



English

Installation and Operation Instructions HeatBloC® MC41 DN 25 / DN 32

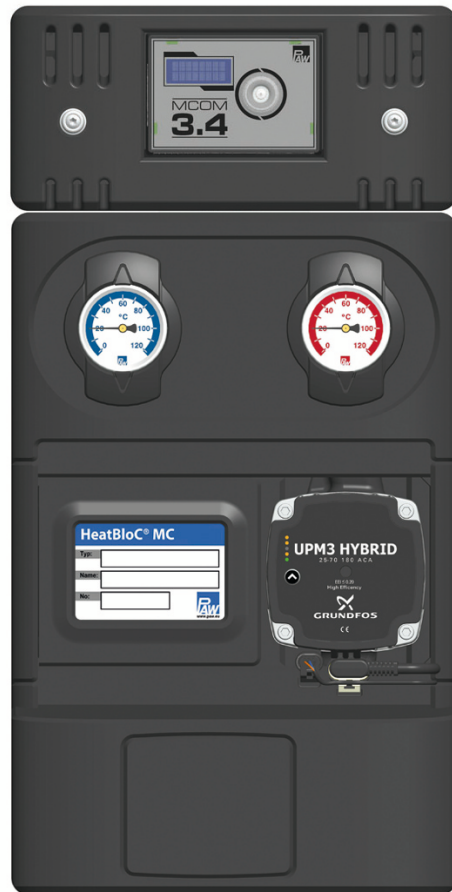
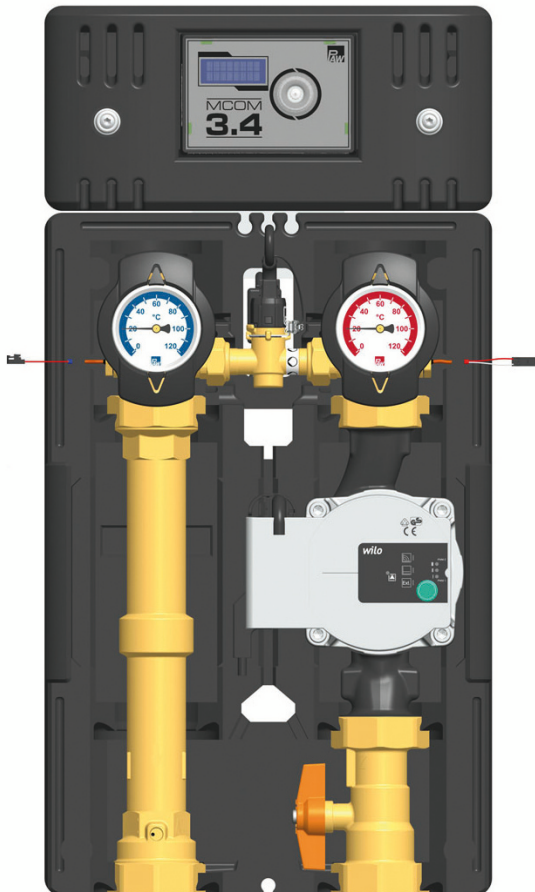


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1 General Information



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, functioning and the operation of an unmixed 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

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

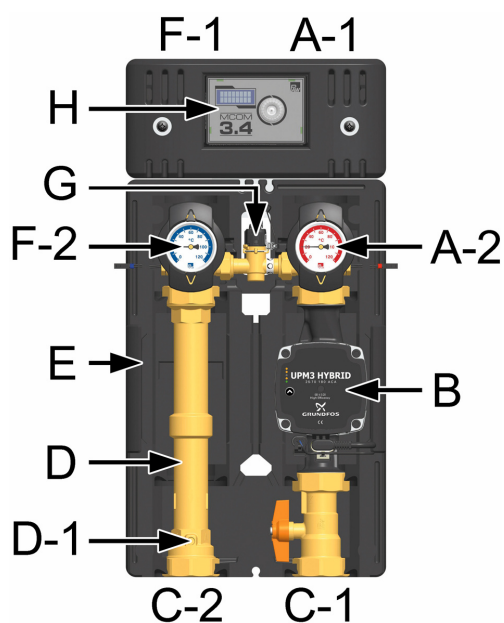
The HeatBloC® is a preassembled group of fittings for heating circuits. The integrated pump can be isolated by means of the ball valves and can thus be maintained easily.

The nominal value for the differential pressure between the flow and the return is adjusted at the controller which actuates the pump on this basis. Thus, the hydraulic balancing at the distribution manifold is assured and an energy-saving operation of the pump is guaranteed at any time.

The PAW HeatBloC® must be either installed on a PAW modular distribution manifold or a PAW wall bracket.

For the function of a MC system, only **one** connection set (wall power supply, item no. 1398700) is necessary. The connection set is not included in the scope of delivery.

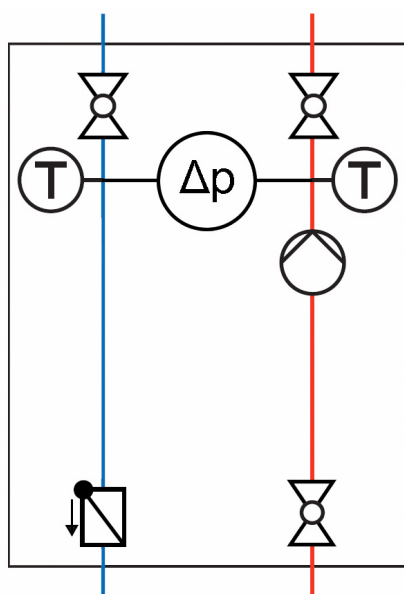
3.1 Equipment



- A-1 Flow to the consumer circuit
- A-2 Flow ball valve with temperature sensor T_V and thermometer
- B Heating pump
- 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 Return ball valve with temperature sensor T_R and thermometer
- G Differential pressure sensor
- H Controller MCom

3 Product description

3.2 Function



MC41 - unmixed HeatBloC®

An integrated circulation pump transports the water from the heat generator to the consumers. 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 range:

- Boiler charging
- Heating circuit systems for storage tank charging and discharging
- Radiator heating circuits

3.3 Pump [specialist]

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

Close the ball valves above and beneath the pump.

