Braukmann TM300

Thermostatic mixing valve

with scald protection for baths

APPLICATION

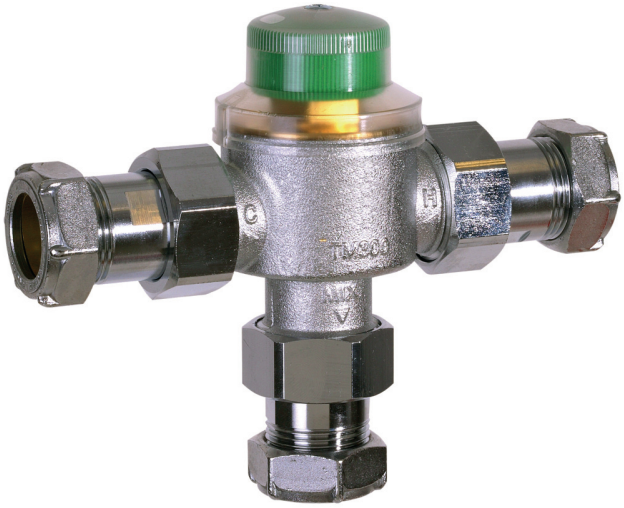
TM300 thermostatic mixing valves provide control of the water temperature and are used for localised control adjacent to point of use at a bath.

APPROVALS

- WRAS approved, Certificate No. 0504010
- TMV2 Approved, Certificate No. BC141/0405

SPECIAL FEATURES

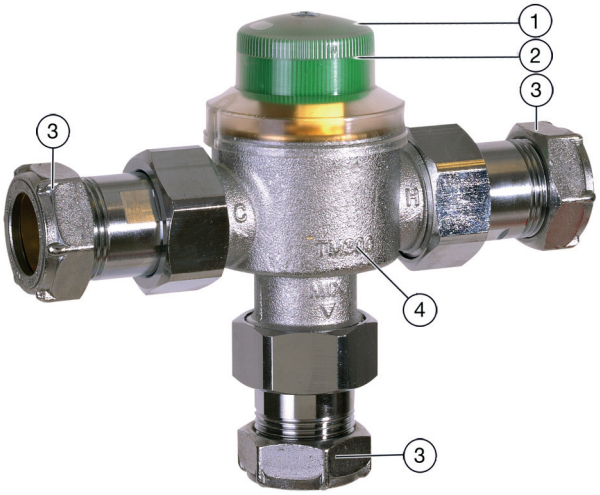
- Highly sensitive thermal element with good all-round water temperature sensing, even at low flow rates
- Simple setting of the required water temperature
- Scald protection - the hot water inlet is automatically cut off if the cold supply fails provided that the hot water inlet temperature is at least 10 K higher than that of mixed water setting
- The cold water inlet is automatically cut off if the hot supply fails
- Inner components are of scale-resistant materials



TECHNICAL DATA

Media	
Medium:	Drinking water
Connections/Sizes	
Connection size:	22/28 mm
Pressure values	
Max. operating pressure:	max. 10 bar
Low pressure systems:	0.1 - 1 bar
High pressure systems:	0.5 - 5 bar
Maximum pressure difference between hot and cold inlet supplies:	
Low pressure systems:	0.4 bar
High pressure systems:	2.0 bar
Operating temperatures	
Max. hot water inlet temperature:	90 °C
Setting range:	38 - 46 °C
Control accuracy:	<±4 K
Specifications	
Flow rate at 1.0 bar pressure differential across valve approx.:	43 litres/min
Installation position:	As required

CONSTRUCTION

Overview		Components	Materials
	**1**	Protective cap for locking the set mixed temperature	Transparent plastics
	2	Adjuster knob	High-quality synthetic material
	3	Tailpieces with check valves	Brass and High synthetic material
	4	Housing	Dezincification-resistant brass
		Not depicted components:	
		Optional 4 in 1 connections (isolation, strainer, check valve and pressure test point)	-
		Spring	Stainless steel
		Moving parts	High-quality, scale-resistant synthetic material
		Thermostat	-
		Seals	EPDM

METHOD OF OPERATION

As a mixing valve for hot water supply systems.

The highly sensitive thermal element located in the outlet of the valve controls a plug which regulates the flow proportions of cold and hot water in relation to the mixed hot water setting selected.

Soft seatings are fitted to both hot and cold water inlets. They provide:

- A positive hot inlet shut-off if the cold water supply is interrupted, provided that the hot water inlet temperature is at least 10 K higher than that of the mixed water setting
- The cold water supply is cut off if the hot water supply is interrupted

A protective cap is supplied with the valve to lock the mixed temperature setting.

