



Installation Instructions

Circulation set for FriwaMidi-/Maxi-/ Mega-Kaskade



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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 assembly and the installation of the circulation set for the FriwaMidi-Kaskade, FriwaMaxi-Kaskade and FriwaMega-Kaskade.

The chapters marked with [specialist] are intended for specialists only.

For other components of the system, such as the domestic hot water module, tanks, controllers or pumps, please observe the instructions of the corresponding manufacturer.

This circulation set 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.

1.2 About this product

The circulation set allows you to connect a circulation line to the domestic hot water module FriwaMidi-Kaskade, FriwaMaxi-Kaskade and FriwaMega-Kaskade. Depending on the position of the circulation line, the circulation set can be mounted vertically or horizontally.

1.3 Designated use

The circulation set must only be used for the external installation on a FriwaMidi-Kaskade, FriwaMaxi-Kaskade and FriwaMega-Kaskade. The installation at the inside of the station is not possible!

Only use PAW accessories with the circulation set. Improper usage of the product excludes any liability claims.

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

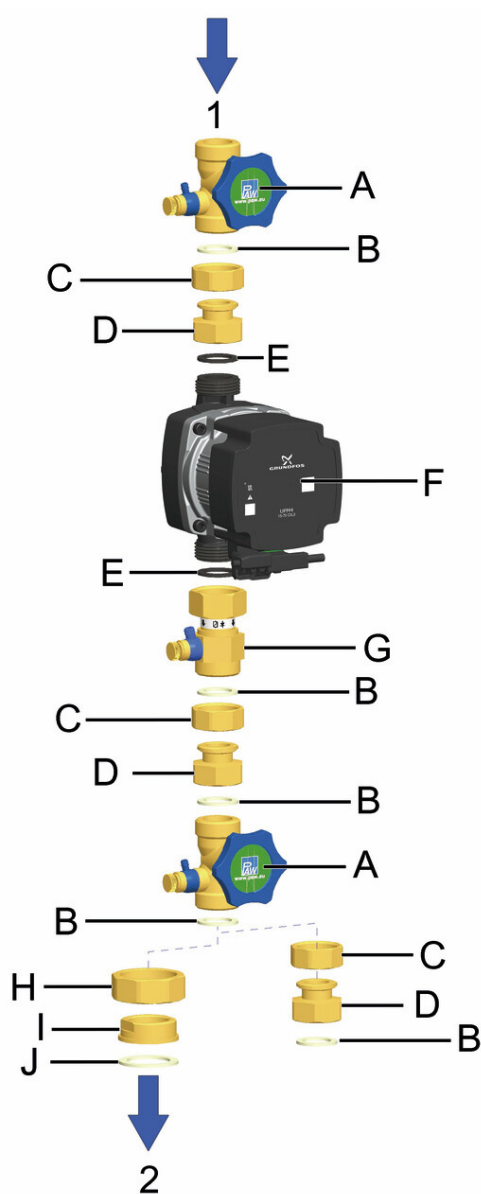
NOTICE

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



Connections

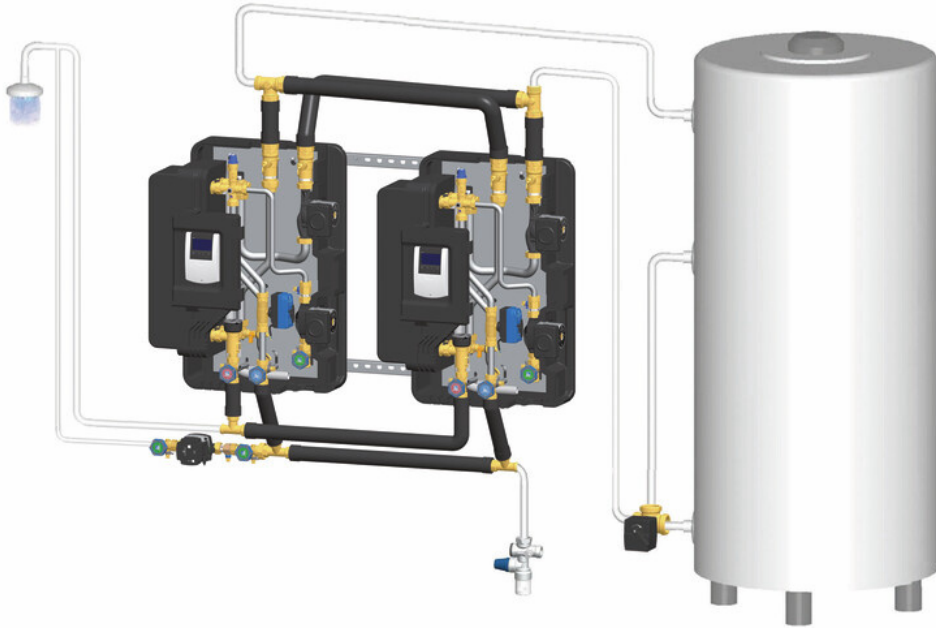
- 1 Circulation line
- 2 Cold domestic water inlet domestic hot water module