The pump has been correctly adjusted at the factory. In the case of a breakdown of the control (no PWM signal), the pump runs at maximum rotation speed. To assure a proper functioning of the heating circuit, the pump must be set as follows:

- PWM profile (heating)

3.3.1 Pump settings Grundfos UPM3 Hybrid

The following code must appear on the pump display. The code can be verified by briefly pressing the push button. Please observe the separate instructions of the pump.

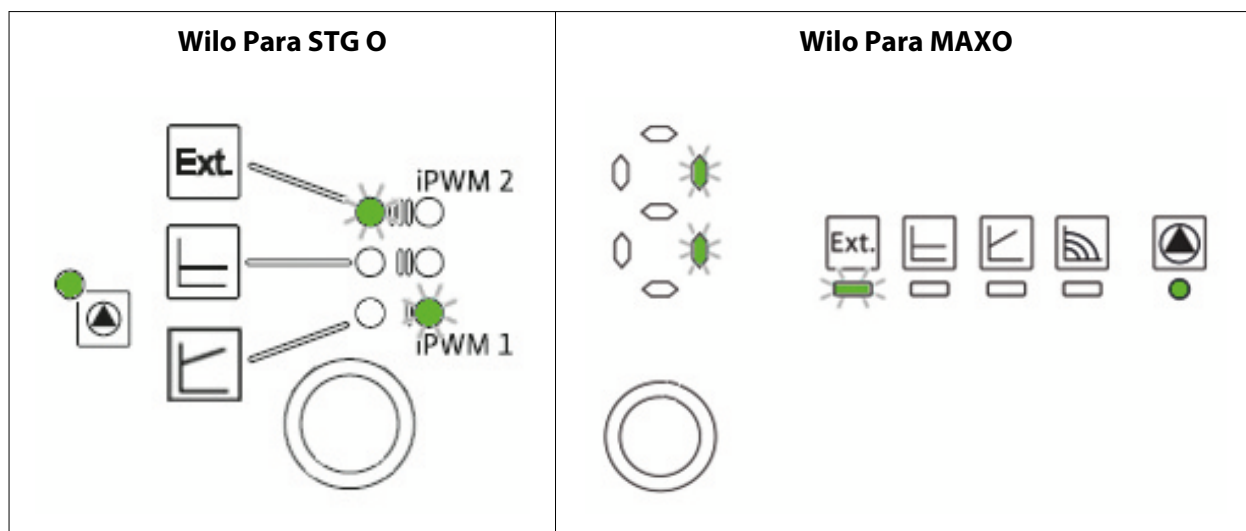
-  —Yellow
-  —Off
-  —Off
-  —Yellow
-  —Red



3.3.2 Pump settings Wilo Para STG O / MAXO

The pump settings are recognizable by glowing LEDs and must correspond to the following figure.

Please observe the separate instructions of the pump!



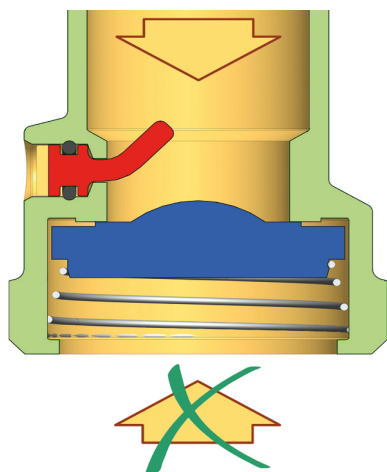
3 Product description

3.4 Check valve

The product is equipped with a check valve in the return pipe. The check valve can be opened.

Operation

During operation, the marking must point to "Z".

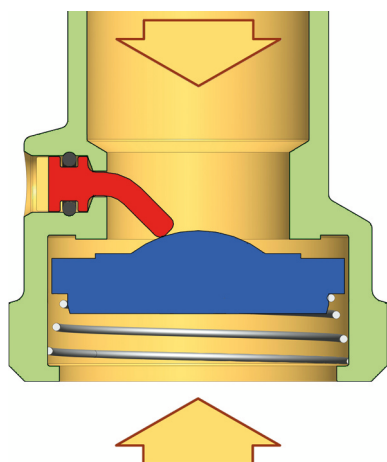


- The check valve is closed.
- Flow only in the direction of the arrow.

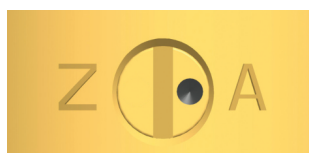


Filling, draining, venting

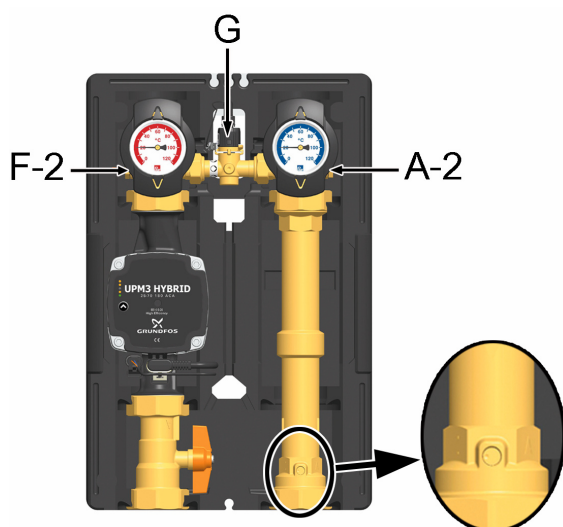
For filling, draining and venting the installation, the marking must point to "A".



- The check valve is open.
- Flow in both directions.



