

## For Commercial Applications

Job Name \_\_\_\_\_  
 Job Location \_\_\_\_\_  
 Engineer \_\_\_\_\_  
 Approval \_\_\_\_\_

Contractor \_\_\_\_\_  
 Approval \_\_\_\_\_  
 Contractor's P.O. No. \_\_\_\_\_  
 Representative \_\_\_\_\_

# Series N170

## Hot Water Master Tempering Valves

Watts Series N170 hot water master tempering valves are especially designed for use on larger hot water supply systems for mixing hot and cold water for a variety of applications to extend the hot water supply. This series uses paraffin-based thermostat to sense and adjust outlet temperature.

### Features

- ASSE 1017 and IAPMO cUPC Listed
- N170-M3 uses paraffin-based thermostat to sense and adjust outlet temperature
- Dirt and lime resistant poppet and seat design
- Virtual shutoff if supply pressure fails
- Vandal-resistant locking mechanism to secure temperature setting
- Factory tested



### 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, CSA 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.

**⚠ WARNING**

**Watts Hot Water Master Tempering Valves cannot be used for tempering water temperature at fixtures. Severe bodily injury (i.e., scalding or chilling) and/or death may result depending upon system water pressure changes and/or supply water temperature changes. ASSE standard 1016, 1069 or 1070 listed devices such as Watts Series MMV, USG, and L111 valves should be used at fixtures to prevent possible injury.**

The Watts Hot Water Tempering Valves are designed to be installed at or near the boiler or water heater. They are not designed to compensate for system pressure fluctuations and should not be used where ASSE standard 1016, 1069 or 1070 devices are required. These Watts valves should never be used to provide "anti-scald" or "anti-chill" service.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

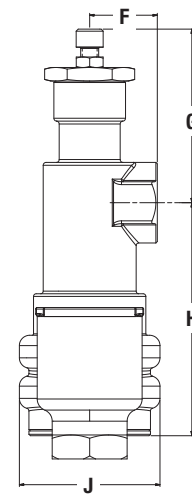
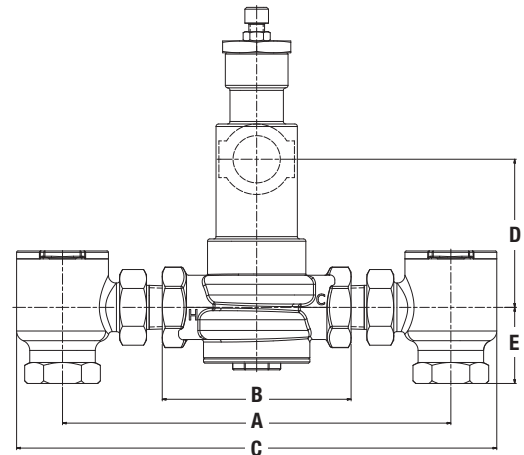


## Capacity

Flow Capacity at 50-50 mixed Less Checkstops									
Model	Inlet / Outlet (NPT)	Min. Flow to ASSE 1017	C <sub>v</sub>	Pressure Drop Across Valve					
				5psi (34 kPa)	10psi (69 kPa)	20psi (138 kPa)	30psi (207 kPa)	45psi (310 kPa)	60psi (414 kPa)
3/4" N170-M3	3/4 x 3/4"	3 gpm 11 lpm	6.70	15 gpm 57 lpm	21 gpm 79 lpm	30 gpm 114 lpm	37 gpm 140 lpm	45 gpm 170 lpm	52 gpm 197 lpm
1" N170-M3	1 x 1"	4 gpm 15 lpm	10.13	23 gpm 87 lpm	32 gpm 121 lpm	45 gpm 170 lpm	56 gpm 212 lpm	68 gpm 257 lpm	79 gpm 299 lpm
1 1/4" N170-M3	1-1/4 x 1-1/4"	4 gpm 15 lpm	14.16	32 gpm 121 lpm	45 gpm 170 lpm	63 gpm 238 lpm	76 gpm 288 lpm	95 gpm 360 lpm	110 gpm 416 lpm
1 1/2" N170-M3	1-1/2 x 1-1/2"	5 gpm 19 lpm	15.65	35 gpm 134 lpm	49 gpm 185 lpm	70 gpm 265 lpm	86 gpm 326 lpm	105 gpm 397 lpm	121 gpm 458 lpm
2" N170-M3	2 x 1-1/2 x 2"	7 gpm 26 lpm	18.63	42 gpm 159 lpm	59 gpm 223 lpm	83 gpm 314 lpm	102 gpm 386 lpm	125 gpm 473 lpm	144 gpm 545 lpm

