



BROEN-LAB TMV AND TMV SAFETY

General instructions for installation, maintenance and operation

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TMV and TMV Safety Introduction

Usage

Thermostatic mixing valves are primarily used in laboratory installations and are intended to supply water at a fixed temperature to a fixture or eye wash station.



Name	TMV	TMV Safety
Item number	260300310XX	27030091035
Usage	for fixtures	for eye wash stations
Temperature range	15°C - 60°C	15 °C - 38 °C
* Preset output temperature	38°C	22°C
Intentional leak where cold water is still supplied if the hot water supply is interrupted		X

* Preset temperature: Assumption cold 15 °C - hot 60°C

Kv values

TMV: Kv = 1.05 m³/h
Kv = 0.29 l/s

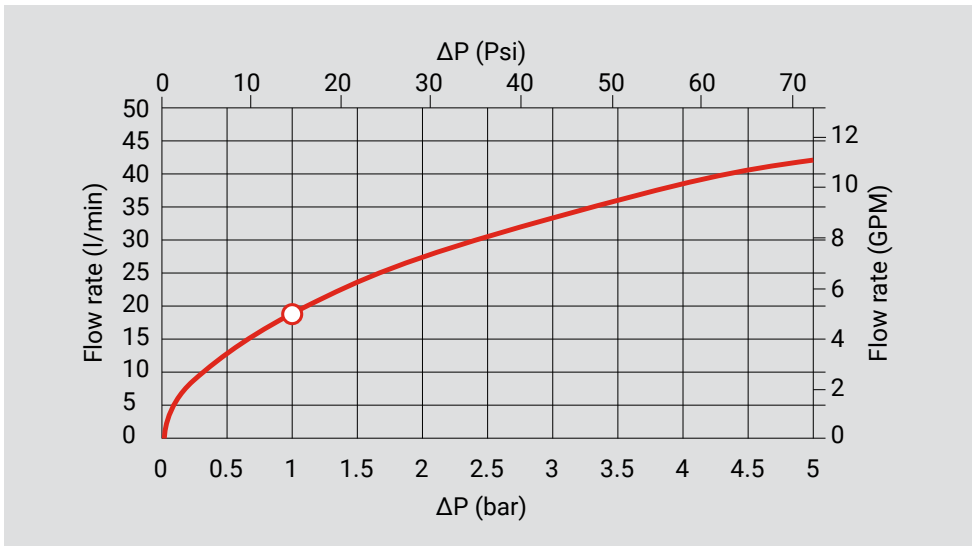
Formula

$$K_v = \frac{q_v [\text{m}^3/\text{h}]}{\sqrt{\Delta P [\text{bar}]}}$$

Example of water volume calculation (1 bar)

$$q_v = K_v * \sqrt{\Delta P [\text{bar}]} = 0.29 * 1 * 60 = 17.4 \text{ l/min}$$

Flow curve



TMV and TMV Safety Installation

Installation must be done in accordance with the requirements of the relevant authorities. If there are problems with impurities in the water, we recommend installing in-line filters.

Flush the pipe system before installation. The pre-assembled filter gaskets must always be used in the inlets.

The thermostat can be mounted in any position. Installation under the water trap is recommended for space reasons.

We recommend installing recirculation on the hot water side to immediately achieve the desired preset temperature.

Centre distance, inlets: 39 mm.

For space reasons, outlet pipes should be fitted last.

All mounting kits are ordered separately.

Angled BALLOFIX® for copper pipes

With 10mm PIPEFIX 2610 0462

With 12mm PIPEFIX 2610 0672

Without PIPEFIX 2610 0362



Illustration 1: Mounting kit -
Angled BALLOFIX® for copper pipes



Illustration 2: TMV and TMV Safety installed under the sink

TMV and TMV Safety
Datasheet

Pressure	Limits	Recommendation
Static pressure		
<ul style="list-style-type: none"> • TMV • TMV Safety 	Max. 10 bar	
Dynamic pressure		
<ul style="list-style-type: none"> • TMV 	Min. 1 bar (100 kPa) max. 10 bar (1000 kPa)	1 bar (100 kPa) to 5 bar (500 kPa)
<ul style="list-style-type: none"> • TMV Safety 	Min. 1.5 bar (150 kPa) max. 10 bar (1000 kPa)	1.5 bar (150 kPa) to 5 bar (500 kPa)
Max pressure difference between hot and cold		
<ul style="list-style-type: none"> • TMV • TMV Safety 	Max. 2 bar	