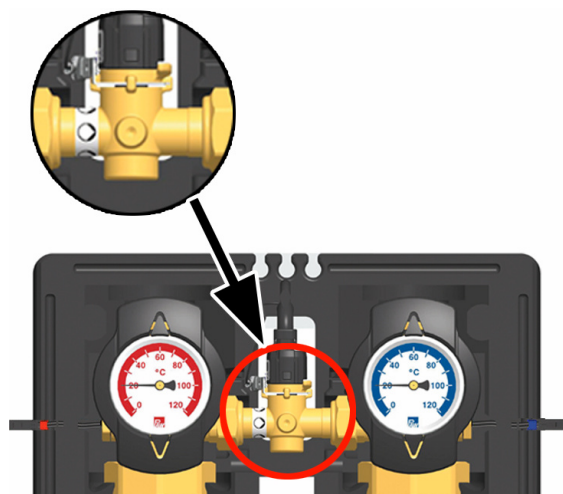
4 Change of the flow line [specialist]



1. Dismount the temperature sensors of the ball valves (A-2 and F-2).
2. Unscrew both nuts of the sensor (G).
3. Unscrew the nuts of the ball valves (A-2 and F-2) above the pump or the return pipe.
4. Mount the return ball valve above the pump and the flow ball valve above the return pipe.
5. Interchange the flow and the return line. Please observe the position of the opening mechanism of the check valve in the return pipe (see figure).
6. Mount the sensor (G) between the ball valves.

Attention: The ground lug points in the direction of the banderol.

The banderol indicates on which side of the sensor housing the pump must be fixed (see figure on the left).



7. Flatten the ground lug.
8. Mount the temperature sensors T_R and T_V in the ball valves.

Observe the correct attribution:

Red = Flow

Blue = Return

5 Mounting and installation [specialist]

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

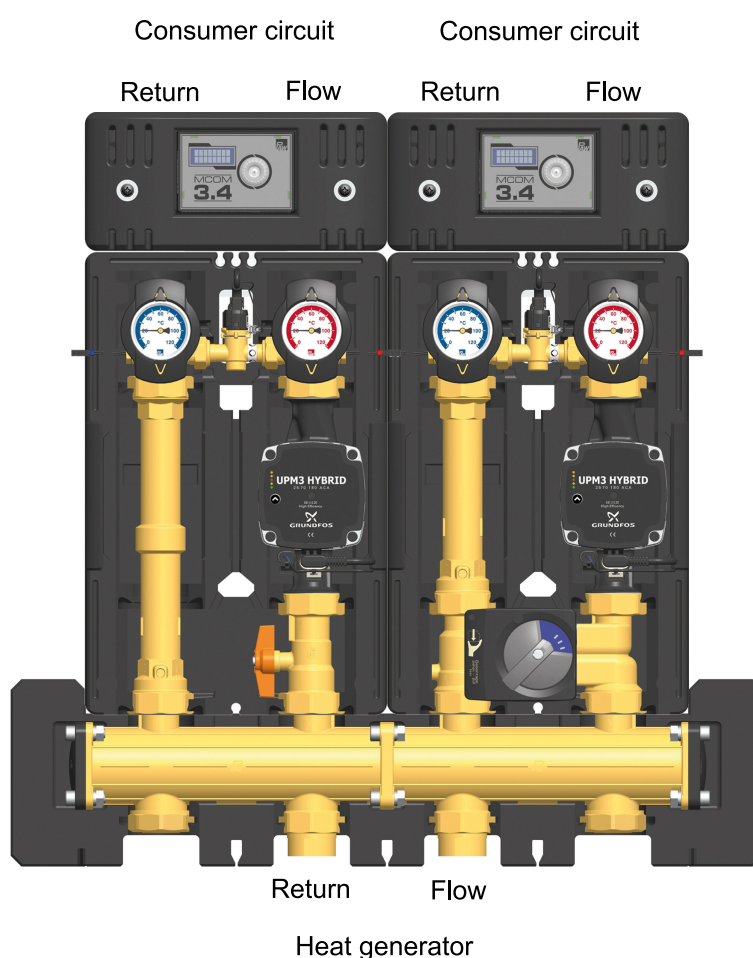
NOTICE

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.

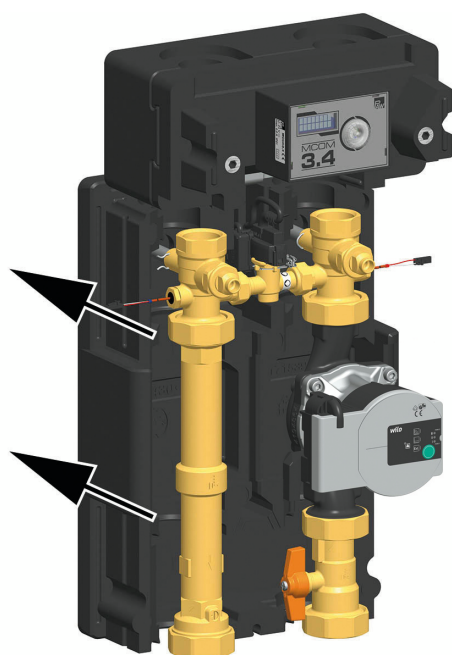
5.1 Installation and commissioning of the HeatBloC®

The HeatBloC® can be mounted on a PAW modular distribution manifold (not included in the scope of delivery).

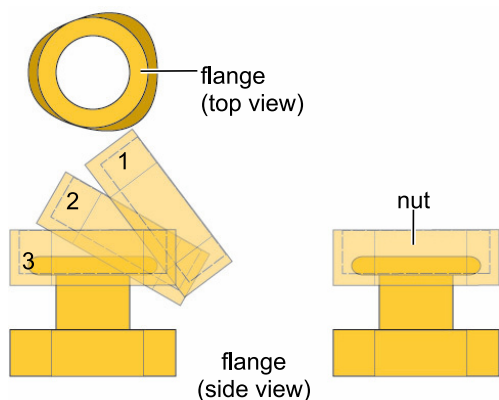


NOTICE

- ▶ Verify if the grounding cable holds securely in place at the differential pressure sensor!
The ground lug points in the direction of the banderol.
- ▶ Carry out the following mounting instructions in parallel at each heating circuit of the system.

