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English

Installation and Operation Instructions
Thermax - DN 20





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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 operation of the distribution system Thermax.

For other components of the installation, such as the pump or the controller, please observe the instructions of the corresponding manufacturer. The chapters marked with [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

NOTICE



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).

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.

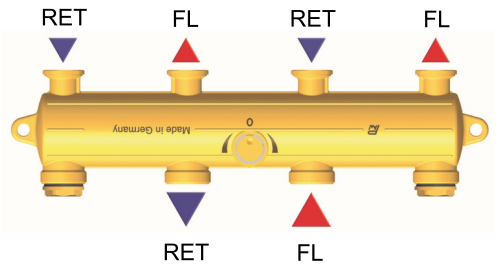
► Use a silicone- or polyalkylene-based lubricant free of mineral oil such as Unisilikon L250L and Syntheso Glep 1 from Klüber or a silicone spray.

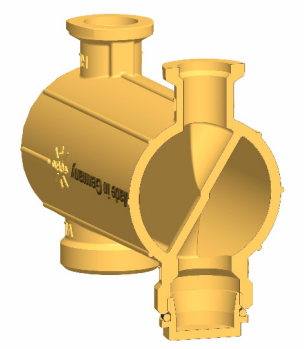
3 Product description

The distribution 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. Depending on the variant, the Thermax heating circuit modules are equipped with either a brass return pipe with a check valve or a plastic return pipe.

3.1 Thermax distribution manifold





The Thermax distribution manifold can be connected to one heat generator and three heating circuits. The flow and the return are interchanged via the distribution manifold.

It has two separate chambers inside (flow / return).

The boiler is connected with

- ¾" internal thread or
- 1" external thread (flat sealing),

the modular heating circuits are connected with

- flanges and union nuts 1".

The distribution manifold is equipped with an adjustable bypass which connects the flow and the return chamber. Depending on the position of the bypass, the two chambers are either separated in a pressure-tight manner or connected to one another without pressure.

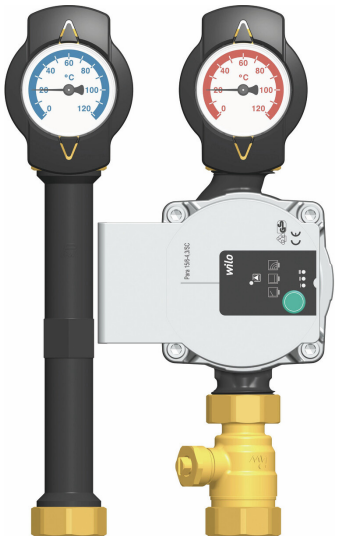


Bypass closed In this position, the flow and return are separated from each other.

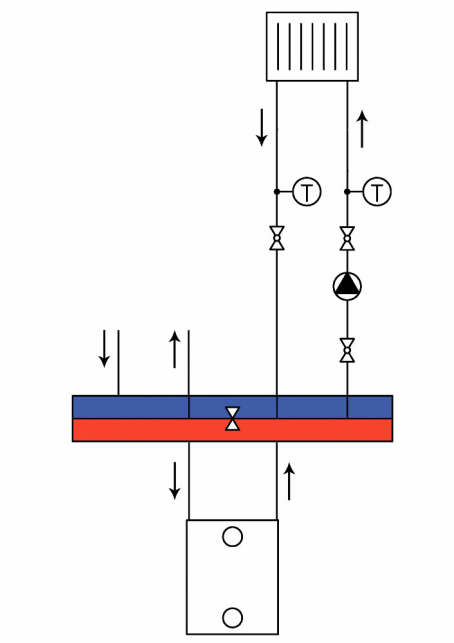


Bypass open The connected heating circuit modules are hydraulically decoupled from the heat generator, the forced circulation for boilers with an integrated pump is guaranteed!

3.2 K31 – unmixed heating circuit



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



Application range

- 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
- Version with brass return pipe: check valve integrated in the return pipe. The check valve can be opened.

