INSTALLATION, OPERATION
&
MAINTENANCE INSTRUCTIONS

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No. 2080380 (10)

Model TWBS.EW.H
Tempered Water Blending System

NOTE TO INSTALLER: Please leave this information with the Maintenance Department.

LIMITED WARRANTY

HAWS warrants that this specific product is guaranteed against defective material or poor workmanship for a period of **one year from date of shipment**. HAWS liability under this warranty shall be discharged by furnishing without charge F.O.B. HAWS Factory any goods, or part thereof, which shall appear to the Company upon inspection to be of defective material or not of first class workmanship, provided that claim is made in writing to Haws within a reasonable period after receipt of the product. Where claims for defects are made, the defective part or parts shall be delivered to the Company, prepaid, for inspection. HAWS will not be liable for the cost of repairs, alterations or replacements, or for any expense connected therewith made by the owner or his agents, except upon written authority from HAWS, Sparks, Nevada. HAWS will not be liable for any damages caused by defective materials or poor workmanship, except for replacements, as provided above. Buyer agrees that Haws has made no other warranties either expressed or implied in addition to those above stated, except that of title with respect to any of the products or equipment sold hereunder and that HAWS shall not be liable for general, special, or consequential damages claimed to arise under the contract of sale.

The emergency equipment manufactured by HAWS is warranted to function if installation and maintenance instructions provided are adhered to. The units also must be used for the purpose for which they were intended. This product is intended to supplement first-aid treatment. Due to widely varying conditions, Haws cannot guarantee that the use of this emergency equipment will prevent serious injury or the aggravation of existing or prior injuries.

NO OTHER WARRANTIES EXPRESSED OR IMPLIED ARE AUTHORIZED, PROVIDED OR GIVEN BY HAWS.

SHOULD YOU EXPERIENCE DIFFICULTY WITH THE INSTALLATION OF THIS MODEL PLEASE CALL:

TECHNICAL SUPPORT: 1-800-766-5612

FOR CUSTOMER SERVICE: 1-888-640-4297

RECOMMENDED TOOLS: Teflon thread seal tape, adjustable pipe wrenches, (Quantity 4) rust resistant wall anchors (3/16" diameter). **Do not use pipe dope.**

LOCATION OF UNIT: The Model TWBS.EW.H should be located as near as possible to the point of use. It must be installed in a vertical position with the inlet and the outlet at the bottom.

SUPPLY LINE: The minimum recommended line size is 1/2" IPS with 45-90 psi (3-6 ATM) flowing pressure at supply inlet. Cold supply temperatures should range from 35°F to 75°F. Where sediment or mineral content is a problem, an inlet filter is recommended.

ELECTRICAL CONNECTIONS: The unit requires 480 VAC/3-phase/60Hz power in a "Delta" configuration, including three power leads, and a ground conductor, each sized for the system's maximum amperage of 24A. The maximum power draw of the system is 20kW. The customer is responsible for providing a local fused disconnect switch or circuit breaker sized accordingly.

PLUMBING CONNECTIONS: Inlet supply is female 1/2" IPS, Outlet is female 1/2" IPS.

INTRODUCTION

What is the HAWS TWBS.EW.H?

The HAWS TWBS.EW.H is an instantaneous water heating system for use on emergency eyewashes where hot water is not supplied. When there is a demand for water at the eyewash, the heater will instantaneously heat the water to 80° F. The unit requires 480VAC/3-phase/60Hz power in a "Delta" configuration, including three power leads and a ground conductor, each sized for the system's maximum amperage of 24A. The maximum power draw of the system is 20 kW. The customer is responsible for providing a local fused disconnect switch or circuit breaker sized accordingly. The Haws TWBS.EW.H incorporates thermally activated and pressure activated safety features that prevent scalding and improper flow to the eyewash, even in the event of main unit failure.

How does the TWBS.EW.H operate?

The heart of the TWBS.EW.H is an instantaneous heater that maintains the output water temperature at 80° F. On the warm water outlet we include a high limit shut off valve, which reads the output temperature. When the output temperature exceeds the factory pre-set limit of 95° F, the valve shuts down the output from the heater.

