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English

Installation and Operation Instructions

CoolBloC - C31

DN 25 / DN 32

DN 25

DN 32

Contents

Item no. 99423x013GK7-mub-en – Version V03 – Issued 2018/11

Translation of the original instructions

PAW GmbH & Co. KG

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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 unmixed CoolBloC C31 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 CoolBloC may only be used in heating circuits taking into consideration
the technical limit values indicated in these instructions.

The CoolBloC must **not** be used in drinking water applications.
Improper usage of the CoolBloC 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 CoolBloC.

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 regulations
- accident prevention regulations of the professional association
- instructions and safety instructions of this manual

CAUTION

Personal injury and damage to property!

The CoolBloC must only be used in heating circuits filled with heating water according to VDI 2035 / Ö-Norm H 5195-1.

The CoolBloC 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 get lost. We do not assume liability nor provide warranty for damage to property resulting from sealants damaged in this way.

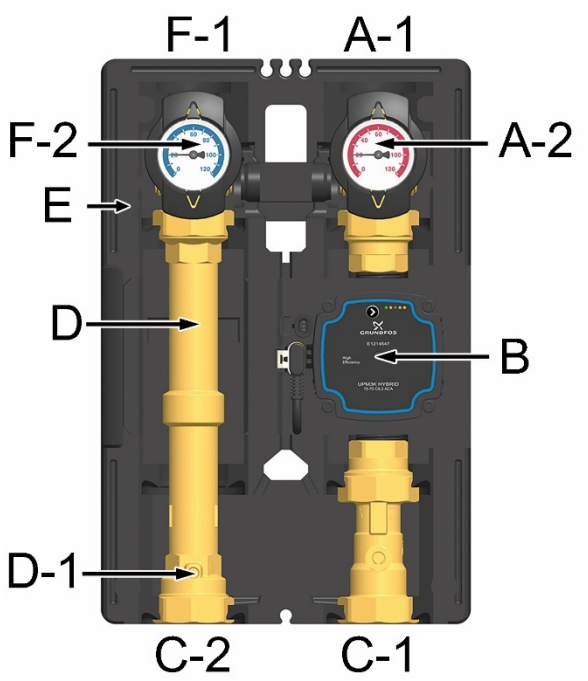
- ➢ It is imperative to avoid that EPDM gets in contact with substances containing mineral oils.
- ➢ Use a lubricant based on silicone or polyalkylene and free from mineral oils, such as Unisilikon L250L and Syntheso Glep 1 of the Klüber company or a silicone spray.

3 Product description

The CoolBloC C31 is a pre-assembled group of fittings for heating and cooling circuits. The integrated pump can be isolated by means of the ball valves and can thus be maintained easily.

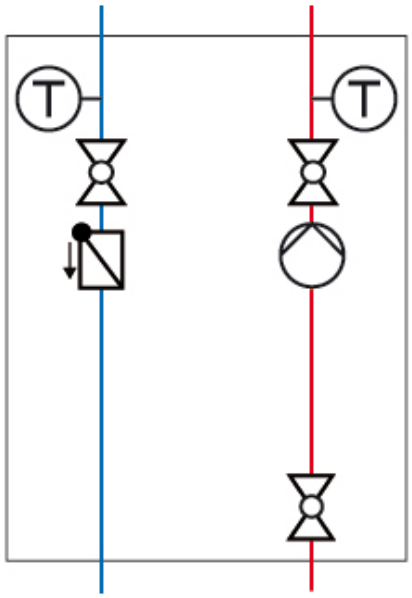
The CoolBloC can be mounted with a thermally decoupled wall bracket or alternatively on a modular PAW distribution manifold. With transition connections, PAW CoolBloCs can also be mounted on PAW modular distribution manifolds of other dimensions.

3.1 Equipment



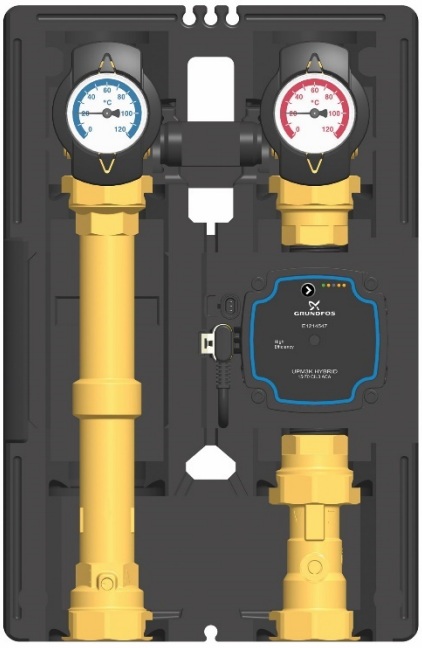
A-1	Flow to the consumer circuit
A-2	Plastic thermometer with immersion sleeve, integrated in the ball valve (flow)
B	Circulation pump, approved for cooling operation
C-1	Flow from the heat / cold generator
C-2	Return to the heat / cold generator
D-1	Check valve, can be opened
D	Return pipe
E	Design insulation with optimised function
F-2	Plastic thermometer with immersion sleeve, integrated in the ball valve (return)
F-1	Return from the consumer circuit

