

POWERS™

A WATTS INDUSTRIES CO.

PRODUCT SPECIFICATION

HydroGuard® Series Emergency Tempering Valves with Dual Internal Cold Water By-Pass ES200 and ES400

Form PS ES200/ES400 v2

DESCRIPTION

The Series ES Hydroguard thermostatically blends hot and cold water to deliver tepid water to emergency fixtures, quickly compensating for temperature variations due to changes in inlet temperature or pressure. Powers' exclusive Dual Internal By-Pass* ensures cold water flow in the event of a valve failure or loss of hot water.

*US Patent 6,575,377

FUNCTION

The Series ES Hydroguard's advanced thermal actuator senses and adjusts the outlet water temperature to variations in temperature and/or pressure.

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 checkstops, 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 locking screw.

FEATURES

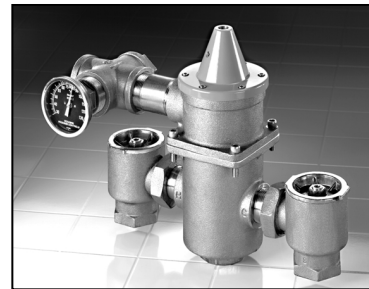
- Powers' Advanced Thermal Actuator provides precise temperature control.
- Exclusive Dual Internal By-Pass ensures cold water flow if hot water is lost or actuator fails.
- Rotable union checkstops, and outlet piping allow valve to be mounted in any position.
- Large, easy to read dial thermometer included.
- Designed to comply with ANSI Z358-1 1998.

APPLICATIONS

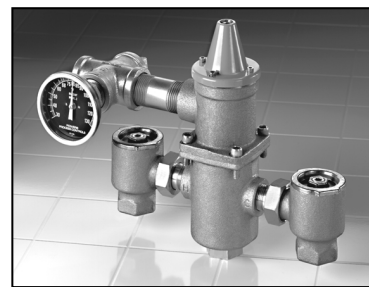
- Eye/Face Wash Fixtures.
- Emergency Drench Showers.
- Combination Shower and/or Eye/Face Wash Units.

TYPICAL SPECIFICATION

Thermostatic mixing valve for supplying tepid water to emergency fixtures shall have a powerful paraffin filled temperature element, with dual internal cold water by-pass to ensure flow in the event of valve failure or loss of hot water supply. The valve shall provide precise temperature control over a wide range of flow conditions. By-Pass shall respond to changes in temperature and pressure.



Model ES400



Model ES200

SPECIFICATIONS

Operating

Maximum Pressure 125 psi (861.25 kPa)
 Maximum Hot Water Temperature 180°F (82°C)
 Approach Temperature 15°F (8°C)
 Temperature Adjustment Range 60°F (15°C) - 95°F (35°C)
 Factory Set Temperature 85°F (29°C)
 Compliance ANSI Z 358-1 1998

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

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).

Table 1- Capacity Tables

Flow Capacity in US gpm at 50-50 Mixed Ratio

Model	Min. Flow Rate	Pressure Drop Across Valves in psi						
		5	10	20	30	45	60	75
ES200	3.0 gpm	15	20	30	36	45	52	58
ES400	3.0 gpm	27	38	54	66	80	93	104

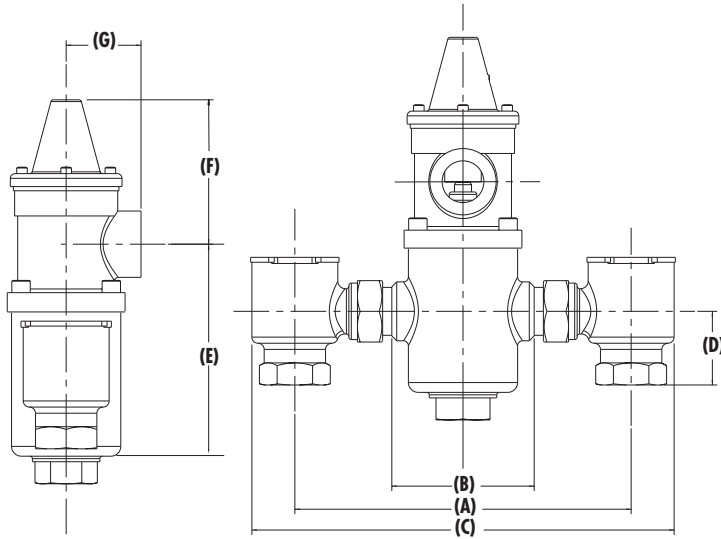
Flow Capacity in lpm at 50-50 Mixed Ratio

Model	Min. Flow Rate	Pressure Drop Across Valves in kPa						
		34	69	138	207	310	414	517
ES200	11.0 lpm	57	76	113	136	170	197	220
ES400	11.0 lpm	102	144	203	249	305	352	393

NOTE: By-Pass flows will vary depending on supply conditions and application.

DIMENSIONS

MODEL	NPT CONNECTION IN	NPT CONNECTION OUT	A	B	C	D	E	F	G
ES200	3/4"	1"	8-3/16"	3-7/16"	10-3/8"	1-13/16"	5-3/16"	3-1/2"	1-15/16"
			208 mm	87 mm	264 mm	46 mm	132 mm	88.9 mm	49 mm
ES400	1-1/4"	1-1/2"	10-1/4"	4-7/16"	13-1/8"	2-1/2"	6-13/16"	4-3/4"	2-3/4"
			260 mm	113 mm	335 mm	64 mm	173 mm	120 mm	70 mm



ORDERING INFORMATION

Emergency Tempering with Cabinet Options

ES **A**

Order Code

Valve and Pipe Finish
Rough Bronze **A**

Piping Inlets/Outlets
Bottom/Top **E**
Bottom/Side **G**

Cabinet Style
Stainless Steel, Recessed **N**
Stainless Steel, Wall Mount **Q**
Painted, Recessed **R**
Painted, Wall Mount **U**

Options
None **0**
Vacuum Breaker **1**
Dial Thermometers on inlets **5**

Alarm System
None **0**
AquaSentry 2 Alarm* **4**

Emergency with Dial Thermometer and Fittings

ES **RB**

Valve and Pipe Finish **Order Code**
Rough Bronze **RB**

ES200 **200**
3/4" IN, 1" OUT, 36 gpm @ 30 psid

ES400 **400**
1-1/4" IN, 1-1/2" OUT, 66 gpm @ 30 psid

ENGINEERING APPROVAL

Project: _____

Contractor: _____

Architect/Engineer: _____

*This is a temperature limit alarm that provides visual and audible indication if high or low temperature limits are exceeded. AquaSentry 2 includes control module, temperature sensor, sensor junction box, 4x4 electrical box UL/CSA approved 24 VAC-class 2 transformer

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