

Braukmann

TM3400/TM3410

Thermostatic mixing valve with scald protection

Application

Standard thermostatic mixing valves TM3400/TM3410 are used in domestic hot water central heating systems with or without recirculation. The aim is to maintain a constant temperature of the mixed water for users, by varying the temperature of the hot water stored. Thermostatic mixing valves also have applications in underfloor heating applications and in alternative energy systems, such as solar and woodchip systems.

Special Features

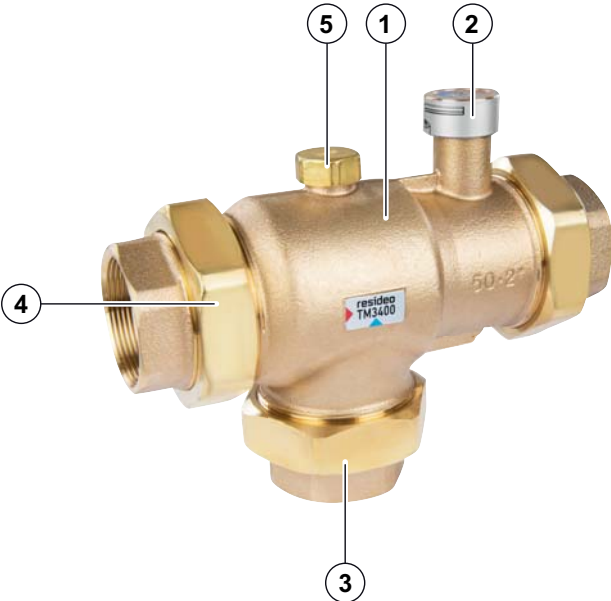
- Wide flow
- Light weight
- High degree of adjustment precision
- Scald protection
- Works without external energy
- Direct connection to recirculation circuit (except 1/2")
- Complete with female inlet couplings



Technical Data

Media	
Medium:	Drinking water
Connections/Sizes	
Connection size:	1/2" - 2" (TM3400) DN65 - DN80 (TM3410)
Pressure values	
Max. operating pressure:	max. 10 bar
Maximum pressure difference between hot and cold inlet supplies:	2 bar
Operating temperatures	
Max. hot water inlet temperature:	90 °C
Flow rate:	see diagram
Setting range:	30 - 45 °C (Set during manufacture 40 °C) 45 - 65 °C (Set during manufacture 55 °C)
Control accuracy:	±1 K

Construction

Overview		Components	Materials
	1	Housing	Red brass
	2	Adjusting screw	Brass
	3	Cold water seat	Chrome nickel steel
	4	Warm water seat	Red brass
	5	Circulation nozzle	Plastic
Not depicted components:			
Regulation gate			Red brass
Thermostat			-
Valve spool			Red brass
Bolt steel			Chrome nickel

Method of Operation

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.

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

- The thermostatic mixing valves can be installed in any position
- With any connections to be welded, during welding remove the mixer so as not to damage the thermostat and seals
- It is recommended that interception valves are installed on the connection ways to the mixer
- The polystyrene packaging may be used as insulation for the valve

