

#### Tender specification:

Oventrop fittings “Multiflex FQ” with “Q-Tech” for heating systems (two pipe operation) for automatic hydronic balancing. With integrated differential pressure independent valve insert with infinitely adjustable presetting. Regulating and isolating fitting.

Body made of nickel plated brass, stem of the valve insert made of stainless steel with O-ring seal.

Isolating fitting made of brass, both ports with cap and flat seal. Valve technology as “AQ” valves. The valve inserts are replaceable with the help of the special tool “Demo-Bloc”, item no. 1188051, and the coupling set, item no. 1188095, without draining the system.

Models:	Item no.:
Fitting “Multiflex FQ” for radiators with integrated distributor	
G ¾ male thread	
Straight pattern	1015803
Angle pattern, left hand side connection	1015804
Angle pattern, right hand side connection	1015805
G ½ female thread	
Straight pattern	1015873
Angle pattern, left hand side connection	1015874
Angle pattern, right hand side connection	1015875

#### 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 are visible from outside (without table).  
 Control range:

$\Delta p$  max.: 150 kPa (1.5 bar)  
 $\Delta p$  min. (10-130 l/h): 10 kPa (0.1 bar)  
 $\Delta p$  min. (>130-170 l/h): 15 kPa (0.15 bar)

Below  $\Delta p$  min., the set 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 or 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:

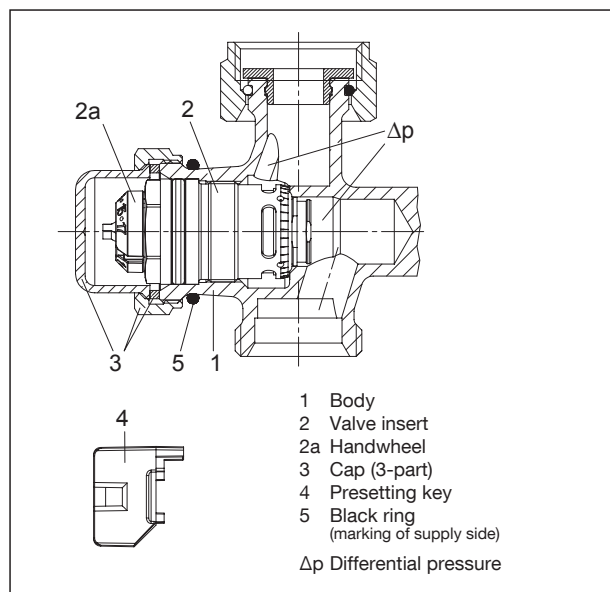
The fitting is a combination consisting of a presettable flow regulator (valve insert “QA”) and an isolating fitting (valve insert “Combi LR”).

The flow regulator maintains the differential pressure at a constant level via the presetting and regulating cross-section of the fitting. 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 regulation tolerances. The maximum flow rate can be set with the help of the presetting key.

The fitting can also be used for flow temperature control if the room temperature shall not be controlled by the valve insert integrated in the radiator. Thermostats or actuators with OV connection thread M 30 x 1.5 can be screwed onto the flow regulator for this purpose.



Fittings “Multiflex FQ”



Construction flow regulator



Simplified illustration of the valve insert “QA”

#### Application:

The fittings “Multiflex FQ” with “Q-Tech” are used in central heating and cooling systems (two pipe operation) with closed circuits and circulation pump for automatic flow control (hydronic balancing) at radiators with integrated distributor 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 parallel and are free from tension. The position of the supply and return pipe connection must be strictly observed as the fluid has to be transported in the specified direction of flow. The supply has to be connected to the side of the flow regulator marked with a black ring.

The pipework is connected to the male threads G  $\frac{3}{4}$  according to DIN EN 16313 (cone “Euro”). 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 the composition pipe “Copipe” - which are suitable for the connection to male thread G  $\frac{3}{4}$  according to DIN EN 16313 (cone “Euro”) may also be used).

#### Noise behaviour:

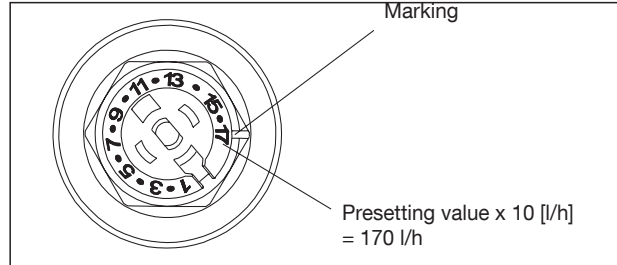
For the silent operation of an installation which is sensitive to noise (e.g. radiators), the maximum differential pressure across the connection fitting should not exceed **600 mbar**.

#### Setting of the flow rate:

Remove the cap on the supply side (marked with a black ring).

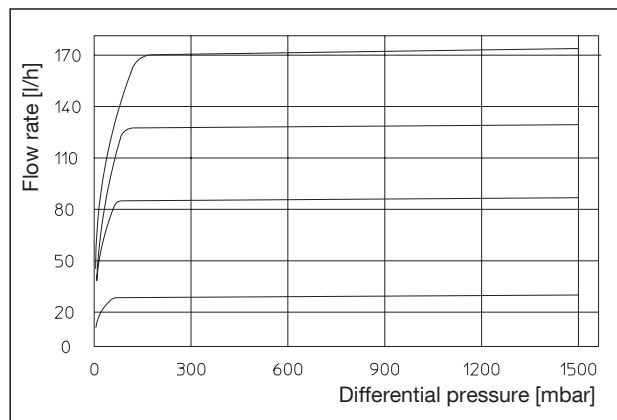
Set the flow rate to the required value by use of the presetting key. Setting can only be carried out with the help of the enclosed presetting key which is fitted to the handwheel. This will prevent unauthorised tampering.