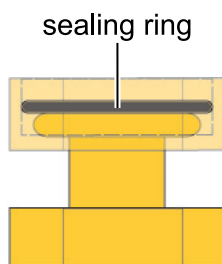


1. Remove the station from the packaging.
2. **Note regarding the HeatBloC® with Wilo pump:**
Dismount the insulating front shell of the controller and push the insulating back shell backwards.
3. Take off the thermometer handles and remove the insulating front shells.
4. Push the insulating back shell backwards.



5. Unscrew the nuts on the lower connections of the HeatBloC® and take out the sealing rings.
6. Put the two nuts over the flanges of the distribution manifold.

5 Mounting and installation [specialist]

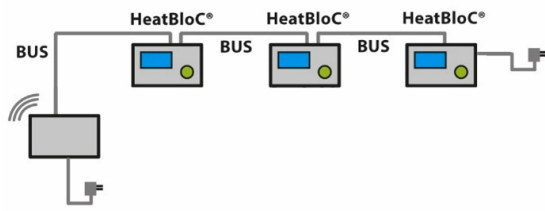


7. Put the sealing rings on the sealing surfaces.
8. Put the HeatBloC® onto the two nuts.
9. Tighten the nuts.

Make sure that the nuts do not get jammed and that the sealing rings do not slip.

10. Connect the HeatBloC® to the installation by using the pipes. The installation to the piping must be carried out without any tension.
11. Repeat these steps for all the HeatBloC®s that are mounted.
12. Fill and vent the installation.
13. Carry out a pressure test and check all thread connections.
14. Check the position of the check valve. During operation, the marking must point to "Z" (see chapter "Check valve").
15. Mount the insulating back shell.
16. Connect the power supply of the pump to the heating controller.
17. Flush the installation.
18. Mount the insulating front elements.
19. Mount the insulating front and back shell of the distribution manifold.

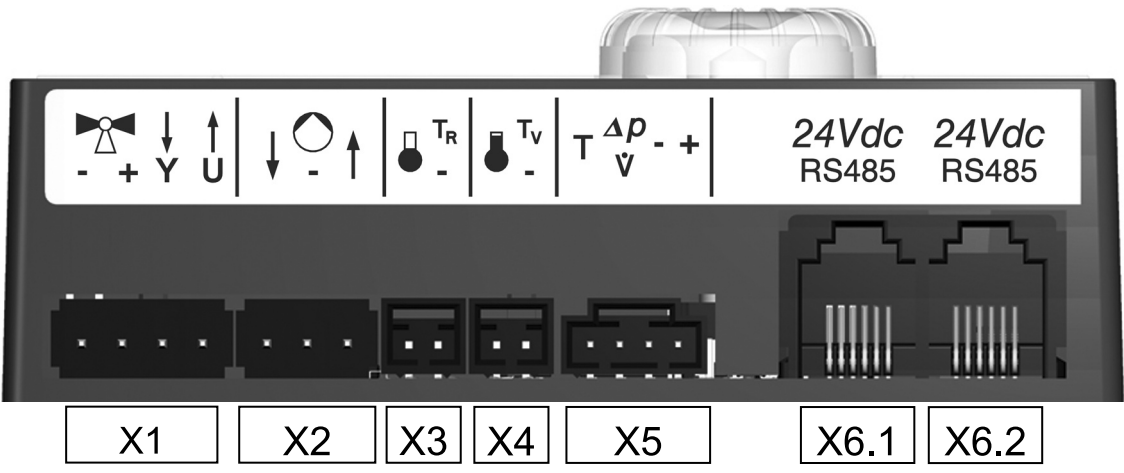
5.2 Cabling



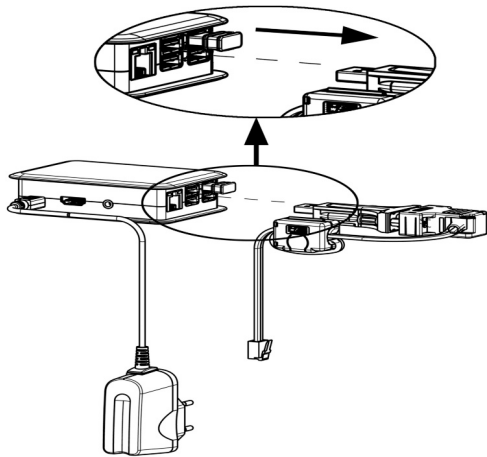
1. **For DN 25 / 32:** Loosen the screws of the controller insulation and dismount the insulating front shell of the controller.

For DN 40 / 50: Connect the actuator (only MC43), the temperature sensors (only MC41) and the differential pressure sensor to the controller (see below).

2. Connect the wall power supply to the socket X6.2 (see below) at the last (right) controller.
3. Connect the bus line from controller 1 to controller 2 in the socket X6.1. As the two sockets of the bus line (X6.1 and X6.2) are connected in parallel, the position has no importance.
4. Repeat these steps for all HeatBloC®s.
5. Remove the bus line from the first controller. Keep the bus line as spare part.

			
X1	Only MC43 DN 25 / 32: Signal of the actuator	X4	Temperature sensor T_v , flow, red marking
X2	PWM signal of the pump	X5	Differential pressure sensor
X3	Temperature sensor T_R , return, blue marking	X6.1	Supply voltage or bus line
		X6.2	(connected in parallel and therefore interchangeable)

5 Mounting and installation [specialist]



6. If you do not mount the optional communication set, continue with point 10.
7. If you additionally mount the optional communication set, run the bus line of the communication set to the first (left) controller. For this purpose, disconnect the plug of the bus line from the mini PC of the communication set.
8. Make sure that the plug does not get wet.
9. Mount the optional communication set now. Please observe the separate instructions of the communication set!
10. Carry out the electrical commissioning of the controllers (see controller instructions).
11. Carry out the electrical commissioning of the communication set (see instructions of the communication set).
12. Mount the insulating front shell of the controller.
13. Screw the screws in the controller insulation.
14. **For DN 40 / 50:** Mount the insulating front and back shells of the HeatBloC®s.
15. **For DN 40 / 50:** Mount the handles and insert the thermometers.
16. **For DN 40 / 50:** Mount the insulating front and back shell of the distribution manifold.
17. Please fill in the enclosed insert and fix it on the insulation.