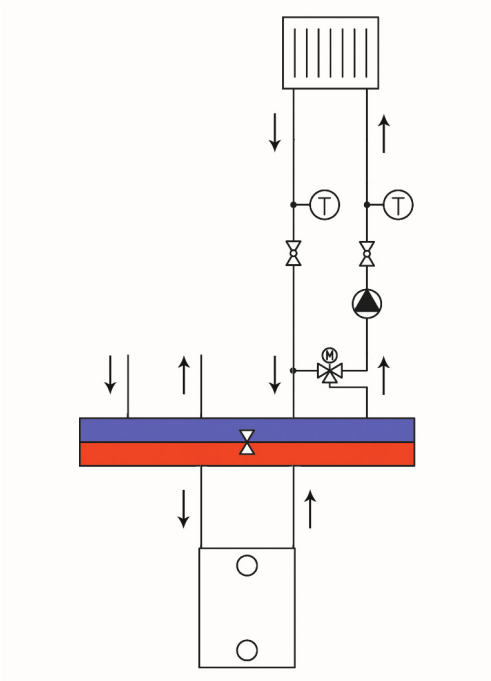
3.3 K32 – Heating circuit with 3-way mixing valve



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 in combination with the electric actuator.



Application range

- Installations with several heating circuits and different flow temperatures

  (radiators and radiant floor heating)
- Installations with significant generator-induced fluctuations in flow temperature

  (solid-fuel boilers, combined heat and power plants)

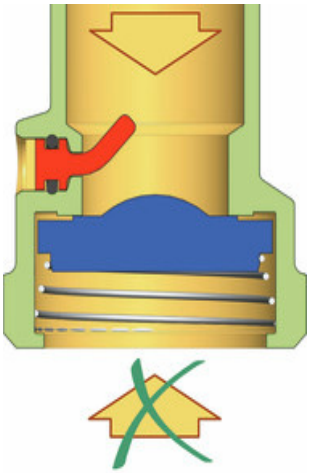
Equipment

- 3-way mixing valve with electric actuator
- Pump (can be isolated by the mixing valve and the flow ball valve)
- Ball valve in the flow and return
- Full metal thermometer with immersion sleeve in the flow and return ball valve
- Version with brass return pipe: check valve integrated in the return pipe. The check valve can be opened.

3.4 Check valve

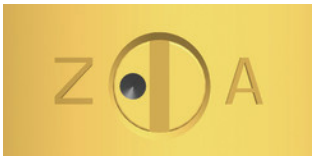
The product is equipped with a check valve which can be opened.

Operation

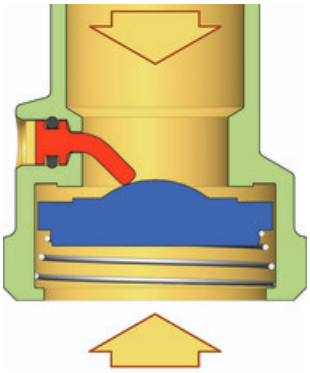


During operation, the marking must point to "Z".

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



Filling, draining, venting



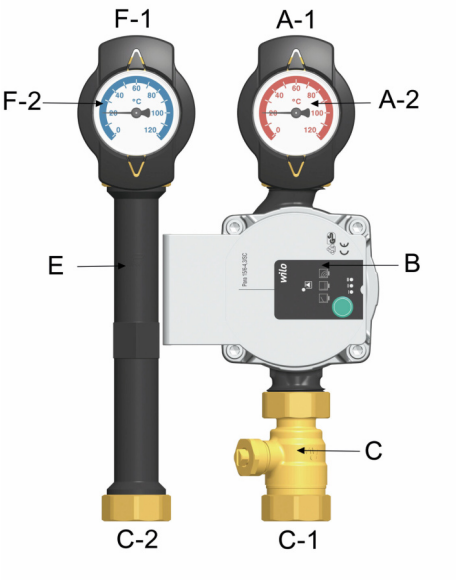
For filling, draining and venting the installation, the marking must point to "A".

