Tender specification:

Oventrop fitting “Multiblock TQ” with “Q-Tech” for two pipe heating systems for automatic hydronic balancing. With integrated, differential pressure independent thermostatic valve with infinitely adjustable presetting. Fitting for regulation, isolation, draining and filling.
Body made of nickel plated brass (marking “OV 2” on the valve body), stem of the valve insert made of stainless steel with O-ring seal.
Isolating stem made of brass with O-ring and cap with flat seal made of PTFE. Technical data as thermostatic valves “AQ”. The valve insert is replaceable using the special tool “Demo-Bloc”, item no. 1188051, without draining the system.

Plastic design covers in white, anthracite, chrome plated or stainless steel finish are available as accessories.

Models:	**Item no.:**
“Multiblock TQ” for radiators with:	
G ½ female thread	
Straight pattern	1184073
Angle pattern	1184074

Technical data:

Operating temperature t_s:	2 °C up to 110 °C
Max. operating pressure p_s:	1000 kPa (10 bar)
Control range:	10 – 170 l/h

The set values can be read off the handwheel (P-deviation 2K).

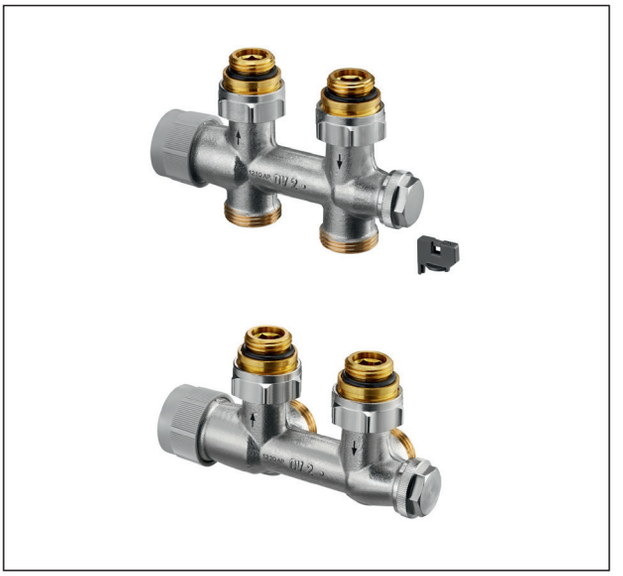
Control range:	
Δp max.:	150 kPa (1.5 bar)
Δp min. (10-130 l/h):	10 kPa (0.1 bar)
Δp min. (>130-170 l/h):	15 kPa (0.15 bar)

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

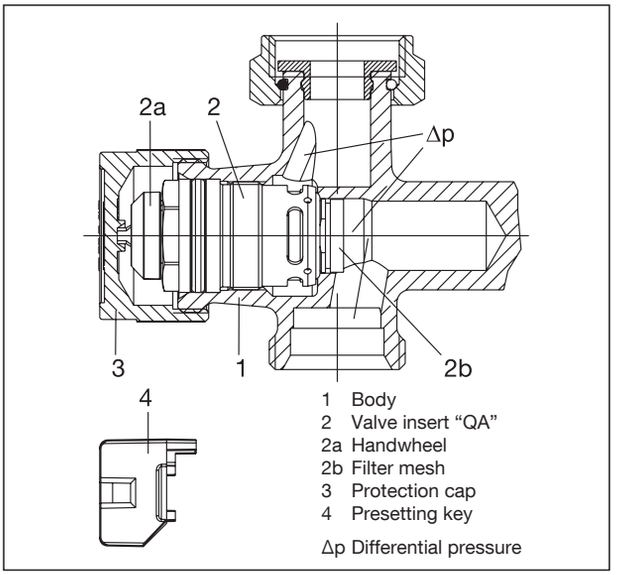
Fluid:	Water or suitable ethylene/propylene glycol water mixtures according to VDI 2035/ ÖNORM 5195 (max. glycol proportion 50 %,ph value 6.5-10). Not suitable for steam, oily, polluted and aggressive fluids.
Pipework connections:	G ¾ male thread according to DIN EN 16313 (cone “Euro”)
Distance between pipe centres:	50 mm

Function:

