POWERS

A WATTS INDUSTRIES CO.

PRODUCT SPECIFICATION

430 Hydroguard Master Mixing Valve
Models 431, 432, 433, and 434

DESCRIPTION

The Series 430 Hydroguard thermostatically blends hot and cold water to deliver blended water at the desired temperature, quickly compensating for temperature variations due to changes in inlet temperature, pressure or flow, and reduces flow upon water supply failure. The valve is available in three finishes: rough bronze, rough chrome, or polished chrome, and is also available in a variety of sizes, to suit virtually any application.

FUNCTION

The Series 430 Hydroguard's advanced thermal actuator senses and adjusts the outlet water temperature to variations in temperature and/or pressure. The delivery temperature is adjustable between 40°-160°F when tested according to ASSE 1017.

The dirt and lime resistant poppet and seat design ensures minimal maintenance, while the union inlets allow a variety of piping schemes. Heavy duty combination strainer check-stops, included with each valve, prevent crossover and allow easy shutdown of the unit for removal or servicing, while self-aligning bronze trim and seats prevent binding. Finally, the valve features a tamper-resistant temperature adjustment control.

SPECIFICATIONS

Operating

Maximum Pressure Differential . . . . . 100 psi (689 kPa)
Maximum Static Pressure . . . . . 125 psig (861.25 kPa)
Maximum Hot Water Temperature . . . . . 200°F (93°C)
Minimum Hot Water Temperature. . . . . 15°F (8°C) Above Set-Point
Temperature Adjustment Range . . . . . 40°F (4°C) - 160°F (71°C)
Compliance. . . . . ASSE 1017, CSA B125 Certified

Note: Low limit cannot be less than the cold water temperature. For best operation, hot water should be at least 15°F (8°C) above desired set point.

APPLICATIONS

- Shower rooms and group showers
- Domestic water for small buildings
- Tempered water for light industrial processes

SIZING

Table 1, Capacity Tables, present the Hydroguard discharge capacity in gpm and lpm for various pressure differentials (the difference between the lowest inlet pressure and the discharge pressure at the Hydroguard).

Figure 1 (refer to next page), Flow Rate in gpm, graphs the capacities at the pressure differentials shown in Table 1, Capacity Tables.

Table 1- Capacity Tables

Flow Capacity in US gpm at 50-50 Mixed Ratio

Model	Min. Flow Rate*	Min. Flow to ASSE 1017	Pressure Drop Across Valves in psi							
			5	10	20	30	45	60	75	100
431	0.5 gpm	4.0 gpm	7.5	11.0	16.0	20.0	25.0	29.0	33.0	38.5
432	0.5 gpm	7.0 gpm	15.0	20.0	30.0	36.0	45.0	52.0	58.0	67.0
433	0.5 gpm	10 gpm	24	34	51	64	80	93	105	123
434	0.5 gpm	15 gpm	40	55	82	101	125	146	165	190

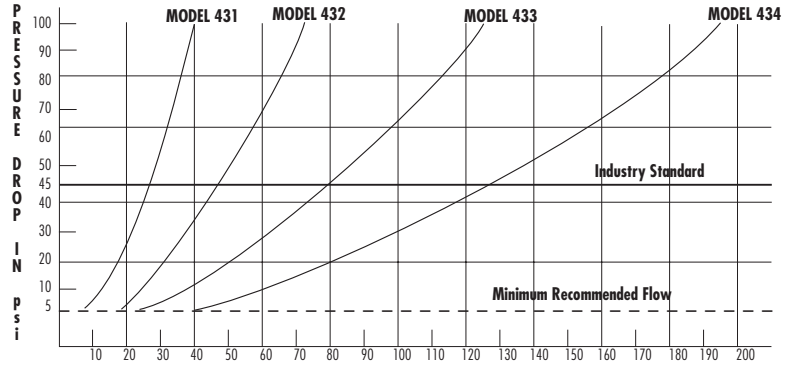
** Minimum flow when Hydroguard is installed at or near hot water source with recirculated tempered water with continuously operating recirculating pump.*

