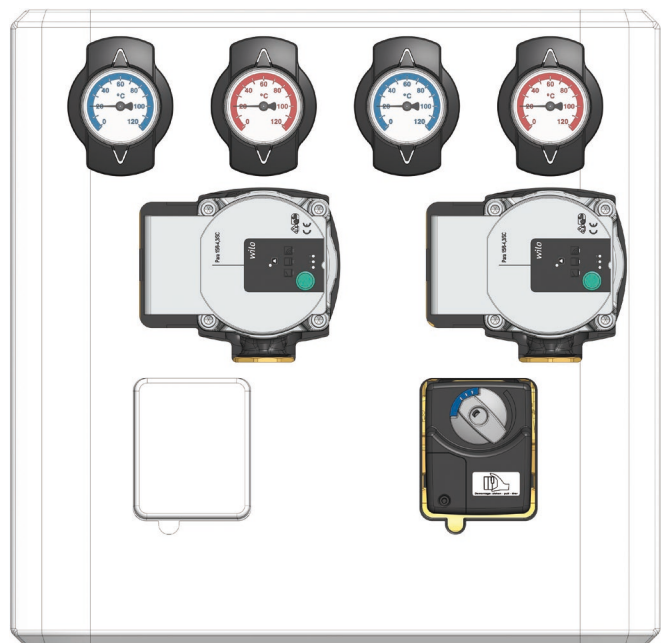
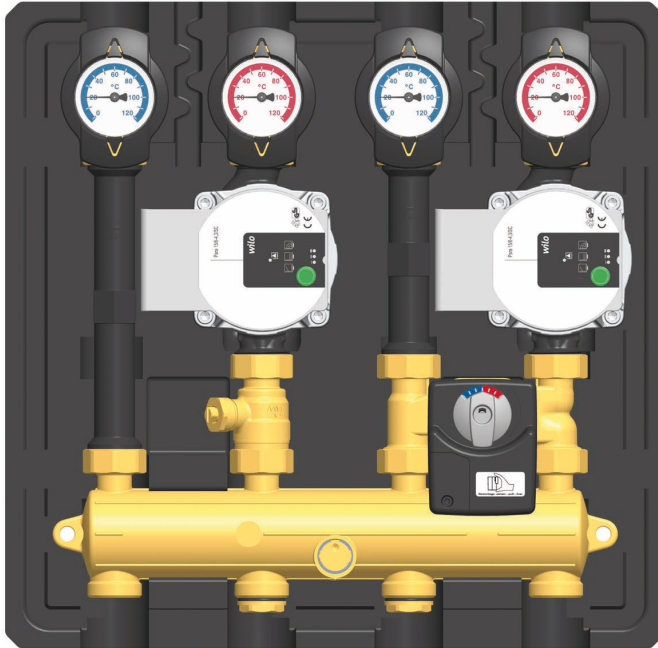




English

Installation and Operation Instructions

Thermax – DN 20



Item no. 9932362x-mub-en – Version V06 – Issued 2020/04

Translation of the original instructions

We reserve the right to make technical changes without notice!

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1 General Information

1.1 Scope of these instructions

These instructions describe the installation, commissioning, function and operation of the distribution system Thermax. For other components of the heating system such as pumps and controller, please observe the instructions of the corresponding manufacturer. The chapters called [specialist] are intended for specialists only.

1.2 Designated use

The distribution system Thermax may only be used in hydronic heating closed-loop systems taking into consideration the technical limit values indicated in these instructions.

Improper usage excludes any liability claims.

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 mentioned in this manual

CAUTION

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

CAUTION

Damage to property!

Do not apply a torque of more than 40 Nm to the union nuts on the plastic return pipe. A higher torque may cause damage to the plastic pipe (max. torque < 40 Nm).

