Z358-20 EMERGENCY FIXTURE

THERMOSTATIC MIXING VALVE FOR EMERGENCY FIXTURES (ANSI Z358.1)

Model Z358-20 is a thermostatic mixing valve (TMV) available in two flow capacities and suitable for installation at or near a point of use for tepid water supply to a single, combination, or group of emergency fixtures in accordance with ANSI standard Z358.1-2009.

The unique constant cold-water flow feature allows inlet hot water supply to be set within a prescribed range, which limits the potential outlet temperature to a safe maximum. The valve also features a single temperature locking feature and a thermal shutdown feature that protects users from accidental scald risks in the case of an interruption to cold water supply.

Z358-20 Emergency Fixtures

Z358-20 Performance Chart: Pressure Drop (in PSIG) to Flow Rate (in GPM)												
Z358-20	Pressure Drop (PSIG)										Minimum Flow Rate	C_v
	5	10	15	20	25	30	35	40	45	50		
GPM	8	11	13	15	17	19	20	22	23	24	1 GPM	3.4

Z358-20 Performance Chart: Pressure Drop (in BARG) to Flow Rate (in LPM)												
Z358-20	Pressure Drop (BARG)										Minimum Flow Rate	K_v
	0.3	0.7	1.0	1.4	1.7	2.1	2.4	2.8	3.1	3.4		
LPM	30.3	41.6	49.2	56.8	64.4	71.9	75.7	83.3	87.1	90.8	3.8 GPM	2.9

Z358-20 EMERGENCY FIXTURE

TECHNICAL SPECIFICATIONS

General		
Materials	Chrome-plated DZR brass / polymer / “Safety Yellow” control handle	
Safety	Cold water flows to mixing valve in the event of hot water supply failure Thermal shutdown upon inlet cold water supply failure	
Shipping Weight	10 lb (4.5 kg)	
Connections		
Inlet and Outlet Connections	3/4” NPT Connections	
Pressures		
Inlet Supply Pressures	Maximum Inlet Supply Pressure: 100 psig (6.9 barg)	Min. Pressure - Drench Shower: 40 psig (2.7 barg) Min. Pressure - Eyewash: 20 psig (1.4 barg)
Supply Pressures Differential	Operating pressures must be nominally equal	
Temperatures		
Hot Water Supply Temperature Cold Water Supply Temperature	Refer to Tables 1 and 2 below Maximum recommended hot water temperature: 130°F (54°C) Minimum cold water supply temperature: 33°F (1°C)	
Optimum Inlet/Outlet Differential	Refer to Table 2 below	
Configurable Settings		
Temperature Limits	Adjustable maximum temperature limit stop	
Temperature Lock	Adjustable single-temperature locking feature	
Performance		
Minimum Flow Rate	1 GPM (3.8 LPM)	
Standards and Approvals		
Lead Free	Compliant	

Z358-20 EMERGENCY FIXTURE

WRITTEN SPECIFICATIONS

Category: Water Temperature Controls - Single Point of Use

Type: Thermostatic (Emergency Fixtures)

Model: Model Z358-20

Part 1 - GENERAL

1.1 Overview

A. The Thermostatic Mixing Valve shall be of chrome-plated DZR brass / polymer construction with bright "Safety Yellow" control handle. All required installation components shall be supplied pre-piped and pressure tested. TMV shall have NPT inlets and outlet with integral inlet spring loaded check valves and strainers, and an outlet with thermometer and tee. TMV shall be equipped with a maximum temperature limiting and single temperature locking feature. TMV shall have dual thermostats for increased accuracy and to provide redundancy in case of individual thermostat failure.

1.2 Materials of Construction

B. Materials of construction and items included shall be:

1. Chrome-plated DZR brass / polymer
2. 3/4" NPT inlets with check valves and strainers
3. 3/4" NPT outlet with thermometer and tee
4. Integral inlet check valves and strainers
5. Integral thermometer
6. Dual thermostats

1.3 Performance

A. TMV shall be so designed that all of the internal operating components are enclosed in a one-piece, "sealed for life" replaceable cartridge for ease of service. TMV shall be capable of controlling mixed water temperatures at flow rates between 0.4 GPM - 24 GPM (1.5 LPM - 90.8 LPM). TMV shall be capable of delivering up to 10 GPM (38.5 LPM) directly from the cold water supply to the fixture in the event of a failure of the inlet hot supply. TMV shall be designed so that with a 130°F (54°C) inlet hot supply temperature and 60°F (15°C) cold water supply temperature, the maximum mixed water temperature available from the TMV in misadjustment, product failure, or product tampering mode is 98°F (37°C). TMV shall be capable of meeting the requirements of ANSI Standard Z358.1-1998 sections 4.1, 4.6.6, 5.1.5, 5.4.6, 7.1.4, 7.4.6, 8.1, 8.4.4, and 9.4.5.

