

Tender specification:

Stainless steel distributors/collectors for surface heating and cooling systems with “Q-Tech” valve inserts M 30 x 1.5 for automatic hydronic balancing, with integrated isolating facilities, pre-assembled.

Stainless steel flow distributor (1.4301)

with integrated isolating facilities, nickel plated nipples with G ¾ male threaded connection according to DIN EN 16313 (cone “Euro”) for Oventrop compression fittings, nickel plated collar nut with G 1 female thread for the direct connection of a flat sealing ball valve, nickel plated fill and drain valve with rotating connection for DN 15 hose connection, e.g. item no. 1034552.

Stainless steel return collector (1.4301)

with “Q-Tech” valve inserts M 30 x 1.5, nickel plated nipples with G ¾ male threaded connection according to DIN EN 16313 (cone “Euro”) for Oventrop compression fittings, nickel plated collar nut with G 1 female thread for the direct connection of a flat sealing ball valve, nickel plated fill and drain valve with rotating connection for DN 15 hose connection, e.g. item no. 1034552.

Brackets made of galvanised steel for the installation of the distributor/collector into the cabinet or onto the wall are included. The sound insulation of the brackets corresponds to DIN 4109, sound insulation in building construction.

Model:

Stainless steel distributor/collector “Multidis SF” 1404752 - 62 with “Q-Tech” for automatic hydronic balancing

Item no.:

1404752 - 62

Technical data:

Max. operating temperature t_s : +80 °C
 Min. operating temperature t_s : +2 °C
 Max. operating pressure p_s : 600 kPa (6 bar)
 Control range: 0.5 – 5 l/min.

Fluid: Non aggressive fluids (e.g. water and suitable water and glycol mixtures according to VDI 2035). Not suitable for steam, oils and aggressive fluids.

The set values are visible from outside (without table)

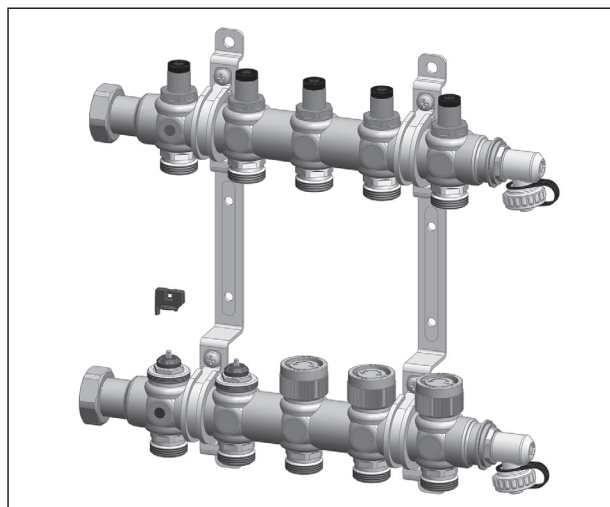
Control range:

Δp max.:	150 kPa	(1.5 bar)
Δp min. (0.5 - 2 l/min):	10 kPa	(0.10 bar)
Δp min. (>2 - 2.8 l/min):	15 kPa	(0.15 bar)
Δp min. (>2.8 - 5 l/min):	20 kPa	(0.20 bar)

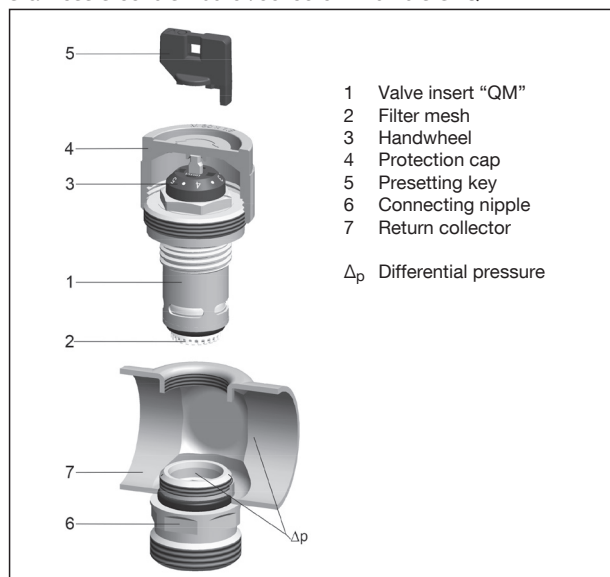
A normal thermostatic valve function is given below Δp min., i.e. the set flow value is undercut depending on the differential pressure.

