

ULTRAMIX® TX91

High productivity thermostatic mixing valve

Technical data sheet



Description

Thermostatic mixing valves with a double regulation functioning according to a principle of servo-motor.

Water mixing is obtained by two independent valves, (one for hot water, one for cold water), which operate like two hydraulic relays. These two valves are controlled by a bimetallic strip that records output water temperature and can be adjustable also with the calibrated control knob.

- Continuous PROTECTION AGAINST LEGIONELLA.
- SCALD PROTECTION: the hot water shuts off automatically if there is not enough cold water. (Δ Hot water/Mixed water $> 10^{\circ}\text{C}$).
- MAXIMUM TEMPERATURE LIMITATION adjustable and lockable.
- LIMITED MAINTENANCE: no friction from moving metal parts means excellent resistance to scale and remarkable longevity.
- BIMETALLIC STRIP TECHNOLOGY: exceptional qualities of regulation and resistance to the scale (crucial factor for safety).
- SIMPLE AND EASY MAINTENANCE: removal cartridge without dismantling the thermostatic mixing valve, strainers and integrated check valves accessible directly on the cartridge.
- ADJUSTMENT PRECISION and COMFORT of the temperature stability with low and high flow rates.
- GUARANTEE: thermostatic mixing valve and cartridge guaranteed 5 years.



ULTRAMIX® TX91

Thermostatic mixing valve, with built-in blocking control knob.
Cover in front (grey PVC or chrome plated).

Calculation software access:
[Click here](#)

Connect.	Flow (l/min)	Setting range	Finish	Points of use*	Part number	Weight (kg)
M 3/4"	Min. 5 – Max. 56	10/50°C	Grey epoxy	1 to 7	22TX91E	1,8
M 3/4"	Min. 5 – Max. 56	10/50°C	Chrome plated	1 to 7	22TX91C	1,8
M 3/4"	Min. 5 – Max. 56	30/70°C	Grey epoxy	1 to 7	22TX91E37	1,8
M 3/4"	Min. 5 – Max. 56	30/70°C	Chrome plated	1 to 7	22TX91C37	1,8

Standard gradations: 10/50°C or 30/70°C, on request and without extra charge: 5/40°C.

* For information - please take into account the number of taps connected to the same network and used simultaneously.

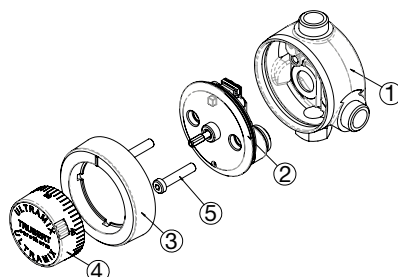
Technical features

Technical features	
Maximum static pressure	10 bar
Maximum dynamic pressure	6 bar
Operating pressure	2 - 4 bar
Minimum operating pressure	1 bar
Maxi. hot temperature supply	85°C
Flow mini.	5 l/min
Flow max.	56 l/min
Minimum temperature variation between inlets	5°C
Maximum pressure variation	1,5 bar

* differential minimum hot/mix temperature must be $> 10^{\circ}\text{C}$.

Nomenclature and materials

N°	Designation	Materials	EURO
1	Body	Brass	CB770S
2	Cartridge TX1 (10/50°C) Cartridge TX137 (30/70°C)	Brass + stainless steel + EPDM + covered steel	
3	Cover M2	Plastic	PP
4	Knob	Plastic	ABS
5	Screw	Stainless steel	1.4310 (AISI 301/302)



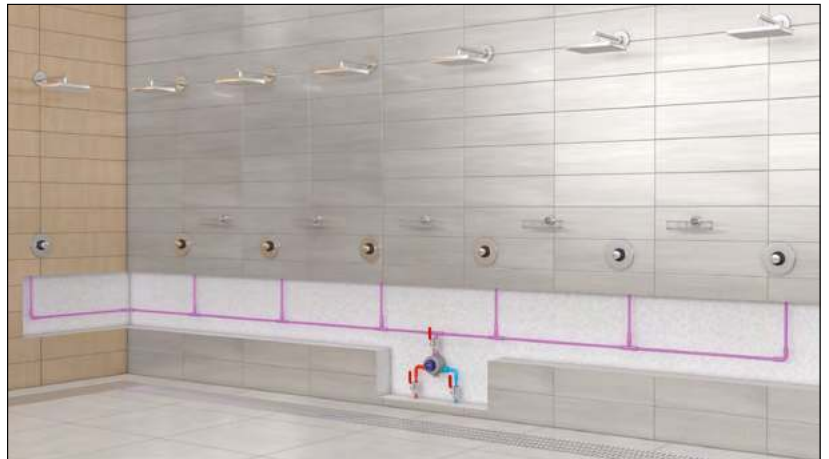
Approvals

ACS, BELGAQUA.

Application

The ULTRAMIX® TX91 thermostatic mixing valve is specially designed for collective installations from 1 to 7 points of use with a hot water inlet on the left and a cold water inlet on the right.

Reverse inlets are possible on request and without extra charge.



Installation

The hot water has to be connected on the left side and the cold water on the right side and connect the mixed water outlet. Provide an accessible shut-off valve on each pipe. Rinse pipes with the supplied kit and turn on the thermostatic mixing valve. Adjust the temperature. Please, refer to the complete instructions supplied with the thermostatic mixing valve or on wattswater.eu.