3.2 Function



C31 – direct CoolBloC

An integrated circulation pump transports the fluid from the heat / cold 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 is equipped with special sealing lips and an insulating element for the pump. It is thus avoided that heat energy gets lost during heating operation.
During cooling operation, the insulation reduces possible condensation.



Application range:

- Heating and cooling circuits for modulating temperature operation

3.2.1 Check valve

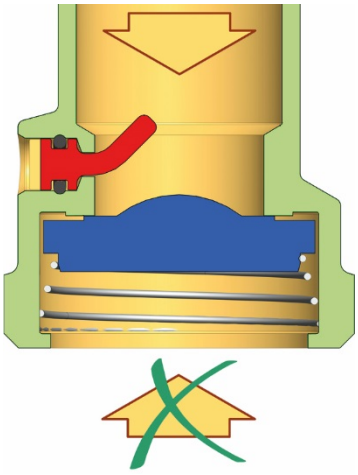
The CoolBloC is equipped with a check valve (D-1) in the return pipe. The check valve can be opened.

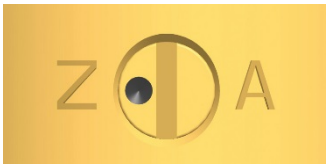
Operation

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

→ The check valve is closed.

→ Flow only in the direction of the arrow.



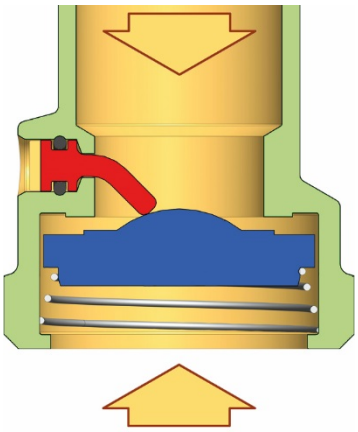


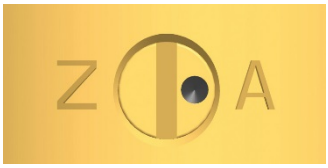
Filling, draining, venting

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

→ The check valve is open.

→ Flow in both directions.





4 Assembly and installation [specialist]

The CoolBloC C31 can be mounted on a thermally decoupled wall bracket or on stair bolts. The wall bracket and the stair bolts with wall plugs are optional accessories and are thus not included in the scope of delivery.

NOTICE

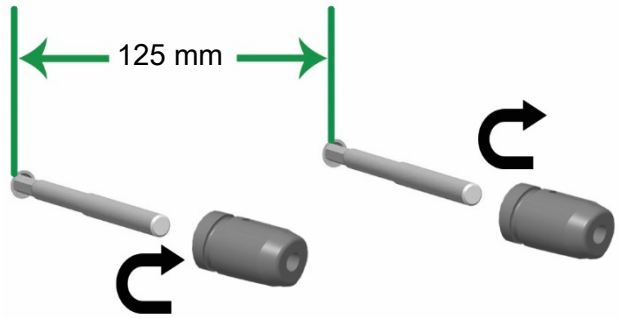
Damage to property!

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

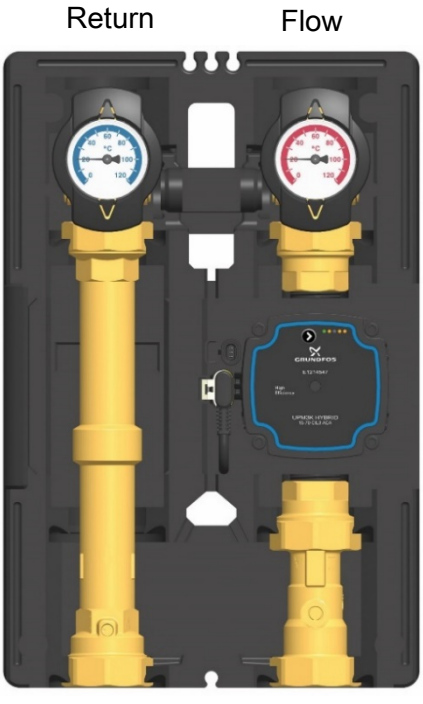
4.1 Installation and commissioning of the CoolBloC

The CoolBloC can be installed

- **Option 1**:
  with stair bolts M8 and wall plugs
  (not included in the scope of delivery).