HeatBloC® MC

Typ:

Name:

No:



Type: Type of the heating circuit, e.g. MC41

Name: Type of application, e.g. storage tank charging

No.: Number of the heating circuit according to the controller instructions, e.g. 2

5.3 Accessories

5.3.1 Connection set

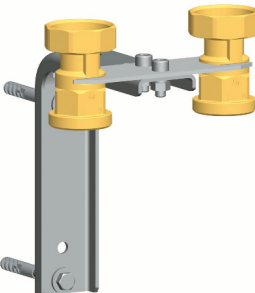
For the connection of the MCom controllers to the power supply is mandatory **one** connection set (wall power supply, item no. 1398700), regardless of the number of heating circuits. The connection set is not included in the scope of delivery.

5.3.2 Communication set

The communication set with insulated housing can be mounted on the distribution manifold or on the wall using the enclosed mounting rail. It is connected with the controllers via a bus line. The internal mini PC is equipped with a power supply unit to assure the power supply and establishes its own local WLAN network. With a smartphone and the corresponding PAW Connect app, you can establish a connection with your installation via this WLAN and set parameters or read out current values. You can receive the app in the App Store for iOS devices and in the Google Play Store for Android devices entering the search term "PAW Connect"

The Communication set is not included in the scope of delivery.

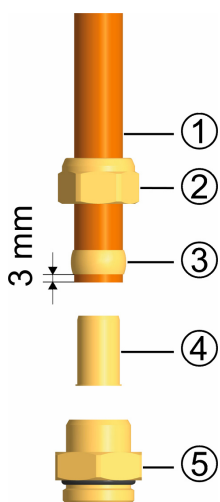
5.3.3 Wall bracket set for wall assembly

	Description	Item no.
	Wall bracket set DN 25	3422SET
	Wall bracket set DN 32	3722SET

Please observe the separate instructions. The wall bracket set is not included in the scope of delivery.

5.3.4 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!

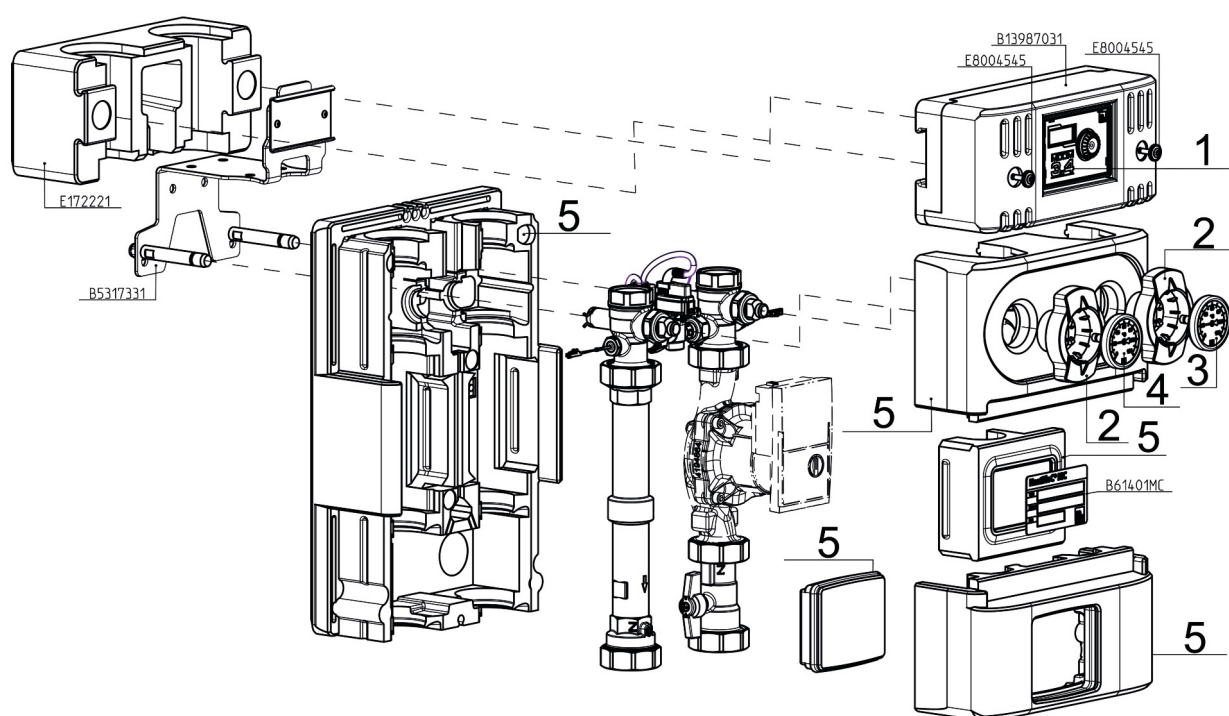
1. Push the union nut ② and the cutting ring ③ onto the copper pipe ①. The pipe must protrude at least 3 mm from the cutting ring in order to ensure the force transmission and the sealing.
2. Insert the support sleeve ④ into the copper pipe.
3. Insert the copper pipe with the plugged-on individual parts 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.

6 Scope of delivery [specialist]

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.