Flow Capacity at 50-50 mixed with Checkstops									
Model	Inlet / Outlet (NPT)	Min. Flow to ASSE 1017	C <sub>v</sub>	Pressure Drop Across Valve					
				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

## Dimensions



MODEL	BODY INLETS NPT	CHECKSTOP INLETS NPT	BODY OUTLET NPT	DIMENSIONS										WEIGHT									
				A	B	C	D	E	F	G	H	J	lbs.	kgs.									
				in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm						
3/4 N170-M3	3/4	N/A	3/4	N/A	4 1/2	114	N/A	3 1/2	89	N/A	17/16	36	3 3/8	92	4 7/8	124	2 15/16	75	4.8	2.2			
3/4 N170-M3 CSUT	N/A	3/4	3/4	9 1/4	235	4 1/2	114	11 7/16	291	3 1/2	89	1 19/16	46	17/16	36	3 3/8	92	4 7/8	124	2 15/16	75	9.8	4.5
1 N170-M3	1	N/A	1	N/A	4 9/16	116	N/A	3 1/2	89	N/A	17/16	36	3 3/8	92	4 7/8	124	2 15/16	75	4.8	2.2			
1 N170-M3 CSUT	N/A	3/4	1	10 1/8	264	4 9/16	116	12 9/16	319	3 1/2	89	1 19/16	46	17/16	36	3 3/8	92	4 7/8	124	2 15/16	75	10.3	4.9
1 1/4 N170-M3	1 1/4	N/A	1 1/4	N/A	6 1/16	154	N/A	3 7/16	87	N/A	1 3/4	44	3 11/16	94	5 1/4	133	4 1/2	114	9.4	4.3			
1 1/4 N170-M3 CSUT	N/A	1 1/4	1 1/4	12 1/16	306	6 1/16	154	15 1/16	383	3 7/16	87	2 1/2	64	1 3/4	44	3 11/16	94	5 1/4	133	4 1/2	114	19.3	8.8
1 1/2 N170-M3	1 1/2	N/A	1 1/2	N/A	6 1/16	154	N/A	3 7/16	87	N/A	1 3/4	44	3 11/16	94	5 1/4	133	4 1/2	114	9.1	4.1			
1 1/2 N170-M3 CSUT	N/A	1 1/4	1 1/2	13 3/4	337	6 1/16	154	16 3/4	413	3 7/16	87	2 1/2	64	1 3/4	44	3 11/16	94	5 1/4	133	4 1/2	114	19.8	9.0
2 N170-M3	2 (Hot) 1 1/2 (Cold)	N/A	2	N/A	6 7/16	164	N/A	3 3/16	81	N/A	2 1/16	52	3 7/8	98	5 3/8	137	4 1/2	114	10.4	4.7			
2 N170-M3 CSUT	N/A	1 1/4	2	13 3/4	349	6 7/16	164	16 3/4	425	3 3/16	81	2 1/2	64	2 1/16	52	3 7/8	98	5 3/8	137	4 1/2	114	21.3	9.7

## Typical Specification

Master mixing valve shall feature paraffin-based, thermal actuation technology for precise temperature control. Valve shall be listed to ASSE 1017 and cUPC and shall be approved to ASSE 1017 & CSA B125.3 standards. Master mixing valve shall have an approach temperature of 5°F (3°C). Valve shall have an outlet temperature range from 90 – 180°F (32 to 82°C) with a lockable temperature-setting feature. Valve shall be manufactured of corrosion resistant materials and feature a single-

seat design for positive shutoff. Minimum flows to ASSE 1017 shall be 3/4 N170-M3 (3.0 gpm, 11 lpm), 1 N170-M3 (4.0 gpm, 15 lpm), 1-1/4 N170-M3 (4.0 gpm, 15 lpm), 1-1/2 N170-M3 (5.0 gpm, 19 lpm), 2 N170-M3 (7.0 gpm, 26 lpm).

Master mixing valves shall be of Watts Series N170-M3. Any alternate must have a written approval prior to bidding.



A Watts Water Technologies Company



USA: 815 Chestnut St., No. Andover, MA 01845-6098; www.watts.com

Canada: 5435 North Service Rd., Burlington, ONT. L7L 5H7; www.wattscanada.ca