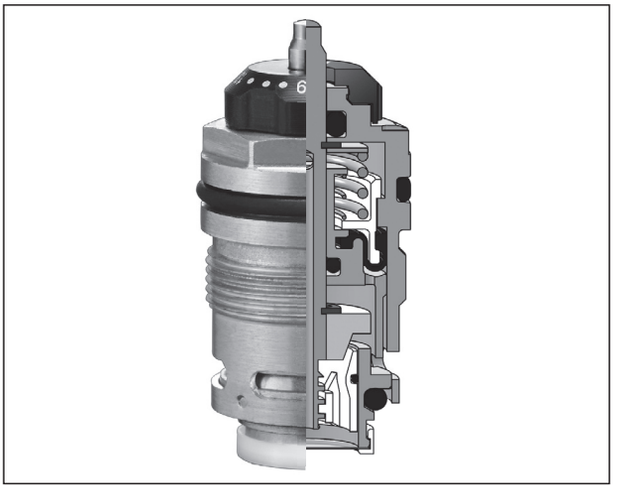
The fitting “Multiblock TQ” is a combination consisting of a differential pressure independent thermostatic valve with infinitely adjustable presetting and an isolating fitting.
Together with the service tool, item no. 1090551, the isolating fitting serves the isolation, draining and filling of the radiator.
The thermostatic valve maintains the differential pressure at a constant value via the presetting and regulating cross section of the valve. Even where high differential pressure variations occur, for instance if sections of the system are activated or inactivated, the flow rate is kept at a constant level within the regulating tolerances. This way, the valve authority of the fitting “Multiblock TQ” amounts to 100 % (a = 1). Even during part load operation with steady control (for instance in combination with thermostats for room temperature control), the valve authority of the fitting amounts to 100 % (a = 1) within the effective valve lift.
The maximum flow rate can be set with the help of the presetting key.
For additional room temperature control, thermostats or actuators with connection thread M 30 x 1.5 can be screwed onto the thermostatic valve.



Fittings “Multiblock TQ”



Construction thermostatic valve



Simplified illustration of the valve insert with “Q-Tech”

Application:

The fitting “Multiblock TQ” is used in combination with a thermostat or actuator in central heating and cooling systems (two pipe operation) with closed circuits and circulation pump for room temperature control and automatic flow control (hydronic balancing) at radiators with supply and return pipe connection with a distance of 50 mm between the pipe centres.

The fitting must only be installed in a clean pipework system and must only be operated with a clean unpolluted fluid. When installing the pipework, please make sure that the pipes run in parallel and are free from tension. The position of the supply and return pipe connection must be strictly observed. The direction of flow has to conform to the arrows on the valve body.

Connection of the pipework to the male threads G ¾ according to DIN EN 16313 (cone “Euro”) by use of compression fittings. For the connection of copper, precision steel, stainless steel and plastic pipes as well as the composition pipe “Copipe”, the Oventrop compression fittings are to be used (alternatively, the compression fittings of other manufacturers - except for composition pipe “Copipe” - which are suitable for the connection to male thread G ¾ according to DIN EN 16313 (cone “Euro”) may also be used).

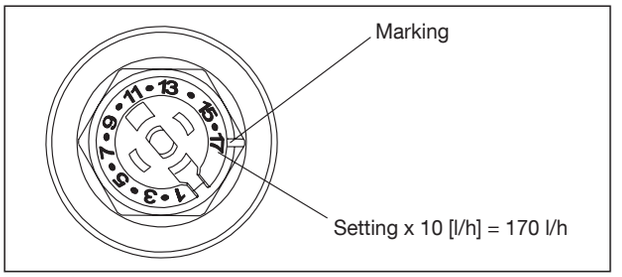
Noise behaviour:

For a silent operation in combination with an installation which is sensitive to noise (e.g. radiators), the maximum differential pressure across the valve should not exceed 600 mbar.