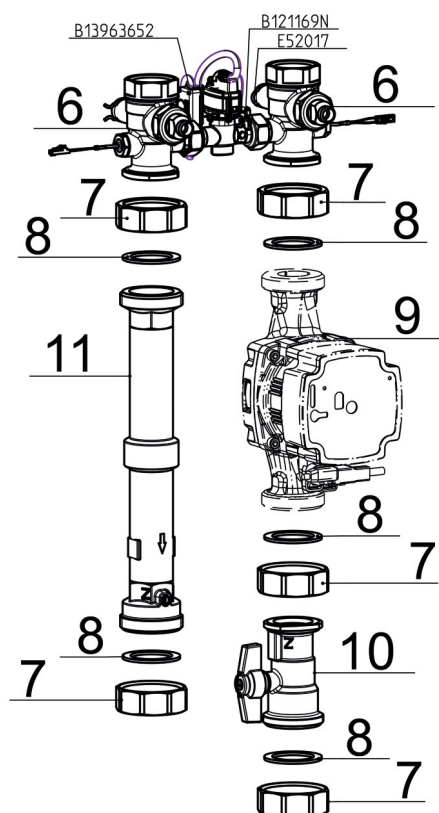
6.1 Insulation and controller DN 25



Item no. heating circuit	Item no. insulation	Pump	Item no. pump	EEI
4536013GU7	N00016	Grundfos UPM3 Hybrid 25-70	N00156	< 0.20
4536013WS08		Wilo Para STG 25/8-60/O	N00457	< 0.20

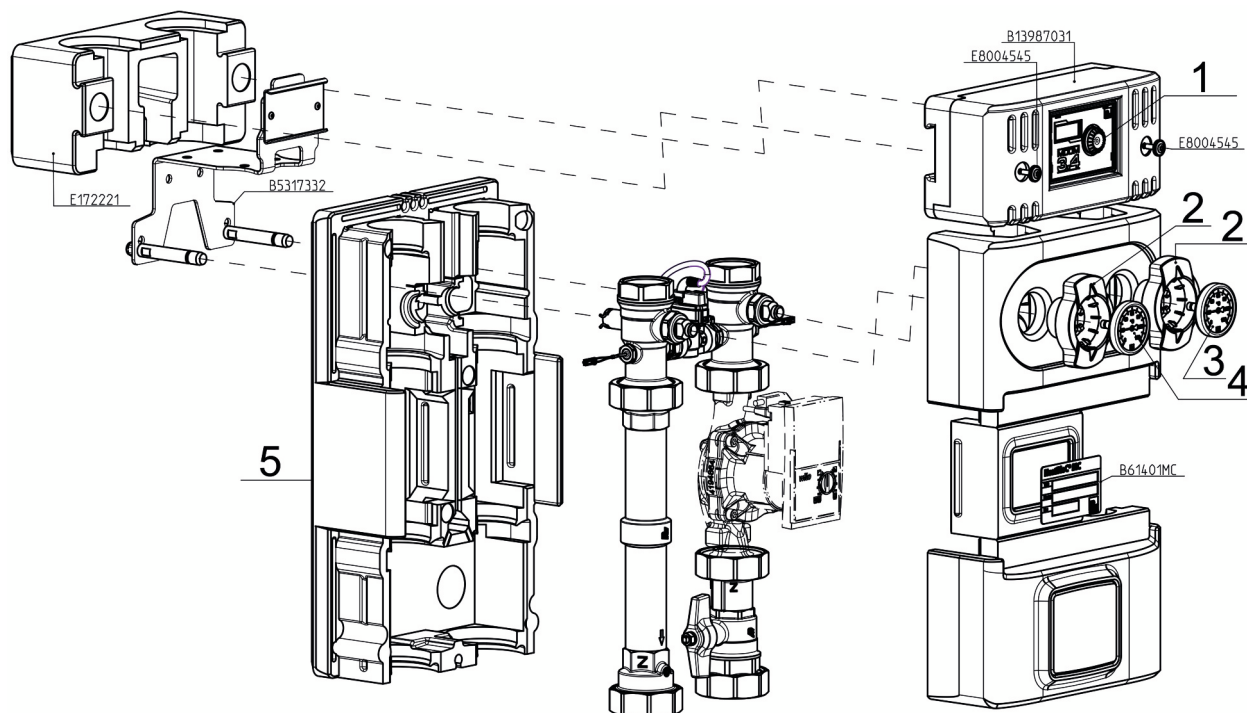
6 Scope of delivery [specialist]

6.2 Hydraulics DN 25



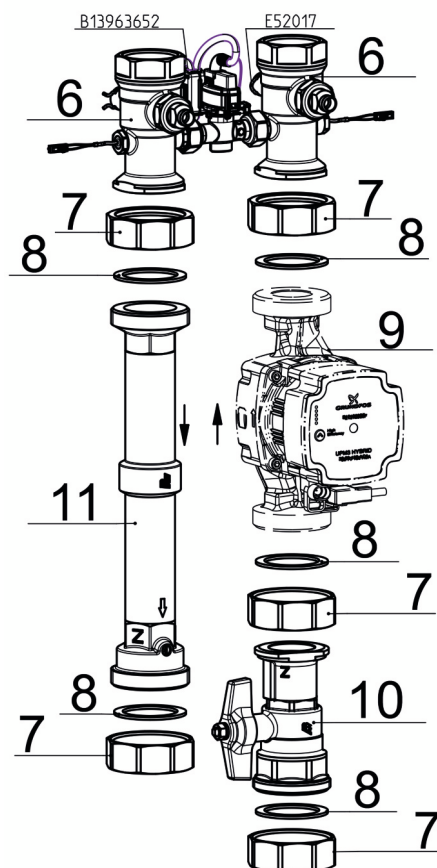
Position	Spare part	Item number
1	Controller MCom 3.4	N00143
2	Thermometer handle for ball valve 1" + 1/4"	N00248
3	Dial thermometer, red, d = 50 mm, 0 - 120 °C	N00242
4	Dial thermometer, blue, d = 50 mm, 0 - 120 °C	N00243
5	Insulation HeatBloC® DN 25	N00016
6	Thermometer ball valve DN 25, flange 1" x 1" int. thread	N00244
7	Union nut G1 1/2", wrench size 52, octagonal	N00269
8	Sealing kit, 44.0 x 32.0 x 2.0, 1", for thread connection 1 1/2", 10 pieces	N00131
9	Pump see adjacent table	
10	Pump ball valve DN 25, flange 1" x 1 1/2" ext. thread	2109N
11	Brass pipe DN 25, 2x 1 1/2" ext. thread, 262 mm, with check valve and seals	N00021