Equipment

- A Piston valve
- B Gasket (Klingsil), 5x
- C Union nut
- D Flange sleeve
- E Gasket (EPDM), 2x
- F Circulation pump
- G Non-return valve with drain valve
- H Union nut
- I Insert fitting
- J Gasket (Klingsil), 1x

Please note: For the circulation set with item no. 6404136GH10, the non-return valve [G] is located below the upper piston valve [A].

Mounting example circulation set FriwaMidi/Maxi-Kaskade



Mounting example circulation set FriwaMega-Kaskade



4 Mounting and installation [specialist]

WARNING

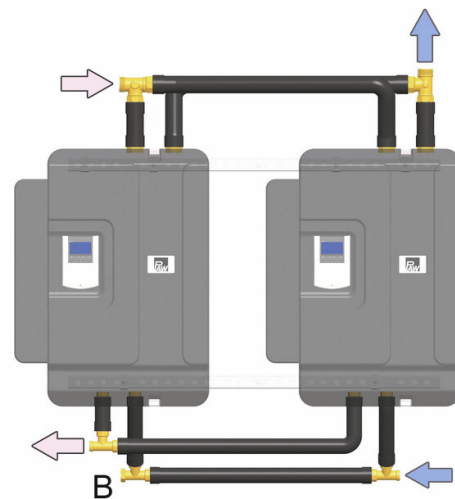


Risk to life and limb due to electric shock!

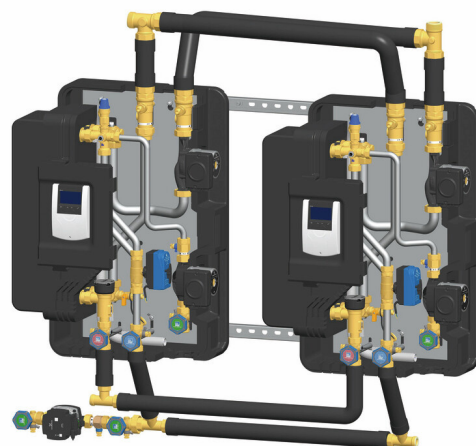
- ▶ Prior to commencing electrical work on the controller, pull the mains plug!
- ▶ Only after completing all installation work, plug the mains plug of the controller into a socket. An unintentional start of the motors is thus avoided.

4.1 FriwaMidi/Maxi-Kaskade

1. Remove the cap at the circulation line (B).



2. Mount the circulation line to the connection.
Observe the direction of flow through the check valve.
3. Adjust the circulation pump and connect the cable to the controller of the client. Please observe the instructions of the pump!

