

M-200TS Thermostatically Controlled Mixing Unit

Installation, Operating and Maintenance Instructions

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QCD12.005



ISO 9001
Management System Registered

Maintenance of Model

M-200TS

Strahman Thermostatically Controlled Mixing Unit

The Model M-200TS features rugged construction and superb quality for superior thermostatic control. The unit's accurate and solid, liquid-filled thermostat allows you to set the exact output water temperature desired – from 80°F to 160°F. With its durable bronze body construction, the M-200TS valve features replaceable components that resist corrosion. Both the piston and liner are made of stainless steel material for long-lasting reliability. The unit also includes an integral shutoff valve. Backed by a one-year warranty.

Features:

- Precise temperature control from 80°F/27°C to 160°F/71°C
- Adjustable temperature limit stop for maximum safety
- Replaceable components facilitate servicing
- Maximum water temperature of 160°F/71°C
- Maximum working pressure to 125 psi
- Senses and compensates for temperature or pressure fluctuations (up to a 50% drop in inlet supply pressure)
- Maintains temperature to +/-3°F
- Inlet piping: ¾" ball valves on 6" centers
- Color-coded temperature dial
- Bronze and stainless steel construction, bronze chrome-plated available

Thermostat:

- Senses slight pressure fluctuations
- Is a hydraulically formed, liquid-filled bellows
- Is linear in its expansion and exerts the highest possible operating force directly to the valve piston
- Must have a minimum of 15°F differential between hot and cold inlet and outlet set temperature

MARKETS

- Food Processing
- Chemical Plants
- Pharmaceutical Companies

SALES FEATURES

- 1. The Model M-200TS Thermostatic Mixing Valve** – Delivers water from all cold to 160°F. Complete anti-scald and chill protection.
- 2. Thermostatic Actuator** – Hydraulic formed bellows of the solid filled liquid type. This type of thermostat is linear in its expansion and exerts the highest possible operating force directly to the valve piston. It is extremely sensitive to the slightest variation in temperature or pressure of the supply lines. Highly resistant to corrosion for long, dependable life.
- 3. Piston Assembly** – Piston, liner, and springs are all constructed of stainless steel for friction-free durability. The piston assembly is the only moving part of the valve. All assembly units, including the piston and liner, are easily removed for cleaning and inspection.

APPROVAL

The Model M-200TS Water Mixers meet requirements of ASSE 1016 standards. It also meet standards set up by the Armed Forces, Maritime Commission, Veterans Administration, and other federal state agencies. The thermostatic feature precludes the possibility of scalding because variations in the hot and cold inlet supply temperatures and/or pressures.

STRAHMAN MODEL M-200TS THERMOSTATIC MIXING VALVE

PRODUCT APPLICATION

The Strahman Model M-200TS thermostatically controlled mixing valve has a solid liquid thermostat. The valve employs an adjustable temperature limit stop and can be used anywhere precise temperature control is needed.

ENGINEERING DATA

The Model M-200TS combines attractive design with accurate and positive thermostatic control to provide complete showering and comfort.

Its highly sensitive thermostatic actuator reacts to the slightest variation in temperature or pressure in the hot and cold water supply lines. Delivery of a constant selected shower water temperature, from all cold to 160°F is assured.

The valve guards against changes in outlet temperature caused by inlet supply temperature and/or pressure fluctuation. Should the cold water supply fail, the Model M-200TS shuts down the opposite hot water port to shut the valve off. Chilling is also prevented if the hot water supply should fail by shutting down the cold-water port.

The thermostat is the heart of the valve. This type of thermostat is liner in expansion and exerts the highest possible operating force directly to the valve piston.

The schematic details the main parts of the valve and their functions.

The area between the bellows, the bellows housing and the copper tubing are filled with thermo sensitive liquid.

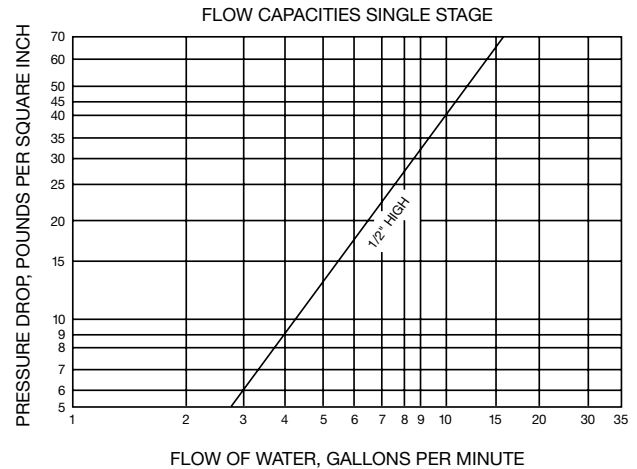
As this thermostat, which is in the mixed water chamber, gets hotter, it expands and throttles down on the hot water port at the same time opening up on the cold water supply. The reverse happens if the thermostat becomes cooler.

INSTALLATION

For proper installation, the words hot and cold are stamped on the casting. The hot supply must go to the hot side and the cold supply to the cold side of valve. If the valve supply is not correct, the valve will not work properly.