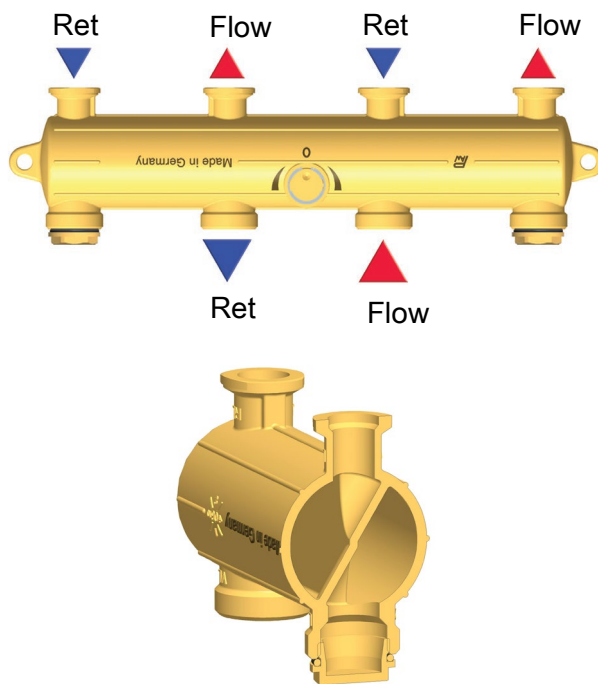


3 Product description

The modular distribution manifold system Thermax is a preassembled group of fittings for heating circuits. It consists of a Thermax distribution manifold, two Thermax heating circuit modules and a design insulation with optimised function.

Only use PAW accessories with the Thermax.

3.1 Thermax distribution manifold



The Thermax distribution manifold can be connected to one boiler and three heating circuits. Inside the manifold, flow and return cross each other.

It has two separate chambers (flow/return).

The boiler is connected with

$\frac{3}{4}$ " internal threads or

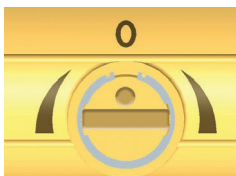
1" external threads (flat-sealing),

the modular heating circuits are connected with flanges and union nuts 1".

The distribution manifold has an adjustable bypass to connect flow and return chamber.

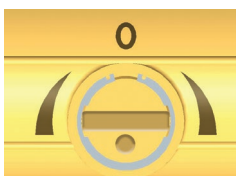
The chambers can be connected pressure-proof or separated depending on the bypass position.

Bypass closed



Flow and return are separated.

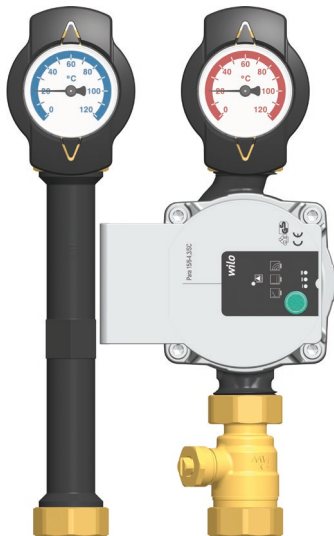
Bypass open



The modular heating circuits are hydraulically decoupled from the boiler, the forced circulation for boilers with integrated pump is guaranteed!

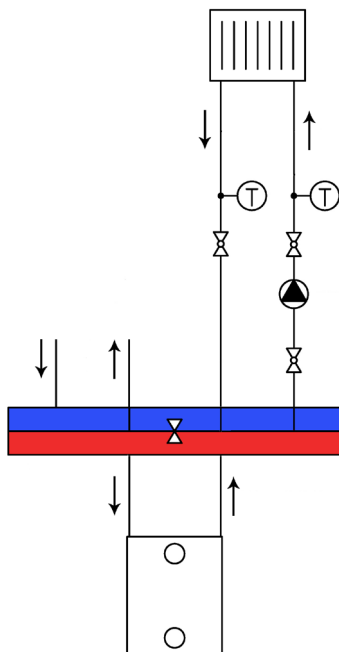
3.2 K31 – unmixed heating circuit

K31



In the direct or unmixed heating circuit the temperature provided by the boiler is directly pumped into the consumer circuit.

