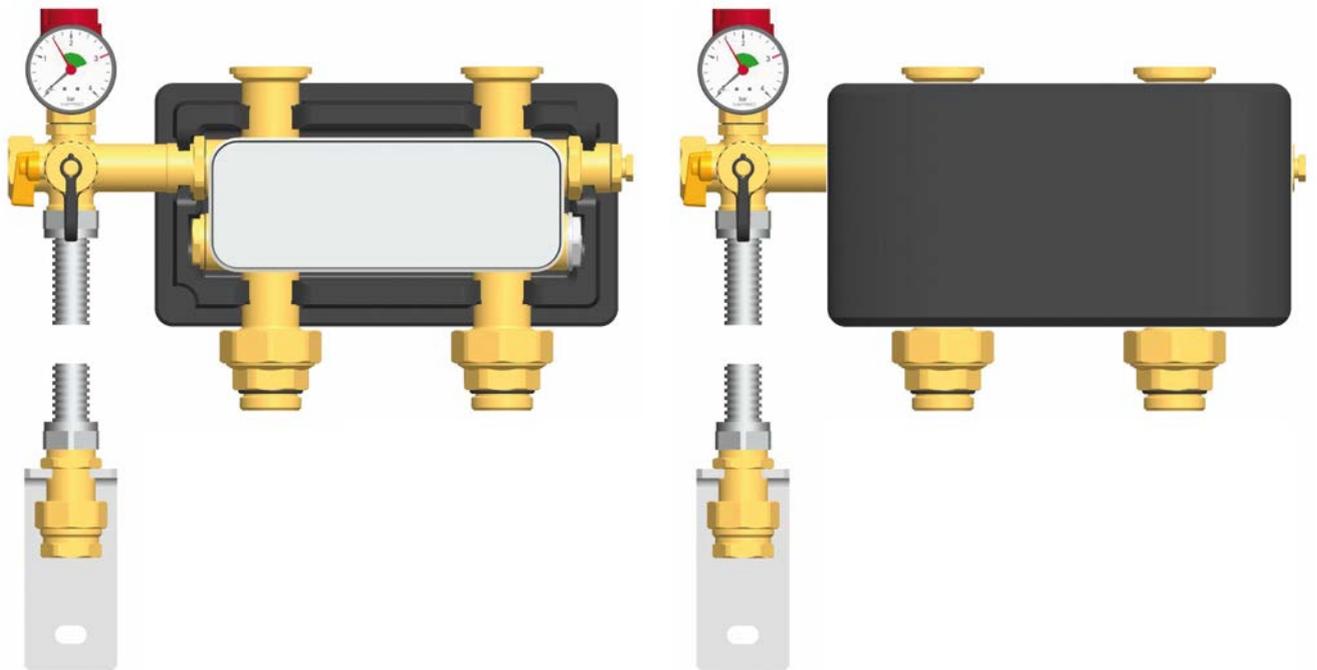




Installation and Operation Instructions

System separation DN 25



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Translation of the original instructions

We reserve the right to make technical changes without notice!

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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 function, installation, commissioning and operation of the system separation DN 25.

For other components of the installation, such as the pump, the controller or the distribution manifold, please observe the instructions of the corresponding manufacturer.

The chapters called [specialist] are intended for specialists only.

1.2 Designated use

The system separation may only be used in heating circuits taking into consideration the technical limit values indicated in these instructions. The system separation must **not** be used in drinking water applications.

Improper usage of the group 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 system separation.

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

	 WARNING
	<p>Danger of scalding due to vapour escape!</p> <p>With pressure relief valves, there is a risk of scalding due to vapour escape. During installation, check if the local conditions require the connection of a discharge line to the safety group.</p> <ul style="list-style-type: none"> ➤ For this purpose, please observe the instructions regarding the pressure relief valve. ➤ The pressures calculated by the installation planner for the expansion vessel and the operating pressure of the installation must be set.

	 CAUTION
	<p>Personal injury and damage to property!</p> <p>The system separation must only be used in heating circuits filled with heating water according to VDI 2035 / Ö-Norm H 5195-1.</p> <p>The system separation must not be used in drinking water applications.</p>

NOTICE

Material damage due to mineral oils!

