

For Residential, Commercial and Institutional Applications

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series MMV

Thermostatic Mixing Valves

Sizes: ½" – 1" (15 – 25mm)

Series MMV Thermostatic Mixing Valves maintain and limit mixed hot water to a desired, selectable temperature. The MMV series can be set to any temperature between 80°F and 120°F with flow rates as low as 0.5 gpm and as high as 12 gpm (refer to capacity chart on back). This mixing valve series is listed under ASSE 1017 for valves used in hot water source applications, ASSE 1069 for single-pipe, tempered water applications and ASSE 1070 for valves used in individual or multiple fixture applications and also listed IAPMO cUPC.

The MMV-M1 uses a double throttling design to control both the hot and cold water supply to the mixed outlet. The superior flow characteristics of this valve provide accurate temperature control (±3°F) with low pressure drop across the rated flow range. As an added feature, the MMV-M1 series incorporates integral inlet filter washers and check valves in both the hot and cold water inlets to protect against cross flow.

The MMV-M1 is available with either union thread (-UT), union solder (-US), CPVC, (-QC) Quick-Connect or PEX end connectors.

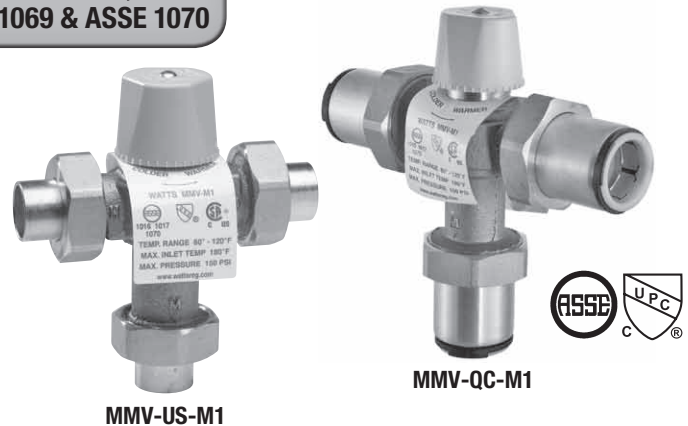
Features

- Bronze body construction
- Solid wax hydraulic principle thermostat assures dependable mixing of hot and cold water
- Thermostat controls both hot and cold water
- Solder, threaded, PEX or CPVC, Quick-Connect end connection models available
- Adjustment cap with locking feature
- ASSE 1017 listed
- ASSE 1069 listed
- ASSE 1070 listed
- IAPMO cUPC listed
- Integral filter washers and check valves

Specifications

A Thermostatic Mixing Valve shall be installed on the hot water supply to fixture. The valve shall be ASSE 1017, ASSE 1069, ASSE Standard 1070 and IAPMO cUPC listed and control the temperature of the hot water. It shall have a bronze body and shall include integral filter washers and check valves and an adjustment cap with locking feature. The valve shall be provided with solder (-US), threaded (-UT), CPVC, (-QC) Quick Connect or PEX union connections. The valve shall be a Watts Regulator Company Series MMV.

Triple Listed!
ASSE 1017,
ASSE 1069 & ASSE 1070



Applications

The MMV-M1 Thermostatic Mixing Valves are ideal for supplying sinks, baths, showers or lavatories with tempered water. The MMV-M1 valves can be used in residential, commercial and institutional environments. These thermostatically modulated mixing valves can be used anywhere preset water temperature is required for point-of-use installations such as in homes, schools, restaurants, hospitals, beauty salons, and public restrooms. The MMV-M1 is provided with an adjustment cap that includes a locking feature.

The MMV-M1 valves should be used prior to the fixture to reduce the hot water supply to a safe temperature.

WARNING!

