# PRO-GUARD
# Emergency Shower

# Operation & Maintenance Manual

00102.R0.OM.12.08

## Why are emergency showers or eyewash stations important?

The first 10 to 15 seconds after exposure to a hazardous substance, especially a corrosive substance, are critical. Delaying treatment, even for a few seconds, may cause serious injury.

Emergency showers and eyewash stations provide on-the-spot decontamination. They allow workers to flush away hazardous substances that can cause injury.

*- www.ccohs.ca*

**Please Note:** Axiom Industrial Manufacturing manufactures and sells emergency shower equipment and is not licensed or accredited as a health and/or safety specialist. Accordingly, you may wish to enlist the services of an accredited expert concerning compliance to the ANSI Z358.1 emergency equipment standards. The information contained in this publication is intended for general information purposes only. This publication is not a substitute for review of the applicable regulations and standards, and should not be construed as legal advice or opinion. Readers with specific questions should consult with their local authority having jurisdiction.

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# 1. INTRODUCTION

Since there is no Canadian standard for emergency showers and eyewash stations, the ANSI/ISEA Z358.1-2009 was used in preparing this document.

ANSI/ISEA Z358.1 2009 "Standard for Emergency Eyewash & Shower Equipment" is the technical standard in North America that outlines what employers must consider, should the potential exist for accidental occupational chemical exposure to the eyes or body.

## 1.1. Standards

***PRO-GUARD* Emergency Showers** are designed in accordance to the intent of the following Standards to provide immediate emergency response when exposed to a hazardous substance:

- ANSI/ISEA Z358.1 2009 – Emergency Eyewash & Shower Equipment
- OHS Standards 62 / 2003 Part 10, Section 165 Part 4, Section 27
- Alberta Safety Codes Act – Alberta Reg. 448 / 93 General Safety Regulation
- Canadian Welding Bureau 47.1
- API Recommended Practice 54, 3rd Edition
- OSHA 29 CFR 1910.15-c – Suitable Facilities for Quick Drenching or Flushing of the Eyes and Body

If a worker may be contaminated by harmful substances at a work site, the employer must provide the facilities, including showers, the worker needs to remove the contamination before the worker leaves the work site. *– Occupational Health and Safety Code 2009, Section 23*

# 2. Owners' Responsibilities

## 2.1. Off-loading

- It is the responsibility of the customer to arrange for appropriate off-loading capabilities once your ***PRO-GUARD*** **Emergency Shower** arrived at site.
- Most ***PRO-GUARD*** **Emergency Showers** can be offloaded with a forklift with a lift capacity of 6,000 lbs (2,725 kg)
- For all Delivery Requirements see Section Delivery on Page 12 below.

## 2.2. Permits

- Consult the local occupational health and safety, fire protection, and environmental protection legislation in your jurisdiction regarding relevant requirements for installing your ***PRO-GUARD*** **Emergency Shower**.

## 2.3. Electrical

- It is the responsibility of the owner to confirm that the appropriate phase, voltage, breakers and service are provided for your ***PRO-GUARD*** **Emergency Shower**.

## 2.4. Employee Training

- Employees who may be exposed to hazardous materials shall be instructed in the location and proper use of emergency showers.
- Written work procedures should be available to all employees and posted close to the ***PRO-GUARD*** **Emergency Shower**.
- Training should include instruction in contact lens removal.

## 2.5. Documentation

- Be sure to update your Company's Emergency Response Plan & Safety Manual to include the installation, use and maintenance of an Emergency Shower.

> Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use. *– Code of Federal Regulations CFR 1910.151(c)*

# 3. MODELS

## 3.1. Self-Contained Shower System

- Designed for outdoor applications for when a continuous water supply is not available.
- Self-contained and heated water supply.
- Steel shell insulated to maintain consistent room temperature.
- Able to relocate with ease.

## 3.2. Uninterrupted Water Supply Models

- Designed for outdoor applications when there is a continuous water supply available.
  - Note: All water supply lines must be provided to meet the ANSI minimum flow requirements at 30-90 PSI.
- Steel shell insulated to maintain consistent room temperature.
- Able to relocate with ease.

## 3.3. Open Air Interior Models

- Designed for indoor applications in a heated area.
- Tank and shower components only (no enclosure).
- Heated fluid tank (to maintain a tepid flushing fluid supply) plumbed with a high speed pump.
- Some assembly is required at site.

## 3.4. Self-Contained Shower System

- Combines storage areas, change rooms, processing areas or decontamination capabilities with a self –contained shower system
- Designed primarily for outdoor applications.
- Self-contained and heated water supply.
- Outer Shell insulated to maintain consistent room temperature.
- Able to relocate with ease.

**All Models are available in either General Purpose or C1D2 Electrical Configurations.**

# 4. Equipment

## 4.1. Standard Features

- All Steel Construction
- Insulated Enclosure (on enclosed models)
- Emergency Eyewash, Shower and Drench Hose System
- Heavy Duty Sump
- 600 gallon Water Tank
- 3" Capped Drain
- Dual Swing Impact Doors (on enclosed models)
- Fixed Windows (on enclosed models)
- Floor Grating
- Tank Temperature Gauge
- Interior Lighting Package (on enclosed models)
- Audible and Visible Alarms
- Emergency Activation Switch

## 4.2. Flushing Sources & Fluid

***Control Valves***

- All control valves shall be readily accessible, simple to operate and shall go from 'off' to 'on' in 1 second or less.

***Temperature***

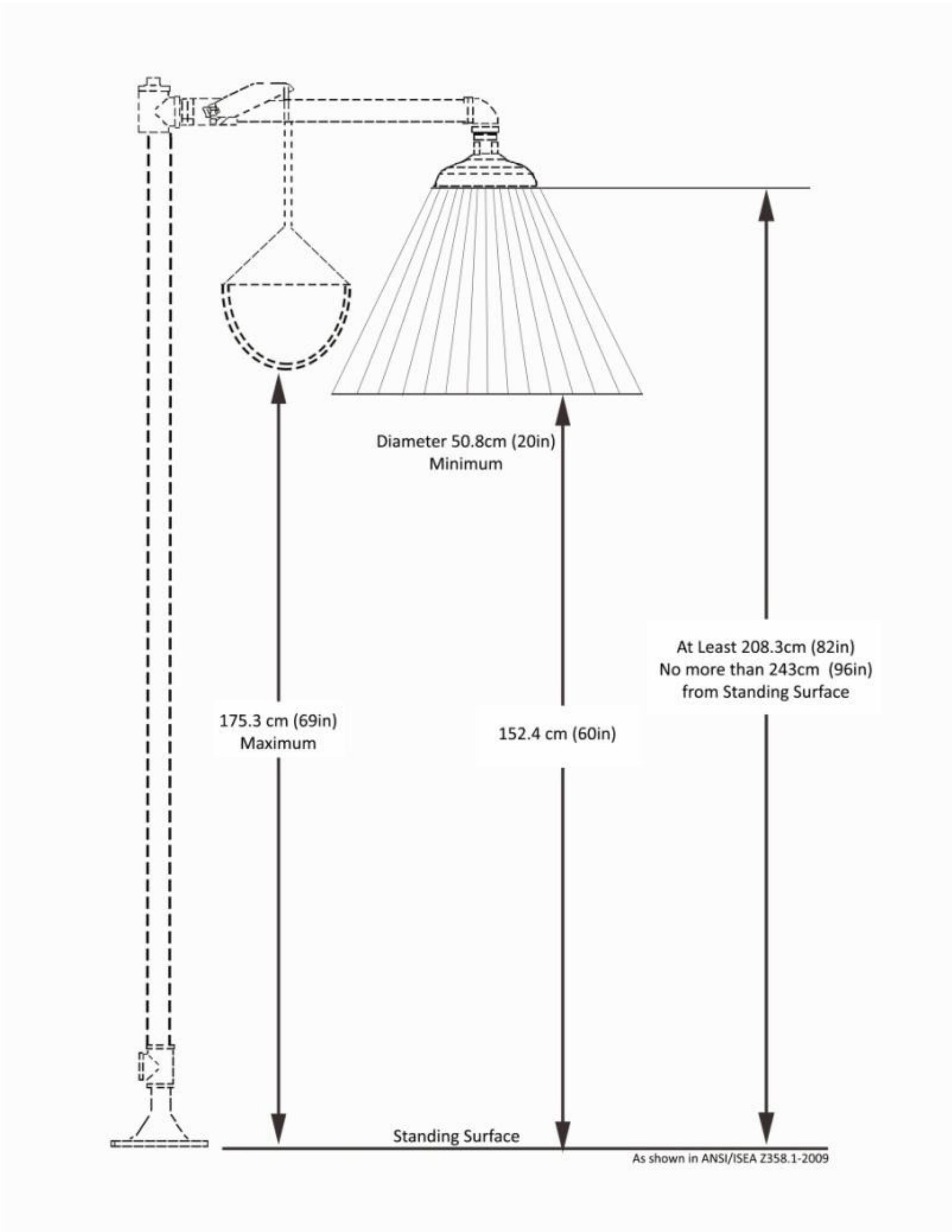
- All systems must be capable of delivering tepid flushing fluid.
- Tepid, as defined in ANSI/ISEA-Z358.1-2009 is: a flushing fluid temperature conducive to promoting a 15 min irrigation period. A suitable range is 16 - 38°C (60 - 100°F).
- Temperatures in excess of 38°C (100°F) have proven to be harmful to the eyes and can enhance chemical interaction with the skin and eye tissue.
- While cold flushing fluid temperatures provide immediate cooling after chemical contact, prolonged exposure to cold fluids affect the ability to maintain adequate body temperature and can result in the premature cessation of first aid treatment. Recent information indicates that a temperature of 16°C (60°F) is suitable for the lower parameter for tepid flushing fluid without causing hypothermia to the equipment user.

