



M-200TS

**THERMOSTATICALLY CONTROLLED MIXING UNIT HOSE STATION
INSTALLATION, OPERATION & MAINTENANCE**



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 **Stahman**
WASHDOWN EQUIPMENT

MAINTENANCE OF MODEL

M-200TS

THERMOSTATICALLY CONTROLLED MIXING UNIT

GENERAL INFORMATION

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

Mixing Unit Features

The standard unit is constructed of bronze and stainless steel. A bronze/chrome-plated unit is also available upon request. The M-200TS delivers water from all cold up to 160° F (71°C). The Piston Assembly (the only moving part of the valve) consists of the piston, liner, and springs are all constructed of stainless steel for friction-free durability. All assembly units, including the piston and liner, are easily removed for cleaning and inspection. Other noteworthy features include:

- Precise temperature control from 80°F (27°C) to 160°F (71°C)
- Maximum water temperature 160°F (71°C)
- Adjustable temperature limit stop for maximum safety; Complete anti-scald and chill protection
- Senses and compensates for temperature or pressure fluctuations (up to a 50% drop in inlet supply pressure)
- Maintains temperature to +/-3°F
- Color-coded temperature dial maximum working pressure to 125 psi (water supply pressures must be within a 20 psi differential)
- Replaceable components facilitate servicing
- Inlet piping: ¾" ball valves on 6" centers

Thermostat Features

The Thermostatic Actuator is linear in its expansion and exerts the highest possible operating force directly on the valve piston. It is susceptible to the slightest variation in temperature or pressure of the supply lines. It is highly resistant to corrosion for long, dependable life. Other noteworthy features include:

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

APPROVAL

The M-200TS meets the requirements of ASSE 1016 standards. In addition, it also meets standards by the Armed Forces, Maritime Commission, Veterans Administration, and other

federal state agencies. In addition, the thermostatic feature precludes the possibility of scalding because of variations in the hot and cold inlet supply temperatures and pressures.

PRODUCT APPLICATION

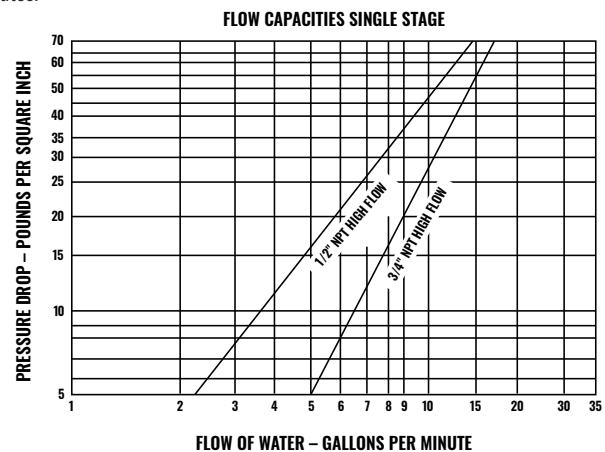
The Strahman M-200TS Thermostatically Controlled Mixing Unit has a solid-liquid thermostat. The valve employs an adjustable temperature limit stop and can be used anywhere precise temperature control is needed.

INSTALLATION

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

SELECTION AND SIZING PROCEDURE

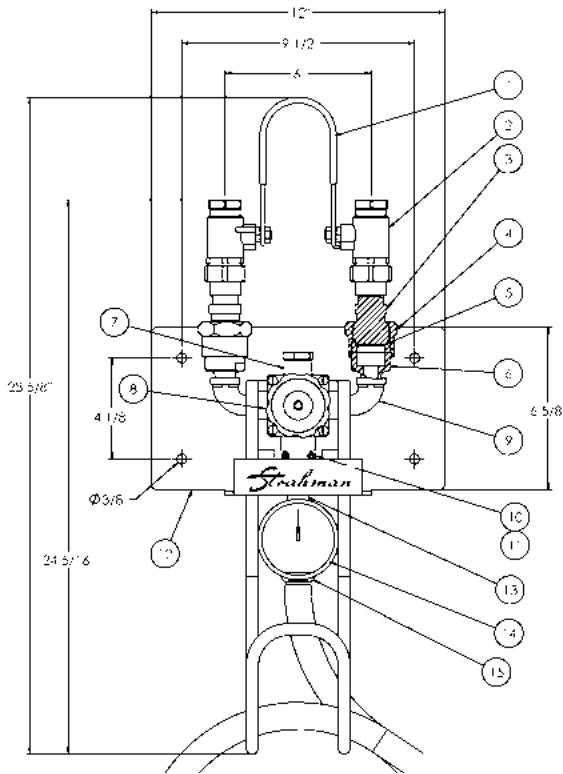
The Model M-200TS is currently available in two valve sizes. At 5 PSI drop, the 1/2" valve delivers 2.2 GPM to 12 GPM at 55 PSI drop, while the 3/4" valve delivers 5 GPM up to 20 GPM. See the diagram below. When using with a spray nozzle, refer to the "Nozzle Flow Rates."