Flow Capacity in lpm at 50-50 Mixed Ratio

Model	Min. Flow Rate*	Min. Flow to ASSE 1017	Pressure Drop Across Valves in kPa							
			34	69	138	207	310	414	517	689
431	1.89 lpm	15 lpm	28.4	41.6	60.6	76.0	94.6	109.8	125.0	145.7
432	1.89 lpm	26 lpm	56.8	76.0	113.5	136.2	170.3	197.0	219.5	253.5
433	1.89 lpm	38 lpm	91	129	193	242	303	352	397	466
434	1.89 lpm	57 lpm	151	208	310	382	473	553	625	719

** Minimum flow when Hydroguard is installed at or near hot water source with recirculated tempered water with continuously operating recirculating pump.*

Figure 1- Flow Rate* in GPM



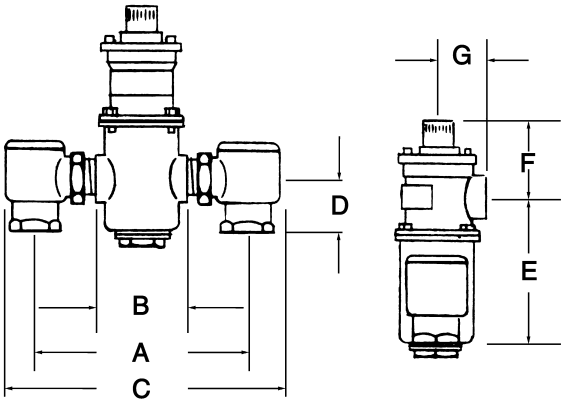
* Flow rate based on 140°F (60°C) hot inlet, 60°F (16°C) cold inlet, and 100°F (38°C) delivery temperature. Valves were tested in the full open position, with strainer checkstops, and no outlet restrictions.

SERIES 430 HYDROGUARD MODELS

	Inlet	Outlet	Weight	ROUGH BRONZE PART NO.	POLISHED CHROME PART NO.
431	3/4″	3/4″	11.5 lbs	431-1000	431-2000
432	3/4″	1″	14.0 lbs	432-1000	432-2000
433	1-1/4″	1-1/4″″	26.0 lbs	433-1000	433-2000
434	1-1/4″	1-1/2″	30.0 lbs	434-1000	434-2000

DIMENSIONS

MODEL	NPT CONNECTION IN	NPT CONNECTION OUT	A	B	C	D	E	F	G
431	3/4″	3/4″	8-3/16″	3-7/16″	10-3/8″	1-13/16″	5-3/16″	3-1/4″	1-7/16″
			208 mm	87 mm	264 mm	46 mm	132 mm	83 mm	37 mm
432	3/4″	1″	8-3/16″	3-7/16″	10-3/8″	1-13/16″	5-3/16″	3-5/8″	1-15/16″
			208 mm	87 mm	264 mm	46 mm	132 mm	92 mm	49 mm
433	1-1/4″	1-1/4″	10-1/4″	4-7/16″	13-1/8″	2-1/2″	7″	3-13/16″	2-1/4″
			260 mm	113 mm	335 mm	64 mm	178 mm	97 mm	57 mm
434	1-1/4″	1-1/2″	10-1/4″	4-7/16″	13-1/8″	2-1/2″	6-13/16″	3-3/4″	2-3/4″
			260 mm	113 mm	335 mm	64 mm	173 mm	95 mm	70 mm



WARNING: TO INSURE THE ACCURATE AND RELIABLE OPERATION OF THIS PRODUCT, IT IS ESSENTIAL TO:

- Properly size each valve based on the individual application
- Properly design the recirculation system to minimize pressure and temperature variations
- Conduct an annual maintenance program to insure proper operation of all critical components

FAILURE TO COMPLY WITH PROPER INSTALLATION INSTRUCTIONS COULD CONTRIBUTE TO VALVE FAILURE, RESULTING IN INJURY OR DEATH.

POWERS
A WATTS INDUSTRIES CO.

USA Phone: 800.669.5430
www.powerscontrols.com
Canada • Phone: 888.208.8927