



Series N170
Master Tempering Valves for
Hot Water Distribution Systems



ASSE 1017 Listed
Retrofit and New Installations
Commercial, Institutional, Industrial

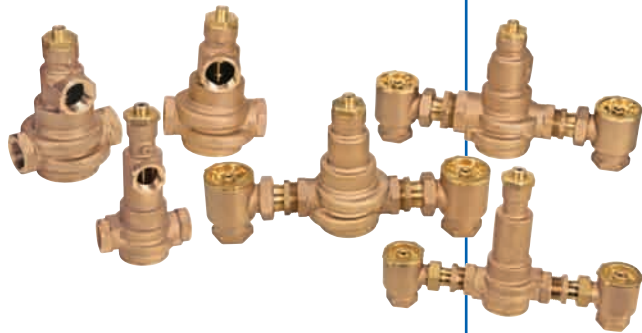


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Introducing Watts' New Generation of Master Tempering Valves



Watts, the most respected name in commercial plumbing and leading innovator in water tempering technology has dramatically improved the performance of its large capacity thermostatic valve line, the Series N170. The new N170-M3 now carries the ASSE 1017 seal, boasts a new compact exterior and features re-engineered internals for enhanced safety, superior performance and extended reliability.

The Series N170 thermostatically blends hot and cold water ensuring safe delivery throughout domestic hot water distribution systems in commercial, institutional and industrial facilities. Five brand new models meet a broad range of capacity and budget requirements.

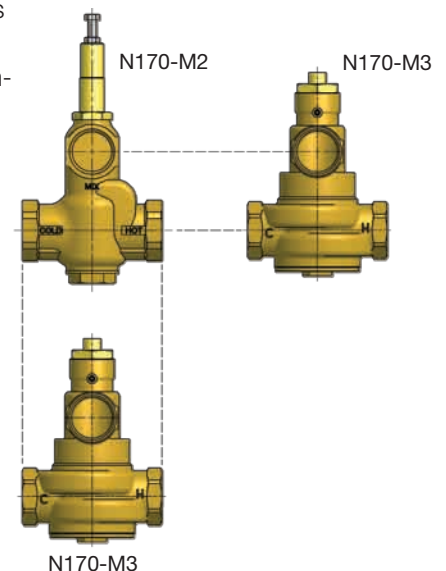


We've Improved the N170's All Around Performance....

- ASSE 1017 listing and CSA B125.3 compliance ensure safe, consistent performance over time.
- Broader temperature range eliminates the need for low temperature models. The M3 model operates safely over a range of 90–180°F (32°-82°C)
- Vastly improved low flow control (as low as 3.0 gpm, 11 lpm) for applications where minimum flow performance is critical
- Approach temperature (hot water inlet – mixed outlet) of 5°F (3°C) provides maximum mixed outlet temperature for installations where hot water is generated at lower temperatures
- Now offered with checkstops and integrated filters for new installations as well as without for retrofit installations

.... While Maintaining These Critical Features

- Rough-in dimensions are identical for direct replacement with M2 model installed base
- Solid bronze construction provides years of dependable service
- Paraffin thermostat provides precise temperature control and powerful response to temperature changes
- Five valve sizes and capacities handle a broad range of tempering requirements



ASSE 1017

Entitled "Performance Requirements for Temperature Actuated Mixing Valves for Hot Water Distribution Systems", the American Society of Sanitary Engineering's 2003 revision is intended for mixing valves that are installed at the hot water source. More specifically:

- ASSE 1017 does not require valves to compensate for pressure changes, only temperature
- Temperature control is determined by valve capacity at a 10psi differential. The lower the flow, the tighter the control required
- Low flow control is critical when determining the proper valve size. Understand the minimum flow requirements of a project prior to final valve selection
- ASSE 1017 valves are to be used in conjunction with tempering valves that are listed to any of the ASSE point-of-use standards including to ASSE 1016 (Watts USG/MMV/L111), ASSE 1069 (MMV/L111) or ASSE 1070 (USG/MMV/L111).

Engineered from the Inside for Superior Performance and Reliability

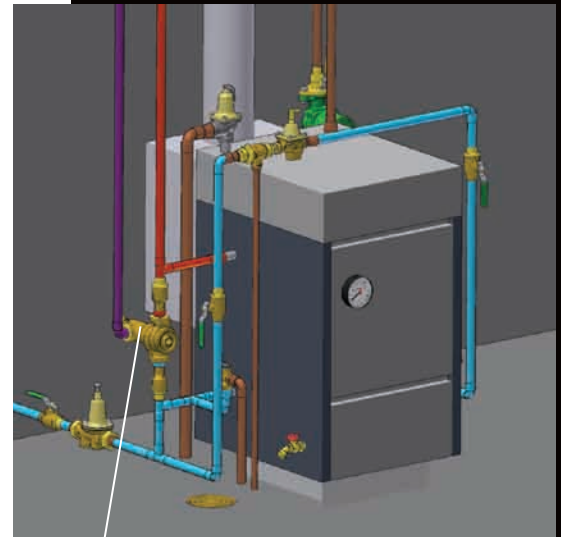
- 1 Lockable, vandal-resistant temperature adjustment for increased safety.
- 2 Powerful paraffin-based thermostat for precise temperature control.
- 3 Solid bronze casting for durability
- 4 Polysulfone internals resist excessive heat, liming and corrosion
- 5 Single seat design ensures tight shutoff if cold water supply pressure is lost.