***Spray Pattern and Spray Volume***

- Overhead shower outlets shall have a spray pattern with a minimum diameter of 50.8 cm (20 in) at 152.4 cm (60 in) above the surface on which the user stands. It will be capable of delivering flushing fluid at a minimum of 75.7 litres / minute (20 gpm) for a minimum time of 15 minutes.
- Eyewash equipment shall be positioned with the nozzles not less than 83.6 cm (33 in) and no greater than 114.3 cm (45 in) from the surface on which the user stands. It must provide

flushing fluid to both eyes simultaneously at a volume of not less than 1.5 litres / minute (0.4 gpm) for 15 minutes.

- Drench hoses shall meet the requirements of the figure below (taken from ANSI/ISEA-Z358.1-2009 section 8.2) at the pressure and flow specified by the manufacturer.



***Flushing Fluid***

As defined in ANSI/ISEA-Z358.1-2009 acceptable flushing fluid can be any of the following:

- Potable water (drinking water),
- Preserved water,
- Preserved buffered saline solution, or
- Other medically acceptable solution manufactured and labeled in accordance with applicable government regulations

When potable water is used as a flushing fluid, regular solution replacement and or quality testing is strongly recommended as bacteria can grow rapidly in standing flushing fluid.

## 4.3. Audible and Visible Alarms

- The installation of audible and visual alarms is highly recommended as they can alert other workers when the emergency shower or eyewash station is being used.

## 4.4. Shut-off Valves

- If shut-off valves are installed on the supply line for maintenance purposes, provisions must be in place to prevent unauthorized shut-off. Lock-out Tag-out devices are the most common method to secure shut-off valves.

## 4.5. Spill / Waste Control

- It is the responsibility of the owner to provide for spill control, secondary containment and / or proper drainage control systems in accordance with the local health & safety, fire protection and environmental protection legislation.
- Proper disposal of contaminated flushing fluid must be considered when installing new equipment. Drainage, freezing temperatures, pollutants, and elevated showers are some factors to consider. Consult with your local authorities for additional guidance on the proper wastewater disposal.

**Note:** The sump capacity of the ***PRO-GUARD*** Emergency Shower will NOT contain the total volume of the flushing fluid tank.

## 4.6. Optional Equipment Available

Please check your ***PRO-GUARD*** **Emergency Shower** to determine if any of the following options have been installed.

- High Capacity Flushing Fluid Tank
- High Capacity Sump
- High Capacity Pump
- Inline Water Heater System
- Subzero Insulation Package
- Mobile Mount Package
- Access Ramp
- UV Decontamination
- Electrical Packages in GP, C1D2 or C1D1 configurations
- Space Heater
- Step Down Power Transformer
- Automated Floor or Door Activation Sensors

# 5. Installation

## 5.1. Emergency Shower Placement

ANSI/ISEA Z358.1-2009 recommended installation requirements:

- Be in accessible locations that require no more than 10 seconds to reach.
- ANSI recognizes that the average person covers a distance of approximately 16-17 meters (55 feet) in 10 seconds.
- Located on the same level as the hazard and the path of travel shall be free of obstructions that may inhibit its immediate use.
- Be located in an area identified with a highly visible sign and the area shall be well-lit.
- "Where highly corrosive chemicals are used, an emergency shower and eyewash station may be required within 3 - 6 meters (10 - 20 ft) from the hazard." – www.CCOHS.ca

Other recommendations include that the emergency shower or eyewash station should:

- Be located as close to the hazard as possible
- Be located near an emergency exit where possible so that any responding emergency response personnel can reach the victim easily.
- Be located in an area where further contamination will not occur
- Provide a drainage system for the excess water (remember that the water may be considered a hazardous waste and special regulations may apply).
- Be free of contact with any electrical equipment that may become a hazard when wet
- Be protected from freezing when installing emergency equipment outdoors.

## 5.2. Delivery

Upon delivery, please ensure that your ***PRO-GUARD* Emergency Shower** has arrived in its proper condition before signing off on the waybill. Any problems must be documented on the driver's waybill. We recommend that your authorized personnel be present at off-loading.

- Inspect the product prior to off-loading
- Any damage must be noted on the driver's copy of the waybill
- If damage appears to be from the method of tying down the load, please document how the load was tied
- Take pictures of any damage to fully document
- Notify the trucking company and your dealer promptly of any damage that has occurred
- Also note on waybill (if driver has not) time of arrival, and the time off-loading was completed. This is especially important if the truck was late.
- Remove all shipping material and restraints.

## 5.3. Emergency Shower Activation

| Description | Code | Complies |
|---|---|---|
| Shower accessible within 10 seconds of hazard (approx 16 meters (55 feet)) | 4.5.2 | ❑ |
| Station is well lit and designated by highly visible signage | 4.5.3 | ❑ |
| Shower on same level as hazard and is free of obstruction | 4.5.2 | ❑ |
| All employees subject to exposure have been instructed in the location and use of emergency equipment | 4.6.4 | ❑ |
| Eyewash outlets are protected from contamination | 5.1.3 | ❑ |
| Showerhead must be 208.3-243.8 cm (82-96 in) from standing surface. | 4.1.3 | ❑ |
| Fill the unit with flushing solution | 4.4.2 | ❑ |
| Connect a flow meter to the unit to be tested or proved other means of measuring flushing fluid flow | 4.4.2 | ❑ |
| Open the valve on the unit and verify that it fully opens in one second or less and that it stays open | 5.2 | ❑ |
| Determine that the flushing fluid is substantially dispersed throughout the pattern. | | ❑ |
| The flushing fluid column pattern shall be at least 208 cm (82 in) and not more that 243.8 (96 in) from the surface on which the user stands. | | ❑ |
| Throughout the 15-minute test, verify that the flow rate is a minimum of 75.7 liters per minute (20 gpm). | 4.1.2 | ❑ |
| Measure the diameter of the flushing fluid pattern 152.4 cm (60 in) above the surface on which the user stands. The diameter shall be a minimum of 50.8 cm (20 in.). | 4.1.4 | ❑ |
| Using a temperature gauge, determine that the flushing fluid is tepid 16 - 38°C (60 - 100°F). | 4.5.6 | ❑ |
| Eye/face wash equipment must deliver minimum of 11.4 Litres (3 gallons) per minute of water for 15 minutes | 6.1.6 | ❑ |
| Eyewash only must deliver minimum of 1.5 Liters (.4 gallon) per minute for 15 minutes. | 5.1.6 | ❑ |
| Combination unit components shall be capable of operating simultaneously and shall be positioned so that components may be used simultaneously by the same user. | 7.3 | ❑ |
| Drench hose must deliver a controlled flow of flushing fluid at a velocity low enough to be non-injurious. | 8.2.1 | ❑ |
| When draining testing fluid be sure to drain away from walking locations, so as not to create a hazard. | | ❑ |

| | | | |
|---|---|---|---|
| Performed by: | | Date: | |

Record all maintenance inspections and keep records.

