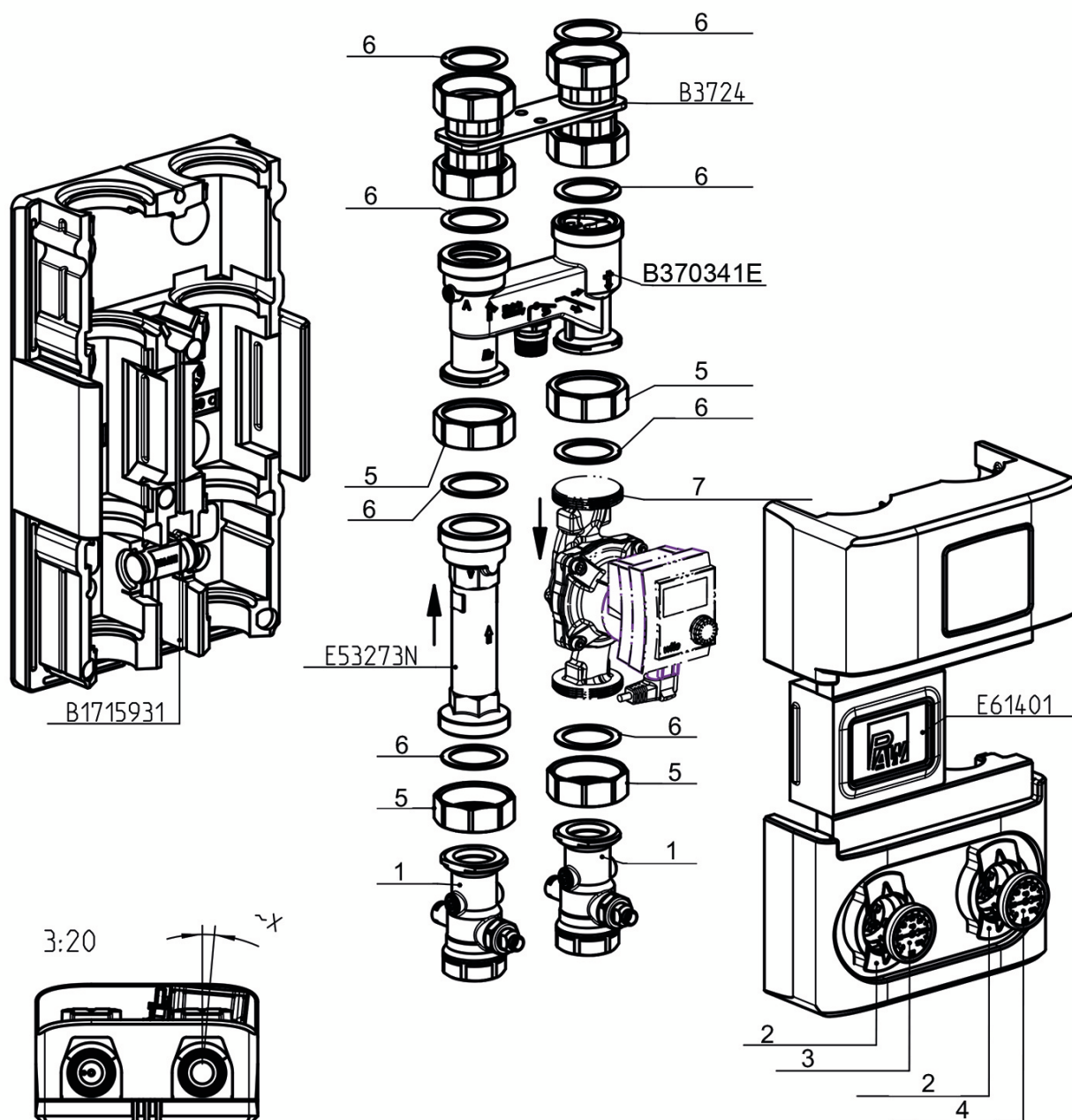


## 5 Scope of delivery [specialist]

Position	Spare part	Item number
1	Thermometer ball valve DN 25, flange 1" x 1" int. thread	N00244
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 1½"	N00269
6	Gasket 1" for threaded connection 1½"	N00131
7	Pump see following table	
8	Thermo controller K36E DN 25, flange 1" G 1½"	N00228