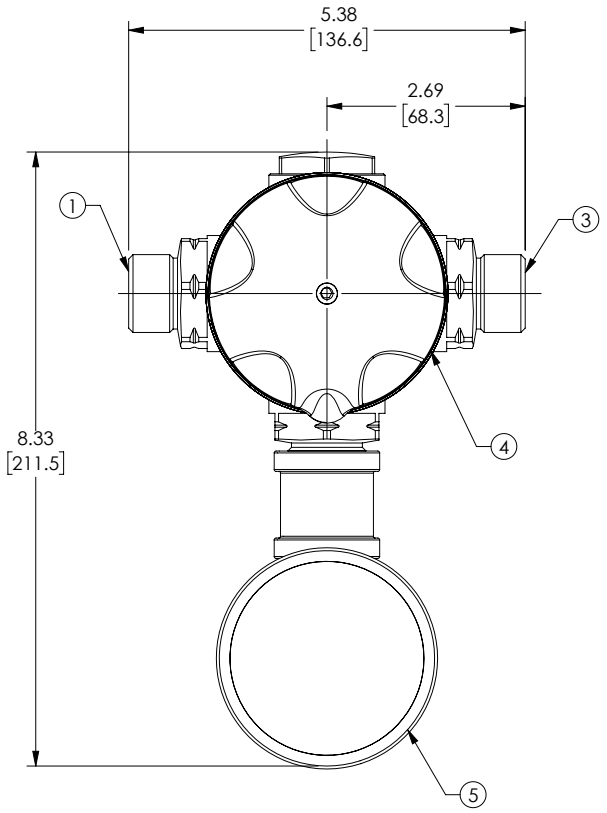
B. The thermostatic mixing valve shall include all of the following capabilities:

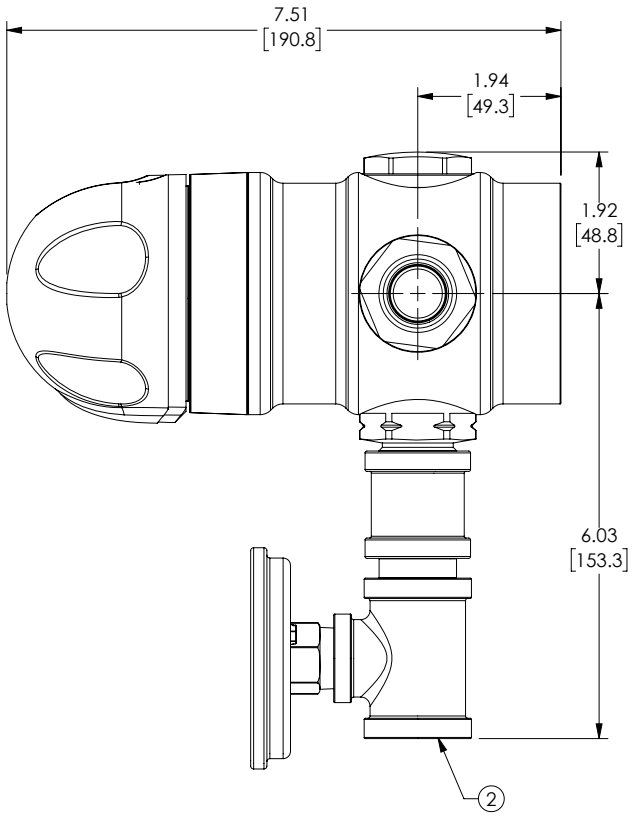
1. Maintains mixed water temperature at flow rates between 0.4 GPM - 24 GPM (1.5 LPM - 90.8 LPM)
2. Cold water bypass allows cold water to flow upon hot water supply failure
3. Operational pressure for eyewash stations: 20 psig - 100 psig (1.4 barg - 6.9 barg)
4. Operational pressure for drench showers: 40 psig - 100 psig (2.7 barg - 6.9 barg)

APPROVAL

BY:_____ DATE:_____

- ☐ APPROVED, PROCEED WITH FABRICATION
- ☐ APPROVED AS NOTED, PROCEED WITH FABRICATION IN ACCORDANCE WITH COMMENTS
- ☐ DISAPPROVED, DO NOT FABRICATE





PROJECT NAME:

TAG:

ITEM	DESCRIPTION	CONNECTION
1	HOT WATER INLET MALE NPT	3/4" NPT
2	MIXED WATER OUTLET FEMALE NPT	3/4" NPT
3	COLD WATER INLET MALE NPT	3/4" NPT
4	325D VALVE	3/4" NPT
5	THERMOMETER	

NOTE:
1. ARMSTRONG PART NUMBER: D81616

DO NOT SCALE DRAWING
TOLERANCES UNLESS OTHERWISE SPECIFIED
DIMENSIONING ENGLISH [mm]
FRACTIONAL ± 1/64
ANGULAR: ± 2

	IN.	MM
DECIMAL .XXXX	± .0005	-----
.XXX	± .005	.010
.XX	± .015	.10
.X	----------	.3

	NAME	DATE
DRAWN	Lucas Wilkins	04/12/2016
RELEASED		

ARMSTRONG INTERNATIONAL

Z358-20 3/4 NPT

MATERIAL

SHEET 1 OF 1

CN51294 REV. A DWG. SALES