# 6. Maintenance

***PRO-GUARD*** **Emergency Showers** should be maintained and tested in accordance to ANSI/ISEA-Z358.1-2009 “Emergency Eyewash & Shower Equipment”.

The maintenance schedules within this manual have been provided as samples only and not a substitute for review of the applicable regulations and standards, and should not be construed as legal advice or opinion.

Be sure to review Company Policies and Safety Procedures to ensure they are updated to include the use and maintenance of an Emergency Shower.

Plumbed units should be activated on a weekly basis long enough to be sure flushing fluid is provided.

Self-contained units do not require activation weekly, but require a visual inspection to verify adequate flushing fluid is available.

## 6.1. Sample Weekly Inspection Report

| Description | | | Complies |
|---|---|---|---|
| Station is well lit and designated by highly visible signage | | | ❑ |
| Shower on same level as hazard and is free of obstruction | | | ❑ |
| Shower is installed on a level surface accessible to Emergency Responders | | | ❑ |
| All employees subject to exposure have been instructed in the location and use of emergency equipment. | | | ❑ |
| It is determined by using MSDS of known harmful substances the best course of action in the event of an emergency. | | | ❑ |
| Company Emergency Response Plan includes use of Emergency Shower | | | ❑ |
| Spare coveralls are available in the event that employee clothes are contaminated | | | ❑ |
| Eyewash outlets are protected from contamination | | | ❑ |
| Door hardware opens smoothly and efficiently | | | ❑ |
| Electrical options are in working condition; | | | ❑ |
| o Interior light | | | ❑ |
| o Space Heater works and maintains desired temperature | | | ❑ |
| Upon activation of the Emergency Activation Switch | | | ❑ |
| o Interior light comes ON | | | ❑ |
| o Audible and Visible Alarms are operational | | | ❑ |
| Flushing fluid tank is full | | | ❑ |
| Using a temperature gauge, determine that the flushing fluid is tepid 16 - 38°C (60 - 100°F). | | | ❑ |
| For Plumbed Units, also use the 'Emergency Shower Activation" List on a weekly basis. | | | ❑ |
| When draining testing fluid be sure to drain away from walking locations, so as not to create a hazard. | | | ❑ |
| Performed By: | | Date: | |

Record all maintenance inspections and keep records.

## 6.2. Sample Annual Inspection Report

| Description | Complies |
|---|---|
| Station is well lit and designated by highly visible signage | ❑ |
| Shower on same level as hazard and is free of obstruction | ❑ |
| Shower is installed on a level surface accessible to Emergency Responders | ❑ |
| All employees subject to exposure have been instructed in the location and use of emergency equipment. | ❑ |
| It is determined by using MSDS of known harmful substances the best course of action in the event of an emergency. | ❑ |
| Company Emergency Response Plan includes use of Emergency Shower | ❑ |
| Spare coveralls are available in the event that employee clothes are contaminated | ❑ |
| Eyewash outlets are protected from contamination | ❑ |
| Door hardware opens smoothly and efficiently | ❑ |
| Electrical options are in working condition; | ❑ |
| o Interior light | ❑ |
| o Space Heater works and maintains desired temperature | ❑ |
| Upon activation of the Emergency Activation Switch | ❑ |
| o Interior light comes ON | ❑ |
| o Audible and Visible Alarms are operational | ❑ |
| Flushing fluid tank is full | ❑ |
| Using a temperature gauge, determine that the flushing fluid is tepid 16 - 38°C (60 - 100°F). | ❑ |
| Showerhead must be 208.3-243.8 cm (82-96 in) from standing surface. | ❑ |
| Fill the unit with flushing solution | ❑ |
| Connect a flow meter to the unit to be tested or proved other means of measuring flushing fluid flow | ❑ |
| Open the valve on the unit and verify that it fully opens in one second or less and that it stays open | ❑ |

| | |
|---|---|
| Determine that the flushing fluid is substantially dispersed throughout the pattern. | ☐ |
| The flushing fluid column pattern shall be at least 208 cm (82 in) and not more that 243.8 (96 in) from the surface on which the user stands. | ☐ |
| Throughout the 15-minute test, verify that the flow rate is a minimum of 75.7 liters per minute (20 gpm). | ☐ |
| Measure the diameter of the flushing fluid pattern 152.4 cm (60 in) above the surface on which the user stands. The diameter shall be a minimum of 50.8 cm (20 in). | ☐ |
| Using a temperature gauge, determine that the flushing fluid is tepid 16 - 38°C (60 - 100°F). | ☐ |
| Eye/face wash equipment must deliver minimum of 11.4 Litres (3 gallons) per minute of water for 15 minutes | ☐ |
| Eyewash only must deliver minimum of 1.5 Liters (.4 gallon) per minute for 15 minutes. | ☐ |
| Combination unit components shall be capable of operating simultaneously and shall be positioned so that components may be used simultaneously by the same user. | ☐ |
| Drench hose must deliver a controlled flow of flushing fluid at a velocity low enough to be non-injurious. | ☐ |
| When draining testing fluid be sure to drain away from walking locations, so as not to create a hazard. | ☐ |
| Tank is clean and free of contaminants (inclusive of bacteria) | ☐ |
| Local legislation has not been revised since the previous inspection | ☐ |

| | | | |
|---|---|---|---|
| Performed By: | | Date: | |

Record all maintenance inspections and keep records.

Should you have any questions or concerns regarding your ***PRO-GUARD*** **Emergency Shower** please contact us:

**Pro-Guard Environmental Solutions**
*A division of: Axiom Industrial Manufacturing*
403.227.2820

http://pro-guard.ca

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*webpage*

# Appendix A:

## *Assembly Drawing & Specifications*

## 7.1. PRO-GUARD Emergency Shower Construction Specifications

**Structural Minimums:**

- Welding: CAN / CSA W47.1-92 and CAN / CSA W59-M1989
- Structural Steel: CAN / CSA G40.21-M92
- Steel Design: CAN / CSA S16.1-M89
- Structural Members: CAN / CSA S136
- Sheet Steel: ASTM A36M-87

**Sump / Floor Construction:**

- steel floor continuous weld and hydro tested

**Wall Construction:**

- 12 ga. welded steel cross broke wall panels
- All exterior seams caulked with chemical resistant sealant

**Roof Construction:**

- Steel with HSS frame
- All seams continuous weld

**Finish and Coatings:**

- Abrasives - #4 Silica Sand (40-60 MESH)
- Surface Prep SSPC-SP6
- Primer - Intermix 3:1
- Top Coat – Polyurethane

**Design Standards:**

- ANSI / ISEA Z358.1 2009 – Emergency Eyewash & Shower Equipment
- OHS Standards 2009 Part 10, Section 165 Part 4, Section 27
- Alberta Safety Codes Act – Alberta Reg. 448 / 93 General Safety Regulation
- Canadian Welding Bureau 47.1
- API Recommended Practice 54, 3rd Edition
- OSHA 29 CFR 1910.15-c – Suitable Facilities for Quick Drenching or Flushing of the Eyes and Body

# Appendix B:

## *Third Party Equipment*

# 8. Appendix B: Third Party Equipment

For all third party equipment used in the design of your product, please refer to the electronic data package that was sent upon completion of your shower. If you require a printed version, please contact us.