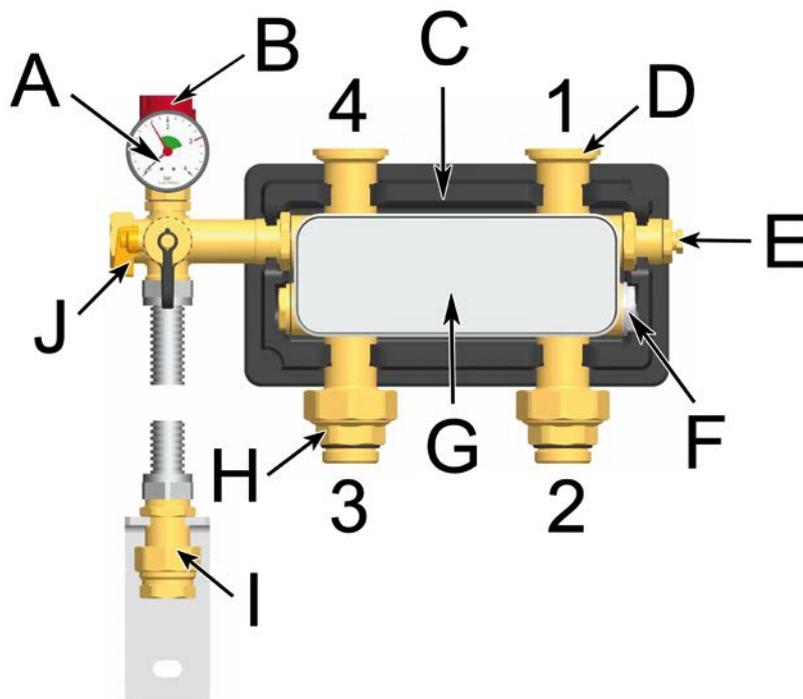
Mineral oil products cause lasting damage to seals made of EPDM, whereby the sealant properties get lost. We do not assume liability nor provide warranty for damage to property resulting from sealants damaged in this way.

- 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 system separation is a preassembled group of fittings for heating circuits. The system separation consists of a plate heat exchanger, the connection fittings for further valves and fittings, a safety group with pressure gauge, a connection for a diaphragm expansion tank, an immersion sleeve as well as valves for draining and venting. The plate heat exchanger is available in three versions.

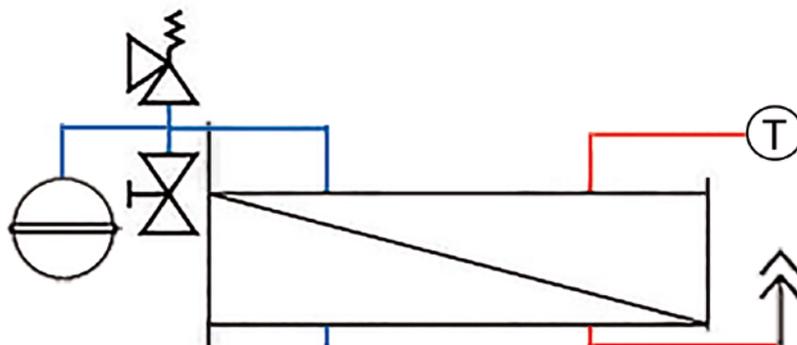
3.1 Equipment



1	Flow (secondary circuit)
2	Flow (primary circuit)
3	Return (primary circuit)
4	Return (secondary circuit)

A	Pressure gauge 0-4 bars
B	Pressure relief valve 3 bars
C	Insulation
D	PAW flange for union nut
E	Immersion sleeve for sensor, d = 6 mm
F	Manual vent valve
G	Plate heat exchanger
H	Thread connection with 1" ext. thread
I	Connection for expansion tank incl. tank connector
J	Fill and drain valve