When used in an ASSE 1017 application at the hot water source, the Watts Thermostatic Mixing Valve Series MMV cannot be used by itself to control final temperature at fixtures where ASSE Standard 1016-96 or ASSE Standard 1070 listed devices are required. Such use may result in severe bodily injury (i.e. scalding or chilling) and/or death. Additional ASSE Standard 1016-96, ASSE 1069 or ASSE Standard 1070 listed devices, such as Watts Series L111, USG or MMV, should be used at fixtures to prevent possible injury.

Recirculation systems should recirculate water at temperatures over 140°F to reduce the risk of bacterial growth in the piping. This valve should not be used to achieve these elevated temperatures. This valve can be used at fixtures in conjunction with recirculation systems to reduce the system's hot water to a safe temperature at the point of use.

IMPORTANT!

Water temperatures in excess 110°F (43°C) are dangerous and may cause scalding, severe injury or death! This valve can be adjusted to deliver water at temperatures exceeding 110°F (43°C). Consequently, when used in an ASSE 1016-96, ASSE 1069 or ASSE 1070 application, the installer must check the mixed water outlet temperature at the point of use and adjust the Watts Thermostatic Mixing Valve Series MMV to ensure delivery of water at a safe temperature not exceeding 110°F (43°C). Mechanical valves are not fail-safe. Due to the effects of various water conditions, periodic verification of outlet water temperature is required.

Materials

Body:	Bronze
Disc:	Stainless steel
Thermostat Assembly:	Copper
O-rings:	Buna-N; EPDM
Pistons:	Udel-P1700
Springs:	Stainless Steel

Pressure — Temperature — Flow Rate

Minimum Supply Pressure Static: 30psi (207 kPa)

Inlet Temperatures: hot inlet, 120°F – 180°F (49°C – 82°C),
cold inlet, 39°F – 85°F (4°C – 29°C)

Hot Water Inlet to Outlet Differential Temperature: 5°F (3°C)
above set point

Temperature Out: Field range: 80°F – 120°F (27°C – 49°C), adjustable. Accurate within ±3°F (1.7°C)

Maximum Temperature: 200°F (93°C)

Maximum Pressure: 150psi (10.3 bar)

Minimum Flow: 0.5 gpm (1.9 lpm) @ 0.8psi (0.55 kPa)[†]

Maximum Flow: 20 gpm (76 lpm) @ 125psi (862 kPa)[†]

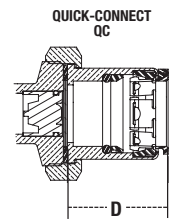
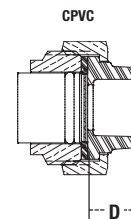
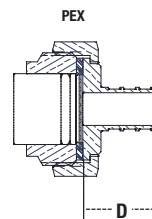
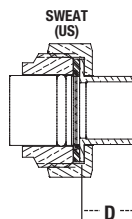
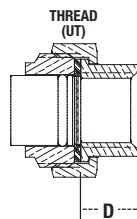
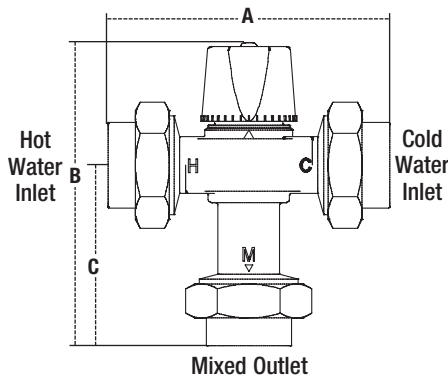
Max. Pressure Differential between Hot & Cold Water Supplies: 25%