SELECTION AND SIZING PROCEDURE

The Model M-200TS is currently available in two valve sizes. If you refer to the graph below, you will notice that this valve will deliver 3 GPM at a 5-PSI drop and up to 12 GPM at a 55-PSI drop.

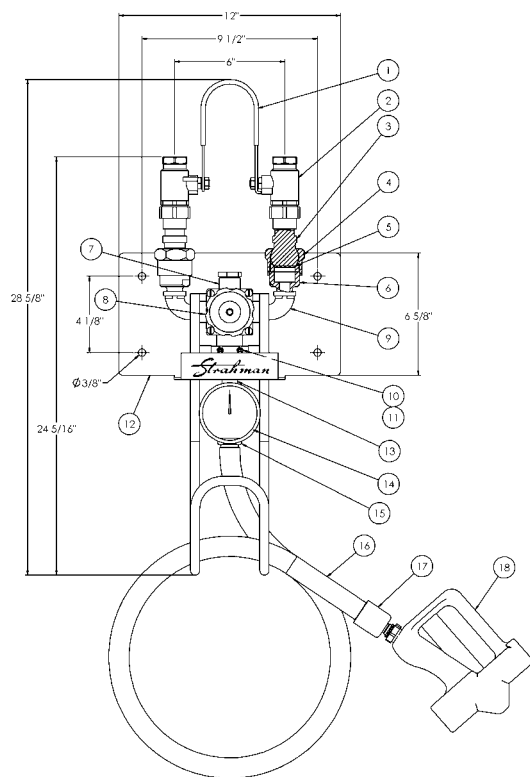


TEMPERATURE ADJUSTMENT

The temperature of the hot water supplying the mixing valve should be at least 15°F higher than the maximum required valve setting. Valves are normally set at the factory for 140°F maximum outlet temperature with 160°F inlet.

To check the maximum outlet temperature, turn the valve handle all the way open (clockwise). If the maximum outlet temperature is incorrect, adjust as follows:

1. To adjust the maximum outlet temperature, turn the handle all the way open (clockwise) and remove handle screw.
2. Carefully monitor the outlet temperature.
3. With a narrow blade screwdriver, turn the adjusting screw #5.
 - a. Counter clockwise to increase temperature.
 - b. Clockwise to decrease temperature.
4. When desired maximum outlet temperature is reached, replace handle screw.



WHEN IN NEED OF INFORMATION

When contacting the factory or one of its representatives in regard to a mixing valve, be sure to give number appearing on the nameplate fastened to the dome. Serial number stamped on label must accompany order or request.

REPAIRING UNITS AT FACTORY

These units can be repaired even after years of service. It is usually practical to repair units. When you have a ball valve beyond the guaranteed period they can be purchased. Please contact us for more information about getting a unit repaired.

WARRANTY

We warranty the Strahman unit to be free from defects in workmanship and material for a period of one year from date of purchase and will replace any parts found by us to be defective. However, we will not be held responsible for any labor incidental to, or for any damages caused by, defective material. Each mixing unit is thoroughly inspected and tested under actual conditions at our factory. Strahman does not warranty any product which exhibits evidence of abuse or being used in an extremely harsh environment. In addition, the warranty will be void in the instance where a device is used in an application for which it was not intended.

ADDENDUM TO INSTALLATION INSTRUCTIONS

Caution should be taken to ensure continued safe operation of the Strahman M-200TS. When and where applicable, particular care should be exercised in the following areas: Earthquake, external piping loads, unstable fluids, wear and erosion, surface temperature and over/under pressure and temperature during operation. Additionally, only bolting and gaskets as permitted by B16.5 are to be used.

PARTS			
PART NO.	PART	MATERIAL	QTY
1	UNILEVER	SST	1
2	BALL VALVE	SST	2
3	CHECK VALVE	CHROME-PLATED BRASS w/ SST INTERIOR	2
4	UNION NUT	CHROME-PLATED BRASS	2
5	GASKET	COPPER PTFE	2
6	CHECK VALVE ADAPTER	CHROME-PLATED BRASS	2
7	MIXING VALVE	CHROME-PLATED BRONZE w/ SST INTERIOR	1
8	CONTROL KNOB	NYLON	1
9	STREET ELBOW	SST	2
10	U-BOLT	SST	1
11	#10 NUT	SST	2
12	MOUNTING PLATE	SST	1
13	NIPPLE	CHROME-PLATED BRASS OR SST	1
14	TEMPERATURE GAUGE	SST	1
15	TEE	CHROME-PLATED BRASS OR SST	1
16*	HOSE ASSEMBLY "Y"	CHROME-PLATED FITTINGS	1
17	SWIVEL-PRO ADAPTER	STAINLESS STEEL	1
18	HYDRO-PRO 150° NOZZLE	SST/BRASS/NYLON	1

Note: Drawing shown with optional "ergonomic package"
Hydro-Pro 150° spray nozzle and Swivel-Pro adapter on
lightweight extruded hose.