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



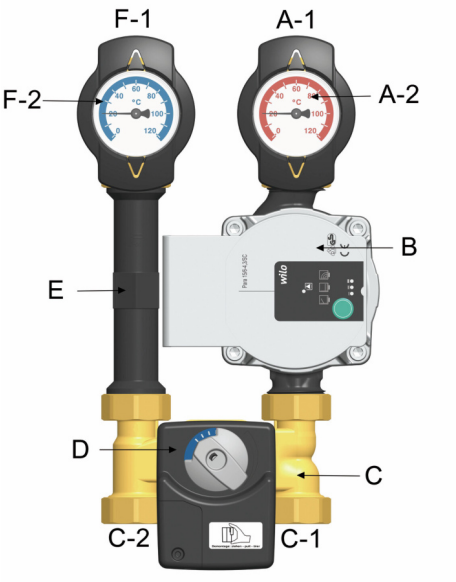
3.5 Isolation of the pump [specialist]

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



K31 (unmixed heating circuit)

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



K32 (mixed modular heating circuit)

1. Close the ball valves in the flow and the return (A-2, F-2).
2. Remove 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 diaphragm expansion tank and depressurise the installation, so that only the water in the pump must be drained.
5. The mixing valve is now closed (when there is no pressure on the circuit).

4 Mounting and installation [specialist]

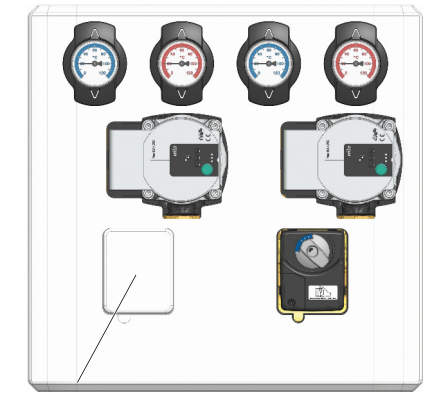
NOTICE

Damage to property!

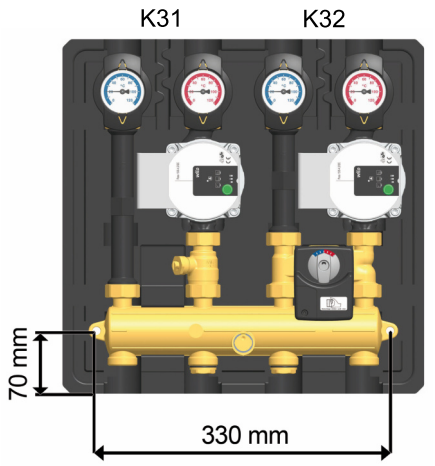
The installation site must be dry, stable, frost-proof and protected against ultraviolet radiation in order to prevent material damage of the installation.

4.1 Mounting the Thermax module

The installation of the distribution system Thermax is carried out such that the heating circuit connections are led out of the insulation at the top. The heating circuits K31 (unmixed) and K32 (mixed) can be interchanged. After the modification, the insulating front shell must be adapted. 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.



1. Take off the insulating front shell and determine the location of installation.
2. Copy the mounting holes of the distribution manifold to the mounting surface (see illustration).
3. For the direct wall assembly without distance pieces, use the short stair bolts. For the installation with distance pieces, use the long stair bolts.