Installation Example

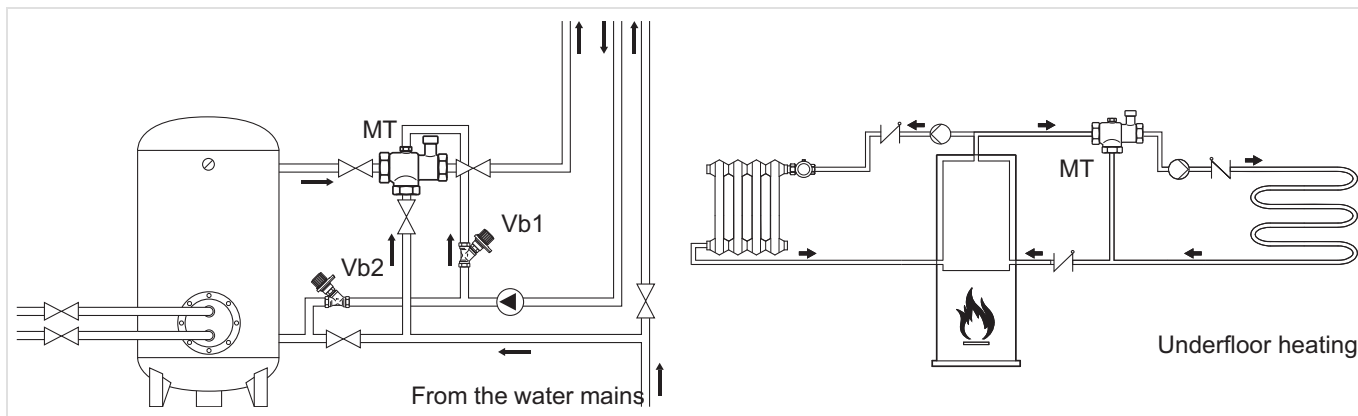


Fig. 1 Standard installation example for the mixing valve

Note: MT = Thermostatic mixer TM3400 - TM3410

Note: Vb1-Vb2 = Kombi-4 balancing valve

Technical Characteristics

Pressure drop characteristics

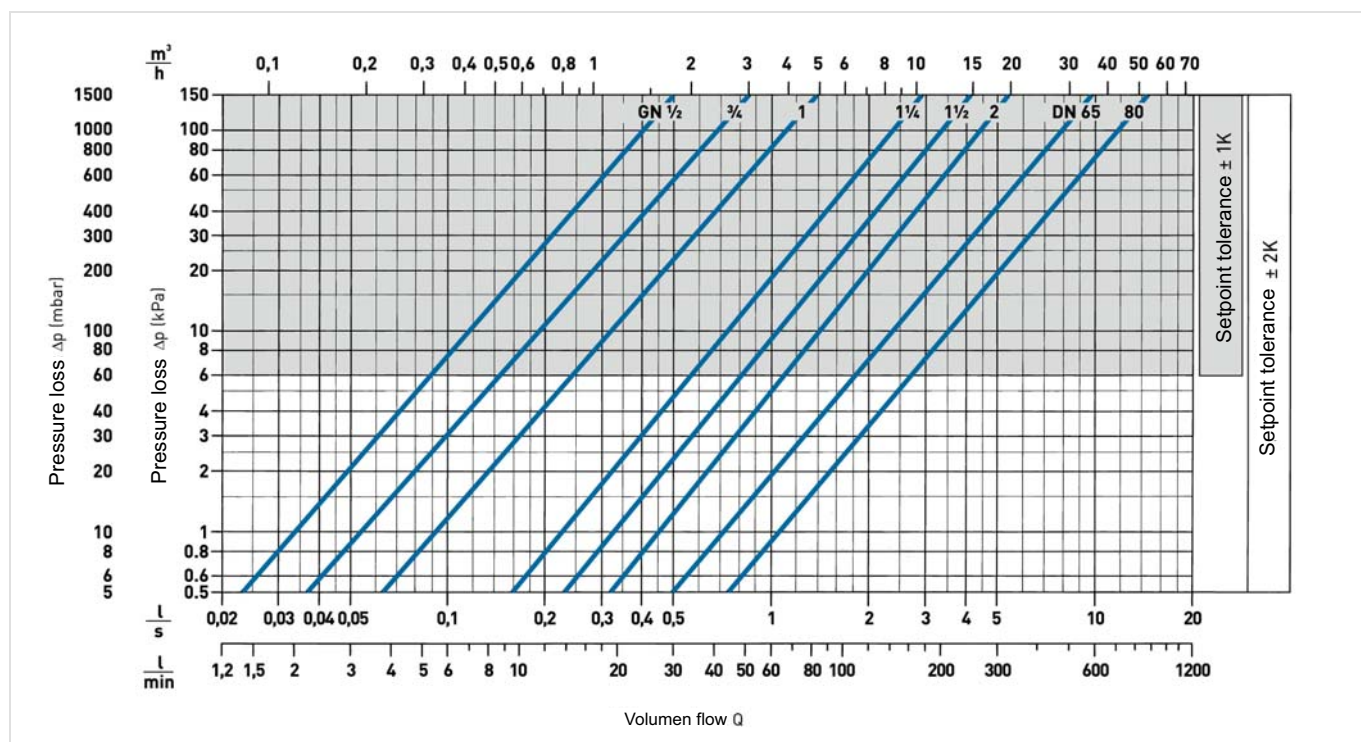
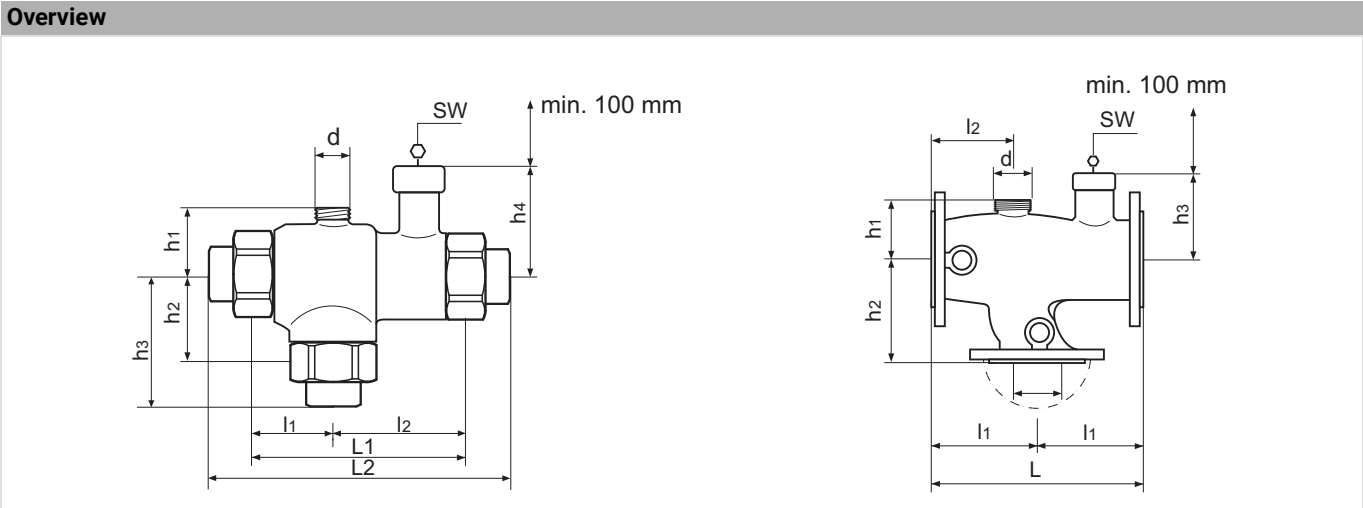