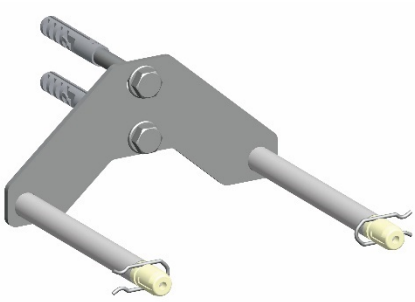


Consumer circuit

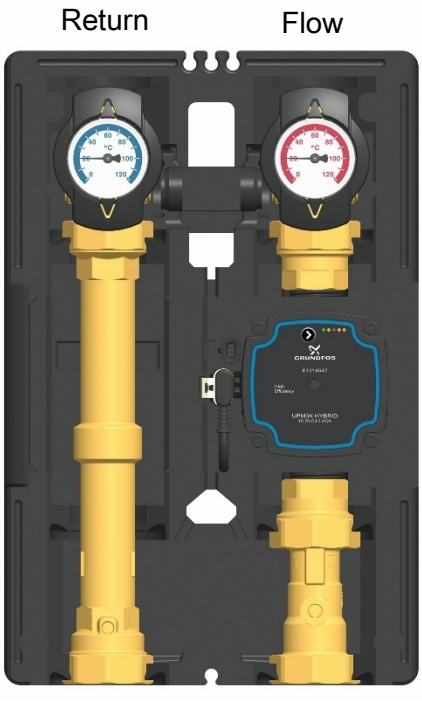


Heat / cold generator

- **Option 2**:
  directly on a wall bracket
  (not included in the scope of delivery).



Consumer circuit



Heat / cold generator

Fig. 1

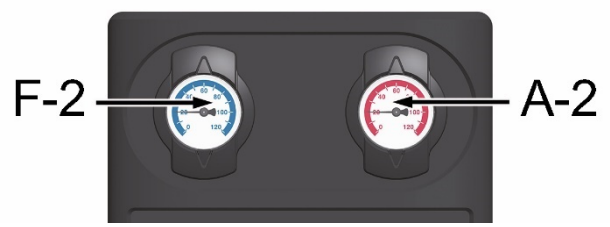


Fig. 2

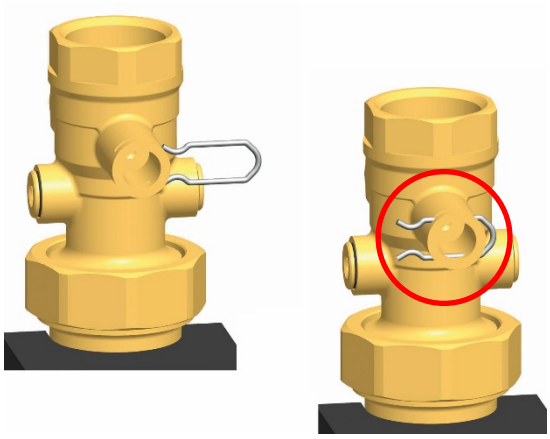


Fig. 3

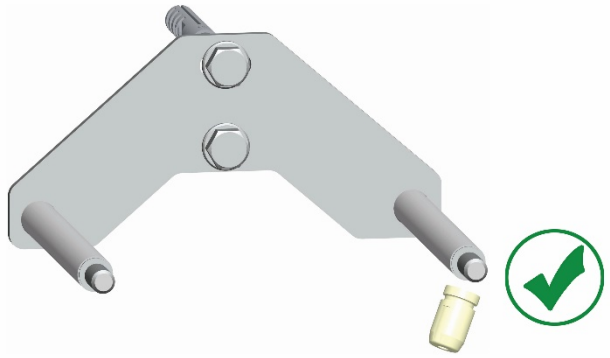
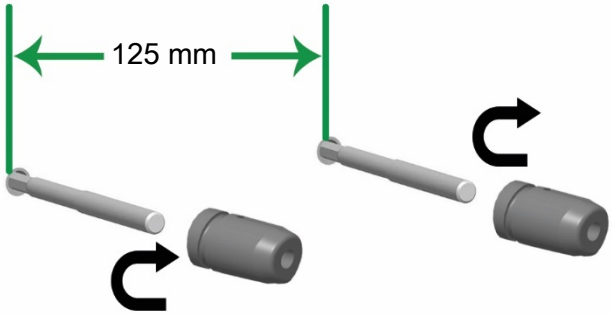