3.2 Function



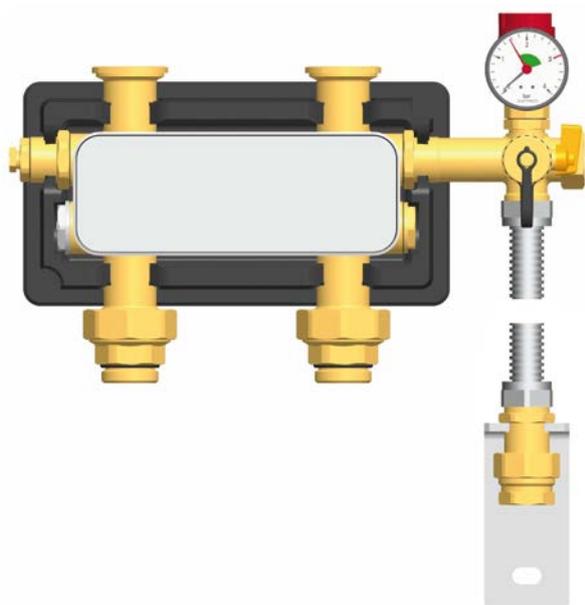
System separation

The system separation is used in heating circuits which must be decoupled from the primary circuit. The heat exchanger guarantees an optimum heat transfer from the primary circuit to the secondary circuit.

Application range:

for installations with injecting oxygen, for example floor or wall heating systems with plastic pipes that are permeable to diffusion, open expansion tanks or intermitting oxygen injection (f. ex. permanent refilling) and for the separation/protection of new boilers in older heating installations and boiler exchange. In order to complete the separation system a mixed and an unmixed HeatBloC is necessary, according to the application examples in chapter 5.2.

3.3 Retrofitting of the safety group



Note:

A retrofitting of the safety group is possible: For reasons of space f. ex. the pressure relief valve may be installed on the right (in case of installing the separation system on a distribution manifold).

The immersion sleeve must be retrofitted to the left side. The pressure relief valve must be adjusted and tightened with a counter nut. Then the fill and drain valve must be placed to the front. If the flow remains on the right, a further immersion sleeve is necessary for the flow line.



3.4 Installation of the separation system

The PAW separation system for heating systems requires a circulation pump on the primary side (boiler) as well as on the secondary side (consumer).

Depending on the heating installation several systems are possible:

Application 1: Extension of already existing heating circuits or installations with a temperature control on the primary side (mixed heating circuit with controlled flow temperature or modulating boiler with boiler circuit pump).

Application 2: Extension of already existing heating circuits or installations with a pump on the primary side and high flow temperatures (bypass operation in addition to the radiator circuits or operation with solid fuel boiler and boiler circuit pump).

Application 3: Complete system separation with mixing valve control on the primary side. Ensures low return temperatures of the boiler and allows the operation of several parallel heating circuits, f. ex. on a distribution manifold

In case of all three applications the assembly must be carried out on-site!

4 Assembly and installation [specialist]

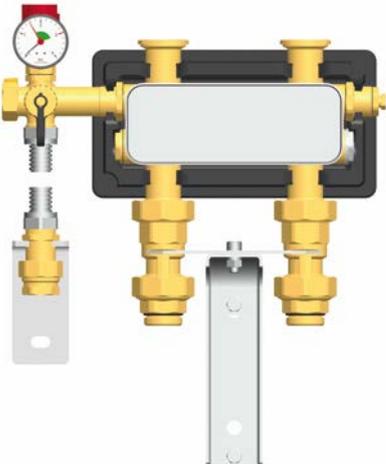
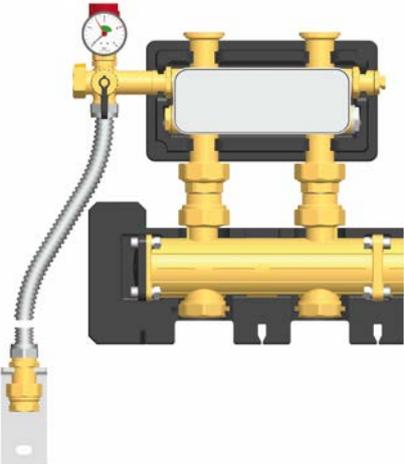
Mount the system separation either on a PAW modular distribution manifold DN 25 or directly to the wall on a wall bracket with mounting plate (3422SET).

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.