6.3 Insulation and controller DN 32



Item no. heating circuit	Item no. insulation	Pump	Item no. pump	EEL
4539013GU7	N00027	Grundfos UPM3 Hybrid 32-70	N00312	< 0.20
4539013WM08	B1715932	Wilo Para MAXO 30-180-08-F02	N00430	< 0.20

6.4 Hydraulics DN 32



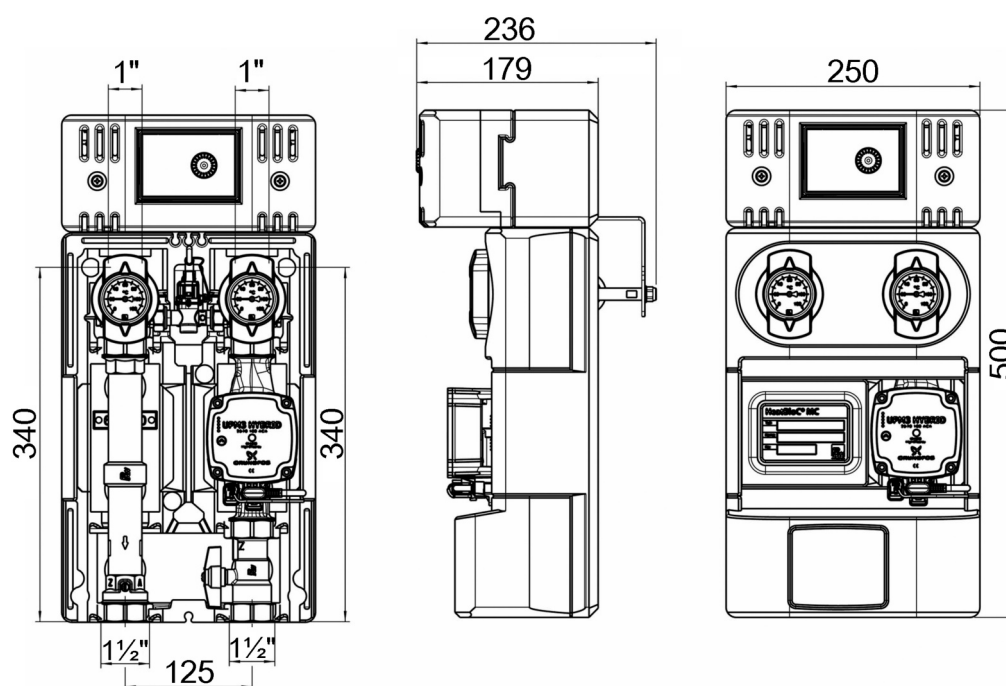
Position	Spare part	Item number
1	Controller MCom 3.4	N00143
2	Thermometer handle for ball valve 1" + 1¼"	N00248
3	Dial thermometer, red, d = 50 mm, 0 - 120 °C	N00242
4	Dial thermometer, blue, d = 50 mm, 0 - 120 °C	N00243
5	Insulation see adjacent table	
6	Thermometer ball valve DN 32, flange 1¼" x 1¼" int. thread	N00245
7	Union nut G 2", wrench size 64, octagonal	N00270
8	Seal 55.0 x 42.0 x 2.0, 1¼", for thread connection 2", EPDM, 10 pieces	N00133
9	Pump see adjacent table	
10	Pump ball valve DN 32, 2" ext. thread x flange 1¼"	N00539
11	Brass pipe DN 32, 2x 2" ext. thread x 292 mm, with check valve & seals	N00140

7 Technical data

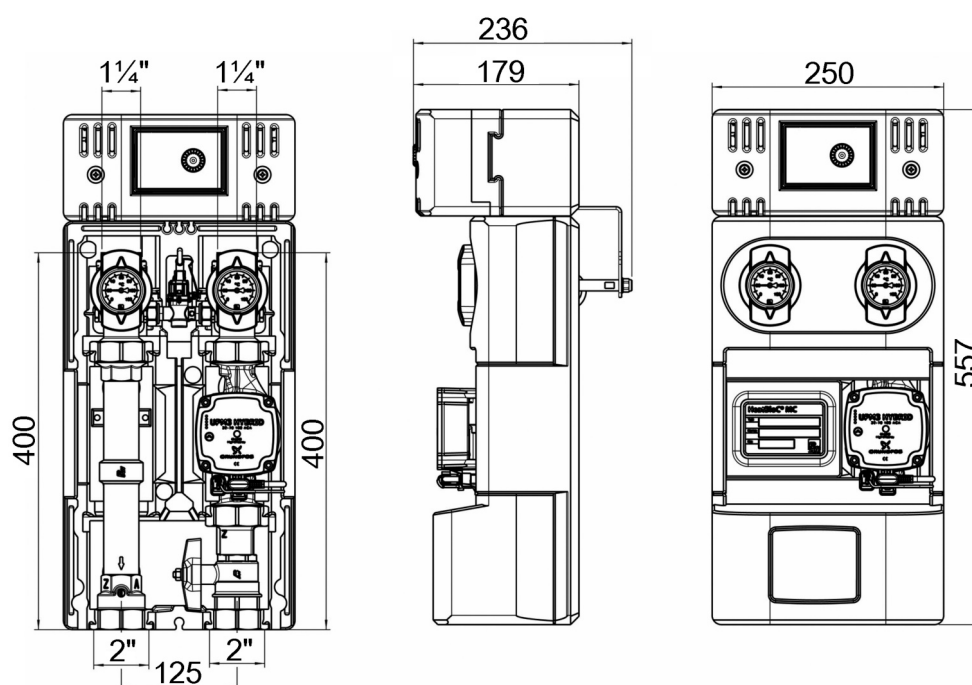
HeatBloC® MC41	DN 25 (1")	DN 32 (1¼")
Dimensions		
Centre distance	125 mm	125 mm
Width insulation	250 mm	250 mm
Height insulation	500 mm	557 mm
Installation length	340 mm	400 mm
Connections		
Connection consumer	1" int. thread	1¼" int. thread
Connections generator	1½" ext. thread	2" ext. thread
Operating data		
Max. pressure	6 bar	6 bar
Max. temperature	110 °C	110 °C
K _{VS} value [m³/h]	7.2	15.1
Opening pressure check valve	200 mm wc, can be opened	
Materials		
Valves and fittings	Brass	
Seals	AFM34 / EPDM	
Insulation	EPP	

