

**For Non-Health Hazard Applications**

Job Name \_\_\_\_\_ Contractor \_\_\_\_\_  
 Job Location \_\_\_\_\_ Approval \_\_\_\_\_  
 Engineer \_\_\_\_\_ Contractor's P.O. No. \_\_\_\_\_  
 Approval \_\_\_\_\_ Representative \_\_\_\_\_

# HydroGuard® XP Series

## MM430 2 Valve Hi/Lo

### Supply Fixture – Exposed

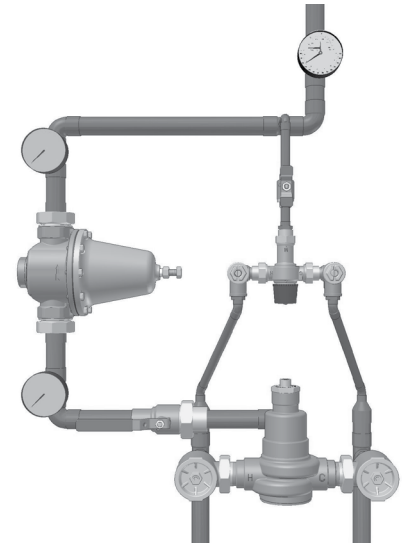
**Features**

- Paraffin-based advanced thermal actuation technology 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 as a complete unit
- Pressure/Temperature Gauges, Ball valves

**Specifications**

Connections . . . . .	See chart on reverse
Maximum Hot Water Supply Temperature . . . . .	200°F (93°C)
Minimum Hot Water Supply Temperature* . . . . .	5°F (3°C) Above Set Point
Minimum Flow** . . . . .	0.5 gpm (1.9 lpm)
Maximum Operating Pressure . . . . .	125 psi (861 kPa)
Temperature Adjustment Range*** . . . . .	90 – 160°F (32 – 71°C)
Hot Water Inlet Temperature Range . . . . .	120 – 180°F (49 – 82°C)
Cold Water Inlet Temperature Range . . . . .	40 – 80°F (4 – 27°C)
Listing/Compliance (Valve Only) . . . . .	ASSE 1017, CSA B125

\*With Equal Pressure  
 \*\*Minimum flow when HiLo valve is installed at or near hot water source w/recirculating tempered water with a properly sized continuously operating recirculating pump.  
 \*\*\*Note: 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.



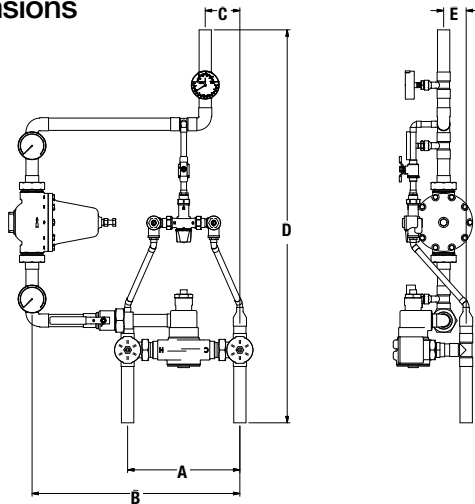
Advanced Thermal Activation

**Capacity**

Flow Capacity at 50-50 Mixed Ratio								
Model	Min. Flow to ASSE 1017	Cv	Pressure Drop Across Valve					
			5 psi (34 kPa)	10 psi (69 kPa)	20 psi (138 kPa)	30 psi (207 kPa)	45 psi (310 kPa)	60 psi (414 kPa)
MM431HL	0.5 gpm 1.89 lpm	9.7	22 gpm 83 lpm	31 gpm 117 lpm	43 gpm 163 lpm	53 gpm 201 lpm	65 gpm 246 lpm	75 gpm 284 lpm
MM432HL	0.5 gpm 1.89 lpm	13.0	29 gpm 110 lpm	41 gpm 155 lpm	58 gpm 220 lpm	66 gpm 250 lpm	87 gpm 329 lpm	93 gpm 352 lpm
MM433HL	0.5 gpm 1.89 lpm	19.8	44 gpm 167 lpm	63 gpm 238 lpm	86 gpm 326 lpm	108 gpm 409 lpm	133 gpm 503 lpm	153 gpm 579 lpm
MM434HL	0.5 gpm 1.89 lpm	24.9	56 gpm 212 lpm	79 gpm 299 lpm	111 gpm 420 lpm	136 gpm 515 lpm	167 gpm 632 lpm	193 gpm 731 lpm
MM435HL	3.0 gpm 11.0 lpm	27.7	62 gpm 235 lpm	88 gpm 333 lpm	124 gpm 469 lpm	152 gpm 575 lpm	186 gpm 704 lpm	215 gpm 814 lpm