Item no. heating circuit		Pump	Item no. pump	EEI
45 °C	60 °C			
360343WP6	360373WP6	Wilo Para SC 25/6-43	N00259	< 0.20
360343WP8	360373WP8	Wilo Para SC 25/8-60/O	N00271	< 0.20
360343WN06	360373WN06	Wilo Yonos PICO 25/1-6	N00214	< 0.20
360343GL9	360373GL9	Grundfos UPML 25-95 Auto	N00396	< 0.23
360343GM6	360373GM6	Grundfos UPM3 Auto L 25-70 PP3	N00237	< 0.20
360343GH6	360373GH6	Grundfos Alpha2.1 25-60	N00236	< 0.17
360343	360373	without pump	/	/

## 5.2 Spare parts DN 32

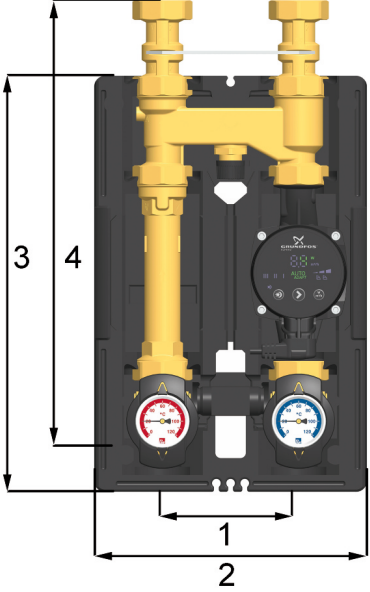
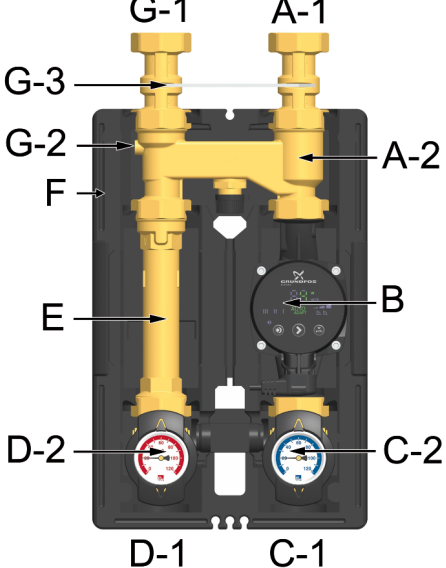


## 5 Scope of delivery [specialist]

Position	Spare part	Item number
1	Thermometer ball valve DN 32, flange 1¼" x 1¼" int. thread	N00245
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 2"	N00121
6	Gasket 1¼", for threaded connection 2"	N00133
7	Pump see following table	

Item no. heating circuit		Pump	Item no. pump	EEl
45 °C	60 °C			
390343WP6	390373WP6	Wilo Para SC 30/6-43	N00261	< 0.20
390343WN06	390373WN06	Wilo Yonos PICO 30/1-6	N00313	< 0.20
390343WY10	390373WY10	Wilo-Yonos PARA HF 30/0.5-10	E12361510	< 0.24
390343GM6	390373GM6	Grundfos UPM3 Auto L 32-70 PP3	N00240	< 0.20
390343GH6	390373GH6	Grundfos Alpha2.1 32-60	N00239	< 0.17
390343GL9	390373GL9	Grundfos UPML 32-95 Auto	N00344	< 0.23
390343	390373	without pump	/	/

## 6 Technical data

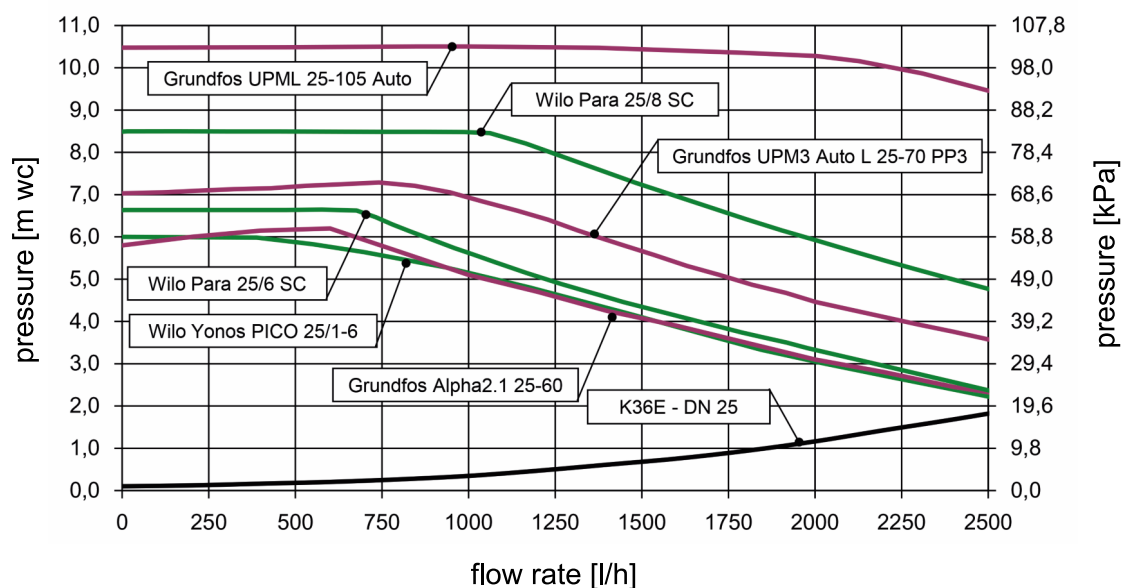
HeatBloC® K36E	DN 25 (1")	DN 32 (1¼")
		
