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Haws TWBS.HF

Haws TWBS.HF Lead-Free Thermostatic Mixing Emergency Valve

User Manual

1. INTRODUCTION

The Haws TWBS.HF Lead-Free Thermostatic Mixing Emergency Valve is engineered to provide a safe and reliable tempered water supply for emergency shower and eyewash equipment. This valve thermostatically mixes hot and cold water to achieve a consistent, safe fluid temperature, crucial for immediate first aid in industrial and laboratory environments. Its robust design incorporates advanced features to ensure user safety and operational reliability.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

2. PRODUCT OVERVIEW

The TWBS.HF valve features a sophisticated design for optimal performance and safety. Key components include a primary tempering valve, a secondary high-temperature limit valve, and a pressure-sensing diverter valve. These elements work in concert to maintain precise temperature control and ensure a fail-safe water supply.

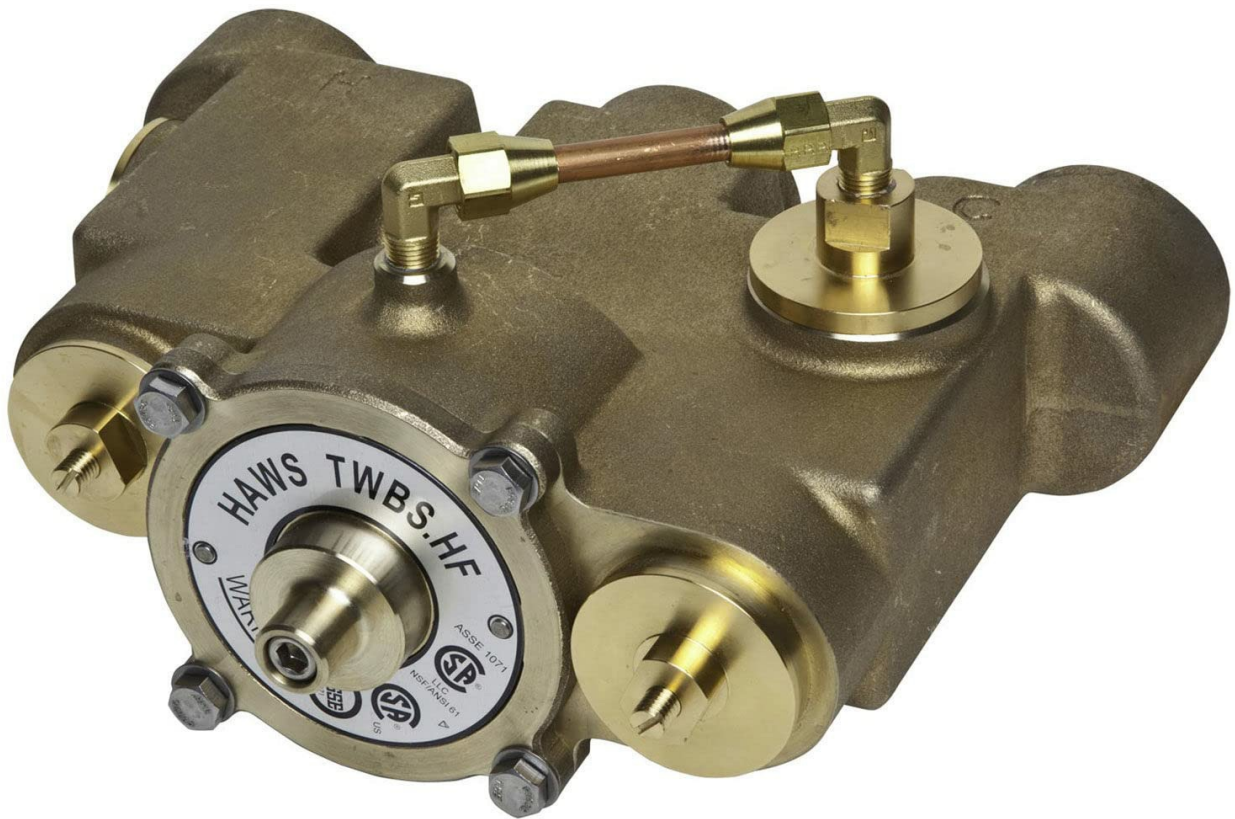


Figure 1: Front view of the Haws TWBS.HF Thermostatic Mixing Emergency Valve, showcasing its brass construction and connection points.

Key Features:

- **Flow Rate:** A wide flow range of 1 to 78 gpm ensures excellent temperature control across various operating conditions, suitable for multiple safety showers or eyewashes.
- **Thermostat Technology:** Utilizes wax-based thermostat technology for rapid response times and highly reliable temperature control.
- **Cold Water Bypass:** Features the highest cold water bypass flow rate in the industry (100% of rated tepid flow rate), ensuring a continuous supply even during hot water pressure loss or main valve malfunction.
- **Construction:** Modular low-lead brass design with internal check stops for durability and compliance.
- **Valve Seats:** Oversized valve seats are designed to resist failures caused by foreign matter, enhancing longevity and reliability.