Temperature	Limits	Recommendation
Warm (hot)		
<ul style="list-style-type: none"> • TMV • TMV Safety 	Max. 90°C	55°C - 65°C
Cold (cold)		
<ul style="list-style-type: none"> • TMV 	5°C - 25°C (Max.)	5°C - 20°C
<ul style="list-style-type: none"> • TMV Safety 	5°C - 22°C (Max.)	15°C
Temperature difference between hot and cold		
		Min. 30°C - 50°C

TMV and TMV Safety Operations

Temperature – setting and checking:

The TMV is factory set to 38°C.
TMV Safety is factory set to 22°C.

To adjust the temperature, turn the Allen key clockwise or anti-clockwise.

Intentional leakage:

TMV Safety: If the hot water supply is interrupted, the valve will continue to supply cold water in the volume needed to keep the emergency shower running.

Built-in scalding protection shuts off the outlet if the cold water supply is interrupted.

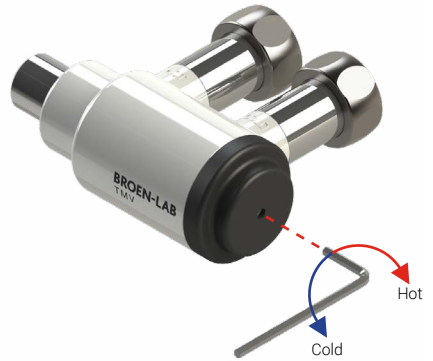
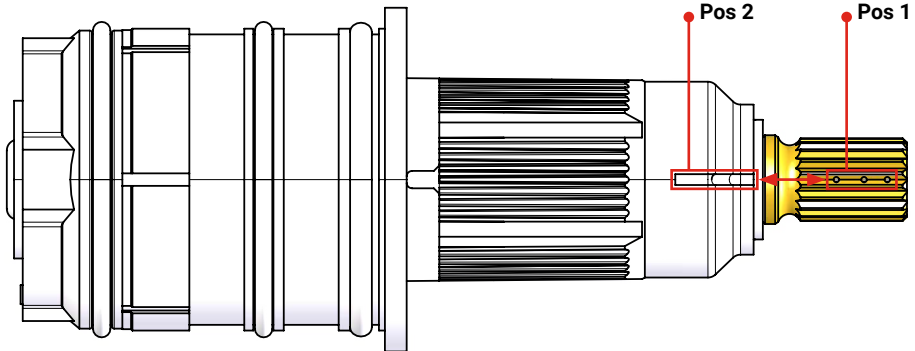


Illustration 3: Temperature regulation of TMV

Factory temperature setting:

If you want to return to the factory setting, align the dots on the spindle head (Pos 1) with the recess on the thermostat cartridge (Pos 2)



TMV and TMV Safety

Maintenance

(See also the troubleshooting overview)

Check flow rate

A too low flow rate can be caused by dirt in the inlet filters/lime OR dirt in the air mixer at the outlet of the hand shower (TMV Safety).

However, it can also be caused by under-pressurisation of either the hot or cold water supply.

If the filters need to be either cleaned or replaced: Switch off the hot and cold BALLOFIX or the stop-cock. Dismount the entire unit. Check if the filters are clogged (see illustration 5).

The filters can be carefully removed with a small screwdriver. Then check if the non-return valves are clogged or not working optimally.

Replace filters and/or non-return valves if deemed necessary. Reassemble in reverse order.

The air mixer on the outlet can be easily unscrewed and replaced.

Check the thermostatic function

Spare parts kit with thermostatic cartridge TMV: 2575 097

Spare parts kit with TMV Safety thermostatic cartridge: 2575 098

Check that the mixer supplies water at the correct temperature. Check that the preset temperature of 38°C (TMV) / 22°C (TMV Safety) is reached. It may need to be regulated depending on the pressure and temperature of the inlets.

Check scalding protection

Close the cold water inlet with the outlet open. This causes the mixed water to stop flowing. If the water is still running (> 0.6 litres/min.) after a few seconds, see the troubleshooting chart. Open the cold water, the mixed water should start running immediately.