Fig. 2 Pressure drop within the valve in dependency of the flow rate and the used connection size

Flow Data

Size		k_{vs} -value ($\Delta p=1$ bar)	Max. flow ($\Delta p=1.5$ bar)	Min. flow accuracy 1K	Min. flow accuracy 2K
1 1/2"	DN15	1.4	1.8	0.3	0.07
3/4"	DN20	2.4	3.3	0.5	0.13
1"	DN25	4.0	5.0	0.9	0.21
1 1/4"	DN32	8.5	10.4	1.9	0.58
1 1/2"	DN40	12.0	14.5	2.9	0.88
2"	DN50	15.9	20.0	4.1	1.1
2 1/2"	DN65	28.5	36.0	7.2	1.8
3"	DN80	42.0	52.0	9.9	2.6

Dimensions



Parameter		Values							
		TM3400						TM3410	
Connection sizes:	R	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"		
	DN							65	80
Weight:	kg	0.57	0.65	0.87	1.60	2.10	3.37	23.00	28.00
Dimensions:	L1	90	100	110	130	150	180	290	310
	L2	136	146	207	240	274	322	-	-
	l1	35	40	43	52	58	70	145	155
	l2	55	60	67	78	92	110	-	-
	h1	-	32	36	41	50	60	82	92
	h2	35	40	43	52	58	70	145	155
	h3	58	63	70	81	91	216	121	127
	h4	47	49	51	75	77	85	121	127
	d	-	1/2"	3/4"	3/4"	3/4"	3/4"	1 1/2"	2"
	SW	5	5	5	5	5	5	8	8

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

Setting range 30 - 45 °C Set during manufacture 40 °C	
TM3400.912	with internal thread connections 1/2", thread on housing 1 1/8"
TM3400.922	with internal thread connections 3/4", thread on housing 1 1/4"
TM3400.932	with internal thread connections 1", thread on housing 1 1/2"
TM3400.942	with internal thread connections 1 1/4", thread on housing 2"
TM3400.952	with internal thread connections 1 1/2", thread on housing 2 1/4"
TM3400.962	with internal thread connections 2", thread on housing 2 3/4"
TM3410.605	with flange connections DN65, PN10 VSM/DIN
TM3410.805	with flange connections DN80, PN10 VSM/DIN
Setting range 45 - 65 °C Set during manufacture 55 °C	
TM3400.916	with internal thread connections 1/2", thread on housing 1 1/8"
TM3400.926	with internal thread connections 3/4", thread on housing 1 1/4"
TM3400.936	with internal thread connections 1", thread on housing 1 1/2"
TM3400.946	with internal thread connections 1 1/4", thread on housing 2"
TM3400.956	with internal thread connections 1 1/2", thread on housing 2 1/4"
TM3400.966	with internal thread connections 2", thread on housing 2 3/4"
TM3410.608	with flange connections DN65, PN10 VSM/DIN
TM3410.808	with flange connections DN80, PN10 VSM/DIN



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