K31



Applications:

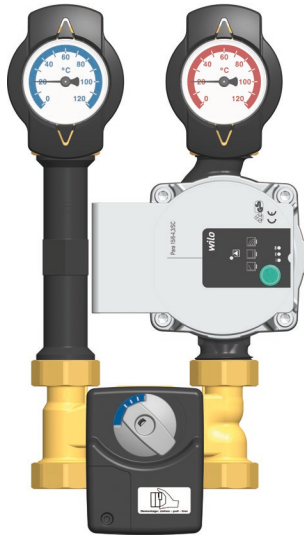
- Boiler charging
- Storage tank charging and discharging
- Radiator circuit (with weather compensated heat generator)

Equipment

- Pump (can be isolated by the ball valves above or below the pump)
- Ball valve in the flow and return
- Full metal thermometer with immersion sleeve in the flow and return ball valve

3.3 K32 – heating circuit with 3-way mixing valve

K32

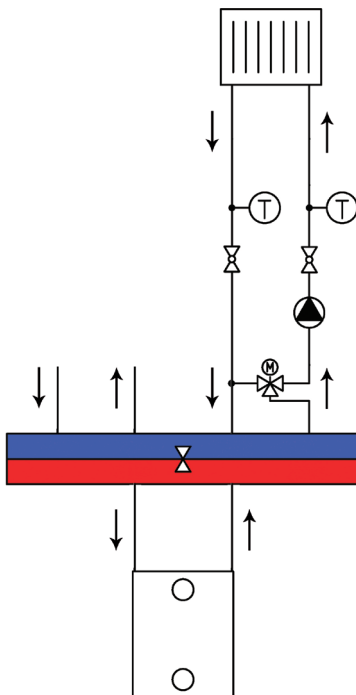


The integrated mixing valve controls the flow temperature of the heating circuit.

Hot water from the boiler and cold return water are mixed to obtain the desired flow temperature for the consumer circuit.

The mixing valve is adjusted via an external controller and an electric actuator.

K32



Applications:

- Installations with several heating circuits and different flow temperatures (for example radiator and radiant floor heating)
- Installations with highly variable flow temperatures (solid fuel boilers, combined heat and power installations)

Equipment

- 3-way mixing valve with electric actuator
- Pump (can be isolated by mixing valve and flow ball valve)
- Ball valve in the flow and return
- Full metal thermometer with immersion sleeve in the flow and return ball valve

4 Assembly and installation [specialist]

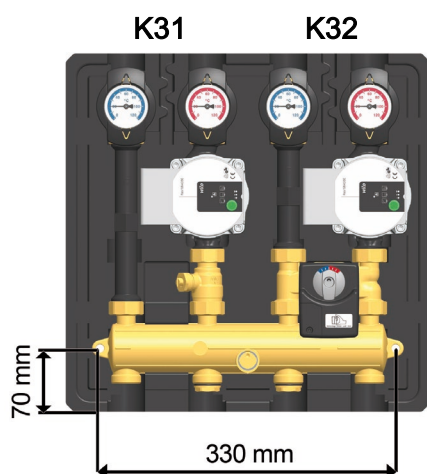
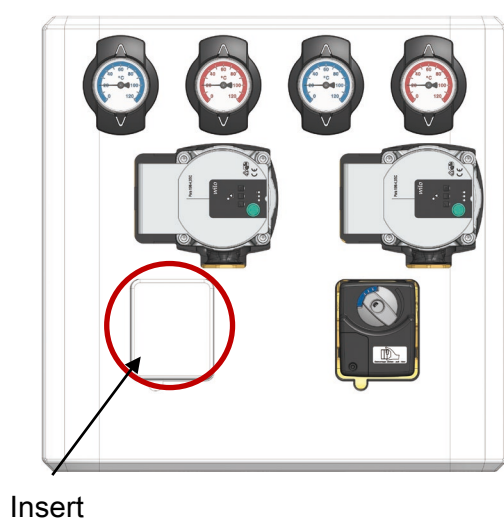
The Thermax distribution manifold can be installed such that the connections for the heating circuits are either directed to the top or to the bottom out of the insulation.

The heating circuits K31 (unmixed) and K32 (mixed) can be interchanged. After the modification you have to adjust the insulating front shell. For this purpose, take out the insert of the insulation below the left pump (see illustration below) and mount it into the gap below the right pump.

CAUTION

Damage to property!