Note: The TM300 is designed to be fitted under bath and to comply with health guidelines it must be located within 2 metres of the outlet it is supplying, inlet isolation valves should be fitted locally to the valve.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	5 °C
Max. ambient temperature:	55 °C
Min. ambient relative humidity:	25 % *
Max. ambient relative humidity:	85 % *

*non condensing

INSTALLATION GUIDELINES

Setup requirements

- Before installing a TM300, check water flow rates, supply temperatures and dynamic pressures at all locations where the valve is to be installed to ensure that expectations can be met
- The installer should ensure that the installation complies with the requirements of the “Water Supply (Water Fittings) Regulations 1999”
- It is strongly recommended that the pipework is flushed before installing the mixing valve, grit, flux and other debris will adversely affect the performance of the mixing valve. No claim for malfunction will be considered if adequate protection against dirt ingress is not provided. If there is any doubt then a strainer such as the Resideo FY32 should be fitted upstream of the valve on both hot and cold water inlets
- The TM300 may be installed in any orientation including horizontal or vertical pipe work, ensure that the valve is not strained or twisted
- To comply with health regulations it is recommended that no tap should be more than two metres from the mixing valve
- The TM300 should be connected in the water supply pipe with the flow in the direction of the arrows stamped on the body “+“=HOT and “-“= COLD and MIX to the hot tap
- The integral check valves supplied within the tailpieces of the TM300-3/4H must be fitted to the hot and cold water inlet ports. This is to prevent cross circulation between hot and cold supplies and they should not be moved under any circumstance
- The optional 4 in 1 tailpieces supplied with the TM300-3/4ZD provide the additional facilities of:
  - Isolation
  - Check valves
  - Strainer
  - Pressure Test Point

Note: The TM300-$^{3}/_{4}$ ZH and ZT versions do not have check valves fitted.

Balanced Supplies

All water supply systems perform better when hot and cold supply pressures are similar and this is especially the case when Thermostatic Mixing valves are fitted.

A typical method of achieving balanced supplies is by the use of a pressure reducing valve such as the D06.

Pressure reducing valves are particularly beneficial when cold and hot water pressures are very different, for example where cold is from the mains and hot water is from a lower pressure supply.

Maintenance

No specific maintenance is necessary under normal operating conditions. However, all moving parts which may be subject to wear can be exchanged. Take note if installed under a scheme that there may be additional requirements for annual testing and recording of results.

Setting to TM300

The valve is set by turning the green control knob clockwise to reduce the mixed water temperature and anti-clockwise to increase the mixed temperature.

The valve has a single turn through approx. 360 degrees, with a central control band of 38°C to 46°C the hot tap should be left to stabilize before final setting to ensure correct adjustment. For convenience typical settings are marked on the green control knob, these settings will be accurate when dynamic hot and cold supply pressures are equal. The mixed water temperature should be set to suit the bath application at 44°C. Once the correct setting has been achieved it can be locked into position by placing the clear plastic cap over the adjuster and securing with the screw provided. The actual setting may be viewed through the clear window.

Installation Example

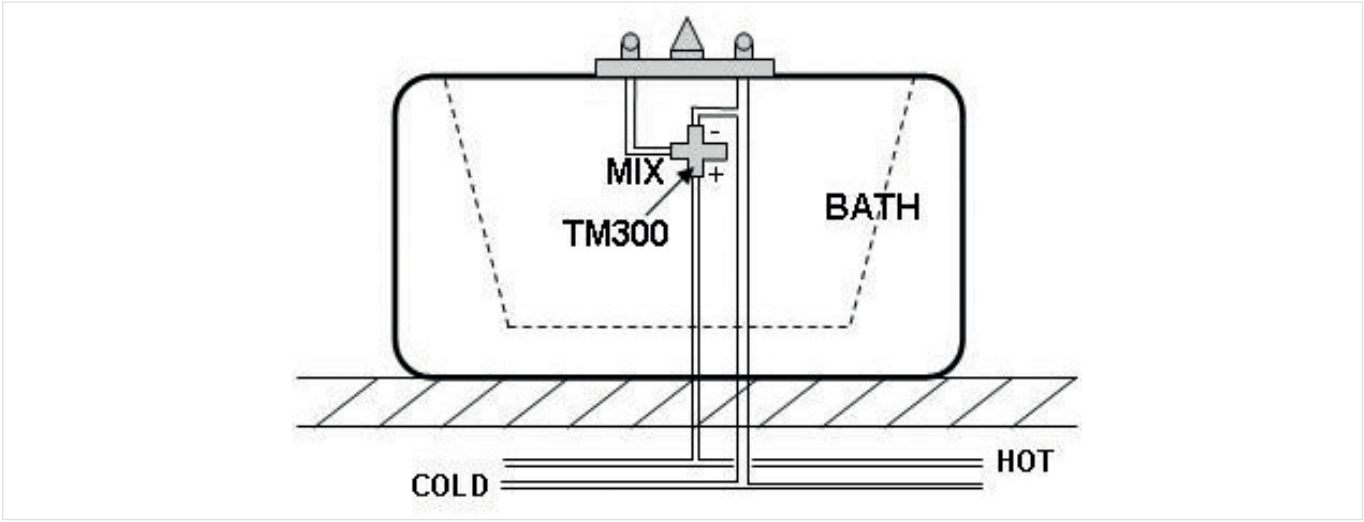
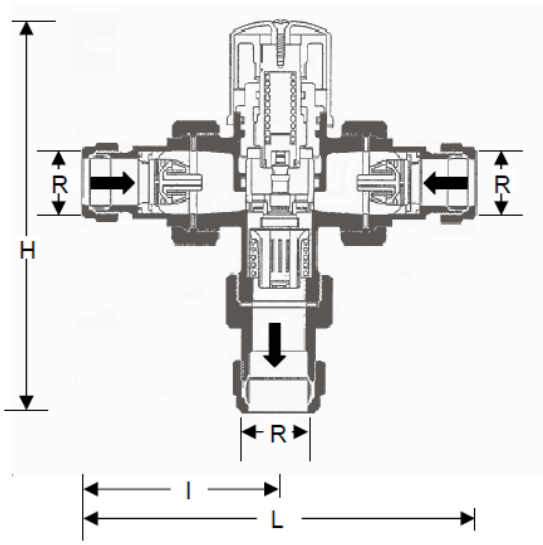