The following four mounting versions of the separation system are possible:

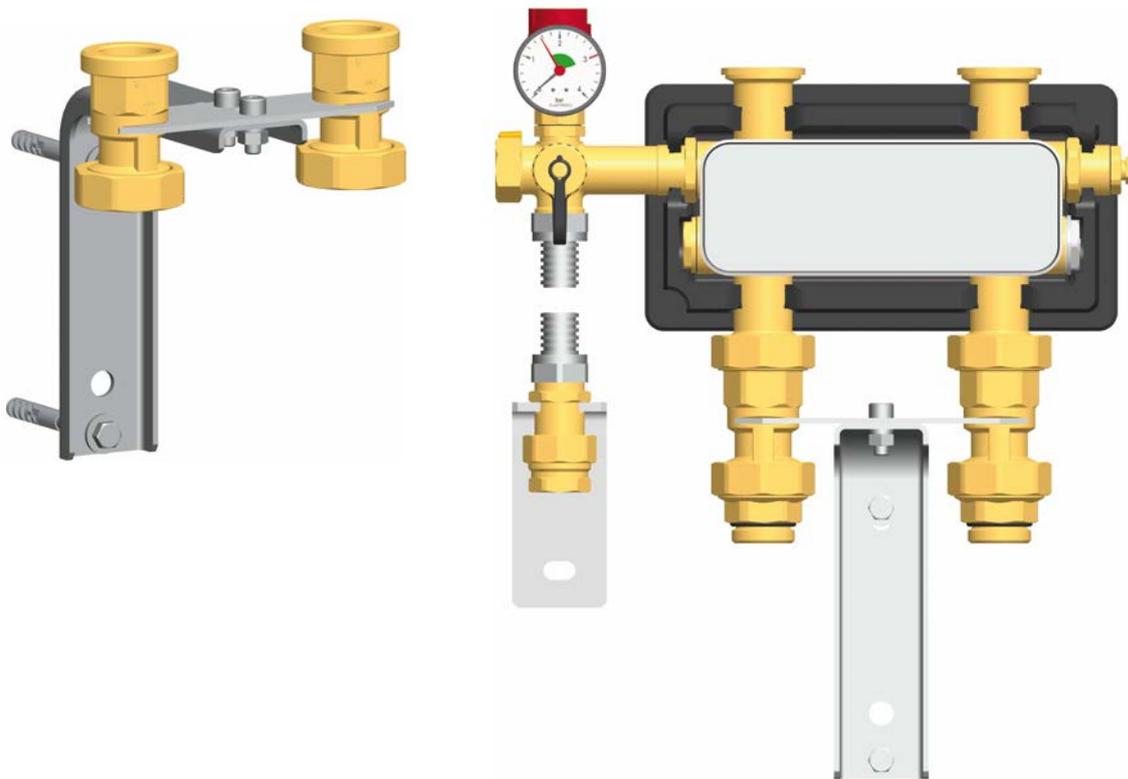
<p>1. In case of only one pump in the primary and secondary circuit: Installed directly to the wall on a wall bracket with mounting plate (3422SET).</p>	<p>2. In case of one pump in the primary pump: Installation in combination with a distribution manifold Additionally required: Thread connection for PAW flanges (item number: 2151).</p> <p> The separation system forms a short circuit between flow and return chamber!</p>
	
<p>3. In case of one pump in the primary circuit: Installation in combination with a HeatBloC and a wall bracket for HeatBloC (item number: 34723).</p>	<p>4. Installation in combination with two HeatBloCs (complete system separation).</p>
	

5 Mounting versions of the system separation

The following mounting versions of the system separation are possible:

1. Installation on a wall bracket with mounting plate (see sub-chapter 5.1)
2. Installation in combination with a HeatBloC and a wall bracket for HeatBloC (see sub-chapter 5.2)
3. Installation in combination with a distribution manifold (see sub-chapter 5.3)