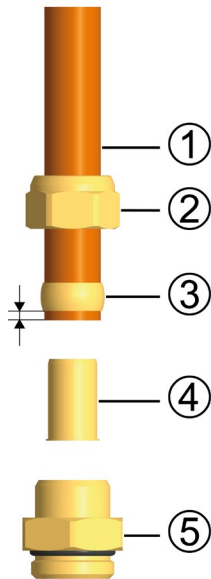
The location of installation must be dry, load-carrying, frost-proof and protected against ultraviolet radiation to prevent material damage to the installation.



1. Take off the front shell and determine the mounting position.
2. Copy the mounting holes of the distribution manifold to the mounting surface (see illustration).
3. In case of wall assembly use the short screws without distance pieces, for the assembly with distance pieces use the long screws.
4. Drill the holes and fix the screws to the wall.
5. Put the distance pieces (if required), the lower insulation shell and the distribution manifolds onto the screws.
6. Carry out the pressure test and check all thread connections.
7. Fix the distribution manifold with the enclosed washers and nuts.

4.1 Accessories: compression fitting (not included in delivery)

The connection to the heating installation can be carried out fast, pressure-proof and without soldering when you use the optionally available compression fittings.



Not included in the scope of
delivery!

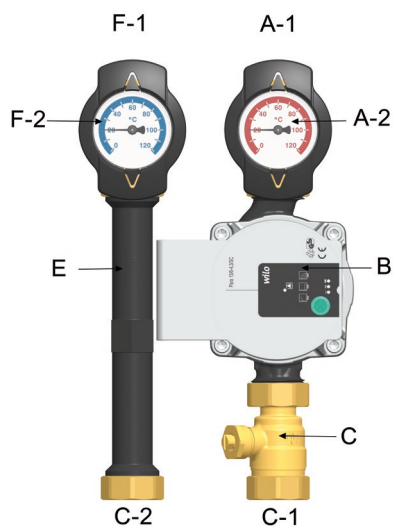
1. Push the union nut ② and the cutting ring ③ onto the copper pipe ①. The pipe must protrude at least 3 mm from the cutting ring in order to ensure the force transmission and the sealing.
2. Insert the support sleeve ④ into the copper pipe.
3. Insert the copper pipe with the plugged-on individual parts (②, ③ and ④) all the way into the housing 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 housing of the compression fitting ⑤ against distort in order to avoid damaging the sealing ring.

5 Maintenance [specialist]

5.1 Isolation of the pump

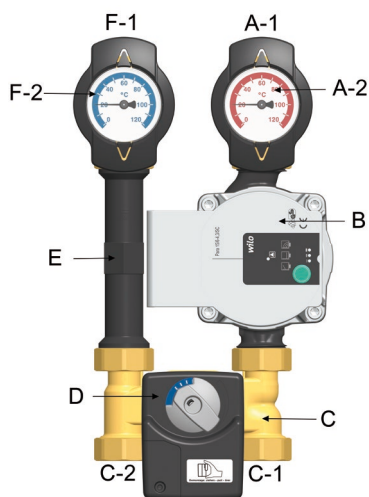
The pumps can be completely isolated. They can be replaced and maintained without draining the heating installation.

K31 (unmixed heating circuit):



1. Close both ball valves (A-2, C) above and below the pump.

K32 (mixed heating circuit):