Fig. 1 Standard installation example for the mixing valve

DIMENSIONS

Overview



Parameter		Values			
Type:		3/4H	3/4ZD	3/4ZH	3/4ZT
Connection sizes:	R	22 mm	22 mm	22 mm	28 mm
Dimensions:	L	142	190	142	150
	l	71	95	71	75
	H	136	136	136	140

Note: All dimensions in mm unless stated otherwise.

ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

The valve is available in the following sizes: $^{3}/_{4}$", Ø 22 mm

• standard

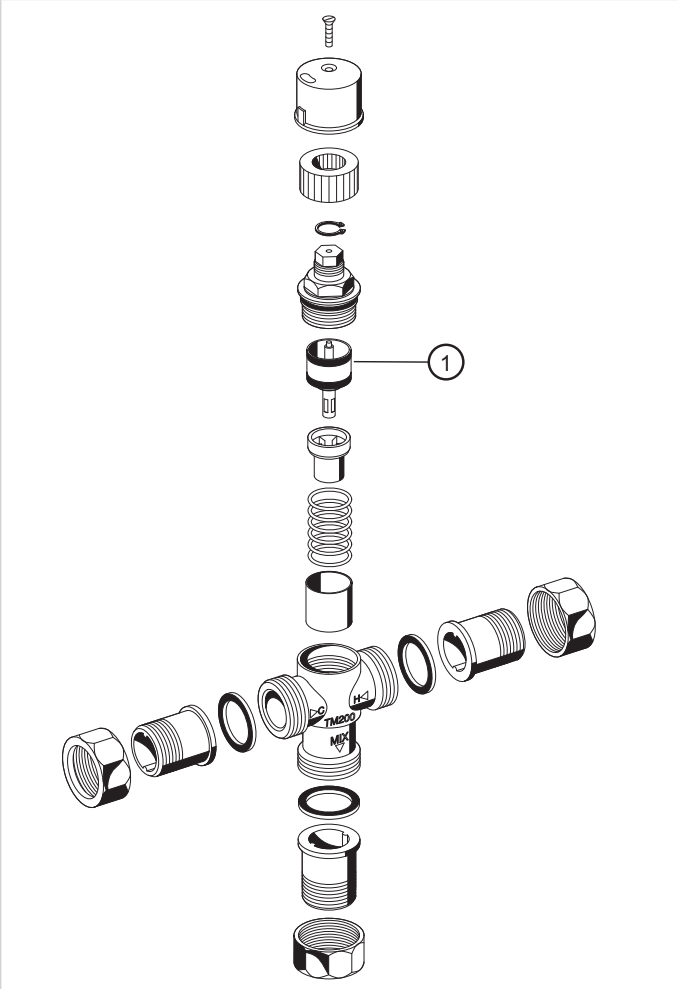
- not available

		TM300-3/4H	TM300-3/4ZD	TM300-3/4ZH	TM300-3/4ZT
TMV2 approved					
Connection type:	with 22 mm compression connections	•	–	–	–
	with 22 mm with 4 in 1 tailpieces	–	•	–	–
Non TMV2 approved					
Connection type:	22 mm compression fittings, no check valves. Range 30 to 60 °C - Preset at 51°C.	–	–	•	–
	28 mm compression fittings, no check valves. Range 30 to 60 °C - Preset at 51°C.	–	–	–	•

Spare Parts

Thermostatic mixing valve TM300

Overview



	Description	Dimension	Part No.
1	**Control piston**		
	with integral sensing element complete*		TM300A-44/46
Note:	* The control piston should be lubricated with WRAS approved silicon lubricant after servicing.		
	Retrofit Kit for 22mm valve where an existing valve is being replaced.		
		22 mm	RK200H

Manufactured for
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