Multi-Directional Mounting

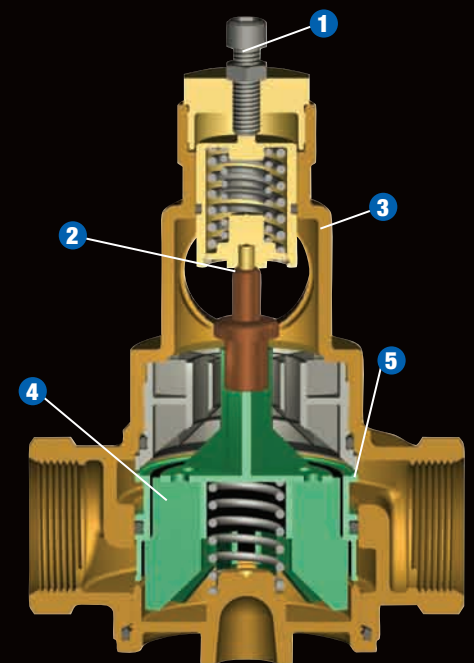
The new N170-M3 features multi-directional mounting which allows the M3 model to be mounted as shown without effecting performance. This provides greater installation options for new projects. Rotatable, union checkstops (optional) can be rotated 360° as well.



Typical Installation



N170-M3



Performance You Can Count On

Flow Capacity at 50-50 Mixed with Checkstops									
Model	Inlet / Outlet (NPT)	Min. Flow to ASSE 1017	C _v	Pressure Drop					
				5psi (34 kPa)	10psi (69 kPa)	20psi (138 kPa)	30psi (207 kPa)	45psi (310 kPa)	60psi (414 kPa)
3/4" N170-M3 CSUT	3/4 x 3/4"	3 gpm 11 lpm	6.26	14 gpm 53 lpm	20 gpm 76 lpm	28 gpm 106 lpm	34 gpm 129 lpm	42 gpm 159 lpm	48 gpm 182 lpm
1" N170-M3 CSUT	3/4 x 1"	4 gpm 15 lpm	9.54	21 gpm 79 lpm	30 gpm 114 lpm	43 gpm 163 lpm	52 gpm 197 lpm	64 gpm 242 lpm	74 gpm 280 lpm
1 1/4" N170-M3 CSUT	1-1/4 x 1-1/4"	4 gpm 15 lpm	13.42	30 gpm 114 lpm	42 gpm 159 lpm	60 gpm 227 lpm	74 gpm 280 lpm	90 gpm 341 lpm	104 gpm 394 lpm
1 1/2" N170-M3 CSUT	1-1/4 x 1-1/2"	5 gpm 19 lpm	14.90	33 gpm 125 lpm	47 gpm 128 lpm	67 gpm 254 lpm	82 gpm 310 lpm	100 gpm 379 lpm	115 gpm 435 lpm
2" N170-M3 CSUT	1-1/4 x 2"	7 gpm 26 lpm	17.89	40 gpm 151 lpm	57 gpm 216 lpm	80 gpm 303 lpm	98 gpm 371 lpm	120 gpm 454 lpm	139 gpm 526 lpm

N170-M2 to M3 Cross Reference Guide



M2		M3	
Model	Temp. Range	Model	Temp. Range
3/4" N 170 M2	130 - 180°F	3/4" N170-M3	90 - 180°F
3/4" N 170L-M2	100 - 130°F		
3/4" N 170M2-HT	130 - 180°F		
3/4" N 170L M2-HT	100 - 130°F		
1" N 170L-M2	130 - 180°F	1" N170-M3	90 - 180°F
1" N 170-M2	100 - 130°F		
1" N 170M2-HT	130 - 180°F		
1" N 170L M2-HT	100 - 130°F		
1 1/4" N 170L-M2	130 - 180°F	1 1/4" N170-M3	90 - 180°F
1 1/4" N 170-M2	100 - 130°F		
1 1/4" N 170M2-HT	130 - 180°F		
1 1/4" N 170L M2-HT	100 - 130°F		
1 1/2" N 170L-M2	130 - 180°F	1 1/2" N170-M3	90 - 180°F
1 1/2" N 170-M2	100 - 130°F		
1 1/2" N 170M2-HT	130 - 180°F		
1 1/2" N 170L M2-HT	100 - 130°F		
2" N 170-M2	130 - 180°F	2" N170-M3	90 - 180°F
2" N 170L-M2	100 - 130°F		
2" N 170M2-HT	130 - 180°F		
2" N 170L M2-HT	100 - 130°F		

Specifications

Maximum Operating Pressure	125psig (861 kPa)
Maximum Hot Water Temperature	200°F (93°C)
Minimum Hot Water Supply Temperature	5°F (3°C) Above Set Point*
Temperature Adjustment Range**	90 - 180°F (32 - 82°C)
Hot Water Inlet Temperature Range	120 - 180°F (42 - 82°C)
Cold Water Inlet Temperature Range	40 - 80°F (4 - 27°C)
Listing	ASSE 1017, IAPMO cUPC
Approval Standards	ASSE 1017, B125.3

*With Equal Pressure

**Low Limit cannot be less than the cold water temperature. For best operation, hot water should be at least 5°F (3°C) above desired set point.

From Four To One

By significantly improving performance and materials, Watts has consolidated the number of models per size from four to one. The M3's single temperature range replaces the M2's high and low temperature models. Polysulfone internal components, with a heat deflection temperature of 345°F (174°C), maintain their properties over a wide temperature range and eliminate the need for the special Teflon® disc found on the M2's HT series.

Teflon® is a registered trademark of the E.I. DuPont de Nemours & Company.



A Watts Water Technologies Company



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