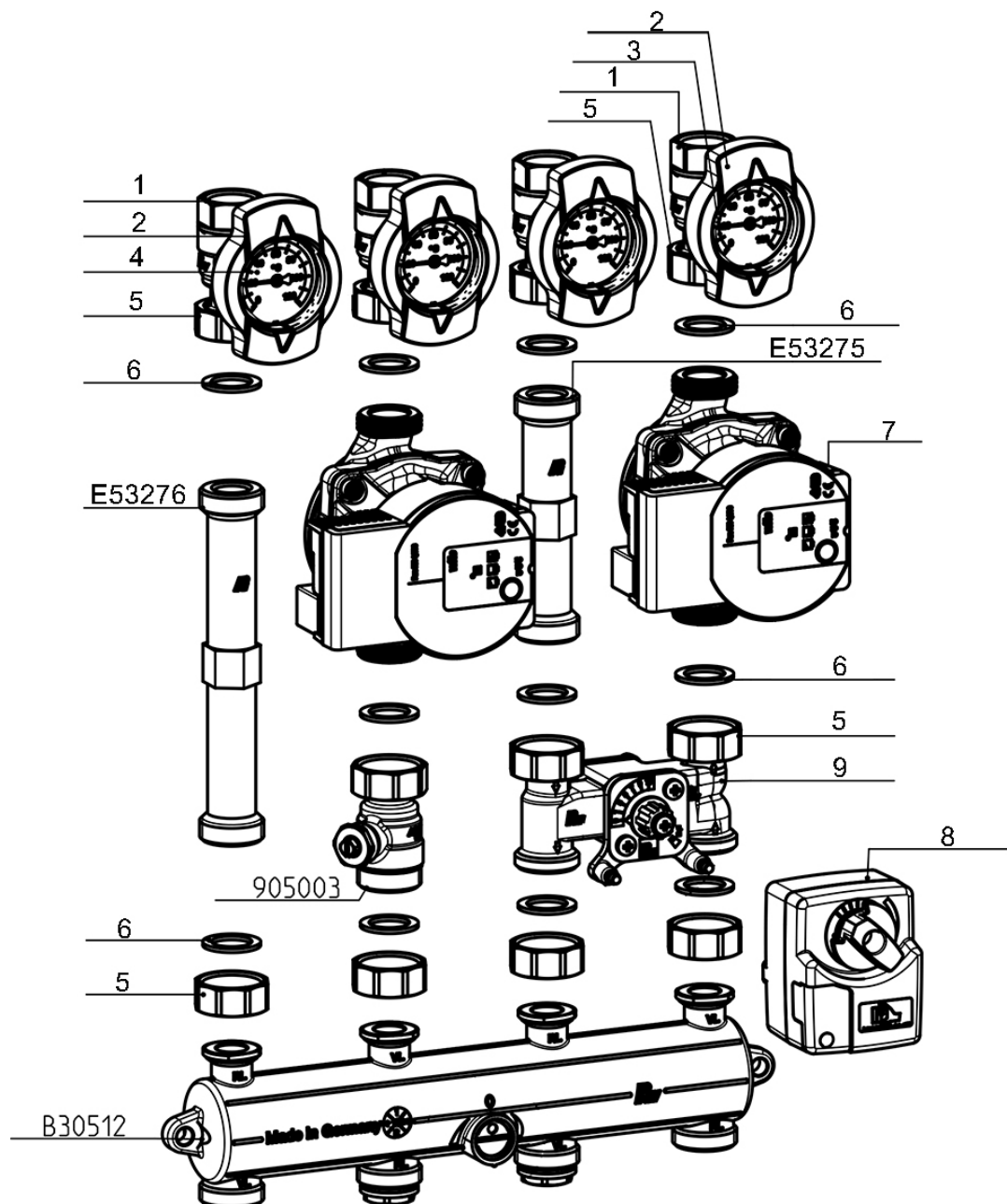
1. Close the ball valves in the flow and the return (A-2, F-2).
2. Take off the actuator from the mixing valve.
3. Turn the rotary knob of the mixing valve such that the black nose is directed to "VL zu" (flow closed).
4. Shut off the expansion tank and make sure that the system is not under pressure, so that only the water in the pump can escape.
5. The mixing valve is now closed (when there is no pressure on the circuit).