On the cold-water side, we include a bypass valve. Should the heater become blocked or the high limit shut off valve closes, the bypass valve will open, allowing the incoming cold water to bypass the system and proceed directly to the eyewash.

These two back-up components permit the temperature level of the heated water to be maintained and permit the flow of cold water should the heater fail.

Performance Features of the HAWS TWBS.EW.H System

Essentially, the HAWS TWBS.EW.H provides fail-safe protection against scalding or blocked flow. There are two types of failures that can occur with any water heating system. They are as follows:

1. The heater can fail and provide an unregulated flow of hot water.
2. The heater can fail so as to provide an insufficient and/or blocked flow of warm water.

The unique HAWS TWBS.EW.H provides a high limit shut-off valve and a bypass valve to address both failure modes.

Capacity

HAWS TWBS.EW.H produces up to 4 gpm at a 45-psi dynamic inlet pressure. The warm water heater is designed to activate by individual electronic flow rate switches, at a minimum turn on flow rate of no less than .95 gpm. This unit is sized for one eyewash.

Max output @480V	Current Per phase	Temperature Rise (°F)GPM				
		2.0 gpm	3.0 gpm	4.0 gpm	T3 EE Only 5 gpm	T3 EE Only 6 gpm
20kW	24 AMPS	68	46	34	27	23

INSTALLATION PROCEDURE

For additional information, read and follow manufacturers "Instantaneous Water Heater" installation and owner's manual supplied with unit.

CAUTION: THIS UNIT IS INTENDED FOR INDOOR USE ONLY.

APPLICATION

The standard TWBS.EW.H is sized to heat enough water for one eyewash at a time. This Water Heating System should be installed in close proximity to the eyewash. It should be clearly identified, with easy access and free from obstructions. Supply lines connected to this unit must be heat traced if subject to freezing temperatures. If the piping network from the heater (located indoors) to the fixture passes through a cold area, piping should be heat-traced with self-regulating heat tape. Any heat-traced piping should be protected with scald protection bleed valves. Additionally, should the TWBS.EW.H be mounted at a distance greater than 50 feet from the eyewash, these runs should be evaluated by a plumbing engineer. Complicated chains of eyewashes, long piping runs, and recirculating loops should all be evaluated by a qualified engineer.

NOTE: If for any reason the heater is starved of water while power remains on, the unit may be damaged. Also, the heating elements only turn on under flow, so any water within the heater will be subject to atmospheric conditions most of the time. Therefore, the heater should never be stationed outdoors or in a freezing environment.

WATER SUPPLY

The minimum recommended supply line is 1/2" IPS COLD. Cold supply temperatures should range from 35°F to 75°F. Outlet connection is a 1/2" IPS dielectric union. We recommend a manual bypass loop with appropriate tamper resistant shut-off valves to allow for heater water system maintenance or service without interrupting emergency eyewash operation.

NOTE: All mounting and plumbing must be complete before you proceed with electrical hook-up. Test the installation for leaks before connecting the electrical supply.

INSTALLATION PROCEDURE...

PROCEDURE

Use Teflon thread seal tape on all water connections. **Do not use pipe dope.**

STEP 1: Mount unit on wall (**This unit is intended for indoor use only**) per attached installation drawing. Bolt dia. 3/16" fasteners through heater box. Unit must be installed in the vertical only, with the inlet and outlet at the bottom. The cold water inlet is on the right hand side and the hot water outlet is on the left. Under no circumstances can these be changed. Leave a minimum of 8" clearance above the unit to facilitate heating element replacement.

STEP 2: Flush supply piping thoroughly prior to connecting to inlet unions. Connect outlet union to piping leading to eyewash. Check for leaks.

STEP 3: ELECTRICAL CONNECTION: a 1-3/8" hole on the bottom of the unit is provided for customer connection. Customer to supply 480VAC/3-phase/60Hz power in a "Delta" configuration, including three power leads and a ground conductor, each sized for the system's maximum amperage of 24A. The customer is responsible for providing a local fused disconnect switch or circuit breaker sized accordingly. The maximum power draw of the system is 20 kW.

STEP 4: **TEST FUNCTION OF UNIT**

Turn on eyewash. Carefully monitor initial few minutes of flow with hand in eyewash flow. Check to ensure initial flow does not contain brief shots of hot water. See troubleshooting if any problems.