Setting

Mixed water temperature adjustment: this adjustment is done autonomously without the loop circulation pump.

1. Stop the loop circulation pump.
2. Close the pump isolation valves.
3. Open sufficient points of use on the mixed water circuit to obtain the minimum flow of the thermostatic mixing valve.
4. Turn the thermostatic mixing valve axis control shaft to reduce or increase the mixed water temperature.
5. Once the required temperature is obtained, replace the control knob.

Against legionella answer

Thanks to the ULTRAMIX® TX91 there are 2 solutions against legionella:

- You can with the thermostatic mixing valve such as it is (with 30/70°C cartridge): proceed to a thermal "shock", simply by freeing the control knob and position it a 70°C (without dismantling the thermostatic mixing valve, cartridge or control knob).
- You also can by putting the cartridge in position "rinsing" i.e. turned over cartridge, fixed at back, (see simple procedure and the rinsing kit delivered with the thermostatic mixing valve): proceed to a thermal "shock" with more 70°C, without risk to damage the thermostatic mechanism prematurely, because is not any more in contact with water.

Replacement cartridges ULTRAMIX®

The thermostatic mechanisms are independent from the other parts of the thermostatic mixing valves.

This modular system, facilitates the first start-up and the maintenance (possibility of cartridge exchange).

Any installation defect is immediately detected and allows a quick compliance.

All Eurotherm "cartridges" of ULTRAMIX®, high productivity thermostatic mixing valve, have stainless steel filters and check valves NF approved.



For mixing valve type	Flow (l/min)	Setting range	Part number
TX91E, TX91C	Min. 5 – Max. 56	10/50°C	22TX1*
TX91E37, TX91C37	Min. 5 – Max. 56	30/70°C	22TX137*

* For reversed cartridges add "IN" to the article code, for installations requiring a higher flow rate, the TX1 and TX2 cartridges as well as TX137 and TX237 are compatible and interchangeable.

Maintenance

WATTS INDUSTRIES recommends to minima, the installation of a thermometer of control of the temperature on the mixed water piping and one on the return of loop, and that this temperature is checked at least once a month under the normal conditions of operation. This thermometer must be installed at a distance from at least 1 meter of the thermostatic mixing valve.

The rinsing kit is delivered with the thermostatic mixing valve and allows to facilitate the intervention in case of preventive or curative treatment.



Take off the knob, cover, and screw. Remove the cover/cartridge from its casing.



Place the flat washer (included in package) on the device's neck.



Place the cover/cartridge unit upside down on the device and flat washers.



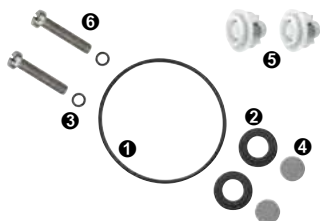
Tighten the temporary screws (included the package). The valves act now as a "by-pass".

The principle of compact mechanism in the form of interchangeable cartridge allows a handing-over under operation of the thermostatic mixing valves in record time. This great simplicity of maintenance makes it possible to utilize a person without particular qualification and not to immobilize an installation more few minutes, so much the exchange of the mechanism is fast. Moreover, the body of the thermostatic mixing valve is never dismantled of the installation.

Maintenance kit for ULTRAMIX® cartridge

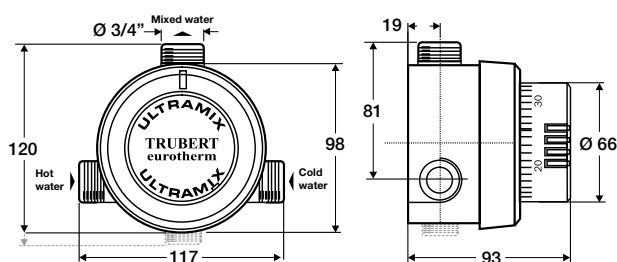
This kit includes all the usual wearing parts:

the cover-cartridge gasket ❶, 2 filter-support (elastomer) ❷, gaskets for cover screws ❸, 2 stainless steel strainers ❹, the check valve units and assembled check valve carriers ❺ and the cover screws ❻.

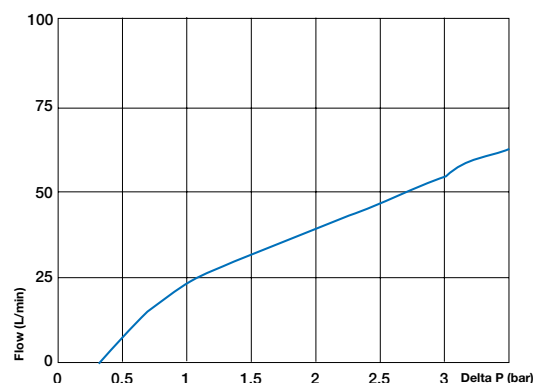


For cartridge type	Part number complete kit	Part number simplified kit
TX1, TX2, TX137, TX237	22TB120002	22TB120022 (without cover screws)

Sizing (mm)



Operating



The descriptions and photographs contained in this product specification sheet are supplied by way of information only and are not binding.

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