Powers product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Powers Technical Service. Powers 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 Powers products previously or subsequently sold.

## Dimensions



Valve	A	B	C	D	E	Inlets	Outlet
MM431HL	9-1/8" (232)	16-3/4" (425)	2-3/4" (70)	37" (940)	2" (51)	3/4" (20)	3/4" (20)
MM432HL	9-1/8" (232)	17-1/2" (445)	2-1/2" (64)	37" (940)	2-1/4" (57)	3/4" (20)	1" (25)
MM433HL	12-1/2" (318)	23-1/4" (591)	3-7/8" (99)	44" (1118)	2-1/2" (64)	1-1/4" (32)	1-1/4" (32)
MM434HL	12-1/2" (318)	26-3/4" (679)	3-1/2" (89)	44-3/4" (1137)	2-3/8" (60)	1-1/4" (32)	1-1/2" (40)
MM435HL	12-1/2" (318)	26-3/4" (679)	3-1/2" (89)	47" (1194)	2-3/8" (60)	1-1/4" (32)	1-1/2" (40)

Note:  
Dimensions are shown ±1/2"  
Dimensions in parentheses  
are in mm

## Ordering Information

Valve	Inlets	Outlet	Order Code
LM490/MM431	3/4" (20mm)	3/4" (20mm)	MM431HL
LM490/MM432	3/4" (20mm)	1" (25mm)	MM432HL
LM490/MM433	1-1/4" (32mm)	1-1/4" (32mm)	MM433HL
LM490/MM434	1-1/4" (32mm)	1-1/2" (40mm)	MM434HL
MM431/MM434	1-1/4" (32mm)	1-1/2" (40mm)	MM435HL

### Finish

Rough Bronze  
Chrome Plated

A  
B

### Piping

Bottom/Top

E

### Cabinets

Exposed, No Cabinet

M

### Alarm (not factory installed)\*

None	0
AquaSentry® 2** for MM431HL	1
AquaSentry® 2** for MM432HL	2
AquaSentry® 2** for MM433HL	3
AquaSentry® 2** for MM434HL	4
AquaSentry® 2** for MM435HL	5

\* Mounting requirements vary based on individual installation.

\*\* Includes control module, sensor, electrical box, transformer, solenoid, shock absorber, and 25' of station cable.

## Recirculation Piping Diagram

Please see Piping Diagram Section of this catalog.

## Typical Specification – Supply Fixtures

Hi/Lo Water Temperature Control System shall be factory assembled and tested and shall include two thermostatic mixing valves capable of maintaining water temperature to 5°F (3°C) above set point. Hi/Lo shall include HydroGuard® XP MM430 and/or LM490 Series Master-Tempering Valve with advanced, paraffin-based actuation technology. Hi/Lo shall also include copper piping, ball valve(s) and temperature/pressure gauge for diagnostics. The tempering valve shall have union checkstops, an outlet temperature range of 90 – 160°F (32 – 71°C) (with lockable means), and a single seat design for positive shutoff. Valve shall be ASSE 1017 listed and CSA certified. Minimum flows to ASSE 1017 shall be 0.5 gpm (1.9 lpm) for MM431HL, MM432HL, MM433HL, MM434HL, and 3.0 gpm (11 lpm) for MM435HL.

Valve shall be a Powers' Model \_\_\_\_\_. All alternatives must have written approval prior to bidding.

# POWERS™

A WATTS Brand

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