The temperature is regulated as follows:

Turn the Allen key towards either cold or hot temperature and adjust until the desired temperature is reached.

- Clockwise towards the valve = hotter
- Anti-clockwise = colder

Adjusting the thermostatic control valve:

If the water temperature is not approx. 38°C (TMV) or 22°C (TMV Safety), adjust with a spanner as described above.

Finally, check that the mixer is working properly.

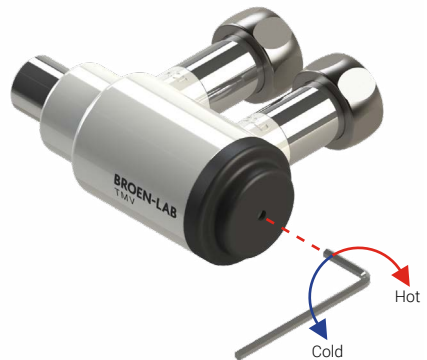


Illustration 3: Temperature regulation of TMV

TMV and TMV Safety Maintenance

If the thermostatic cartridge needs to be dismantled, cleaned or replaced:

Spare parts kit with thermostatic cartridge TMV:	2575 097
Spare parts kit with TMV Safety thermostatic cartridge:	2575 098
Spare parts kit with filter + non-return valve:	1530 4759
Spare parts kit service tool:	1760 166

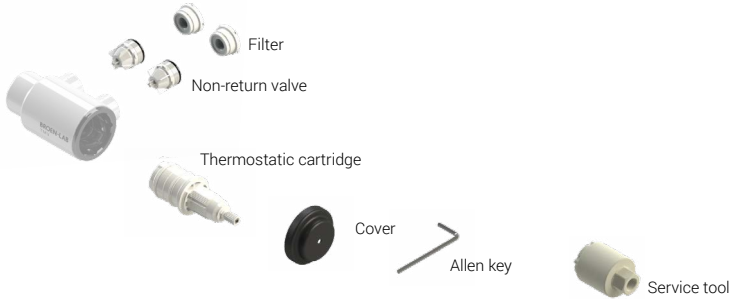


Illustration 5: Exploded view of TMV

Disassemble the device by following the instructions below:



① Turn off the water.
Remove the protective cover.



② Loosen and unscrew the locking screw with service tool (spanner width 17 mm).



③ Remove the old thermostatic valve from the unit and remove the entire unit.

④ Carefully inspect the device for faults, cracks, worn O-rings, etc. When in doubt, replace the entire unit.

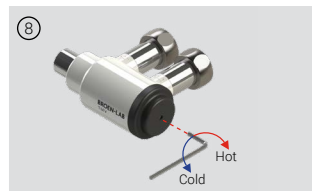
⑤ Before repositioning the thermostat unit, ensure that the individual parts are inserted in the correct order and that they are positioned correctly (see illustration 5).



⑥ Screw the locking screw with spec. adapter into the bottom. (spanner width 17mm).
Tighten with 6 Nm.



⑦ Re-install the protective cover.



⑧ Adjust the temperature with the included Allen key.

TMV and TMV Safety Troubleshooting

Too little water

1. Insufficient inlet pressure.
Check cold/hot water supply.
2. Clogged inlet filters
Clean or buy new filters.
(Spare filter 15 304 759)
3. Air mixer on the outlet spout clogged with dirt or limescale.
Unscrew it, clean it or replace it.
4. Impurities in the thermostat cartridge = The thermostat cartridge may be defective.
Spare parts kit with thermostatic cartridge TMV: 2575 097
Spare parts kit with TMV Safety thermostatic cartridge: 2575 098

Hot or cold water only

1. Dirt in filter
Clean or replace inlet filters.
(Spare filter 15 304 759)
2. Impurities in/defective thermostat cartridge.
Spare parts kit with thermostatic cartridge TMV: 2575 097
Spare parts kit with TMV Safety thermostatic cartridge: 2575 098

No water

1. Interrupted cold water supply or clogged cold water supply.
Both will activate the in-built scalding protection and close the outlet.

Open the cold water inlet.
Clean the inlet filter if necessary.

Scalding protection test does not give the desired result

1. Dirt in thermostat cartridge
Turn the temperature lever Allen key back and forth a few times to loosen any deposits.

Contact a specialist

– and find out more about what
BROEN-LAB can do for your business

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