5.1 Installation on a wall bracket with mounting plate



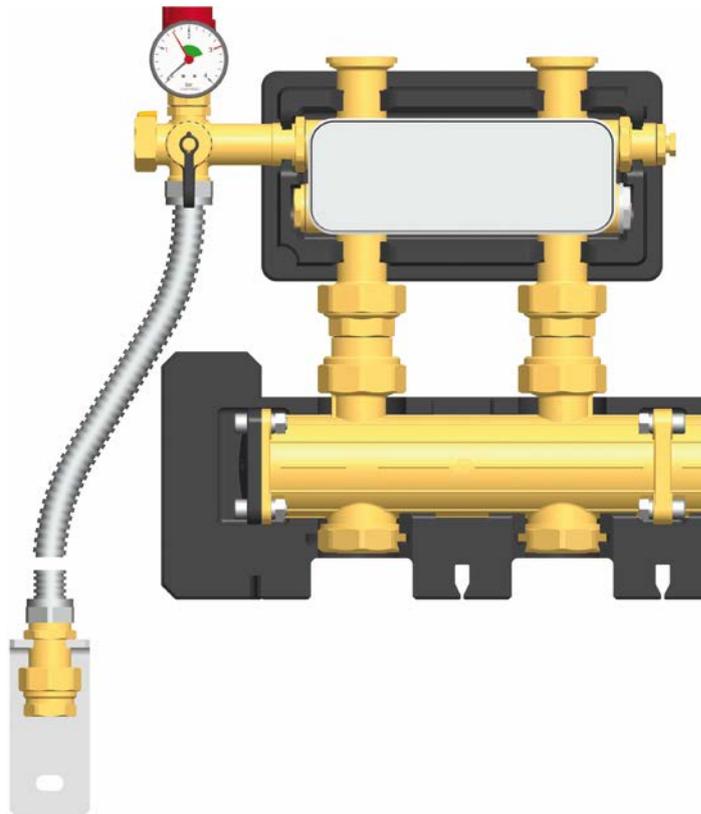
If the mounting plate must be mounted above the system separation, the coupling piece must be turned overhead by 180°. In case of mounting below the system separation, the mounting plate may be mounted as illustrated.

5.2 Installation in combination with a HeatBloC and a wall bracket for HeatBloC



For the installation of the system separation in combination with a HeatBloC and a wall bracket for HeatBloC please observe the manual for the corresponding HeatBloC.

5.3 Installation in combination with a distribution manifold



NOTICE

Hydraulic short-circuit!

The installation of the system separation on a distribution manifold forms a hydraulic short circuit between flow and return chamber and requires a pump in the primary circuit.

The pump performance must be accordingly sized in order to supply all connected heating circuits, if necessary.

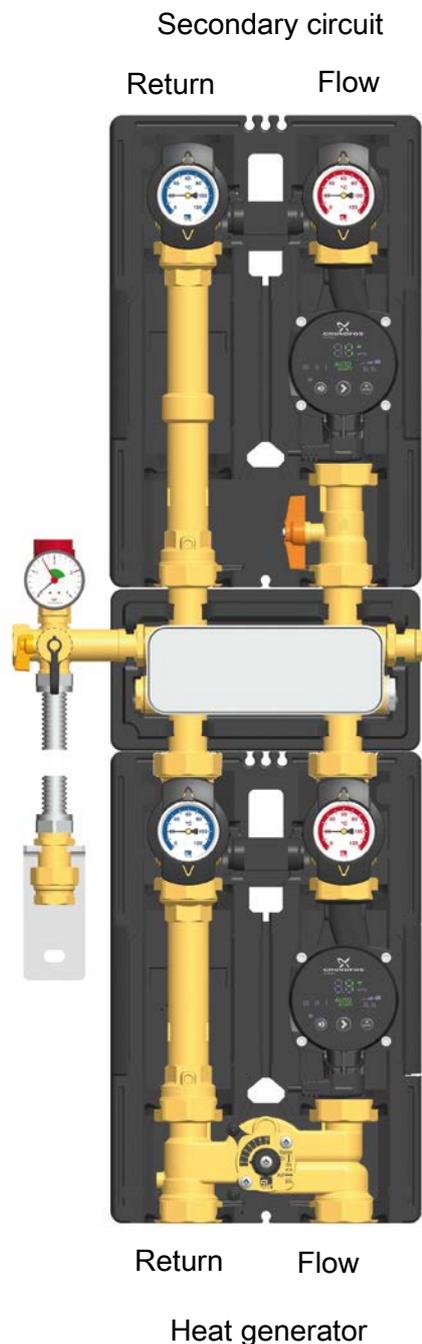
Installing the system separation directly on a PAW distribution manifold an additional thread connection for PAW flanges is necessary (item number 2151). Mount the modular distribution manifold as described in the separate instructions. If you mount the system separation on a distribution manifold, place it to the right-end or the left-end side, as the safety group juts out of the insulation.