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*in us on*
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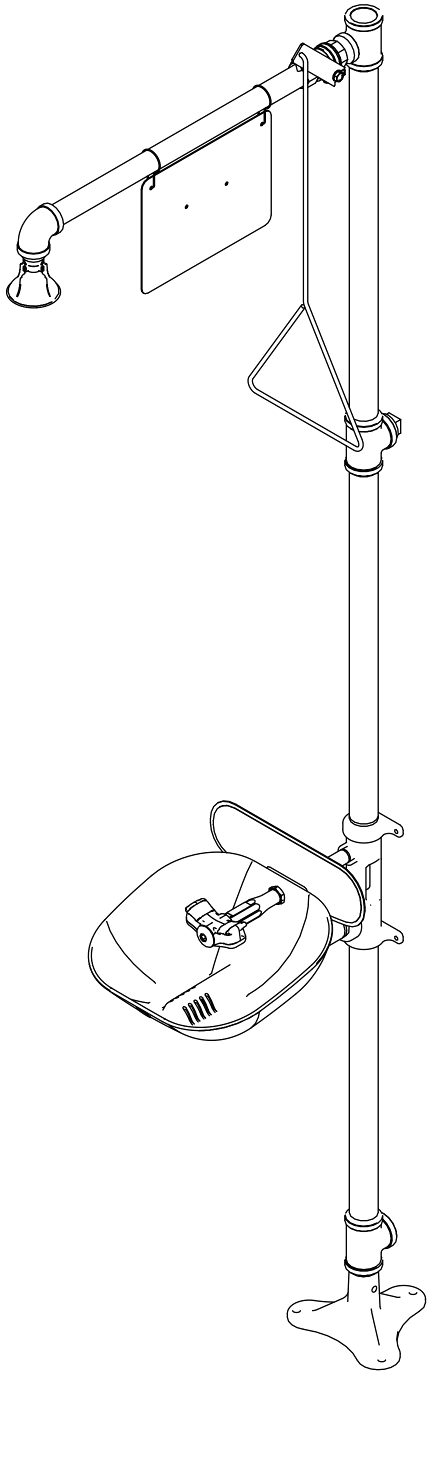
# Installation



## S19314 Series

### Halo™ Combination Drench Shower and Eyewash or Eye/Face Wash

Bradley

P.O. Box 309, Menomonee Falls, WI USA 53052-0309
800 BRADLEY (800 272 3539) +1 262 251 6000
bradleycorp.com

*215-1684 Rev. P; ECN 15-05-019*

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## WARNING

**Flush the water supply lines before beginning installation and after installation is complete. Test the unit for leaks and adequate water flow. Main water supply to the eyewash should be "ON" at all times. Provisions shall be made to prevent unauthorized shutoff.**

## CAUTION

**Emergency equipment must be supplied with tepid water (60°F to 100°F/15.6°C to 37.8°C). Any prolonged exposure to near freezing water affects the body's ability to maintain body temperature, increasing the risk of hypothermia.**

## NOTICE

**Before installing this product, ensure that there are adequate clearances around the product and activation of the product does not interfere with other products or obstructions.**

**Avoid cleaners containing organic solvents, alcohols and hydrocarbons. Rinse with water after cleaning.**

## IMPORTANT

**The installation and location of all safety drench showers, eye and eye/face washes must comply with the requirements of ANSI/ISEA Z358.1.**

**Read this installation manual completely to ensure proper installation, then file it with the owner or maintenance department. Compliance and conformity to drain requirements and other local codes and ordinances is the responsibility of the installer.**

**Separate parts from packaging and make sure all parts are accounted for before discarding any packaging material. If any parts are missing, do not begin installation until you obtain the missing parts.**

**The ANSI/ISEA Z358.1 standard requires an uninterrupted supply of flushing fluid. Bradley plumbed emergency fixtures require a minimum of 30 PSI (0.21MPa) flowing pressure.**

**Self-closing spring-loaded valves are not UL classified to ANSI/ISEA Z358.1.**

**Weekly activation must be conducted on all plumbed emergency equipment to ensure a suitable flushing fluid supply is present and any sediment build-up in the supply line is cleared. Emergency equipment should be inspected monthly to address any maintenance issues ensuring the equipment is in good operating condition and that there are no signs of wear.**

**Workers who may come in contact with potentially hazardous materials should be trained regarding the placement and proper operation of emergency equipment per ANSI/ISEA Z358.1.**

**For questions regarding the operation or installation of this product, visit www.bradleycorp.com or call 800-BRADLEY (272.3539).**

**Product warranties and parts information may also be found under "Products" on our web site at bradleycorp.com.**

## Supplies Required:

- (3) ⅜" floor anchors and bolts
- Teflon tape and pipe sealant
- 30 PSI (2.0 bar) min/90 PSI (6.1 bar) max flow pressure
- 125 PSI (8.6 bar) max static pressure
- Piping to 1¼" NPT (BSPP) water supply inlet (30–90 psi [2.0-6.1 bar])
- Piping to 1¼" NPT drain outlet on unit (if included with unit)
- Adequate supply pipe supports
- Provisions to dispose of shower waste water (minimum 30 gallons [115 liters]) should be made (minimum 4" [102mm] drain.
- OPTIONAL: sign-mounting hardware
- DVGW certified teflon tape (for DVGW certified models only)

✔ *Local codes may require the installation of a backflow prevention valve to complete proper installation. Compliance with local codes is the responsibility of the installer. Valve must be tested annually to verify that it is functioning properly. Backflow prevention valves are not included with the fixture and may be supplied by the contractor or purchased from Bradley Corporation.*

## Halo Pre-Configured Models

| Halo Model Number | Description | UL certified to ANSI/ISEA | Intertek certified to EN standards |
|---|---|---|---|
| **Eyewashes** | | | |
| ☐ S19314EW | Halo Eyewash, plastic showerhead & bowl | X | X |
| ☐ S19314P* | Halo Eyewash, plastic showerhead & bowl w/ hose spray | X | X |
| ☐ S19314SB | Halo Eyewash, plastic showerhead, stainless steel bowl | X | X |
| ☐ S19314LL | Halo Eyewash, plastic showerhead, stainless steel bowl, hand/foot activated | X | X |
| ☐ S19314F | Halo Eyewash, plastic showerhead w/ stainless steel shroud & bowl | X | X |
| ☐ S19314UU | Halo Eyewash, plastic showerhead w/ stainless steel shroud & bowl, hand/foot operated eyewash | X | X |
| **Eyewashes with Dust Cover** | | | |
| ☐ S19314PDC | Halo Eyewash, plastic showerhead & bowl w/ dust cover | X | X |
| ☐ S19314DC | Halo Eyewash, plastic showerhead, stainless steel bowl & hinged dust cover | X | X |
| **Eye-Face Washes** | | | |
| ☐ S19314FW | Halo Eye/face wash, plastic showerhead & bowl | X | X |
| ☐ S19314SBFW | Halo Eye/face wash, plastic showerhead, stainless steel bowl | X | X |
| ☐ S19314AC | Halo Eye/face wash, plastic showerhead, stainless steel bowl, hand/foot operated eyewash | X | X |
| ☐ S19314TT | Halo Eye/face wash, plastic showerhead w/ stainless steel shroud & bowl | X | X |
| ☐ S19314SPR | Halo Eye/face wash, stainless steel showerhead & bowl, hand/foot operated eyewash | X | X |
| ☐ S19314BFPB | Halo Eye/face wash, barrier-free, plastic showerhead & bowl | X | X |
| ☐ S19314BF | Halo Eye/face wash, barrier-free, plastic showerhead, stainless steel bowl | X | X |
| **Eye-Face Washes with Dust Covers** | | | |
| ☐ S19314PDCFW | Halo Eye/face wash, plastic showerhead & bowl w/ dust cover | X | X |
| ☐ S19314DCFW | Halo Eye/face wash, plastic showerhead, stainless steel bowl & hinged dust cover | X | X |
| ☐ S19314DCBF | Halo Eye/face wash, barrier-free, plastic showerhead, stainless steel bowl w/ dust cove | X | X |
| **Eye-Face Washes without Eyewash Bowl** | | | |
| ☐ S19314GG | Halo Eye/face wash, plastic showerhead, no bowl | X | X |
| **All Stainless Steel Eye-Face Wash** | | | |
| ☐ S19314BFSS | Halo stainless steel eye/face wash and showerhead, barrier free | X | X |
| ☐ S19314FSS | Halo stainless steel eye/face wash and showerhead | X | X |
| ☐ S19314SC | Halo stainless steel eye/face wash, bowl, cover and showerhead | X | X |
| ☐ S19314SS | Halo stainless steel eye/face wash and showerhead with foot activation | X | X |
| ☐ S19314SS16 | Halo 316 stainless steel eye/face wash and showerhead with foot activation | X | X |