Data for actuator connection:

Connection thread:	M 30 x 1.5
Piston stroke:	1.8 mm
Closing dimension:	11.8 mm
Closing pressure (actuator):	90 – 150 N



Stainless steel distributor/collector “Multidis SFQ”



Construction valve insert “QM”

Description and function:

The stainless steel distributors/collectors “Multidis SFQ” are designed for surface heating and cooling systems with circulation pump. The risers can be connected from either the left or right hand side.

The brackets allow for the fixing of the distributor/collector into the cabinet or directly onto the wall. The flat sealing ball valves are directly connected to the collar nuts (G 1 female thread) of the distributor/collector.

Standard heat meters G 1 and G ¾ can be installed. The installation depth and length of the stainless steel distributor/collector “Multidis SFQ” will be increased as a result. This has to be taken into consideration when selecting the cabinet.

For filling, flushing and bleeding of the surface heating/cooling circuits, the stainless steel distributors/collectors “Multidis SFQ” are equipped with fill and drain valves with connection for a DN 15 hose connection.

The Oventrop valve insert “QM” is an infinitely presettable, diaphragm controlled valve insert for automatic flow control (hydraulic balancing) in surface heating and cooling systems. The flow control unit integrated in the valve insert keeps the differential pressure at a constant level via the presetting and regulating cross section of the valve.

The required flow rate is set by turning the handwheel with the enclosed presetting key.

Even where high differential pressure variations occur, for instance if sections of the system or heating/cooling circuits are activated or inactivated, the flow rate is kept at a constant level within the regulation tolerances.

This way, the valve authority of the valve inserts “QM” amounts to 100% ($a = 1$). Even during part load conditions with steady control (for instance in combination with thermostats for room temperature control), the valve authority of the valve inserts “QM” amounts to 100% ($a = 1$) within the effective valve lift.

Application:

The stainless steel distributors/collectors “Multidis SFQ” allow for the central distribution of heating/cooling water to the different circuits of each dwelling.

Together with electrothermal actuators and room thermostats which are available as accessories, the valve inserts “QM” M 30 x 1.5 in the return collector which are convertible to thermostatic operation, can be used for individual room temperature control.

The room temperature is regulated by varying the volume flow of the heating or cooling water.

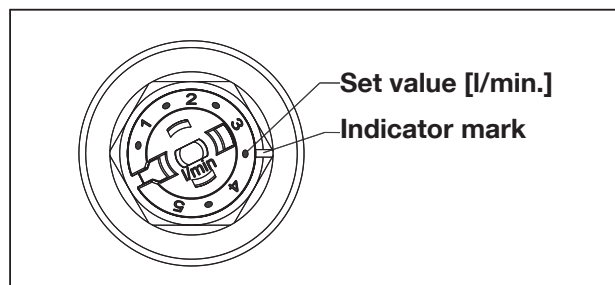
Hydraulic balancing is carried out automatically by the integrated valve inserts “QM”.

The stainless steel distributors/collectors “Multidis SFQ” are to be equipped with ball valves. They allow for the isolation of the supply and return pipe, for instance for maintenance work.

Setting of the flow rate:

Setting is carried out with the presetting key which is mounted onto the handwheel. This will protect the setting against unauthorised tampering.

The valve insert is infinitely adjustable. The setting can be modified whilst the system is in operation.