7 Technical data

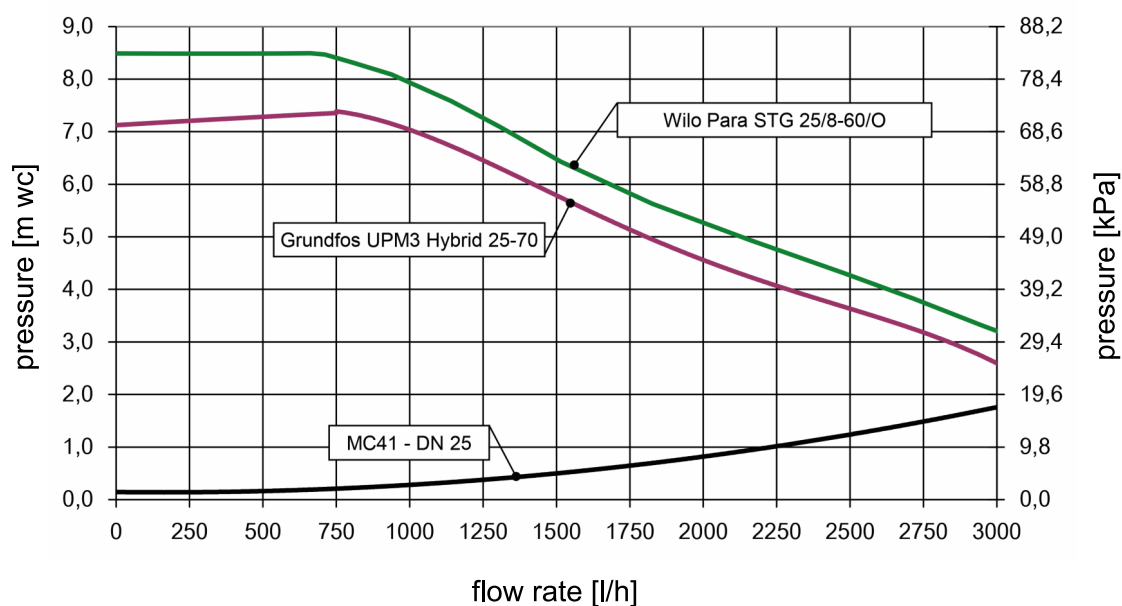
7.1 Dimensional drawing DN 25



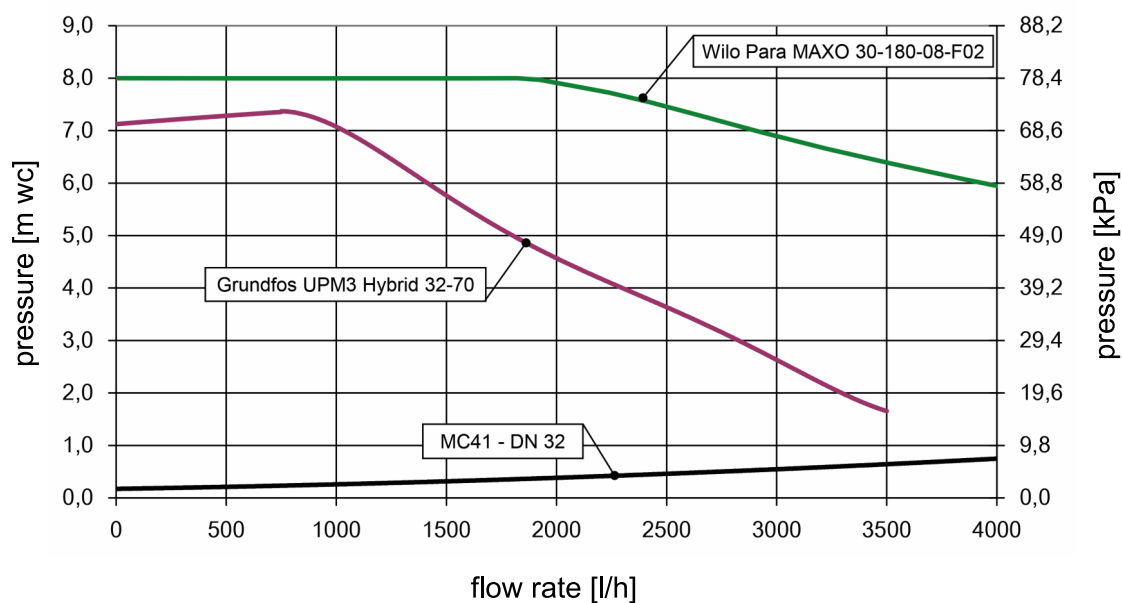
7.2 Dimensional drawing DN 32



7.3 Pressure drop and pump characteristic curves DN 25

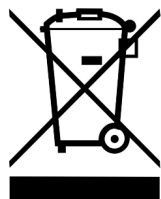


7.4 Pressure drop and pump characteristic curves DN 32



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 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.



9 Notes

Item no. 99453x013x-mub-en

Translation of the original instructions

We reserve the right to make technical changes without notice!

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