☑ *Models with BSPP threading available. For BSPP threading, add a Z to end of existing part number. For example, S19314EW will be S19314EWZ.*

# Halo Pre-Configured Models

✔ *All models with DIN-DVGW, AS4775 & AS/NZS 4020 Certification include stainless steel pipe material with BSPP threading.*

| Halo Model Number | Description | IAPMO Oceana certified to AS4775 & AS4020 | DIN-DVGW certified to DIN EN 15154-1 & DIN EN 15154-2 |
|---|---|---|---|
| **Eyewashes** | | | |
| ☐ S19314EWZS | Halo Eyewash, plastic showerhead & bowl | X | X |
| ☐ S19314SBZS | Halo Eyewash, plastic showerhead, stainless steel bowl | X | X |
| ☐ S19314LLZS | Halo Eyewash, plastic showerhead, stainless steel bowl, hand/foot activated | X | X |
| ☐ S19314FZS | Halo Eyewash, plastic showerhead w/ stainless steel shroud & bowl | X | X |
| ☐ S19314UUZS | Halo Eyewash, plastic showerhead w/ stainless steel shroud & bowl, hand/foot operated eyewash | X | X |
| **Eyewashes with Dust Cover** | | | |
| ☐ S19314PDCZS | Halo Eyewash, plastic showerhead & bowl w/ hinged dust cover | X | X |
| ☐ S19314DCZS | Halo Eyewash, plastic showerhead, stainless steel bowl & hinged dust cover | X | X |
| **Eye-Face Washes** | | | |
| ☐ S19314FWZS | Halo Eye/face wash, plastic showerhead & bowl | X | X |
| ☐ S19314SBFWZS | Halo Eye/face wash, plastic showerhead, stainless steel bowl | X | X |
| ☐ S19314ACZS | Halo Eye/face wash, plastic showerhead, stainless steel bowl, hand/foot operated eyewash | X | X |
| ☐ S19314TTZS | Halo Eye/face wash, plastic showerhead w/ stainless steel shroud & bowl | X | X |
| ☐ S19314SPRZS | Halo Eye/face wash, stainless steel showerhead & bowl, hand/foot operated eyewash | X | |
| ☐ S19314BFPBZS | Halo Eye/face wash, barrier-free, plastic showerhead & bowl | X | X |
| ☐ S19314BFZS | Halo Eye/face wash, barrier-free, plastic showerhead, stainless steel bowl | X | X |
| **Eye-Face Washes with Dust Covers** | | | |
| ☐ S19314PDCFWZS | Halo Eye/face wash, plastic showerhead & bowl w/ hinged dust cover | X | X |
| ☐ S19314DCFWZS | Halo Eye/face wash, plastic showerhead, stainless steel bowl & hinged dust cover | X | X |
| ☐ S19314DCBFZS | Halo Eye/face wash, barrier-free, plastic showerhead, stainless steel bowl w/ hinged dust cover | X | X |
| **Eye-Face Washes without Eyewash Bowl** | | | |
| ☐ S19314GGZS | Halo Eye/face wash, plastic showerhead, no bowl | X | X |
| **All Stainless Steel Eye-Face Wash** | | | |
| ☐ S19314BFSSZ | Halo stainless steel eye/face wash & showerhead, barrier free | X | |
| ☐ S19314FSSZ | Halo stainless steel eye/face wash & showerhead | X | |
| ☐ S19314SCZ | Halo stainless steel eye/face wash, bowl, cover & showerhead | X | |
| ☐ S19314SSZ | Halo stainless steel eye/face wash and showerhead with hand/foot activation | X | |
| ☐ S19314SS16Z | Halo 316 stainless steel eye/face wash and showerhead with hand/foot activation | X | |

# Halo Configurator

## Standard Selections (Must select one from each category)

**Configuration**

| | | |
|---|---|---|
| ☐ | **A** | Barrier Free ♿ |
| ☐ | **B** | 24" Drain Height |
| ☐ | **C** | 24" Drain Height, Barrier Free ♿ |
| ☐ | **0** | Standard, 6" Drain Height |

**Pipe Material**

| | | |
|---|---|---|
| ☐ | **A** | NPT, Yellow BradTect Galvanized Steel |
| ☐ | **B** | NPT, All 304 Stainless Steel |
| ☐ | **C** | NPT, All 316 Stainless Steel * |
| ☐ | **D** | NPT, Chrome-Plated |
| ☐ | **F** | BSPP, Yellow BradTect Galvanized Steel ‡ |
| ☐ | **G** | BSPP, All 304 Stainless Steel ‡ |
| ☐ | **J** | BSPP, Chrome-Plated ‡ |

**Ball Valve**

| | | |
|---|---|---|
| ☐ | **1** | Stay-Open Shower and Eyewash, Chrome-Plated Brass |
| ☐ | **2** | Stay-Open Shower and Eyewash, 316 SS |
| ☐ | **3** | Self-Closing Shower and Stay-Open Eyewash, Chrome-Plated Brass ** |

**Showerhead**

| | | |
|---|---|---|
| ☐ | **A** | Plastic Showerhead |
| ☐ | **B** | Plastic Showerhead with Plastic Shroud |
| ☐ | **C** | Plastic Showerhead with Stainless Steel Shroud |
| ☐ | **D** | 304 SS High Performance Showerhead |
| ☐ | **E** | 316 SS High Performance Showerhead |

**Eyewash – Eye/Face Wash**

| | | |
|---|---|---|
| ☐ | **A** | Halo Eyewash |
| ☐ | **B** | Halo Eye/Face Wash |
| ☐ | **D** | Halo Eyewash, 304 SS Yoke |
| ☐ | **E** | Halo Eye/Face Wash, 304 SS Yoke |
| ☐ | **F** | 304 SS Halo Eye/Face Wash, 304 SS Yoke |
| ☐ | **G** | Halo Eyewash, 316 SS Yoke |
| ☐ | **H** | Halo Eye/Face Wash, 316 SS Yoke |
| ☐ | **J** | 316 SS Halo Eye/Face Wash, 316 SS Yoke |

* Not available with barrier-free configurations.

** Self-closing valves are not ANSI/ISEA Z358.1 compliant.

‡ Not available in the U.S.

**Bowl and Dust Cover**

| | | |
|---|---|---|
| ☐ | **A** | Plastic Bowl, No Dust Cover |
| ☐ | **B** | Plastic Bowl, Plastic Dust Cover |
| ☐ | **D** | 304 SS, No Dust Cover |
| ☐ | **E** | 304 SS, 304 SS Dust Cover |
| ☐ | **F** | 304 SS, Plastic Dust Cover |
| ☐ | **G** | 316 SS, No Dust Cover |
| ☐ | **H** | 316 SS, 316 SS Dust Cover |
| ☐ | **J** | 316 SS, Plastic Dust Cover |
| ☐ | **0** | No Bowl or Dust Cover |

**Activation**

| | | |
|---|---|---|
| ☐ | **A** | 300 SS Handle |
| ☐ | **B** | 316 SS Handle |
| ☐ | **C** | 300 SS Handle, 300 SS Foot Pedal |
| ☐ | **D** | 300 SS Handle, 316 SS Foot Pedal * |
| ☐ | **E** | 316 SS Handle with 316 SS Foot Pedal * |

**Drench Hose and Backflow Prevention**

| | | |
|---|---|---|
| ☐ | **A** | Drench Hose Kit with Vacuum Breaker |
| ☐ | **B** | Drench Hose Kit with N9 Backflow Preventer |
| ☐ | **C** | Drench Hose Kit with 9D Backflow Preventer |
| ☐ | **D** | Drench Hose Kit without Backflow Preventer |
| ☐ | **0** | No Drench Hose and No Backflow Prevention |

**Freeze and Scald Protection**

| | | |
|---|---|---|
| ☐ | **N** | Anti-Freeze Valve |
| ☐ | **P** | Anti-Scald Valve |
| ☐ | **R** | Anti-Freeze and Anti-Scald Valves |
| ☐ | **0** | No Anti-Freeze Valve and No Anti-Scald Valve |

