

Section 11700

EMERGENCY EYEWASH AND SHOWER EQUIPMENT

PART 1 GENERAL

1.01 SUMMARY

This Section includes the furnishing of all labor, materials, equipment and incidentals required for installation of emergency shower/eyewash equipment as shown on the Plans and as specified herein.

1.02 MEASUREMENT AND PAYMENT

No separate payment for Work performed under this Section. Include cost of same in Contract price bid for Work of which this is a component part.

1.03 REFERENCES

This specification references the following publications in their current editions. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

- A. ANSI/ISEA Z358.1: American National Standard for Emergency Eyewash and Shower Equipment

1.04 SUBMITTALS

Submit the following to the Engineer, in accordance with Section 01330 – “Submittal Procedures:”

- A. Shop Drawings and Product Data:

Shop and erection drawings fully describing construction of systems, materials used and referenced standards for same, ratings, all piping and wiring interconnections, unit location, supports, and details of construction as necessary.

- B. Operating and Maintenance Data:

Operating and maintenance instructions shall be furnished to the Engineer as provided in Section 01782 – “Operations and Maintenance Data.” The instructions shall be prepared specifically for this installation and shall include all drawings, equipment lists, and descriptions that are required to instruct operating and maintenance personnel.

1.05 RELATED REQUIREMENTS

- A. Review relevant installation procedures under other sections and coordinate with the Work related to this Section.
- B. Section 01330 – “Submittal Procedures”
- C. Section 01782 – “Operations and Maintenance Data”

1.06 QUALITY ASSURANCE

- A. Assemble and test equipment at factory prior to shipment.
- B. Materials used and products furnished shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Engineer.

1.07-1.13 (NOT USED)

PART 2 PRODUCTS

2.01 MANUFACTURER(S)

- A. The Emergency Eyewash and Shower equipment shall be as manufactured by:
 - 1. Speakman
 - 2. Bradley
 - 3. Encom Safety Products
 - 4. B-L-S Industries, Inc.
 - 5. Or Approved Equal
- B. The Tankless Water Heater equipment shall be as manufactured by:
 - 1. Eemax
 - 2. Or Approved Equal
- C. The Alarm System equipment shall be as manufactured by:
 - 1. Haws Corporation
 - 2. Or Approved Equal

2.02 MATERIALS AND/OR EQUIPMENT

A. General Requirements:

Safety Shower

Description	Performance Requirements
Shower Height	Not less than 82" nor more than 96" from standing level
Water Spray Pattern	20" minimum diameter – 60" from standing level
Center of Water Spray	16" from any obstruction
Water Delivery - Potable	Minimum 20 GPM/meeting water spray pattern/equipped with in-line orifice for dual shower/eyewash operation
Control Valve & Actuator	Stay ON type – OFF to ON one second – easily located
Location to Hazard	Maximum 10 seconds from hazard
Identification	Well lighted, sign area around painted bright color

Eye/Face Wash

Description	Performance Requirements
Water Delivery - Potable	Minimum of 3 GPM – dual stream flushing
Velocity	Soft spent stream (non-injurious to the user)
Location to Hazard	Maximum 10 seconds from hazard
Nozzles	Covers to protect from airborne contaminants
Nozzle Heights	Not less than 33" nor more than 45" from standing level
Control Valve & Actuator	Stay ON type – OFF to ON one second – easily located
Identification	Well lighted, sign area around painted bright color

B. Freeze Protected Emergency Shower

1. Provide a freeze protected shower with self-limiting heat trace cable, five watts per foot. See "ATTACHMENT" for more details on manufacturer, model number and associated information.
2. Supply voltage: 120VAC.
3. Electrical Components:

Underwriters Laboratories (UL) listed and Canadian Standards Association (CSA) approved.
4. High visibility yellow, UV inhibited, ABS plastic covers, completely removable for field maintenance.
5. Insulation:

Closed cell insulation protected by field removable fiberglass or PVC enclosure. Enclosure penetrations shall be waterproof.
6. Identification:

Shower/eyewash unit shall be identified with a sign "Emergency Shower, Eye and Face Wash" integral with the unit. Provide a location light.
7. Provide integral heater to maintain shower and eyewash temperature at 85°F at rated flow.

C. Tankless Water Heater

1. Provide a tankless electric water heater to be used to heat the water to required temperatures to meet ANSI Z358.1. See "ATTACHMENT" for more details on manufacturer, model number and associated information.
2. Units shall be installed as shown on Plans.
3. Electrical Requirements: 72 kW, 480 Volts, 3 phase
4. Outdoor units shall be supplied in NEMA 4 enclosures.
5. The unit shall have a microprocessor that controls temperature to +/- 1 degree accuracy and that continuously monitors outlet temperature and adjusts output for variation in flow and pressure. The unit shall fail to cold supply on electrical failure.
6. The unit shall activate in stages to all eye/face wash and drench shower to activate independently and maintain outlet temperature selected. Unit shall

include thermostatic control of outlet temperature. The unit shall be designed to allow replacement of heater cartridge inserts.

D. Alarm System:

1. Provide emergency alarm and light system with amber flashing light and 90 db at ten feet buzzer operated by flow switch. See "ATTACHMENT" for more details on manufacturer, model number and associated information.
2. Alarm:

Hermetically sealed plezo alarm, 120 volt, 150 beeps per minute, rated 90 db at ten feet, 50 mA/120 VAC.
3. Alarm flow switch:

125/250V, 5 amp single pole, double throw for alarm system. 1¼" IPS.
4. Light:

Weather-proof amber light; flashes when triggered. Rated 40 watts 120 VAC.
5. Provide extra set of electrical contacts for remote alarm lookup compatible with SCADA system.

2.03-2.04 (NOT USED)

PART 3 EXECUTION

3.01-3.02 (NOT USED)

3.03 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

Install equipment supplied under this Section and its accessories as per manufacturer's printed instructions, Shop Drawings, and recommendations.

3.04-3.10 (NOT USED)

END OF SECTION

ATTACHMENT

[Design Engineer is to complete blanks per site requirements]

- A. Freeze Protected Emergency Shower
1. Manufacturer: _____
 2. Model No.: _____
 3. Heat Trace Cable (feet): _____
 4. Identification Light (Type/Size): _____
- B. Tankless Water Heater
1. Manufacturer: Eemax
 2. Model No.: EX720T12 EFD/Combo
 3. kW: 72 kW
 4. Volts/Phase: 480 V / 3 phase
- C. Alarm System:
1. Manufacturer: Haws Corporation
 2. Model No.: Model 9001
 3. Identification Light (Type/Size): _____

END OF SECTION