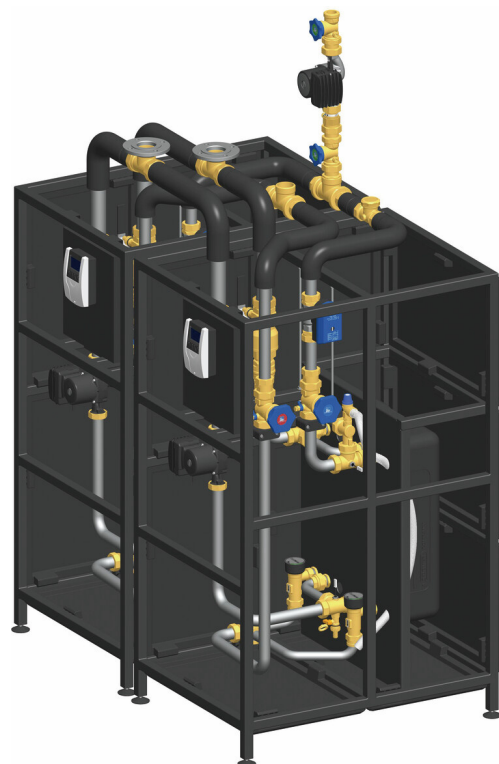


4.2 FriwaMega-Kaskade

1. Remove the cap at the circulation line (B).



2. Mount the circulation line to the connection.
Observe the direction of flow through the check valve.
3. Adjust the circulation pump and connect the cable to the controller of the client. Please observe the instructions of the pump!



4.3 Controller connection FC3.10

NOTICE

Damage to property!

When the DHW module is delivered, the circulation is not activated (see controller instructions, chapter *Circulation*). It is mandatory to select and preset the operation mode. The revolution speed of the circulation pump is defined via the PWM signal (factory setting: 40%).

WARNING



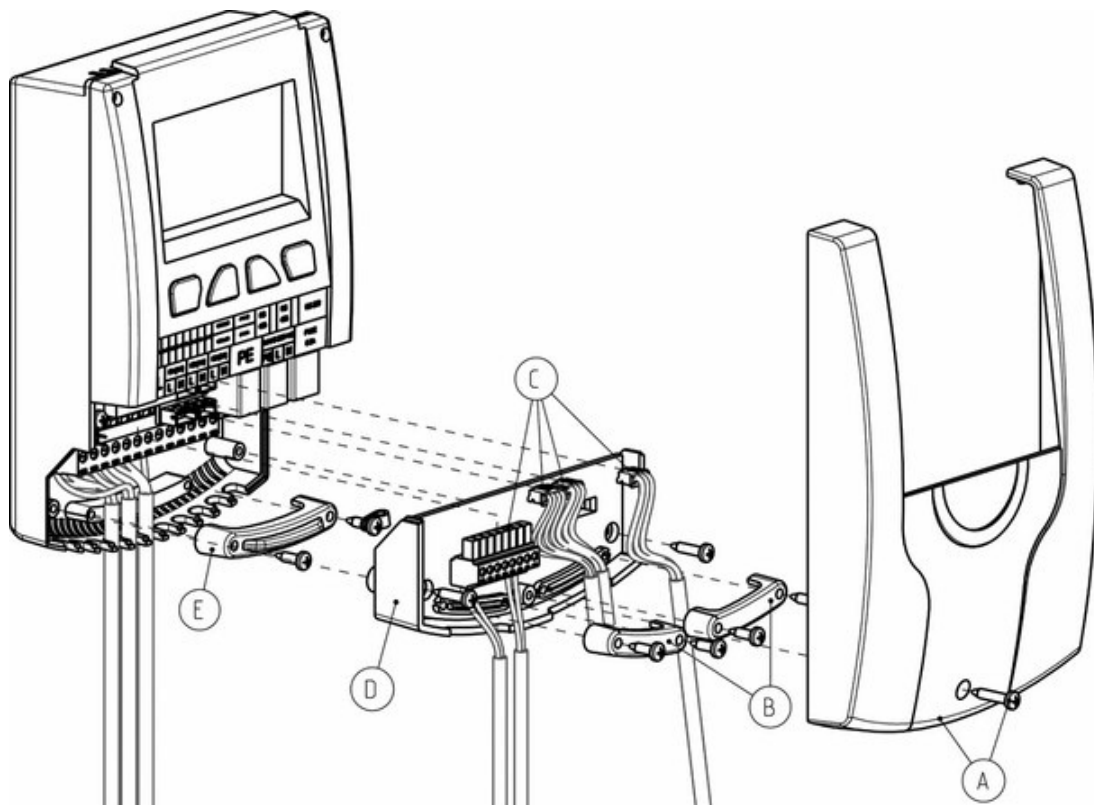
Risk to life and limb due to electric shock!

- ▶ Prior to commencing electrical work on the controller, pull the mains plug!
- ▶ Only after completing all work, plug the mains plug into a socket. This avoids an unintentional start of the motors.

For the operation of the circulation pump, three possible operation modes are stored in the controller (see also controller instructions, chapter *Circulation*).