Fig. 4



1. Remove the thermometer handles (A-2, F-2) (see figure 1).
2. Remove the insulating front shell of the CoolBloC in the following order:
   - Remove the upper insulating element of the thermometers.
   - Remove the insulating element above the return pipe.
   - Remove the lower insulating element.
3. Put the clips in the groove of the ball valves (see figure 2).

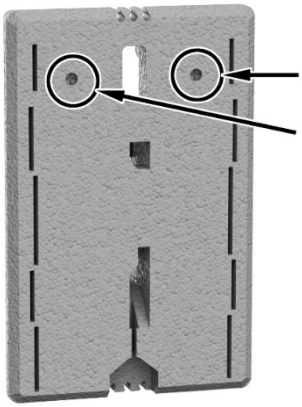
For assembly on a wall bracket:

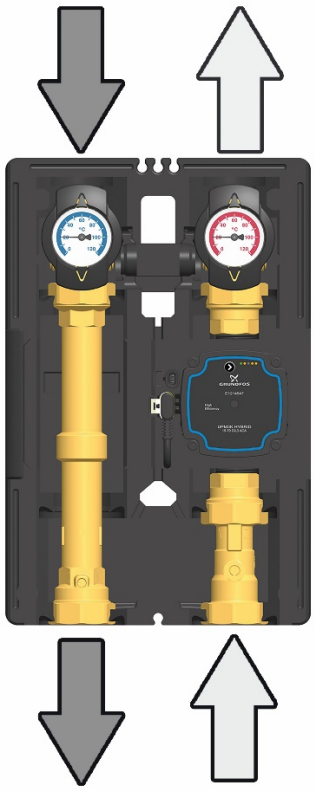
4. Mount the wall bracket to the wall.
5. To fix the plastic stop bolts, the notch must point in the direction of the wall bracket (see figure 3). Screw the stop bolt on the thread of the wall bracket.
6. Continue with point 9.

For assembly with stair bolts:

7. Mount two stair bolts M8 with a distance of 125 mm (see figure 4). The stair bolts must stick out of the wall by at least 65 mm.
8. Screw the plastic stop bolt with the groove pointing in the direction of the wall on the stair bolts.

Fig. 5





9. Punch out the holes at the marked areas in the insulation (see figure 5).
10. Push the insulation on the wall bracket or on the stair bolts.
11. Now push the fittings on the wall bracket or on the stair bolts until the clips snap in.
12. Pull the insulating back shell forward to the fittings such that they snap in.
13. Connect the cable with the pump and insert the cable in the cable channel.
14. Connect the CoolBloC to the installation by using the pipes. The installation to the piping must be carried out without any tension.
15. Connect the pump.
16. Carry out a pressure test and check all thread connections.
17. Mount the insulation in the following order:
    - Insulating element above the return pipe
    - Upper insulating element for the thermometers
    - Lower insulating element
18. Mount the thermometers.