6 Scope of delivery [specialist]

NOTICE

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

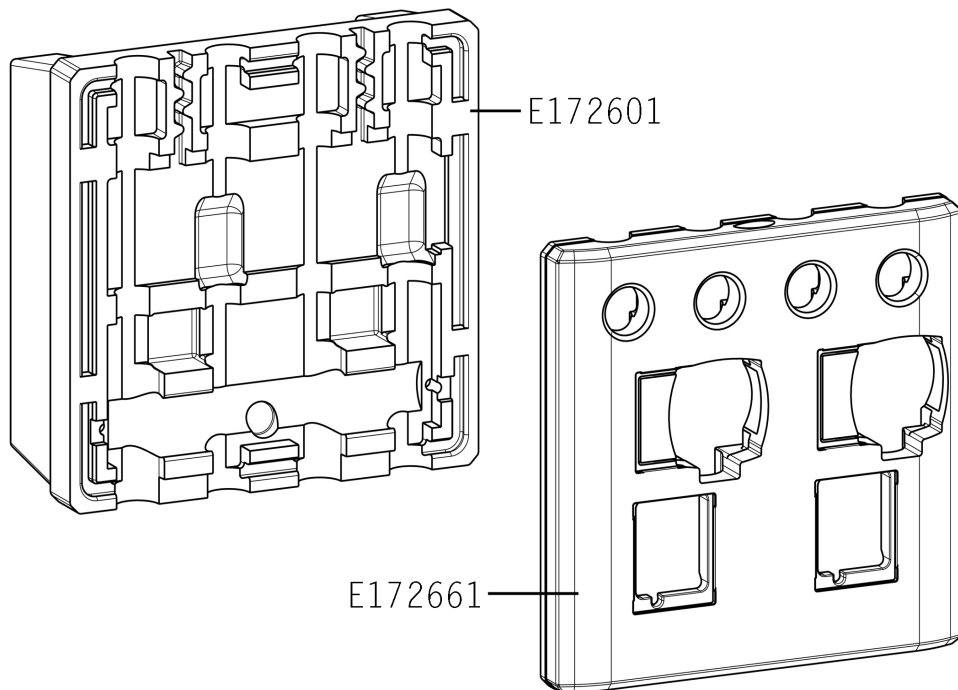
The serial number can be found on the return pipe.



6 Scope of delivery [specialist]

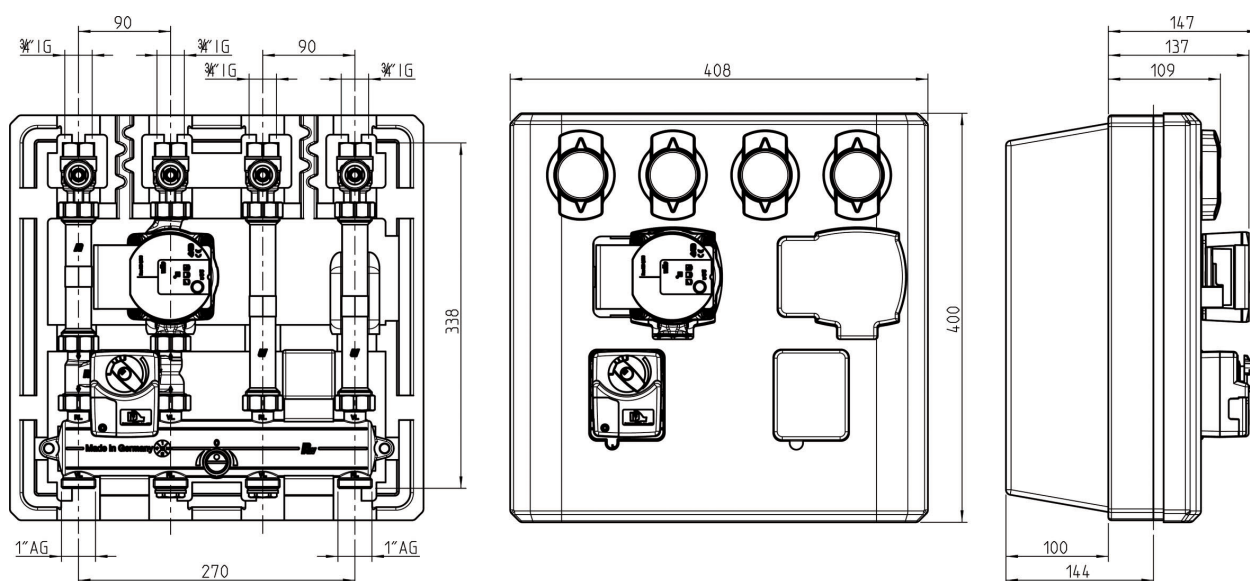
Position	Spare part	Item number
1	Thermometer ball valve DN 20, F½" x ¼" int. thread	N00202
2	Thermometer handle for ball valve 1"	N00248
3	Dial thermometer, red scale, d=50 mm, 0-120 °C	N00180
4	Dial thermometer, blue scale, d=50 mm, 0-120 °C	N00181
5	Union nut G 1"	N00302
6	Gasket ½", for threaded connection 1"	N00129
7	Pump see following table	
8	Actuator SR2, 230 V AC, 2 Nm, 105 s/90°	N00070
9	3-way mixing valve DN 20, F¾" x 1" ext. thread	N00043