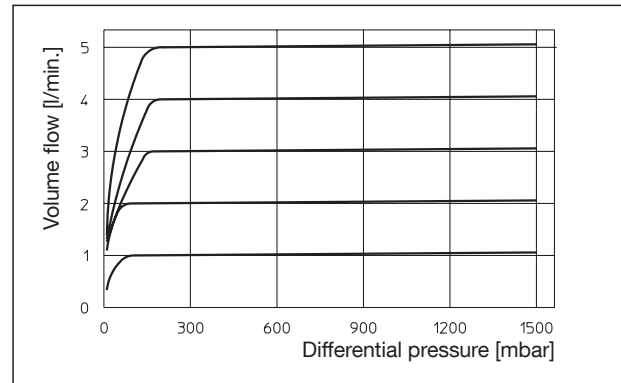


Setting of the flow rate

The integrated isolating facilities in the flow distributor have to be in position “fully open”.

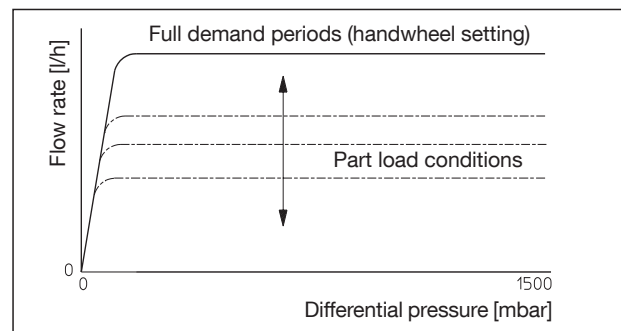
When using mixtures of water and glycol, the correction factors of the manufacturers of the antifreeze liquids have to be considered.

Characteristic lines:



Valve characteristic lines for different handwheel settings during full demand periods

The maximum required flow rate (full demand periods) of the respective heating/cooling circuit is set with the help of the handwheel. It cannot be exceeded. During part load conditions, the flow rate can be adjusted to the maximum value with the help of an actuator which is mounted onto the valve insert “QM”.



Valve characteristic lines during part load conditions

Installation:

The flow distributor and the return collector are pre-assembled and leak tested at works. Mount the flow distributor (at the top) and the return collector (at the bottom) into the sound-absorbing brackets.

The flow distributor always has to be installed at the top and the return collector at the bottom of the bracket.

The ball valves which are available as accessories are mounted with the help of the collar nut (G 1 female thread with flat seal). The risers are, for instance, connected to the female threads of the ball valves by use of the Oventrop “Combi-System”:

- “Copipe” Composition pipe
- “Cofit P” Press fittings
- “Cofit PD” Press fittings
- “Cofit S” Screwed fittings

A thermal insulation of the pipework according to the valid rules, decrees, standards and guidelines has to be carried out.

The surface heating/cooling circuits are connected to the G 3/4 compression connections at the flow distributor and return collector of the stainless steel distributor/collector “Multidis SFQ”.

Advice regarding protection cap:

The inserts of the stainless steel distributor/collector “Multidis SFQ” are supplied with a plastic protection cap. It protects the valve stem and can be used for the manual setting of the valve lift during the construction period.

1. Turn the protection cap clockwise to close the valve insert and to reduce the heat supply.
2. Turn the protection cap anticlockwise to open the valve insert and to increase the heat supply.

The protection cap must not be used for permanent shut-off of the valve insert against system pressure (e.g. whilst the compression fitting of a heating/cooling circuit is removed).

Filling, bleeding and leak testing:

Before commissioning, the installation has to be filled and bled with due consideration of the permissible operating pressures.

The integrated isolating facilities in the flow distributor have to be in position “fully open” (factory setting).

Bleeding during the filling process and even during heating/cooling operation is carried out via the fill and drain valves.

The surface heating/cooling circuits are filled via the fill and drain valve at the end of the return collector with the ball valves being closed and the valve inserts being fully open at the highest presetting. To do so, turn the handwheel to position 5 with the help of the presetting key. The G $\frac{3}{4}$ connection of the fill and drain valve is suitable for standard DN 15 hose connections.