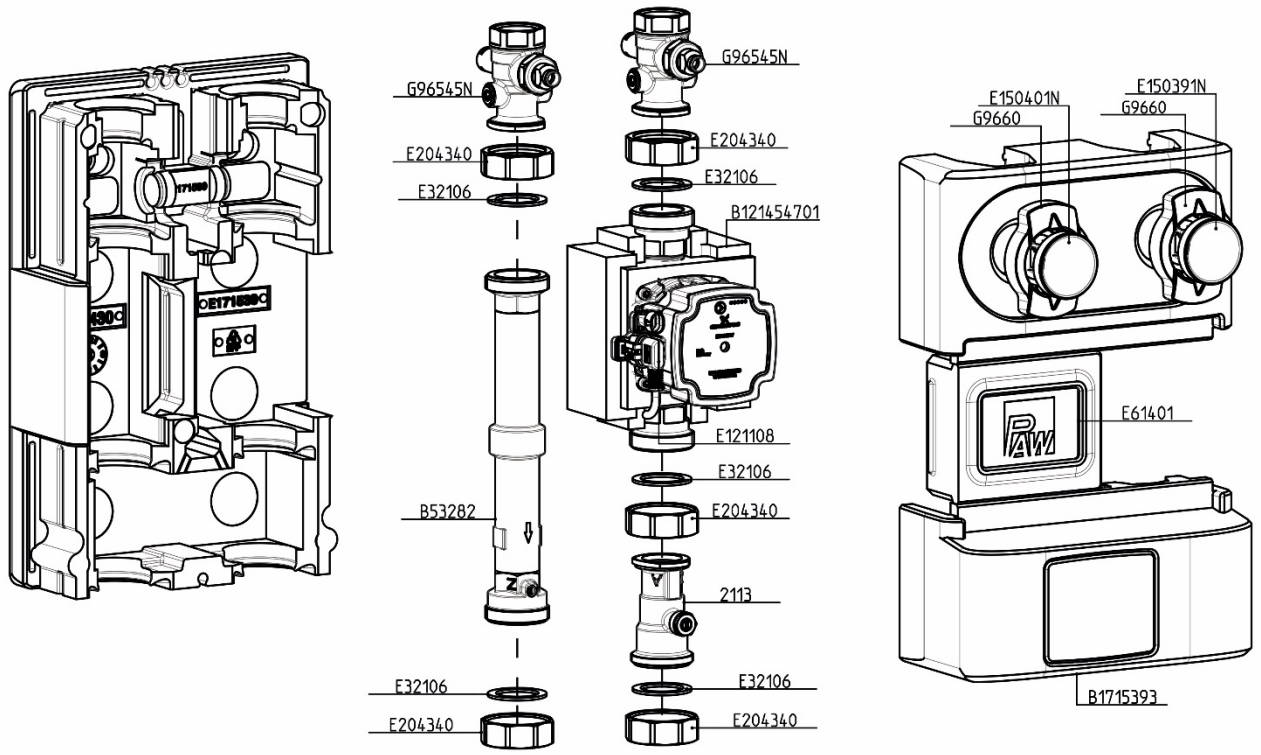
5 Scope of delivery [specialist]

NOTICE

Complaints and requests/orders of spare parts will only be processed with information on the serial number!

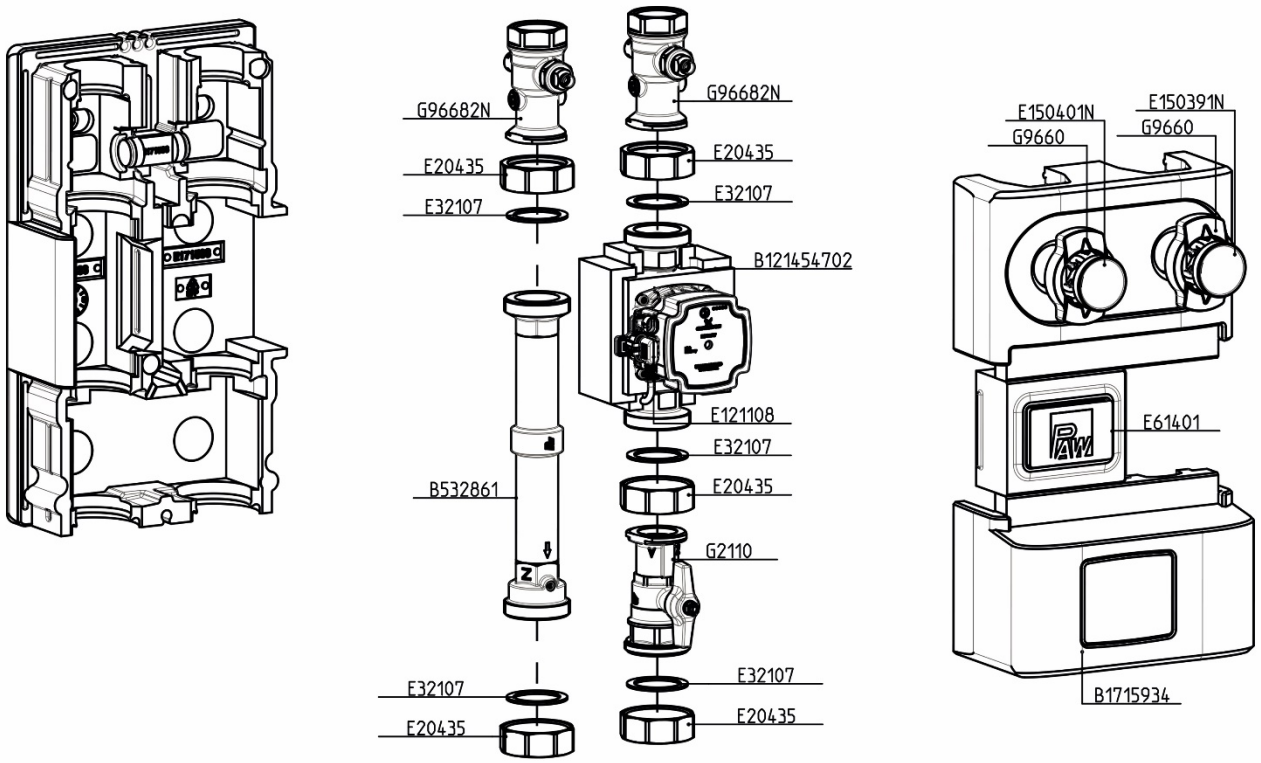
The serial number is placed on the return pipe of the cooling circuit.