5.4 Mounting option for system separation as complete system

System separation including primary and secondary HeatBloC:

- Complete system separation with mixing valve control on the primary side.
- Assures lowest boiler return temperatures.

Installing the system separation on a distribution manifold permits operating several heating circuits at the same time. The system separation should be installed on the right or left-end side of the distribution manifold. In this case the required installation space for the safety group is available and an optimum accessibility assured.

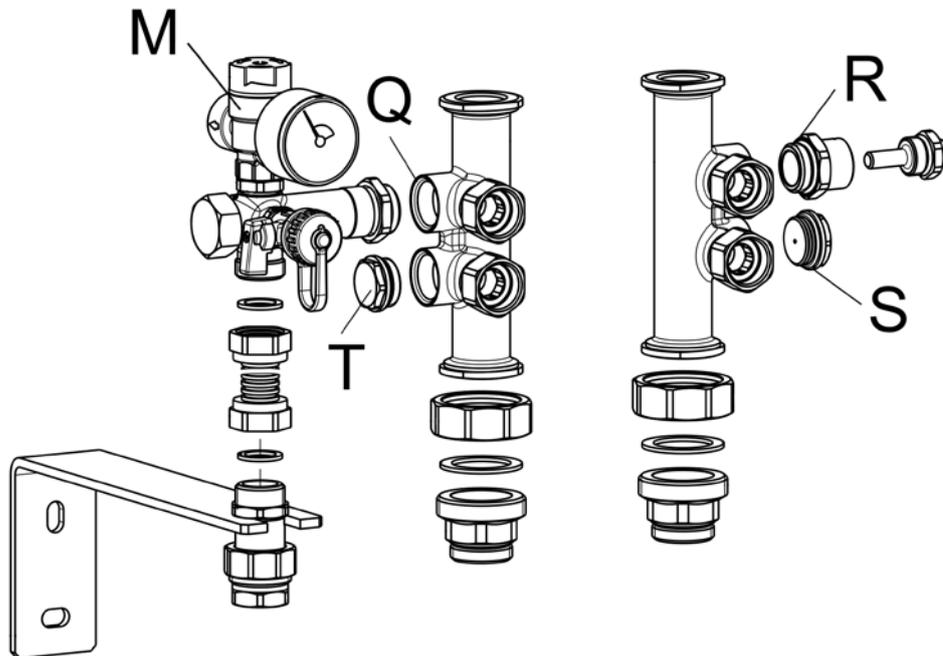


The PAW system separation may be directly connected to the PAW HeatBloCs DN 25:

- The required union nuts and gaskets for the connection of the secondary circuit are part of scope of delivery of the HeatBloC.
- The transition thread connections for installation of the system separation above a HeatBloC are included in the scope of delivery of the system separation.

Please observe the separate installation and operation instructions for the installation of the PAW HeatBloCs.

6 Connection to piping and commissioning

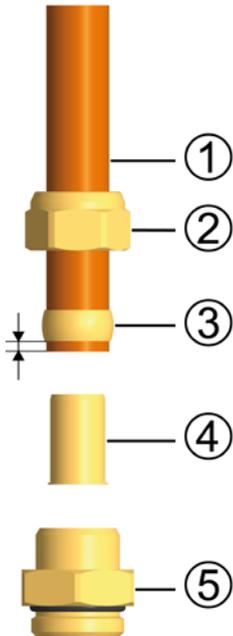


Double flange tubes at the heat exchanger

1. Connect the system separation to the installation and connect the pumps. The installation to the piping must be carried out without any tension.
2. Depending on the arrangement of the system, the expansion tank can be mounted on the right or on the left of the system separation (see chapter 3.3).
3. Mount the armoured hose for the connection of the expansion tank to the secondary circuit ($\frac{3}{4}$ ", M). Fix the bracket for the expansion tank.
4. Adapt the initial pressure of the expansion tank to the installation and connect the expansion tank. Observe the separate instructions regarding the expansion tank!
5. A self-sealing vent valve (S) is integrated in the primary circuit, as the double flange is the highest point of the primary circuit. Operate the vent valve using the enclosed vent key.
6. Connect a discharge line to the pressure relief valve (M), if necessary. Please observe the instructions regarding the pressure relief valve!
7. Carry out a pressure test and check all thread connections.
8. Mount the insulation: First mount the back shell and finally the front shell.