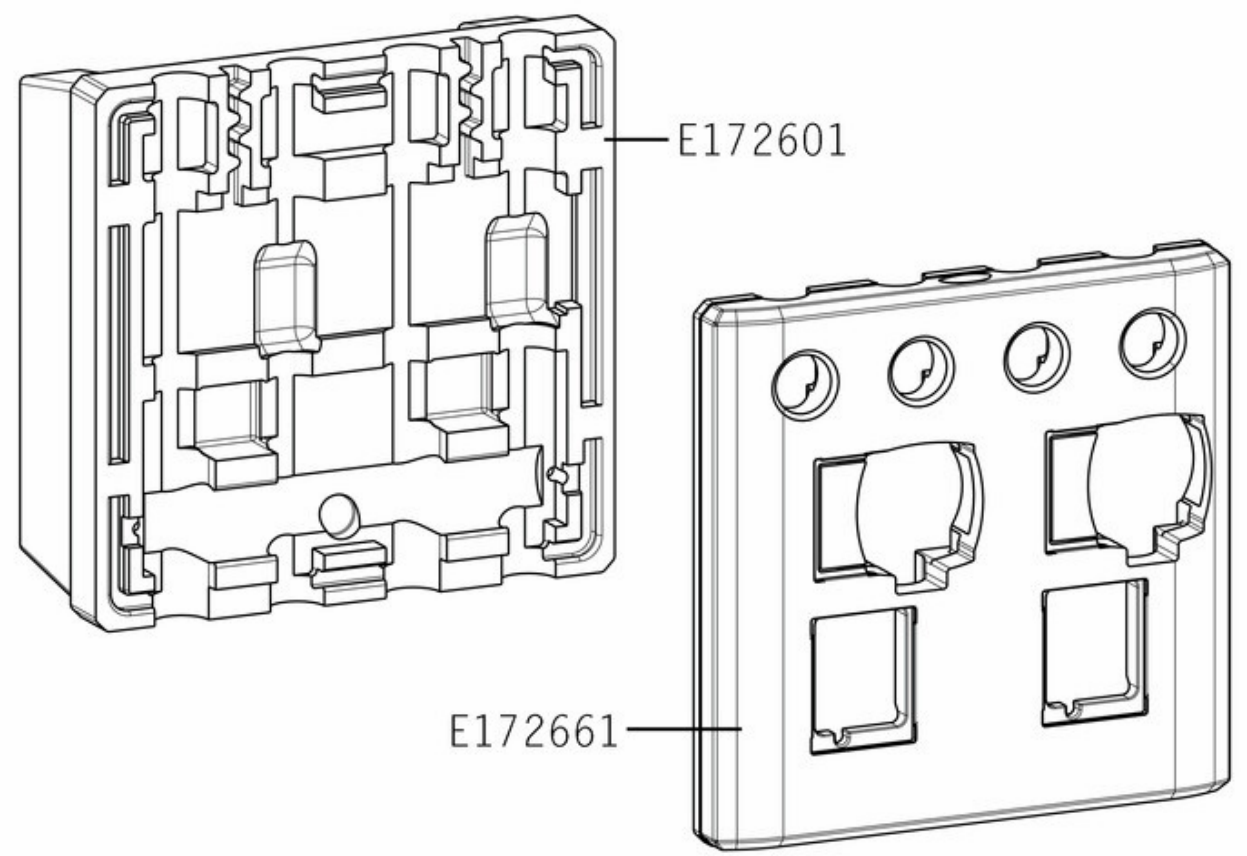
4. Drill the holes and fix the stair bolts at the wall.
5. Put the distance pieces (if required), the lower insulating shell and the distribution manifold onto the stair bolts.
6. Carry out a pressure test and check all thread connections.
7. Fix the distribution manifold with the enclosed washers and nuts.

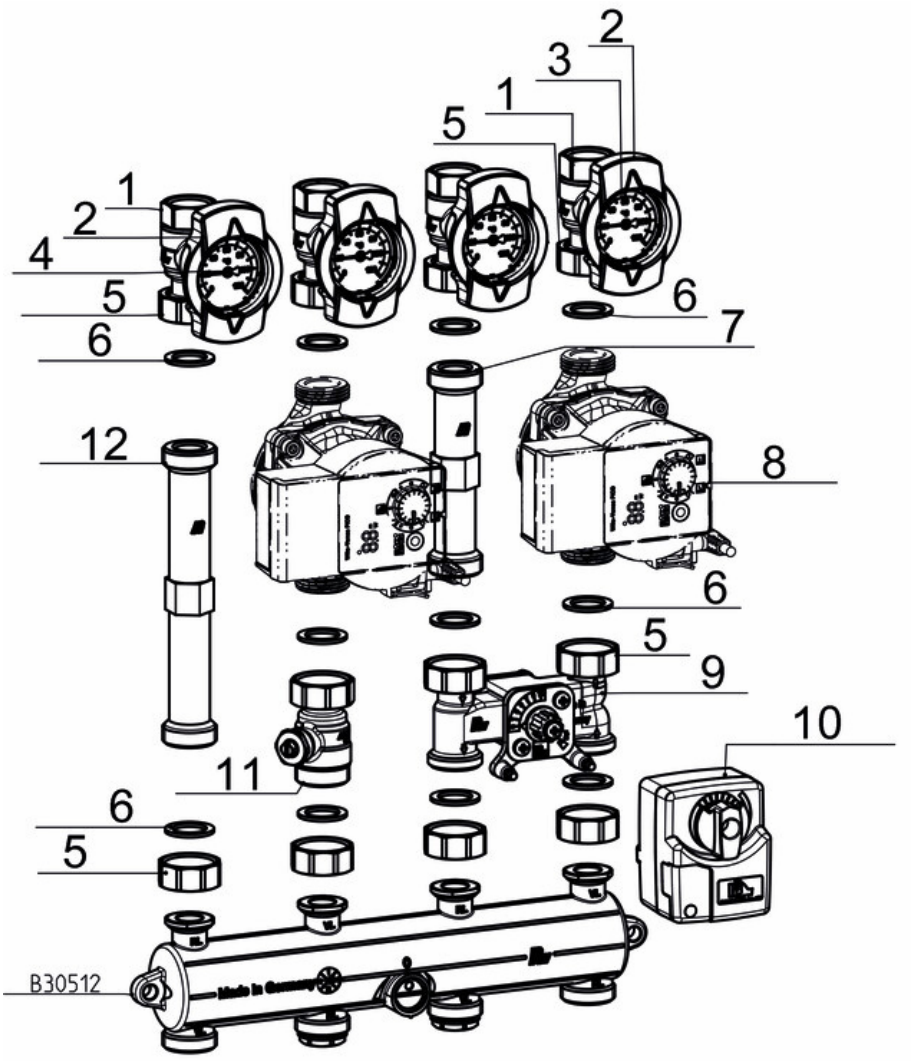
5 Scope of delivery [specialist]