☑ *NPT = National Pipe Thread*

☑ *BSPP = British Standard Pipe Parallel Threads*

☑ *All selections made through the configurator are only UL certified to ANSI/ISEA Z358.1*

**How to Specify Model and Configurations for Bradley Halo Products:**

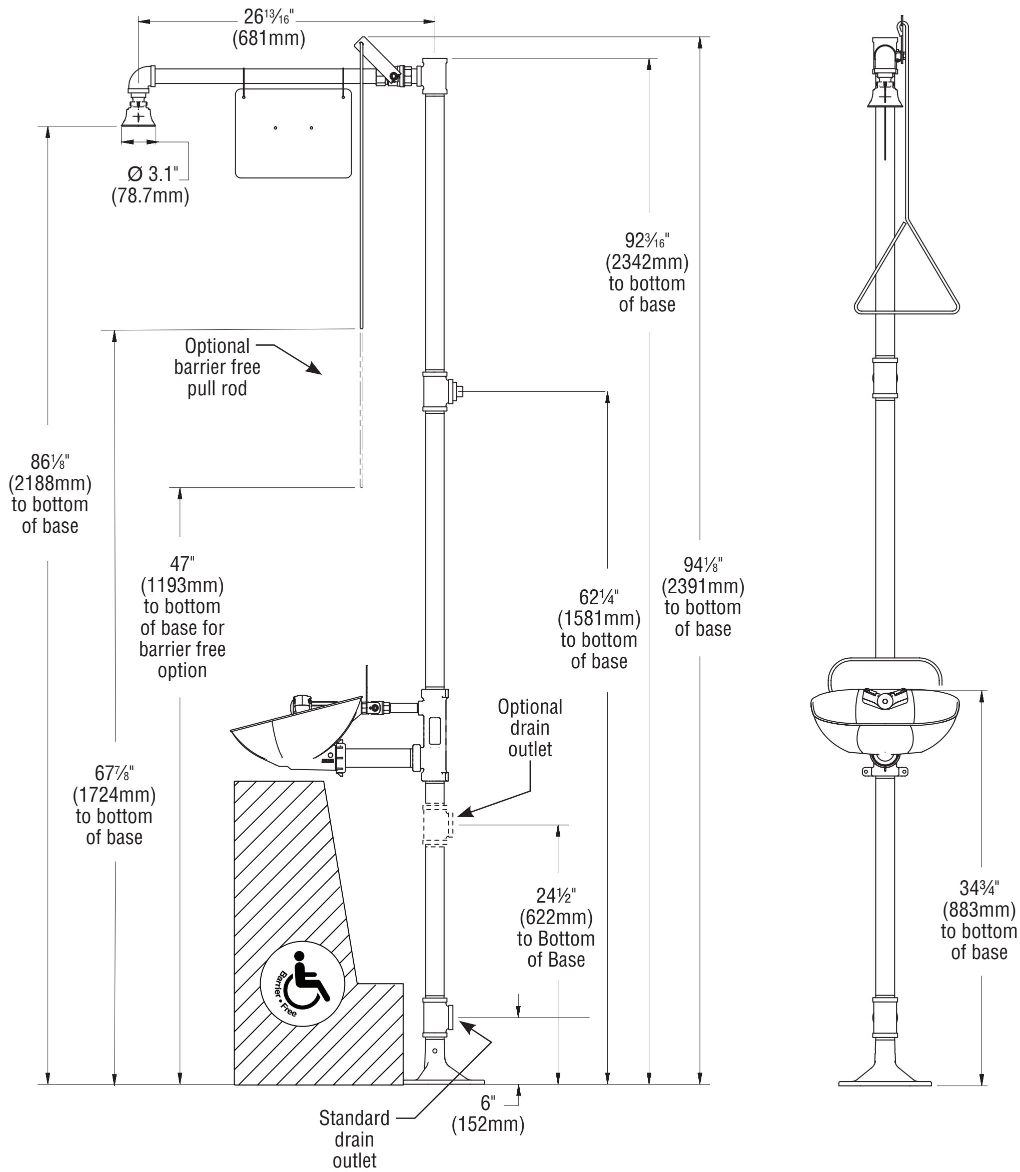
| S | 1 | 9 | 3 | 1 | 4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Model No. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . **S19314**

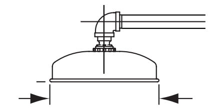
1. Configuration
2. Pipe Material
3. Ball Valve
4. Showerhead
5. Eyewash – Eye/Face Wash
6. Bowl and Dust Cover
7. Activation
8. Drench Hose and Backflow Prevention
9. Freeze and Scald Protection

# Dimensions

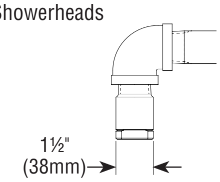
S19314 shown with Plastic Bowl and Plastic Showerhead



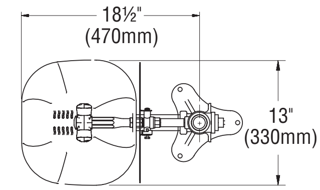

Plastic Showerhead with Plastic or Stainless Steel Shroud



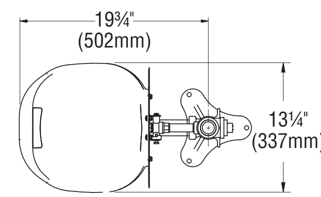

Type 304 and 316 Stainless Steel Showerheads




Eyewash Bowl




Dust Cover




✔ ***All dimensions assume standard thread engagement. Variations in manufacturing allow for +/- ⅛" (3mm) per threaded joint. To find the tolerance of a dimension, add the number of thread joints across the length of the dimension and multiply it by ⅛" (3mm).***

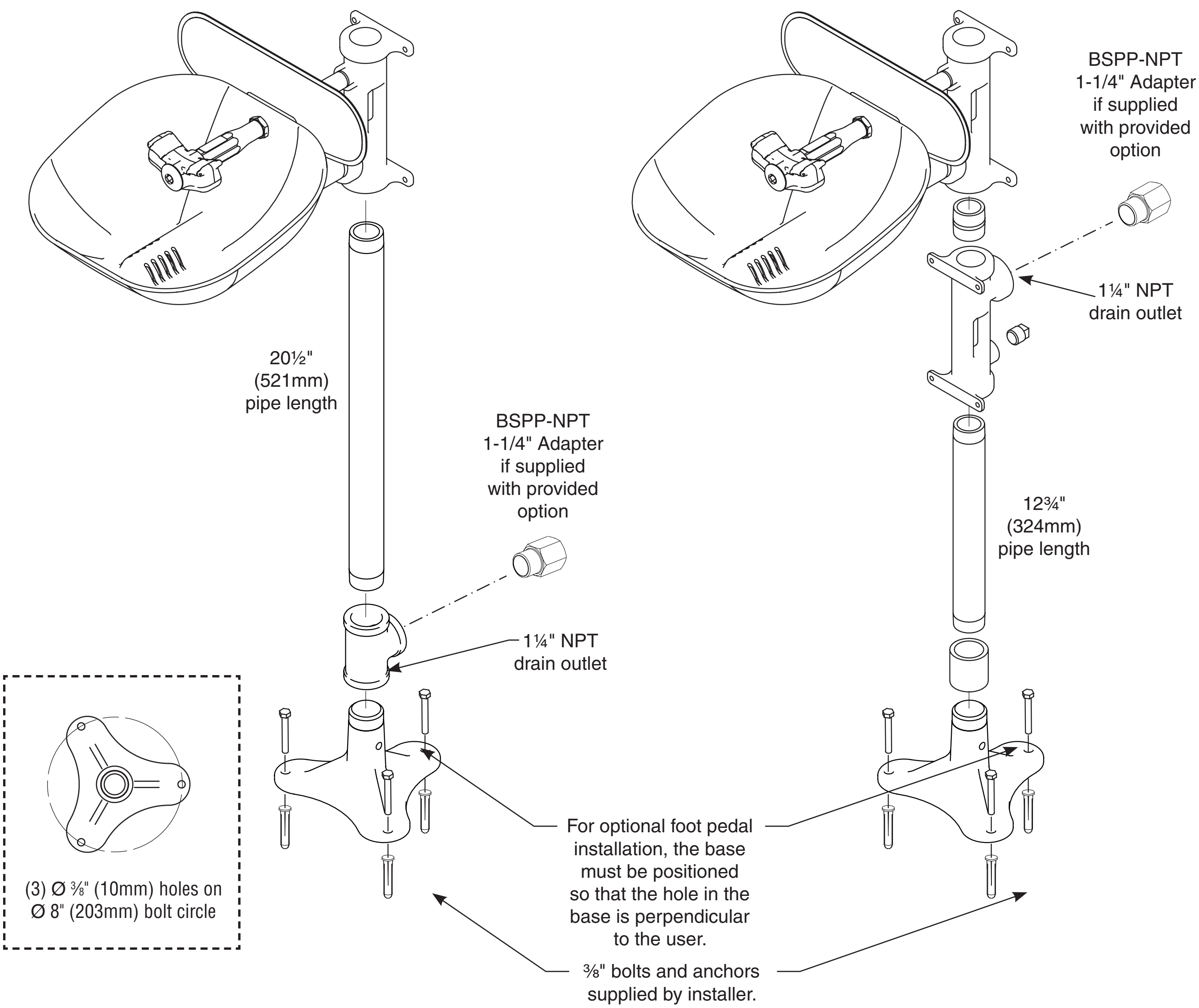
| **Water Flow Rate** | |
|---|---|
| Showerhead | 20–26 gpm |
| Eyewash | 4–5¼ gpm |
| Eye/Face Wash | 4–5¼ gpm |
| Body Wash | 2–8 gpm |