<b>Dimensions</b>		
Centre distance (1)	125 mm	125 mm
Width insulation (2)	250 mm	250 mm
Height insulation (3)	383 mm	441 mm
Installation length (4)	408 mm	465 mm
<b>Connections</b>		
Outlet (A-1, G-1)	1½" int. thread (union nut)	2" int. thread (union nut)
Inlet (C-1, D-1)	1" int. thread	1¼" int. thread
<b>Operating data</b>		
Max. pressure	6 bars	6 bars
Max. temperature	110 °C	110 °C
K <sub>VS</sub> value [m³/h]	5.9	9.7
Opening pressure check valve (G-2)	200 mm wc, can be opened	
Opening pressure thermostatic valve	45 °C / 60 °C	



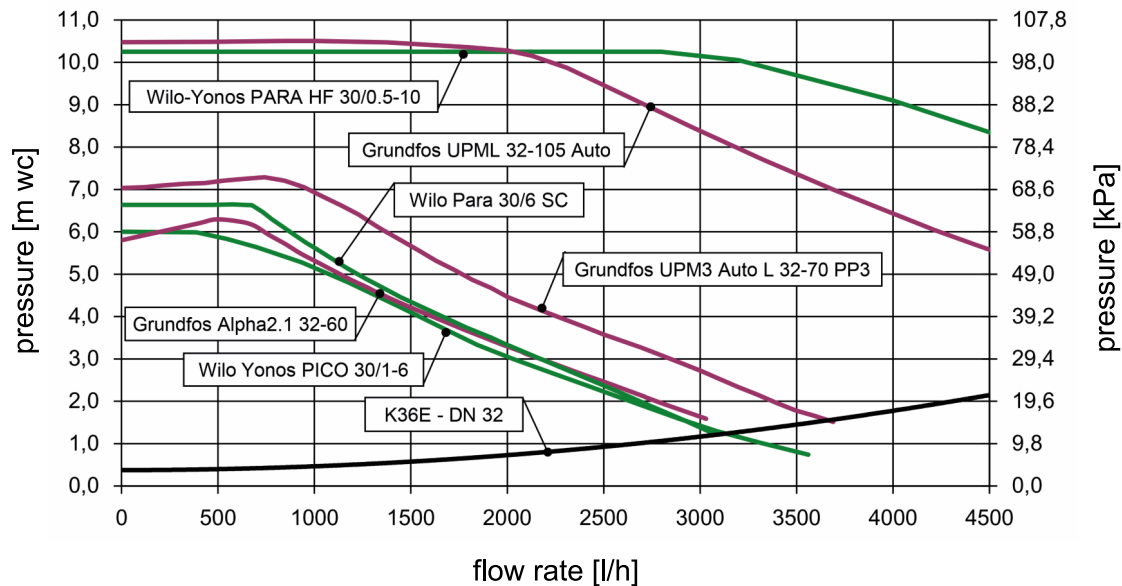
## 6 Technical data

HeatBloC® K36E	DN 25 (1")	DN 32 (1¼")
<b>Materials</b>		
Valves and fittings	Brass	
Gaskets	EPDM	
Insulation	EPP	

## 6.1 Pressure drop and pump characteristic curves DN 25

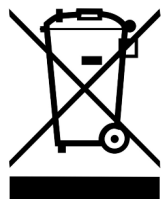


## 6.2 Pressure drop and pump characteristic curves DN 32



## 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 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.

### Disposal of transport and packaging materials

The packaging materials are made of recyclable materials and can be disposed of with recyclable materials.

Item no. 993x03x3x-mub-en

Translation of the original instructions

We reserve the right to make technical changes without notice!

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