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.





Position	Spare part	Item number
1	Thermometer ball valve DN 20, F ½" x ¾" int. thread	N00202
2	Thermometer handle for thermometer ball valve 1"	N00248
3	Dial thermometer, plastic, red scale, d = 50 mm, 0-120 °C	N00180
4	Dial thermometer, plastic, blue scale, d = 50 mm, 0-120 °C	N00181
5	Union nut G 1"	N00302
6	Seal 30.0 x 21.0 x 2.0, ½", for thread connection 1", 10 pieces	N00129
7	Plastic pipe DN 20, 2x 1" ext. thread x 130 mm	E53275
	Brass pipe DN 20, 2x 1" ext. thread x 130 mm, incl. check valve + seals	N00141
8	Pump see following table	

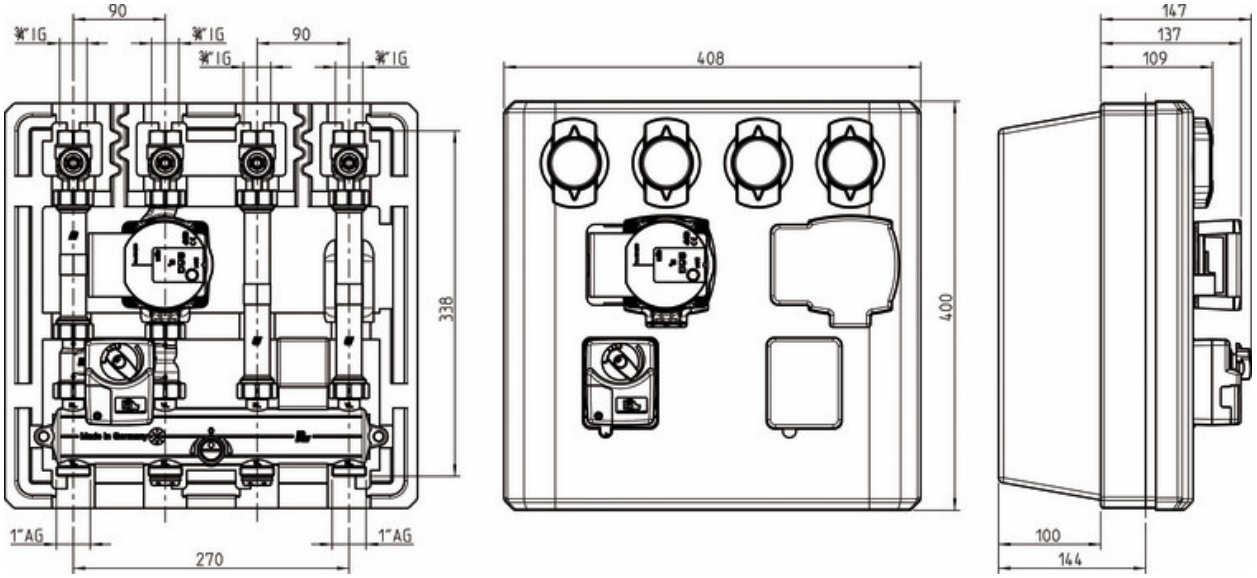
Position	Spare part	Item number
9	3-way mixing valve DN 20, F¾" x 1" ext. thread	N00043
10	Actuator SR2, 230 V AC, 2 Nm, 105 s/90°	N00070
11	Ball valve 1", 1" nut x 1" ext. thread	905003
12	Plastic pipe DN 20, 2x 1" ext. thread x 188 mm	E53276
	Brass pipe DN 20, 2x 1" ext. thread x 188 mm, incl. check valve + seals	N00142