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. Refit the cap.



Setting of the flow rate

#### Characteristic lines:



Valve characteristic lines at different presettings of the handwheel during full demand periods

The maximum required flow rate (full demand periods) which cannot be exceeded is set with the help of the handwheel.

#### Differential pressure measurement:

The available differential pressure can be measured with the help of the OV measuring system “OV-DMC 3” together with the “Demo-Bloc” (item no. 1018051) 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 “Multiflex FQ” fitting. The pump setting may also be optimised by measuring the differential pressure.

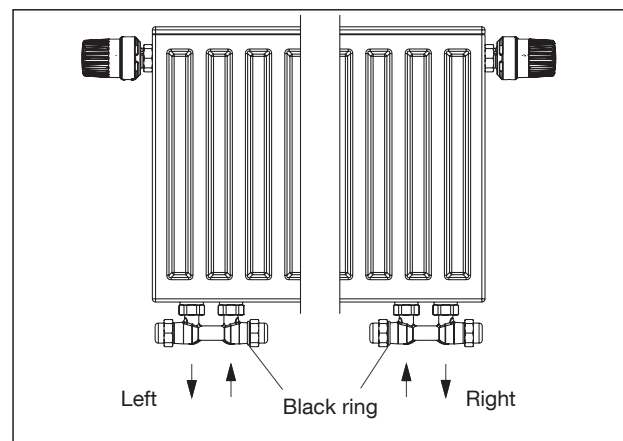
For this purpose, the pump head is reduced until just the minimum required differential pressure is available at the hydraulically most underprivileged valves.

With a measuring system connected, the differential pressure at the valve body is measured. To do so, the cap has to be unscrewed first. Then 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  $\Delta p_{min.}$ , the differential pressure is high enough for an automatic flow control of the fitting.

Screw the valve insert into the body again, fit the cap and check all installation points for leaks.

#### Allocation of the connections of the angle pattern model:

The angle pattern model is available for left and right hand side connection.



Allocation of the connections of the angle pattern model for left/right hand side connection.

An existing angle pattern fitting for left hand side connection can be converted to a “Multiflex FQ” fitting for right hand side connection by swapping the valve insert and the isolating insert and vice versa.

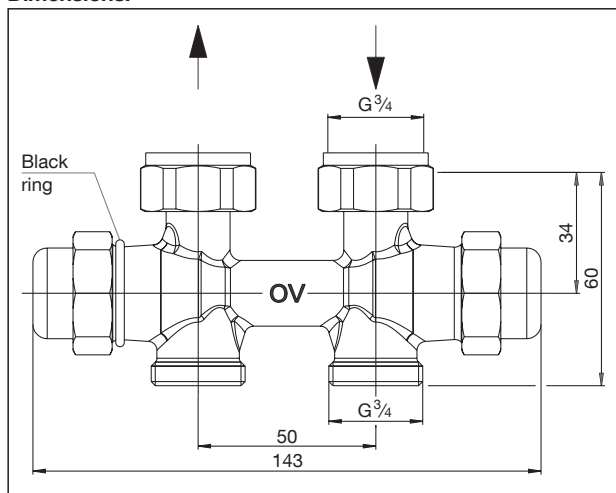
#### Maintenance:

The fitting is maintenance-free. It has to be serviced if it malfunctions. The fitting must be easily accessible.

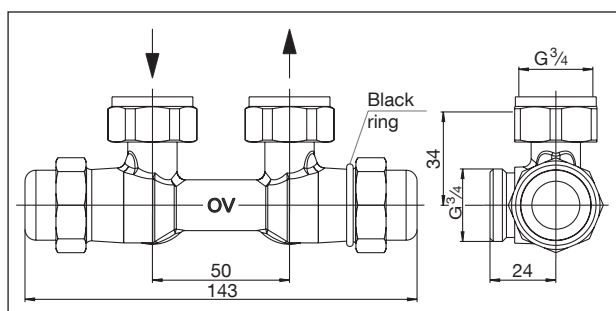
Tightness and function of the fitting and its connection points have to be checked regularly during maintenance.

The valve insert can be replaced with the help of the “Demo-Bloc” without draining the system.

**Dimensions:**



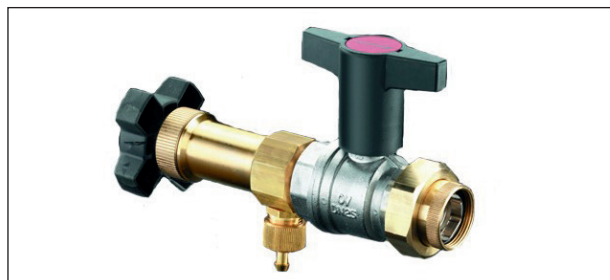
Straight pattern



Angle pattern

**Accessories:**

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



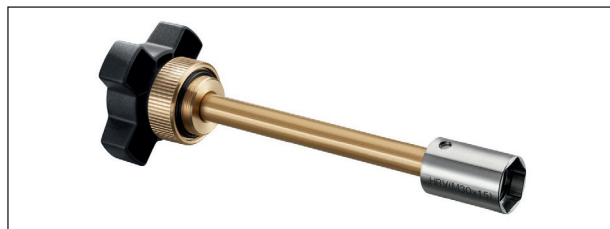
Item no. 1188051

**Stem for measuring the differential pressure** across the valve seat in combination with the special tool “Demo-Bloc” (item no. 1188051)



Item no. 1188093

**Coupling set “HRV / Combi LR”** (since 2018) for the replacement of the isolating insert (“Combi LR”) in combination with the “Demo-Bloc” (item no. 1188051) without draining the system.



Item no. 1188095

Subject to technical modifications without notice.

Product range 1  
ti 363-EN/20/MW  
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