5.1 Spare parts DN 25



Item no. cooling circuit	Pump	Item no.	EEI
4236013GK7	Grundfos UPM3K Hybrid 15-70 CIL	E1214547	< 0.20
4236013WG8	Wilo-Yonos PARA-RSTG 25/7.5	E1236247	< 0.21

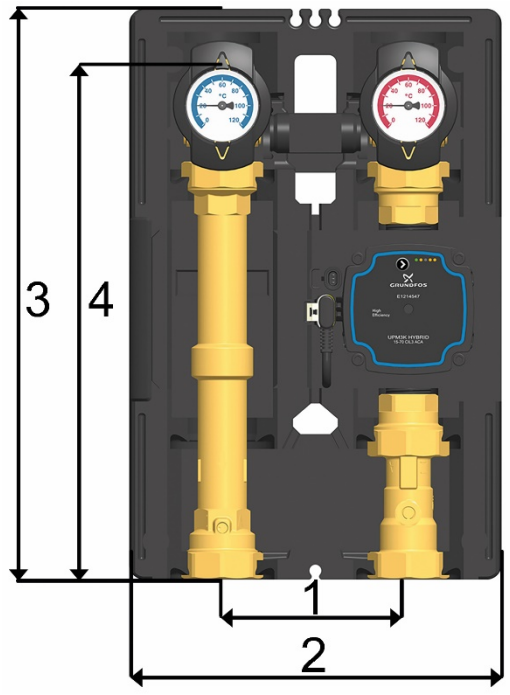
5.2 Spare parts DN 32

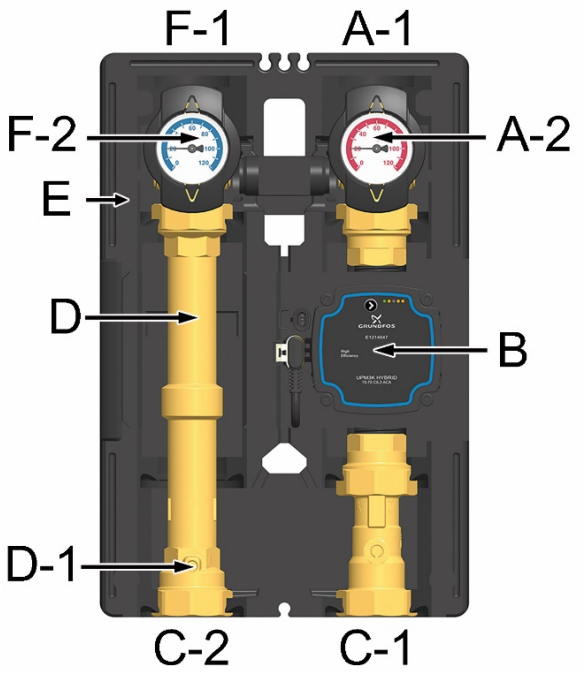


Item no. cooling circuit	Pump	Item no.	EEI
4239013GK7	Grundfos UPM3K Hybrid 15-70 CIL	E1214547	< 0.20
4239013GL9	Grundfos UPML 32-95 Auto	E121704	< 0.23
4239013WG8	Wilo-Stratos PARA 30 1-8 T2	E12395122	< 0.23