## 1 Assembly — Connect Base and Eyewash

- ✔ *Standard eyewash unit is shown. Other units are similar.*
- ✔ *Connect components before securing the base to the floor. When connecting components, use the rubber grip pad (provided) around pipes to prevent marring.*
- ✔ *Apply pipe sealant (supplied by installer) to all male-threaded pipe joints, making sure not to get any excess over the edge of the pipes.*

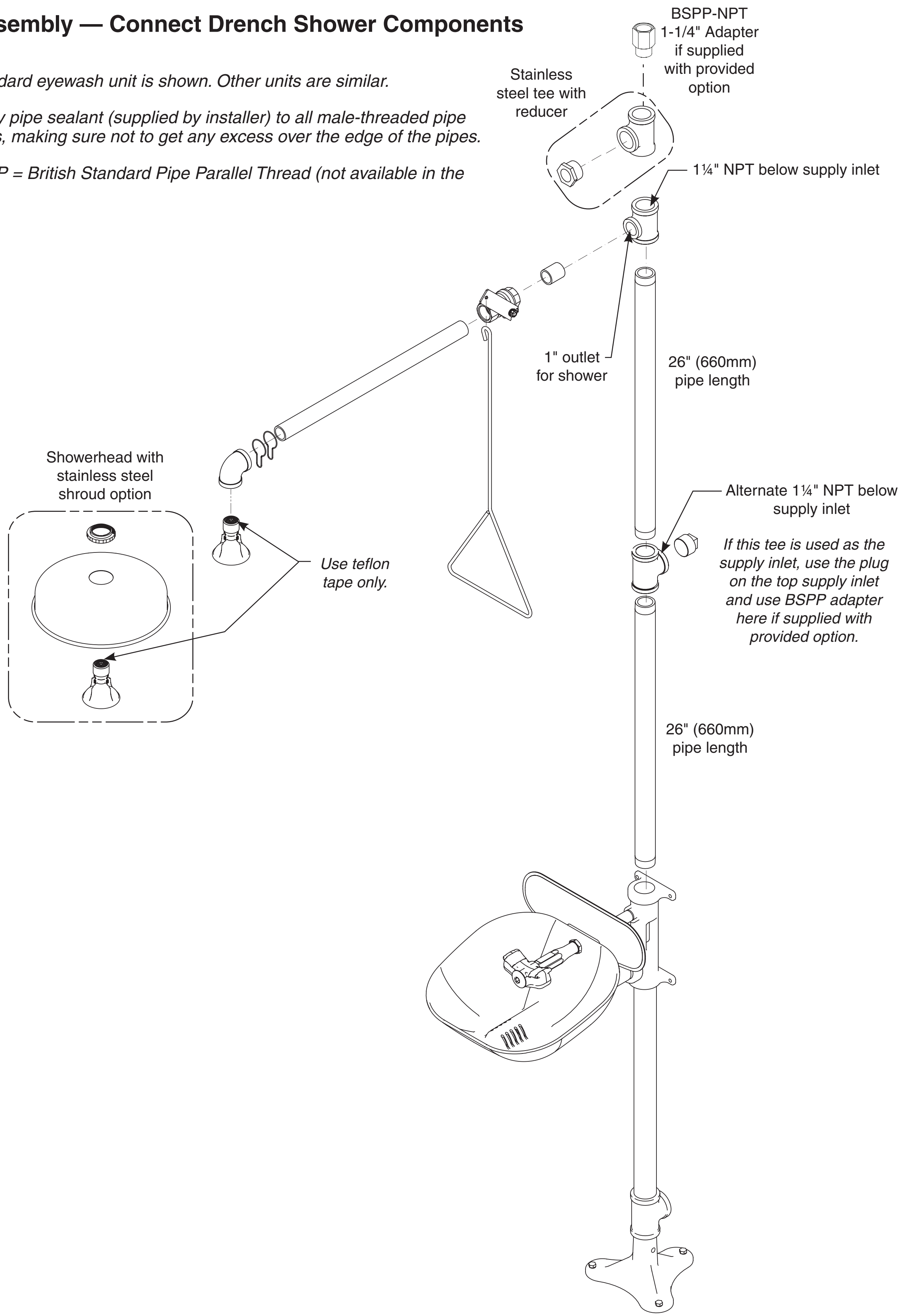
**Halo unit with standard drain option**