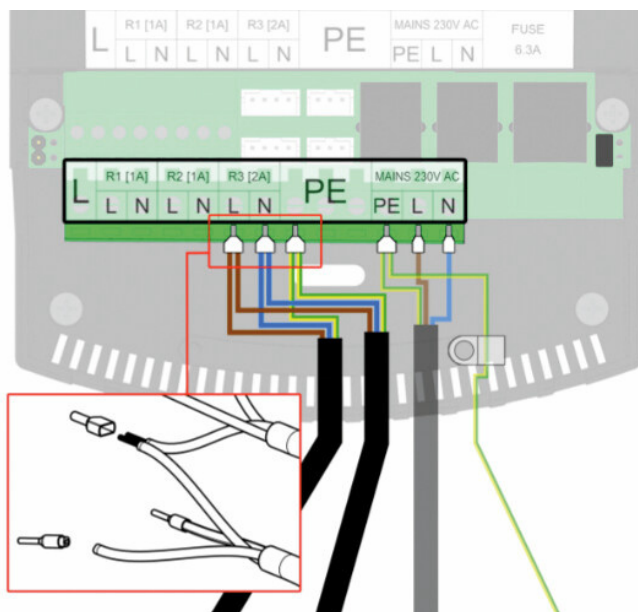
The following figures show how to wire the circulation pump with the control.

1. Disconnect the power supply of the system.
2. Run the PWM2 cable to the controller. Make sure that the cable doesn't get in contact with hot components.
3. Remove the white front panel of the controller (A).

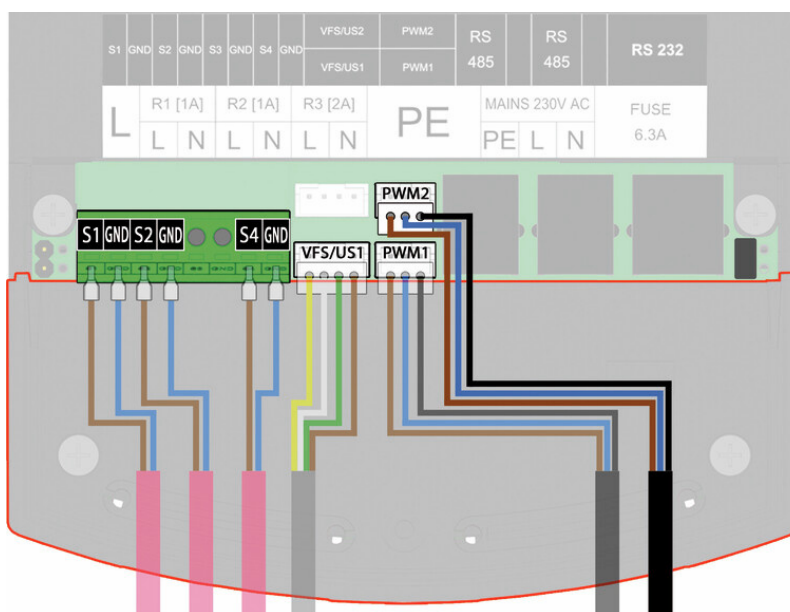


4. Then, remove the strain reliefs (B).
5. After that, remove the sensor cables of the VFS/US sensors, of the PWM signal and the temperature sensors from the controller circuit board plug connector (C). Alternatively, you can pull out the entire PCB connector with cables.
6. In the next step, unscrew the two screws to remove the intermediate level (D).
7. Remove the strain relief on the 230 V level (E).
8. Both pumps (primary pump and circulation pump) must be connected to the relay 3 by means of the enclosed duo wire end ferrules (brown - L, blue - N, green-yellow - PE).

4 Mounting and installation [specialist]



9. Finally mount the intermediate level and connect the sensor cables to the controller. Connect the PWM1 (primary pump) and the PWM2 cable (circulation pump) with the controller. Please observe the following connection scheme:



10. Mount the front panel of the controller.
11. Connect the circulation pump with the enclosed cable "Psec".
12. Set up the power supply and put the controller into operation according to the controller instructions.