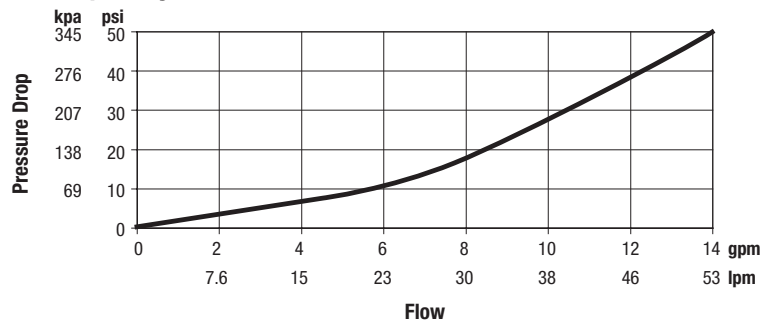
Listing: ASSE 1017, ASSE 1069, ASSE 1070 and IAPMO cUPC

[†] When tested in accordance with ASSE 1017, ASSE 1069 & ASSE 1070.

Dimensions — Weights

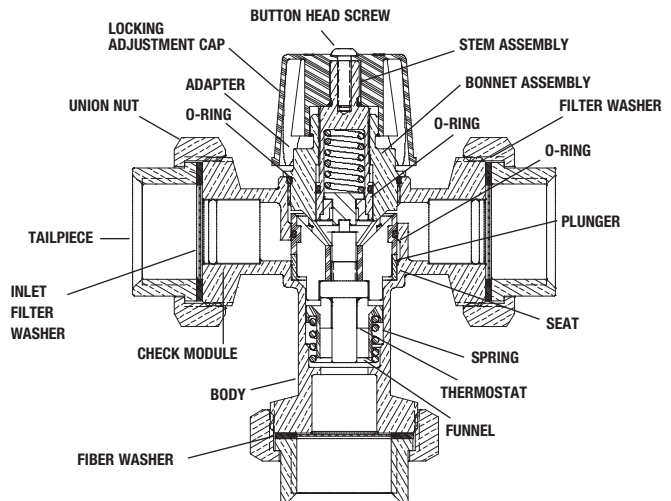


Capacity*



Flow curves are for reference. Actual flows may vary depending on system temperatures and/or pressures.
*Flow curve with integral inlet filters and check valves

Basic Construction



SIZE (DN)		MODEL	DIMENSIONS								WEIGHT	
in.	mm		A		B		C		D		lbs.	kg.
1/2	15	MMV-UT-M1	4 7/8	124	5 7/16	137	3 3/16	80	1/2	13	1.5	.68
3/4	20		4 7/8	124	5 7/16	137	3 3/16	80	9/16	14	1.6	.73
1	25	MMV-US-M1	5 5/16	135	5 5/8	143	3 3/8	86	1 1/16	17	1.6	.73
1/2	15		4 13/16	123	5 5/8	137	3 3/8	80	1/2	13	1.5	.68
3/4	20	MMV-PEX-M1	5 5/16	135	5 5/8	143	3 3/8	86	3/4	19	1.6	.73
1	25		5 13/16	148	5 7/8	149	3 5/8	92	1 5/16	23	1.6	.73
1/2	15	MMV-CPVC-M1	5 1/4	133	5 9/16	142	3 5/16	85	5/8	1	1.5	.68
3/4	20		5 1/2	140	5 11/16	145	3 7/16	88	3/4	19	1.6	.73
1	25	MMV-QC-M1	5 7/8	149	5 7/8	150	3 5/8	93	1 3/16	2	1.6	.73
1/2	15		4 3/4	121	5 5/16	136	3 1/16	79	1/2	13	1.5	.68
3/4	20	MMV-CPVC-M1	5 1/4	133	5 9/16	142	3 5/16	85	3/4	19	1.6	.73
1	25		5 11/16	144	5 13/16	147	3 9/16	90	1 5/16	23	1.6	.73
1/2	15	MMV-QC-M1	6 3/8	168	6 1/4	159	4	102	1 1/2	38	2.17	.98
3/4	20		6 15/16	177	6 7/16	163	4 3/16	106	1 11/16	42	2.88	1.31
1	25	MMV-QC-M1	7 1/8	181	6 1/2	165	4 1/4	108	1 3/4	44	3.65	1.66



A Watts Water Technologies Company



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