Presetting:

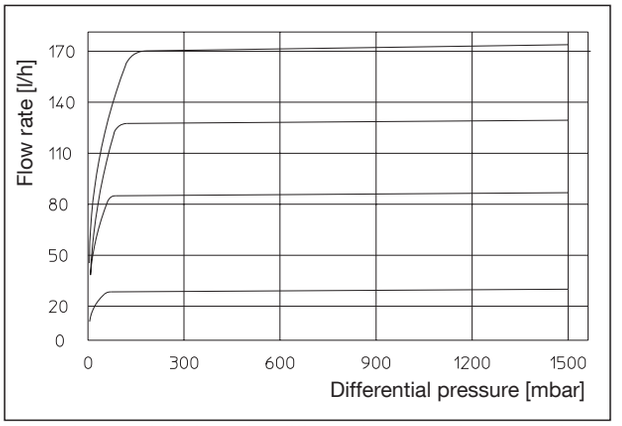
Set the presetting to the required value by use of the presetting key. Setting can only be carried out with the help of the enclosed presetting key which is fitted to the handwheel. This will prevent unauthorised tampering.

The required setting must be in line with the marking. The presetting is infinitely adjustable and can be modified whilst the system is in operation; water will not escape.



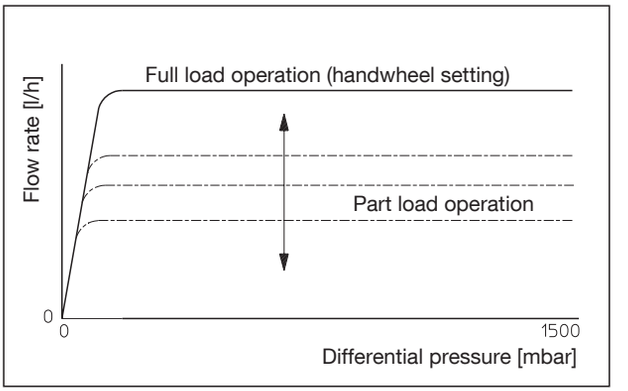
Presetting

Characteristic lines:



Valve characteristic lines for different handwheel settings during full load operation

The maximum required flow rate (full load operation) of the valve is set with the help of the handwheel. It cannot be exceeded. During part load operation, regulation of the flow rate up to the set maximum value can be carried out with the help of a thermostat or actuator which is screwed onto the fitting.



Valve characteristic lines during part load operation

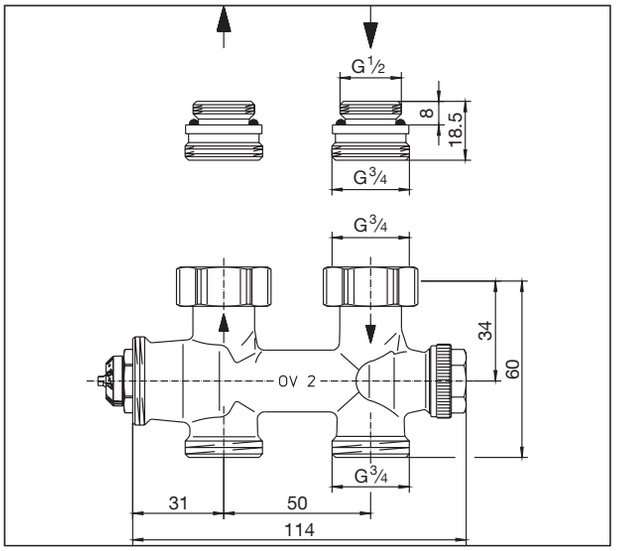
Differential pressure measurement:

The available differential pressure can be measured with the help of the OV measuring systems (“OV-DMC 3”, “OV-DMC 2” or “OV-DMPC”) together with the “Demo-Bloc” (item no. 1188051) and the differential pressure measuring stem (item no. 1188093). This will confirm if the differential pressure is high enough for an automatic flow control of the valve. The pump setting may also be optimised by measuring the differential pressure.
For this purpose the pump head is reduced until just the minimum required differential pressure is available at the hydraulically most underprivileged valves.
With a measuring gauge connected, the differential pressure at the thermostatic valve body is measured. To do so, the valve insert is unscrewed with the help of the “Demo-Bloc” and the differential pressure is measured using the differential pressure measuring stem. As soon as the measured differential pressure has reached or exceeded the differential pressure Δp min., the differential pressure is high enough for an automatic flow control of the valve.
Screw the valve insert into the valve body again and check all installation points for leaks.