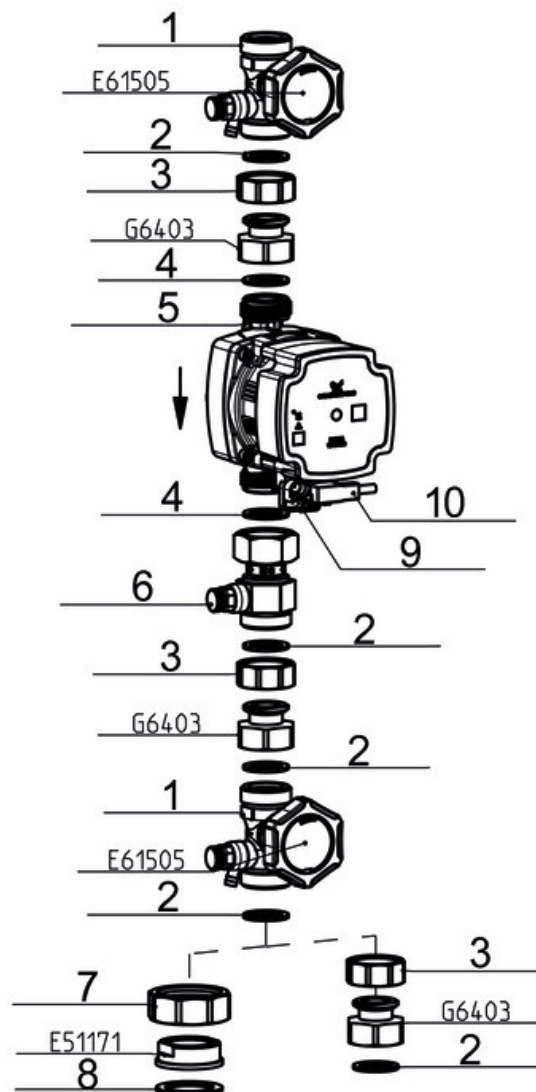
5 Scope of delivery

NOTICE

Serial number

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

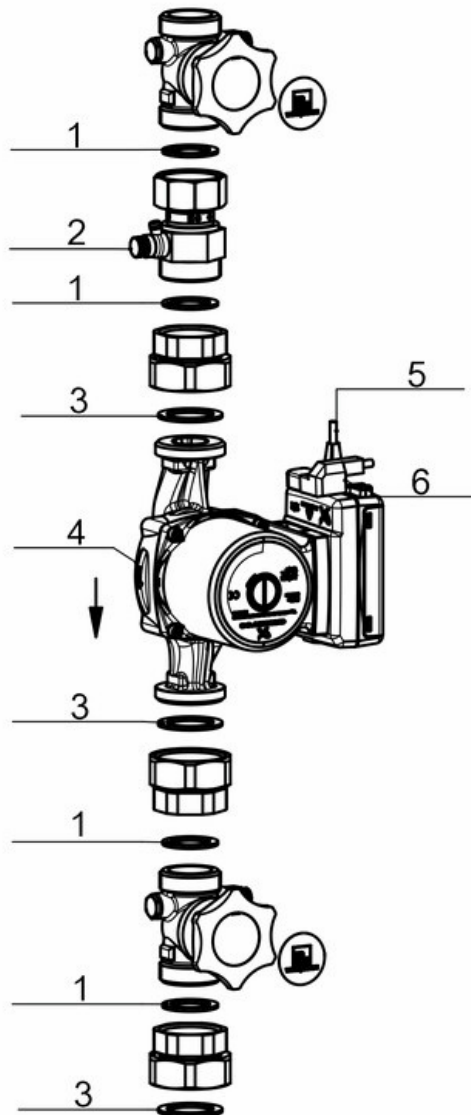
5.1 Spare parts DN 20



5 Scope of delivery

Position	Spare part	Item number
1	Piston valve DN 20, 2x 1" ext. thread, blue handle, with seals	N00211
2	Sealing kit ½", for thread connection 1", AFM, 10 pieces	N00024
3	Union nut G 1", wrench size 37, octagonal	N00302
4	Sealing kit ½", for thread connection 1", EPDM, 10 pieces	N00129
5	Circulation pump Grundfos UPM4 15-70 CIL3, with seals	N00003
6	Non return valve DN 20, 1" ext. thread x 1" union nut, with seals	N00283
7	Union nut G 1½", octagonal	N00269
8	Sealing kit 1", for thread connection 1½", 10 pieces	N00036
9	SuperSeal Mini, on JST-PHR3	N00205
	SuperSeal Mini, on core end sleeves	N00206
10	Pump cable, 2.5 m, SuperSeal right-angle plug with core end sleeves	N00207