IMPORTANT: REPEAT TEST PROCEDURE WEEKLY!

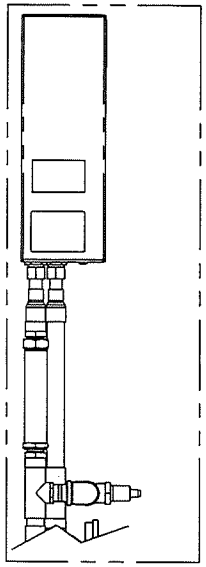
TROUBLESHOOTING

PROBLEM	REPAIR CHECKLIST
1. Cold water leaving heater.	1. a. Ensure unit is wired to proper breaker and wire size. b. Ensure flow through heater is sufficient to activate flow switch. Minimum turn-on flow rate of .95 gpm is required. c. Too much flow through heater; unit is designed to handle a maximum of 6.0 gpm.
2. Output too hot.	2. If high limit shut-off valve is constantly closing, consult factory for additional help.

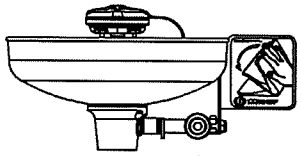
REPLACEMENT PARTS

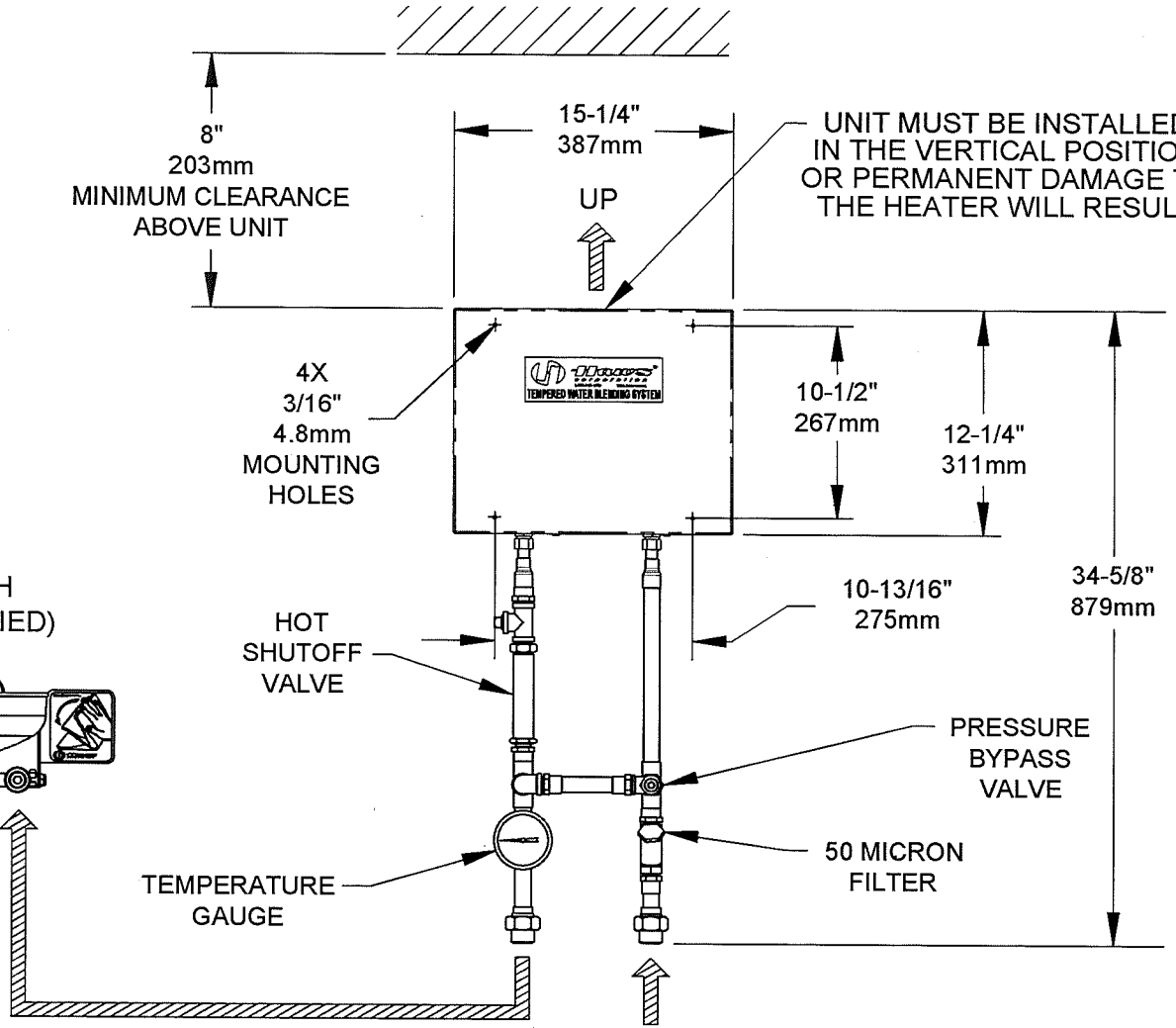
DESCRIPTION	QUANTITY
Temperature Gauge, 1/2"	1
Heater	1
Bypass Valve, 1/2"	1
Hot Shut-off Valve, 1/2"	1