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. For example, factory set valves are typically at 140°F maximum outlet temperature with 160°F inlet. Turn the valve handle completely open (clockwise) to check the maximum outlet temperature. When the unit is not in use, set Unilever (No. 1) to the off position and turn the Control Knob (No. 8) counterclockwise to the full cold position.

Take caution to ensure the continued safe operation of the Strahman M-200TS. Take extra care when and where applicable in the following areas: Earthquake, external piping loads, unstable fluids, wear and erosion, surface temperature, and over/under pressure and temperature during operation. Additionally, use only bolting and gaskets as permitted by B16.5.



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

OPERATION

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. As a result, delivery of a constant selected shower water temperature, from all cold to 160°F, is assured.

Concerning the inlet supply temperature or pressure fluctuation, the valve safeguards the unit against changes in the outlet temperature. Should the cold water supply fail, the M-200TS shuts down the opposite hot-water port to shut the valve off. Likewise, if the hot water supply should fail, chilling is also prevented 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.

MAINTENANCE

1. Inlet strainers are recommended. If the unit is equipped with inlet strainers, clean them as needed.
2. If Check Valve (No. 3) begins to by-pass, remove, clean, and reinstall. If subjected to mineral deposits, then soak in a 10% solution of acetic acid and water for 1 hour, and rinse before reinstallation. Replace tapered gaskets. If by-pass continues, replace Check Valve (No. 3).
3. Ball Valves (No. 2) do not require maintenance. If leaking does occur at stem, tighten gland nut approximately 20 lb/in maximum. If leaking continues replace Ball Valve.
4. The Mixing Valve (No. 7) can get clogged with debris. If this happens, remove the valve from assembly, rinse and reinstall. The Mixing Valve is not repairable – if clogging or inoperative valve continues, replace Mixing Valve.

WARRANTY

Strahman (Seller) warrants the equipment of its own manufacture to be free of defects in material and workmanship, under normal use and proper operation, for a period of one year from the date of shipment from Seller's plant. Seller's obligation under this warranty shall be strictly limited, at Seller's sole option, to (i) furnishing replacement parts for or repairing without charge to Purchaser, FOB ex-works point of manufacture or (ii) issuing written authorization for Purchaser or others to replace or repair, without charge to Purchaser, at costs comparable to Seller's normal manufacturing costs, those parts proved defective, provided Purchaser has given Seller immediate notice upon discovery of such defect; or (iii) in the discharge of Seller's maximum liability herewith, refunding all monies paid by Purchaser to Seller for the product and, at the discretion of Seller, having the product removed and returned to Seller at Purchaser's expense. All transportation charges relative to corrective work, defective parts, or replacement parts shall be borne by Purchaser. See Strahman complete Terms and Conditions of sale at: <https://www.strahmanvalves.com/company/terms-and-conditions-of-sale/>

THE STRAHMAN FAMILY OF PRODUCTS INCLUDE:



WASH DOWN EQUIPMENT

Strahman offers a full line of mixing units, hose stations, hoses, nozzles, and wash down accessories designed for industrial use for a wide variety of industry including food & beverage processing, meat & poultry, agriculture, pharmaceutical, research laboratories, chemical, wineries, breweries, and more.

AUTOMATED VALVES & THERMAL SHUT-OFF VALVES

Strahman automated valve packages with floating ball valves and resilient seated butterfly valves come complete with electric or pneumatic actuators for a wide array of industrial applications. Additionally, a full suite of API 607 fire safe valve products are offered as actuated units or to be used in conjunction with our FM approved thermal shut-off assemblies. Resettable Emergency Block Valves (R-EBV) are also available for the oil & gas and chemical industries.

VALVES & LINE BLINDS

Strahman's portfolio includes: sampling valves, drain valves, gate valves, diverter and piston-type valves, ball valves, and line blinds for the control of fluid and gases in the pipeline system. Strahman also provides custom solutions for industry where products manufactured in batch and continuous process require consistent high quality and safety. Strahman serves a wide variety of industries and process applications including oil refinery, pulp and paper, and chemical.



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877-787-2462
484-893-5080



2801 Bagylos Circle
Bethlehem, PA 18020



StrahmanGroup.com