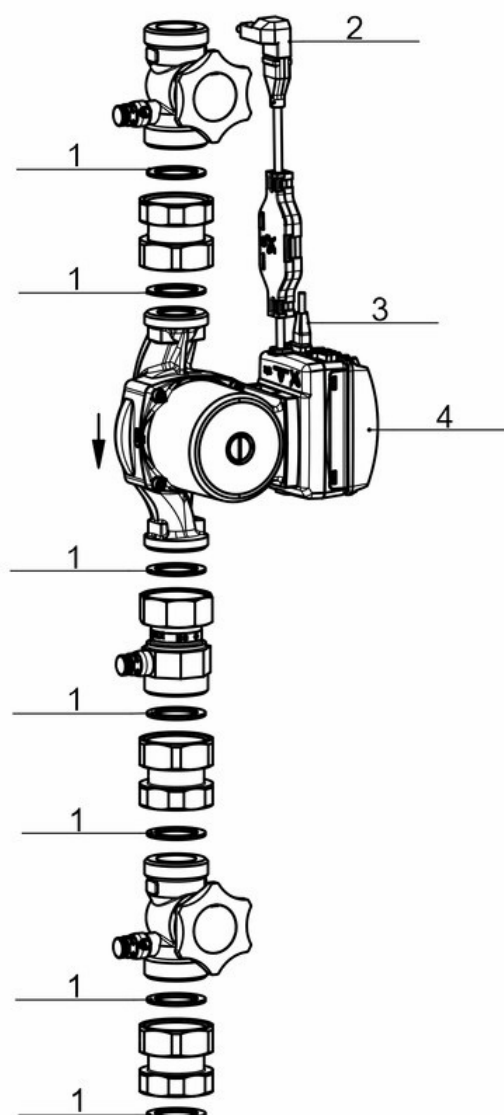
5.2 Spare parts DN 25



Position	Spare part	Item number
1	Sealing kit 3/4", for thread connection 1 1/4", 10 pieces	N00174
2	Non-return valve DN 25 for circulation line, 1 1/4" ext. thread x 1 1/4" union nut	N00167
3	Sealing kit 1", for thread connection 1 1/2", 10 pieces	N00036
4	Circulation pump Grundfos UPML 25-105 N, with seals	N00357
5	PWM connection cable 2.5 m	N00384
6	Pump cable 2.5 m, 3-pin Molex right-angle plug	N00198