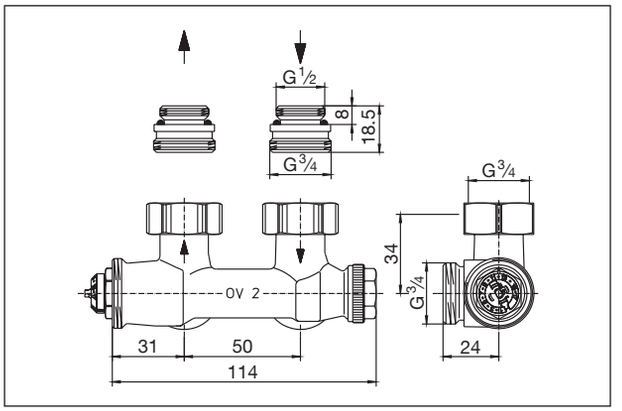
Maintenance:

The fitting is maintenance-free. The fitting has to be serviced if it malfunctions. The fitting must be easily accessible.
Tightness and function of the fitting and its connection points have to be checked regularly during maintenance.
Malfunctions (radiator does not get sufficiently warm for instance) can be caused by a contaminated filter mesh.
Unscrew the valve insert from the valve body with the help of the “Demo-Bloc” without draining the system. Now clean or replace the filter mesh or replace the valve insert.

Dimensions:



Straight pattern

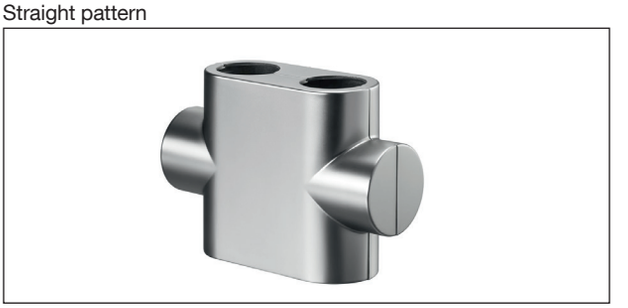


Angle pattern

Accessories:

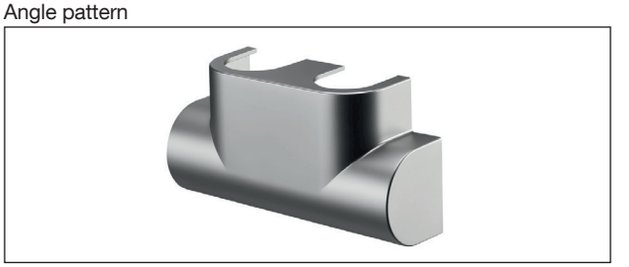
Design covers for panelling

Straight pattern



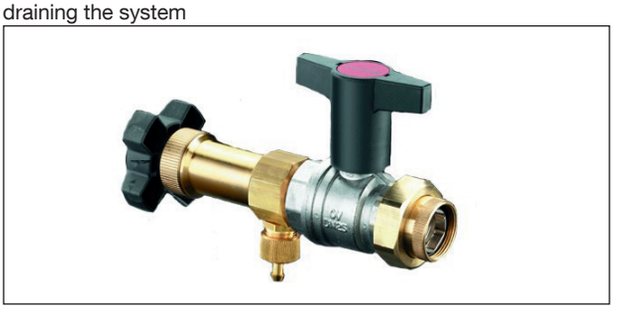
	Item no.:
anthracite	1184088
stainless steel finish	1184090
white	1184095
chrome plated	1184097

Angle pattern



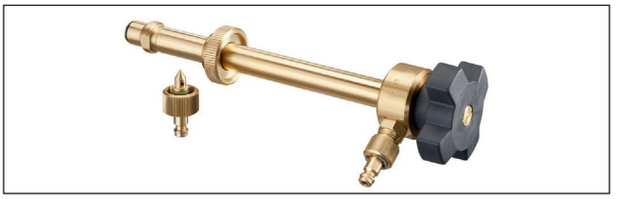
	Item no.:
anthracite	1184089
stainless steel finish	1184091
white	1184096
chrome plated	1184098

Special tool **“Demo-Bloc”** for replacing the valve inserts without draining the system



Item no. 1188051

Differential pressure measuring stem for measuring the differential pressure across the valve seat in combination with the “Demo-Bloc” (item no. 1188051)



Item no. 1188093

Service tool

Item no. 1090551

Subject to technical modifications without notice.

Product range 1
ti 360-EN/20/MW
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