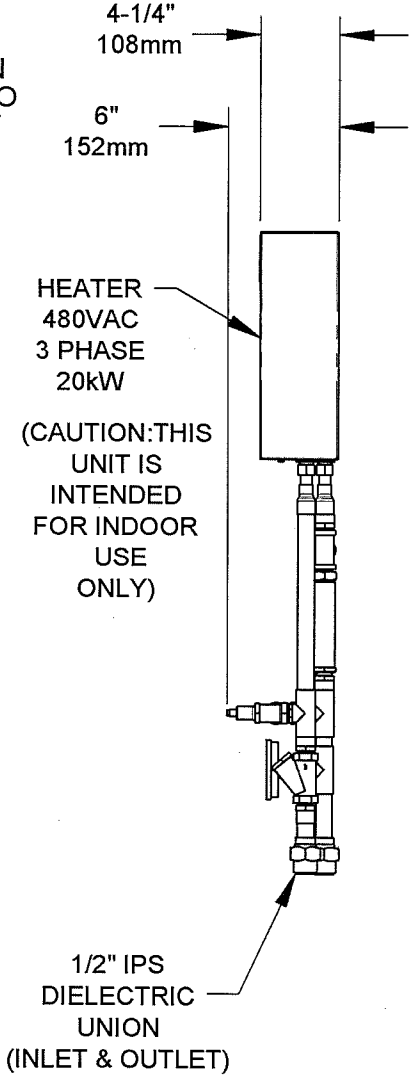
For more information about Haws products, see our website: www.hawsco.com.

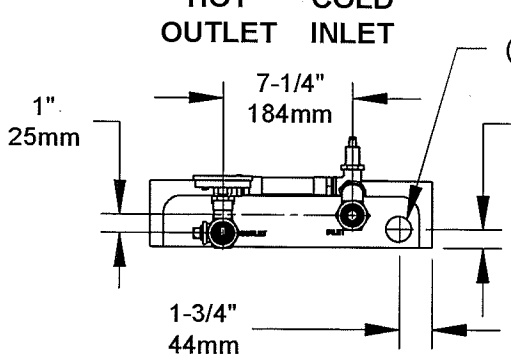


EYEWASH
(NOT SUPPLIED)









NOTES:

1. CAUTION: THIS UNIT IS INTENDED "FOR INDOOR USE ONLY"
2. USE TEFLON THREAD SEAL TAPE ON ALL WATER CONNECTIONS. **DO NOT USE PIPE DOPE.**
3. DIMENSIONS MAY VARY BY: ± 1/2" [12.7mm].

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ECN NO.	REVISED PER ECN:4796	BY: HM	MODEL(S)	PART NUMBER
DRAWN: RTM	DATE: 04/30/04	CHK'D:	TWBS.EW.H	0002080380.D
APPROVED:	DATE: 9/19/13			DRAWING NO. 12681A00 REV 10
SCALE: 1:10	DRAWING TYPE: INSTALLATION		SIZE: A	SHEET 1 OF 1