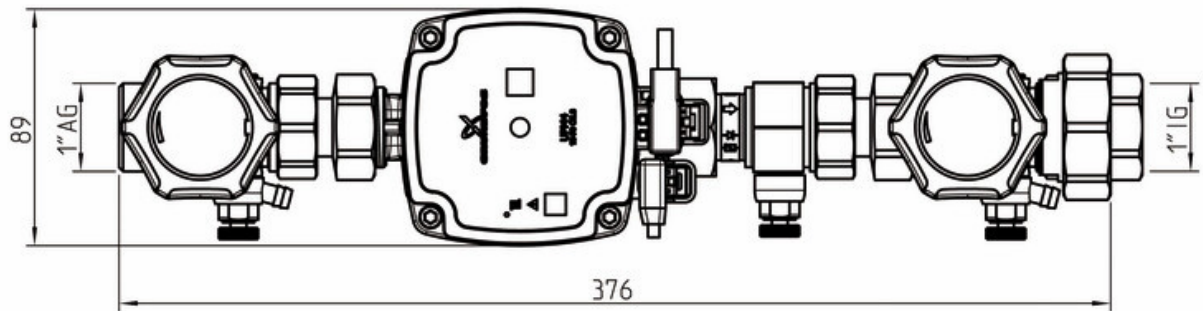
5 Scope of delivery

5.3 Spare parts DN 32

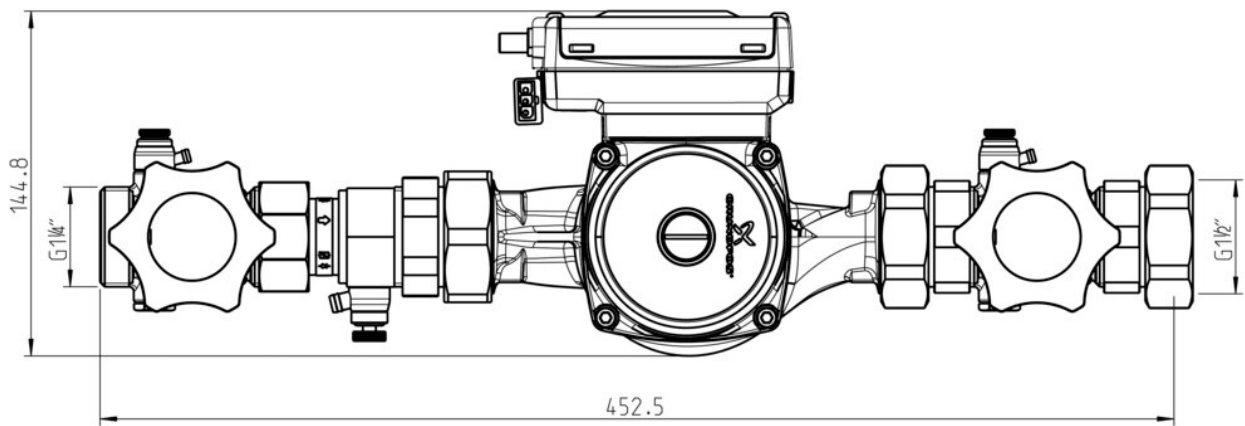


Position	Spare part	Item number
1	Sealing kit 1", for thread connection 1½", 10 pieces	N00036
2	Pump cable 2.5 m, 3-pin Molex right-angle plug	N00198
3	PWM connection cable 2.5 m	N00384
4	Circulation pump Grundfos UPMXL 25-125 N	N00581

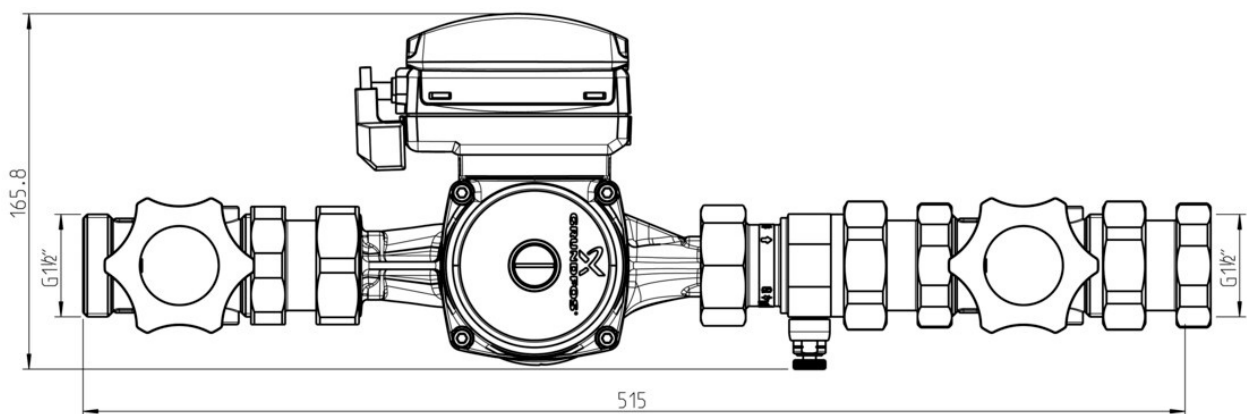
5.4 Dimensions and connections circulation set DN 20



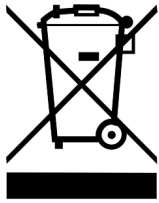
5.5 Dimensions and connections circulation set DN 25



5.6 Dimensions and connections circulation set DN 32



6 Disposal

NOTICE	
	<p>Electrical and electronic devices must not be disposed of in the household waste.</p> <p>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.</p> <p>If the old electrical or electronic device contains personal data, you are responsible for deleting it before returning the device.</p> <p>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.</p> <p>Please observe the disposal symbols on the components.</p>

Disposal of transport and packaging materials

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



7 Notes



Item no. 996404136xx-mub-en

Translation of the original instructions

We reserve the right to make technical changes without notice!

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