6.1 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.



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 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.

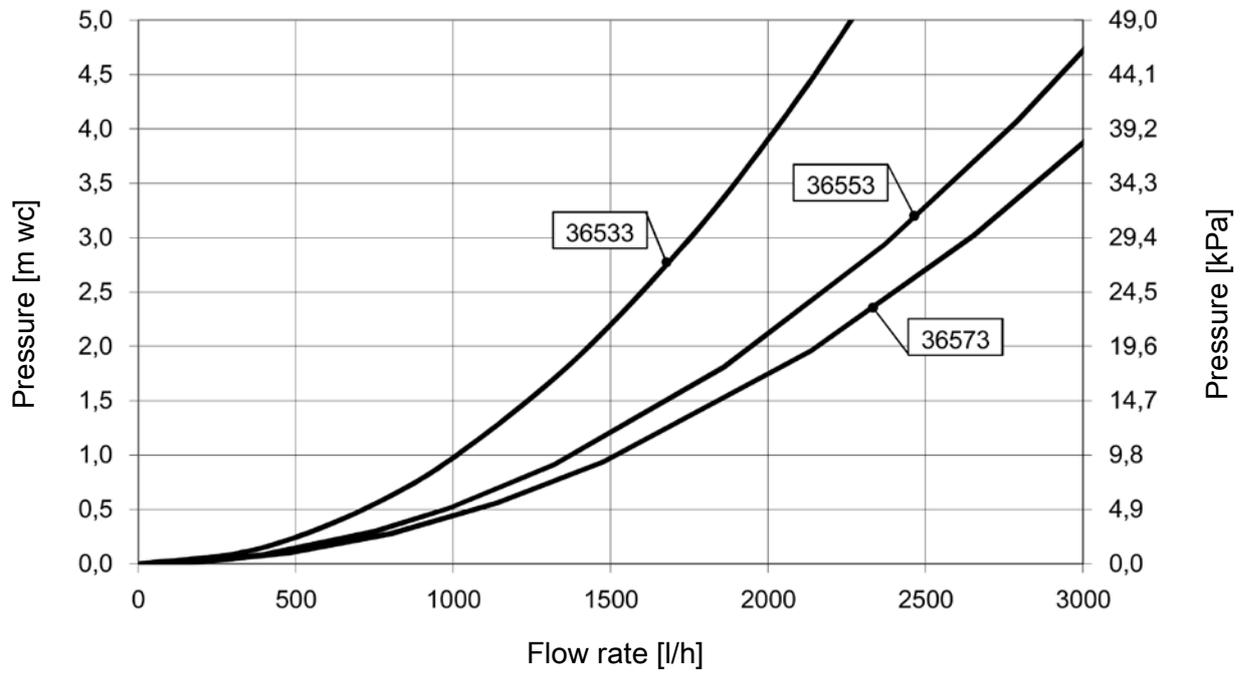
Not included in the scope of delivery!

E11616	16 plates heat exchanger
E11630	30 plates heat exchanger
E11640	40 plates heat exchanger

8 Technical data

System separation		DN 25 (1")
Dimensions		
Centre distance		125 mm
Width		380 mm
Height		176 mm
Installation length		176 mm
Hydraulics		
Maximum pressure		6 bars
Max. operating temperature		110 °C
K _{VS} value [m ³ /h]	16 plates	3.3
	30 plates	4.4
	40 plates	4.9
Connections		
Connection generator		1" external thread / 1½" internal thread (nut) on 1" PAW flange
Connection consumer		1" PAW flange
Materials		
Valves and fittings		Brass
Gaskets		EPDM
Insulation		EPP

8.1 Pressure drop characteristic curves





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