6 Technical data

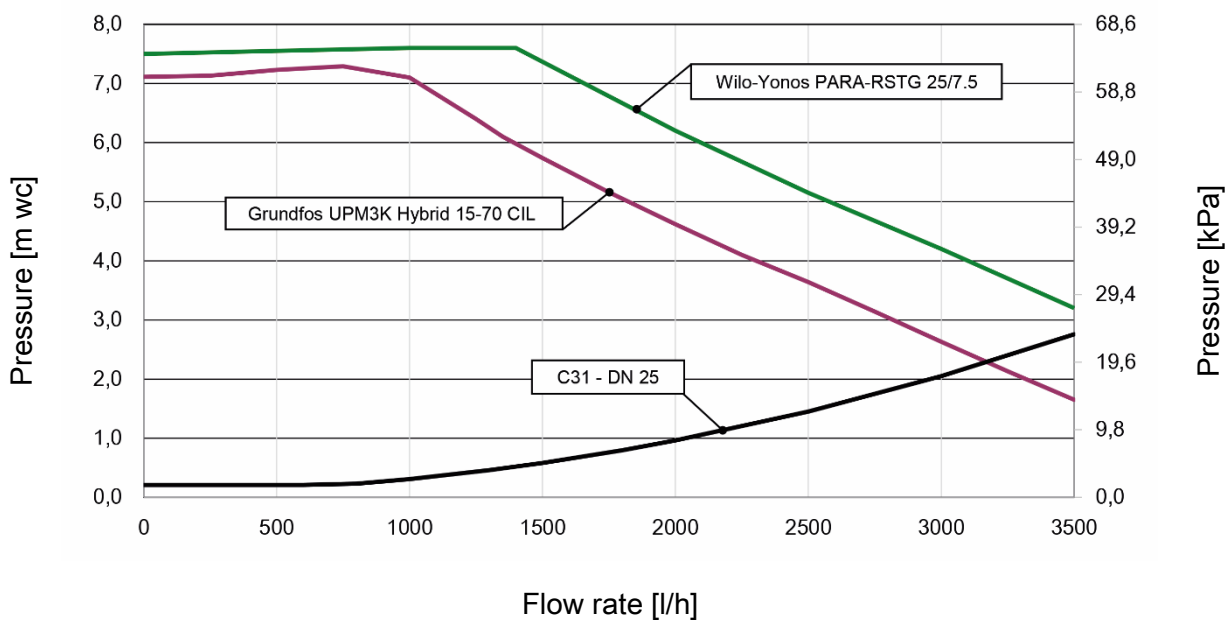
C31	DN 25 (1")	DN 32 (1¼")
Dimensions		
Centre distance (1)	125 mm	125 mm
Width insulation (2)	250 mm	250 mm
Height insulation (3)	383 mm	441 mm
Installation length (4)	342 mm	400 mm
Connections		
Outlet (A-1, F-1)	1" int. thread	1¼" int. thread
Inlet (C-1, C-2)	1½" ext. thread, flat sealing	2" ext. thread, flat sealing
Technical data		
Opening pressure check valve (D-1)	200 mm wc, can be opened	
Materials		
Valves and fittings	Brass	
Gaskets	EPDM	
Insulation	EPP	