Except for the first heating/cooling circuit to be filled, the valve inserts “QM” of all surface heating/cooling circuits have to be closed with the help of the protection caps. Fill/flush each individual heating/cooling circuit, one after another, with an unpolluted, non-aggressive fluid via the fill and drain valve at the return collector.

Filling/flushing is carried out via the fill and drain valve at the return collector through the respective heating/cooling circuit to the fill and drain valve at the flow distributor.

Carry out leakage test according to DIN EN 1264. The test results have to be recorded.

Maintenance:

The stainless steel distributors/collectors “Multidis SFQ” are maintenance-free.

Tightness and function of the distributors/collectors and their connection points have to be checked regularly during maintenance. The distributors/collectors must be easily accessible.

Malfunctions (e.g. heating circuit does not get sufficiently warm / cooling circuit does not get sufficiently cold) can be caused by a contaminated filter mesh.

In case of malfunctions, close the supply and the return pipes with the help of the ball valves as well as the circuits which are not concerned. Now depressurise the concerned circuit via the fill and drain valve at the return collector, unscrew the valve insert from the return collector and replace it (or clean or replace the filter mesh).

The valve insert is tightened with a torque of 35 Nm. Use a 19 mm spanner for mounting and dismounting the valve insert.

Important advice regarding incremental heating test:

Start incremental heating of concrete and calcium sulphate screed has to be carried out according to DIN EN 1264-4.

The instructions of the screed manufacturers must be observed.

Start incremental heating at the earliest:

- 21 days after laying of concrete screed

- 7 days after laying of calcium sulphate screed

Heat up slowly with a flow temperature between 20 °C and 25 °C for at least 3 days, then at a temperature of about 55 °C for at least 4 days. To do so, open the valve inserts of the stainless steel distributor/collector “Multidis SFQ” with the help of the protection caps.

The flow temperature is controlled via the heat generator control.

Important advice regarding commissioning:

The flow temperature must be coordinated with the surface heating/cooling system.

Before setting the system into operation, the valve inserts have to be equipped with automatic devices for room temperature control.

Near the heating pipes, the maximum permissible screed temperature according to DIN must not be exceeded. In cooling systems, the temperature near the cooling pipes must not reach the dew point. The general instructions of the manufacturer must be observed.

“Multidis SFQ” Stainless steel distributors/collectors for surface heating and cooling systems

Stainless steel distributor/collector “Multidis SFQ”	Item no.	Circuits	Length (L)	Length (L) with ball valve 1406383	Length (L) with ball valve 1406384
	1404752	2	168 mm	223 mm	248 mm
	1404753	3	218 mm	273 mm	298 mm
	1404554	4	268 mm	323 mm	348 mm
	1404755	5	318 mm	373 mm	398 mm
	1404756	6	368 mm	423 mm	448 mm
	1404757	7	418 mm	473 mm	498 mm
	1404758	8	468 mm	523 mm	548 mm
	1404759	9	518 mm	573 mm	598 mm
	1404760	10	568 mm	623 mm	648 mm
	1404761	11	618 mm	673 mm	698 mm
	1404762	12	668 mm	723 mm	748 mm

Dimensions stainless steel distributors/collectors “Multidis SFQ”

Ball valves	Item no.	Size	D	L1	L2
	1406383	DN 20	G 3/4	55 mm	57 mm
	1406384	DN 25	G 1	80 mm	60 mm
	1406483 (with thermometer. and red T-handle)	DN 20	G 3/4	73 mm	60 mm
	1406583 (with thermometer. and blue T-handle)	DN 20	G 3/4	73 mm	60 mm
	1406484 (with thermometer. and red T-handle)	DN 25	G 1	85 mm	60 mm
	1406584 (with thermometer. and blue T-handle)	DN 25	G 1	85 mm	60 mm

Dimensions ball valves

Subject to technical modifications without notice.

Product range 2
ti 387-EN/10/MW
Edition 2018