Figure 2: Side view of the Haws TWBS.HF Thermostatic Mixing Emergency Valve, highlighting the inlet and outlet connections.

3. INSTALLATION AND SETUP

Proper installation is critical for the safe and effective operation of the TWBS.HF valve. Installation should be performed by qualified personnel in accordance with local plumbing codes and the manufacturer's instructions.

Connection Requirements:

- **Inlet Connections:** The valve features 2-inch NPT(F) inlet connections for both hot and cold water supply.
- **Outlet Connection:** The valve features a 2-inch NPT(F) outlet connection for the tempered water supply to emergency fixtures.
- **Pressure Balance:** Hot water inlet pressure must be within +/-10 percent of the cold inlet pressure to ensure proper mixing and temperature control.
- **Inlet Water Temperature:** Minimum cold water inlet temperature is 40°F (4.4°C), and maximum is 70°F (21.1°C).

Ensure all connections are secure and leak-free. Flush the water lines thoroughly before connecting the valve to remove any debris that could affect performance.

4. OPERATION

The Haws TWBS.HF valve is designed for automatic operation, maintaining a consistent tempered water

temperature for emergency use. The valve's internal mechanisms continuously adjust the hot and cold water flow to achieve the desired outlet temperature.

Temperature Control:

- **Factory Set Outlet Temperature:** The outlet temperature is factory set to 85°F (29.4°C).
- **High Temperature Limit:** The high temperature limit is factory set to 87°F (30.6°C), providing an additional layer of protection against scalding.

Fail-Safe Mechanism:

In the event of hot water pressure loss, main valve thermostat malfunction, or a clogged cold water check-stop, a pressure-sensing diverter valve activates. This diverter sends a pressure signal to open the cold water bypass valve, ensuring a continuous, albeit cold, water supply to the emergency shower and eyewash stations. Cold water bypass valves remain closed during normal operation, regardless of flow rate.

The efficient funnel design with turbulent hot water passages improves mixing at low flow rates, enhancing temperature control and minimizing outlet temperature variation.

5. MAINTENANCE

While the Haws TWBS.HF valve is designed for durability and minimal maintenance, periodic inspection and care are recommended to ensure optimal performance and longevity.

- **Regular Inspection:** Periodically inspect the valve and connections for any signs of leaks, corrosion, or damage.
- **Flow Testing:** Conduct regular flow tests of the emergency shower and eyewash equipment as per ANSI Z358.1 standards. This helps verify the valve's proper operation and temperature delivery.
- **Cleaning:** The efficient shuttle design helps eliminate valve sticking, and oversized valve seats resist failures from foreign matter. However, if water quality issues are suspected, consult a qualified plumber for internal inspection and cleaning.
- **Temperature Verification:** During flow tests, verify the tempered water temperature to ensure it remains within the safe operating range (85°F to 87°F).

6. TROUBLESHOOTING

This section provides guidance for common issues that may arise with the thermostatic mixing valve. For complex problems, contact Haws Corporation or a certified technician.

Common Issues and Solutions:

- **Issue:** Water temperature is too hot or too cold.
Possible Causes: Imbalance in hot/cold inlet pressures; thermostat malfunction; debris in valve.
Solutions: Verify inlet pressures are within +/-10% of each other. Check for obstructions in the water lines or valve. If issues persist, professional inspection of the thermostat may be required.
- **Issue:** Reduced flow rate from emergency fixtures.

Possible Causes: Clogged inlet screens or check-stops; low supply pressure; valve malfunction.

Solutions: Inspect and clean inlet screens. Verify adequate supply pressure. Check for any blockages within the valve or connected piping.

- **Issue:** Valve sticking or not responding.

Possible Causes: Mineral buildup; foreign matter.

Solutions: While the design minimizes sticking, severe water quality issues can lead to buildup. Professional servicing may be needed to clean internal components.

7. SPECIFICATIONS

Specification	Value
Model Number	TWBS.HF
Product Dimensions (L x W x H)	13 x 6 x 10 inches
Weight	35 Pounds
Material	Low-Lead Brass
Exterior Finish	Brass
Inlet Connection Size	2 Inches NPT(F)
Outlet Connection Size	2 Inches NPT(F)
Flow Rate Range	1 to 78 gpm
Factory Set Outlet Temperature	85°F (29.4°C)
Factory Set High Temperature Limit	87°F (30.6°C)
Min/Max Inlet Cold Water Temperature	40°F / 70°F (4.4°C / 21.1°C)
Manufacturer	Haws Corporation
UPC	611970381169

8. WARRANTY INFORMATION

The Haws TWBS.HF Thermostatic Mixing Emergency Valve comes with an extended 3-year warranty. This warranty covers defects in materials and workmanship under normal use and service. For specific terms and conditions, please refer to the official warranty documentation provided by Haws Corporation or contact their customer support.

9. SUPPORT AND CONTACT

For technical assistance, replacement parts, or further information regarding the Haws TWBS.HF valve, please contact Haws Corporation directly. Ensure you have your model number (TWBS.HF) and any relevant purchase details ready when contacting support.

Manufacturer: Haws Corporation

Please visit the official Haws Corporation website or refer to your product packaging for the most current contact information.