Item no. heating circuit	Pump	Item no. pump	EEI
323621WP6	Wilo Para SC 15/6-43	N00258	< 0.20
323622WP6			
3236211WP6*			
3236221WP6*			
323621WN06	Wilo Yonos PICO 15/1-6	N00315	< 0.20
323622WN06			
323621GM6	Grundfos UPM3 Auto 15-70	N00333	< 0.20
323622GM6			
323621GH6	Grundfos Alpha2.1 15-60	N00336	< 0.17
323622GH6			

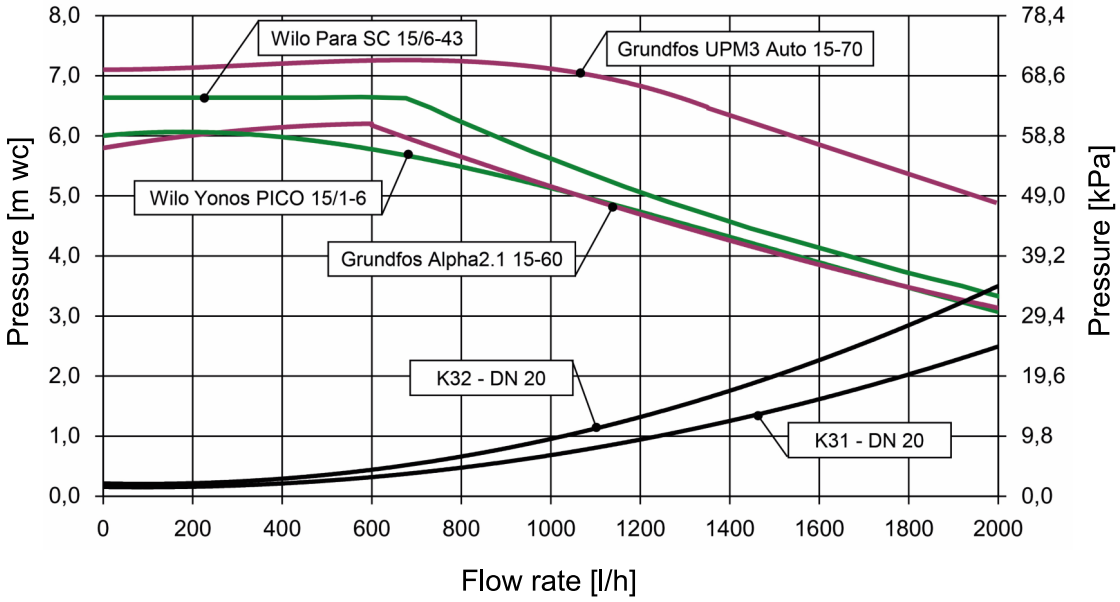
*These heating circuits are equipped with a brass return pipe including a check valve.

6 Technical data

Thermax		K31+K32	K32+K32
Dimensions			
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 outlets		¾" int. thread	
Inlet distribution manifold		¾" int. thread or 1" ext. thread	
Hydraulics			
Max. admissible pressure		PN 10	
Max. operating temperature		95 °C	
K_{VS} value	Heating circuit K31	4.7	-
	Heating circuit K32	3.7	3.0
	Thermax distribution manifold	7.8	
Materials			
Valves and fittings		brass / plastic	
Seals		EPDM	
Insulation		EPP / ABS	

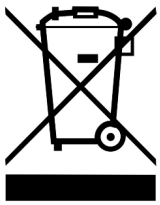


6.1 Pressure drop and pump characteristic curves



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.

NOTICE



Disposal of transport and packaging materials

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

Item no. 9932362x-mub-en
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