Item number heating circuit	Pump	Item no..	EEI
323621WP6	Wilo Para SC 15/6-43	N00258	< 0.20
323621WH6	Wilo-Stratos PICO 15/1-6	E1239615	< 0.20
323621GM6	Grundfos UPM3 Auto L 15-70 PP3	E1212360	< 0.20
323621GH6	Grundfos Alpha2.1 15-60	E121221	< 0.17



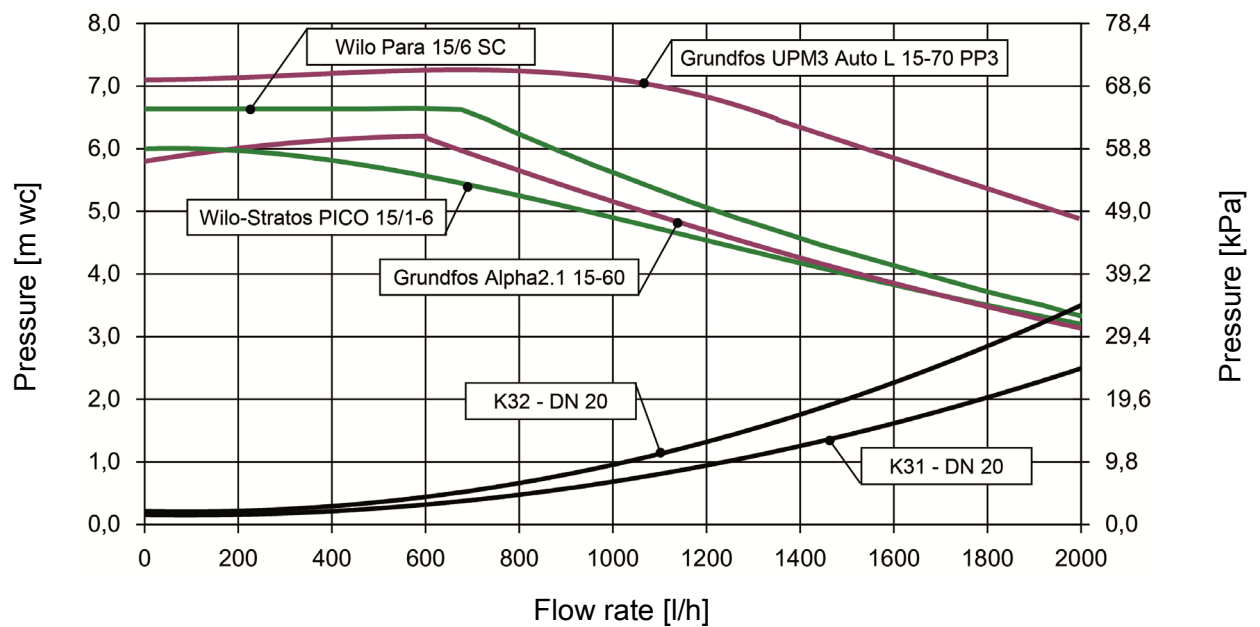
7 Technical data

Dimensions	Thermax
Total width	408 mm
Total height	400 mm
Total depth (with distance pieces)	195 mm
Total depth (without distance pieces)	95 mm
Centre distance heating circuit	90 mm
Connections	
Heating circuit outlet	¾" int. thread
Inlet distribution manifold	¾" internal thread or 1" external thread
Materials	
Valves and fittings	Brass
Gaskets	EPDM/NBR
Insulation	EPP / ABS



Thermax	DN 20
Hydraulics	
Max. admissible pressure	PN 10
Max. operating temperature	110 °C
Kvs value heating circuit K31	4.3
Kvs value heating circuit K32	3.0
Kvs value Thermax distribution manifold	7.8

7.1 Pressure drop characteristics

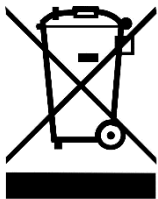


8 Disposal

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 you return it.

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.



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