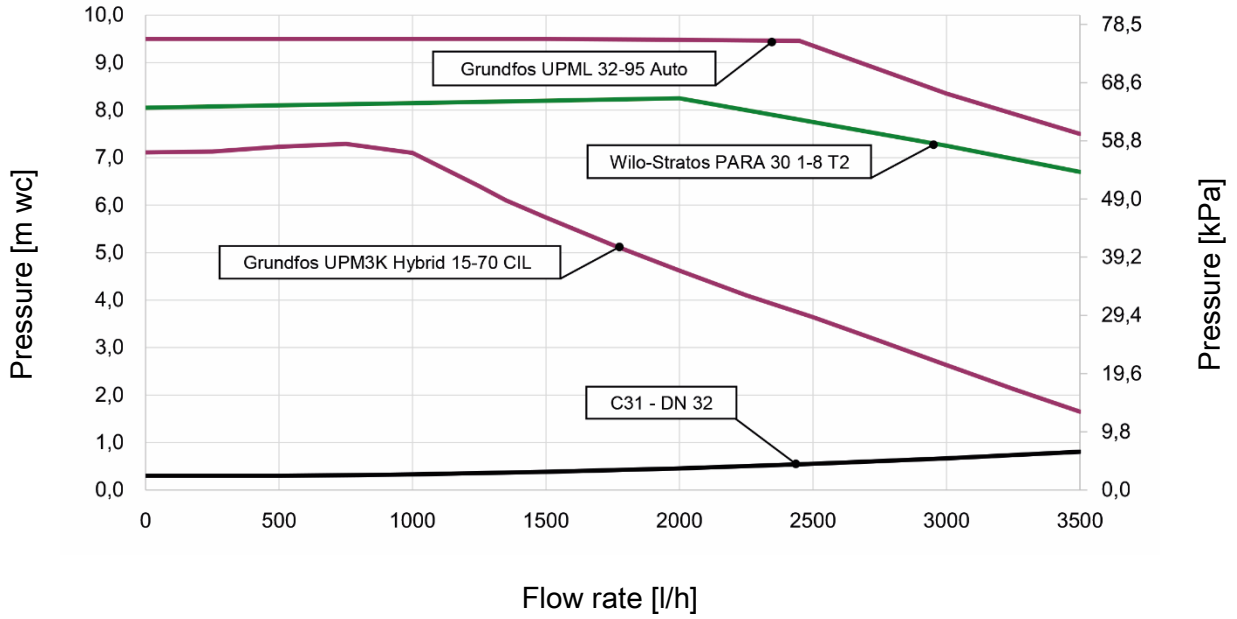


C31	DN 25 (1")	DN 32 (1¼")
Hydraulics		
Max. pressure	6 bars	
Minimum temperature*	+ 5 °C	
Max. temperature	95 °C	
K_{VS} value [m³/h]	7.2	15.1
* In general, the cooling water temperature must not fall below 15 - 16 °C in order to minimise the formation of condensation water (shortfall of the dew point temperature) at the system components. The diagram on page 15 allows a rough estimation to know if the dew point temperature is undercut.		

6.1 Pressure drop and pump characteristic curve C31 - DN 25

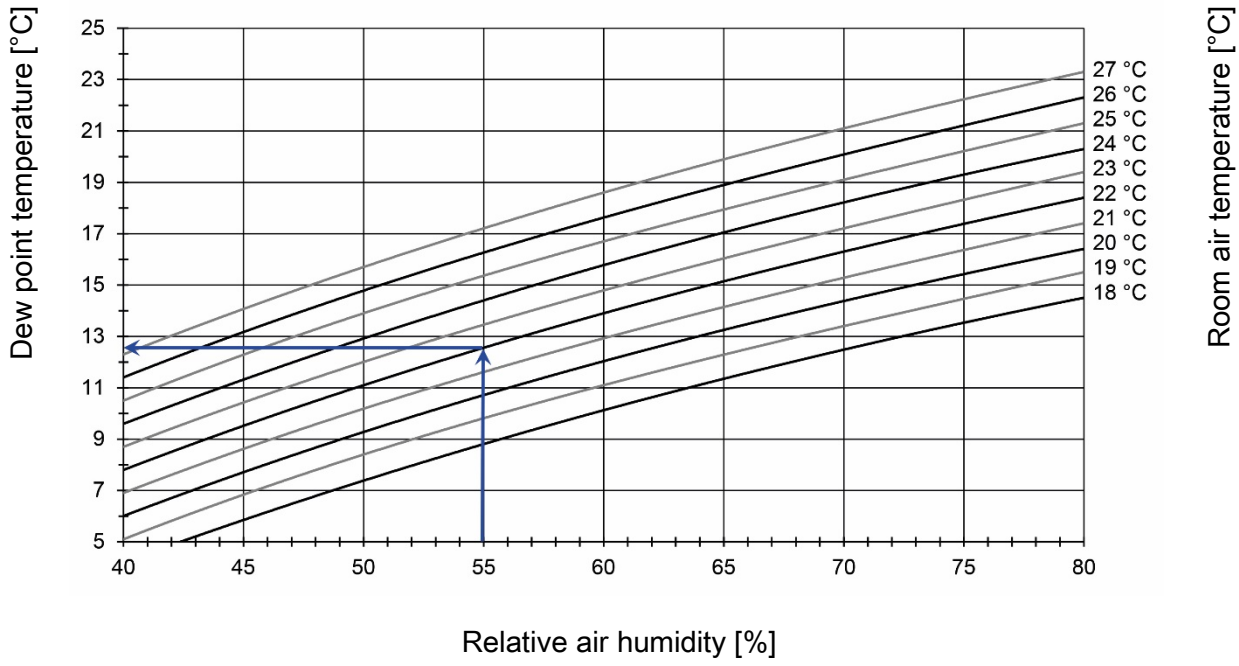


6.2 Pressure drop and pump characteristic curve C31 - DN 32



6.3 Determination of the dew point

Example: Room air temperature 22 °C, relative air humidity 55%,
dew point temperature 12.5 °C



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