**Halo unit with 24" drain option**

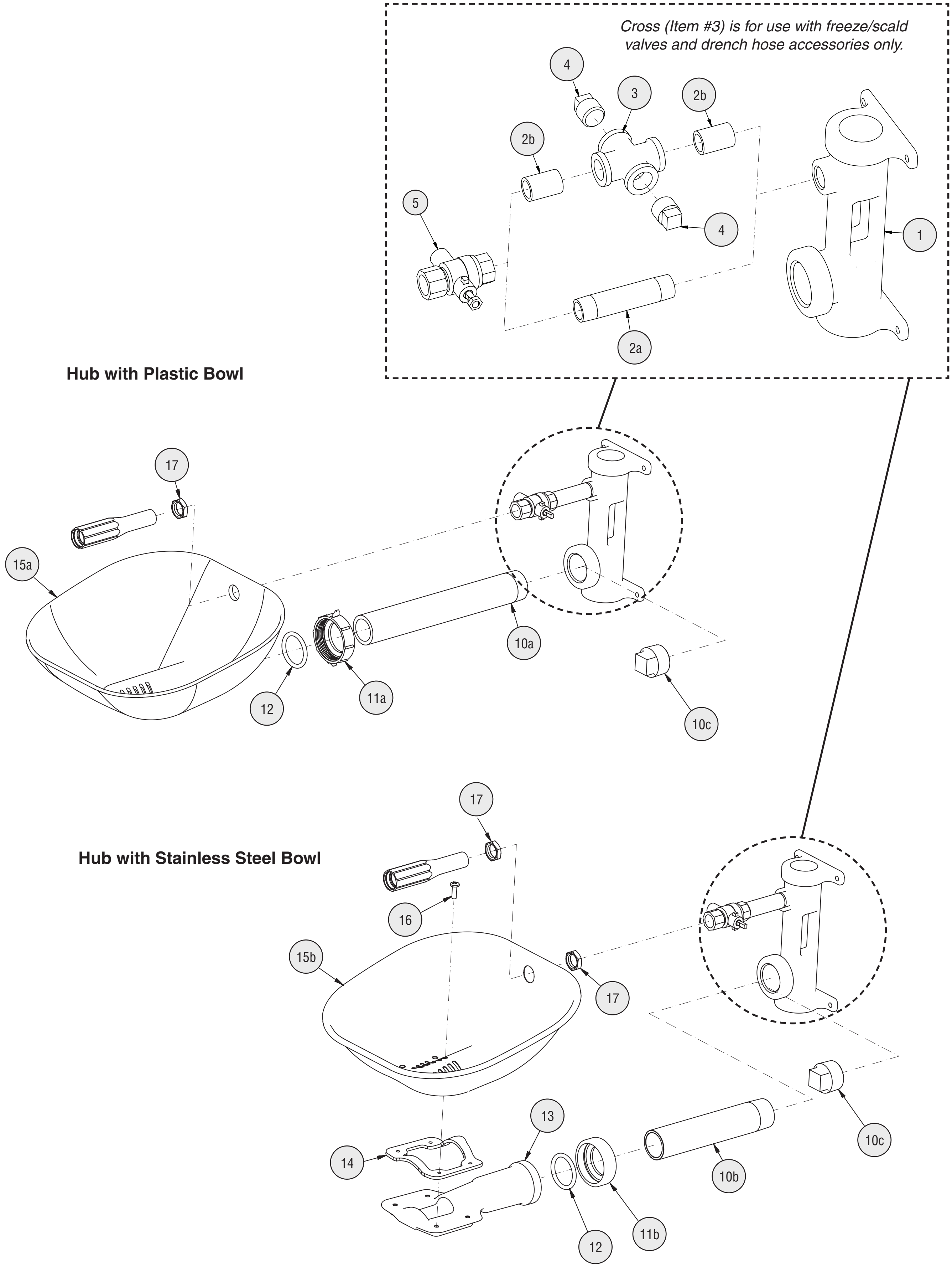


## 2 Assembly — Connect Drench Shower Components

- ✔ *Standard eyewash unit is shown. Other units are similar.*
- ✔ *Apply pipe sealant (supplied by installer) to all male-threaded pipe joints, making sure not to get any excess over the edge of the pipes.*
- ✔ *BSPP = British Standard Pipe Parallel Thread (not available in the U.S.)*



## Service Parts — Bowl and Hub

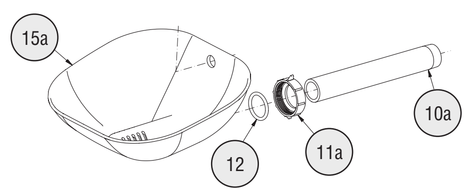


## Service Parts List — Bowl and Hub

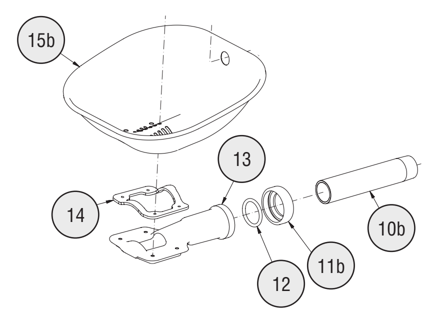
| Item | Part No. | Qty | Description |
|---|---|---|---|
| 1 | 111-092 | 1 | Hub |
| 1 | 111-093 | 1 | Hub stainless steel |
| 1 | 111-095 | 1 | Hub stainless steel 316 |
| 1 | 111-094 | 1 | Hub stainless steel polish |
| 2a | 113-006LQ | 1 | Pipe ½" x 3½" |
| 2a | 113-965 | 1 | Pipe ½" x 3½" stainless steel |
| 2a | 113-1211 | 1 | Pipe ½" x 3½" stainless steel 316 |
| 2a | 113-596 | 1 | Pipe ½" x 3½" chrome |
| 2b | 113-006LG | 2 | Pipe ½" x close |
| 2b | 113-867 | 2 | Pipe ½" x close stainless steel |
| 2b | 113-1210 | 2 | Pipe ½" x close stainless steel 316 |
| 2b | 113-006aw | 2 | Pipe ½" x close chrome |
| 3 | 169-1090 | 1 | Cross ½" |
| 3 | 169-1091 | 1 | Cross ½" stainless steel |
| 3 | 169-1098 | 1 | Cross ½" stainless steel 316 |
| 3 | 169-1097 | 1 | Cross ½" chrome |
| 4 | 300-0393 | 2 | Plug ½" chrome |
| 4 | 153-230 | 2 | Plug ½" stainless steel |
| 4 | 153-460 | 2 | Plug ½” stainless steel 316 |
| 5 | S27-327 | 1 | Ball valve ½" with nut |
| 5 | S27-328 | 1 | Ball valve ½" ss 316 with nut |
| 5 | S27-329 | 1 | Ball valve ½" frost proof with nut |
| 5 | S27-330 | 1 | Ball valve ½" ss 316 frost proof with nut |
| 5.1 | 110-215 | 1 | Nut |
| 5.1 | 110-248 | 1 | Nut stainless steel 316 |

| Item | Part No. | Qty | Description |
|---|---|---|---|
| 10a | 113-1202 | 1 | Pipe 1¼" x 11" thd. one end |
| 10a | 113-1203 | 1 | Pipe 1¼" x 11" thd. one end stn. steel |
| 10b | 113-1204 | 1 | Pipe 1¼" x 7" thd. one end |
| 10b | 113-1205 | 1 | Pipe 1¼" x 7" thd. one end stainless steel |
| 10b | 113-1206 | 1 | Pipe 1¼" x 7" thd. one end chrome |
| 10b | 113-1212 | 1 | Pipe 1¼" x 7" thd. one end stn. steel 316 |
| 10c | 169-724 | 1 | Plug 1¼" painted galvanized |
| 10c | 269-251 | 1 | Plug 1¼" chrome |
| 10c | 269-238 | 1 | Plug 1¼" stainless steel |
| 10c | 269-1402 | 1 | Plug 1¼" stainless steel 316 |
| 11a | 110-239 | 1 | Nut plastic, slip joint |
| 11b | 110-240 | 1 | Nut, stainless steel slip joint |
| 11b | 110-242 | 1 | Nut, stainless steel 316 slip joint |
| 12 | 125-176 | 1 | O-ring |
| 13 | 111-099 | 1 | Bowl mount aluminum |
| 13 | 111-100 | 1 | Bowl mount aluminum painted |
| 13 | 111-101 | 1 | Bowl mount stainless steel |
| 13 | 111-102 | 1 | Bowl mount stainless steel 316 |
| 14 | 124-082 | 1 | Bowl gasket |
| 15a | 187-320 | 1 | Bowl plastic |
| 15b | S90-393 | 1 | Bowl stainless steel (includes Item 14) |
| 15b | S90-394 | 1 | Bowl stn. steel 316 (includes Item 14) |
| 16 | 160-467 | 4 | Screw |
| 17 | 110-115a | as req'd. | Nut ½" NPSM chrome brass |
| 17 | 110-238 | as req'd. | Nut ½" NPSM stainless steel |
| 17 | 110-241 | as req'd. | Nut ½" NPSM stainless steel 316 |

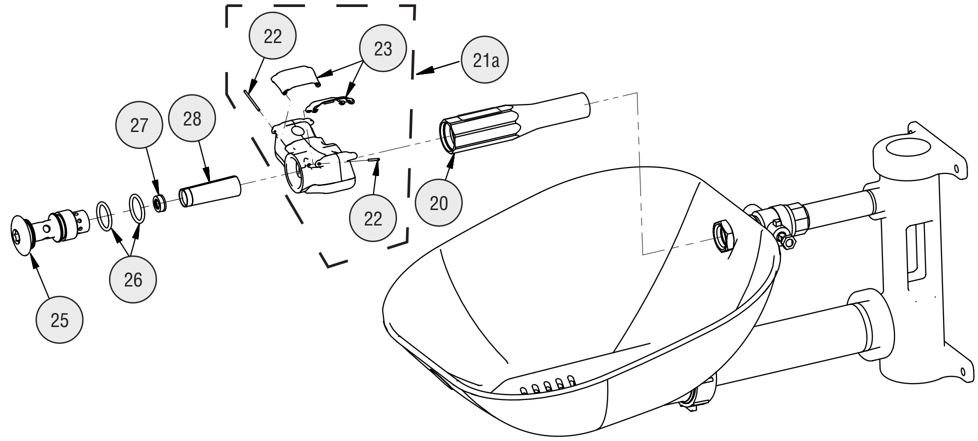
S90-395 Plastic Prepack includes items 10a, 11a, 12, 15a



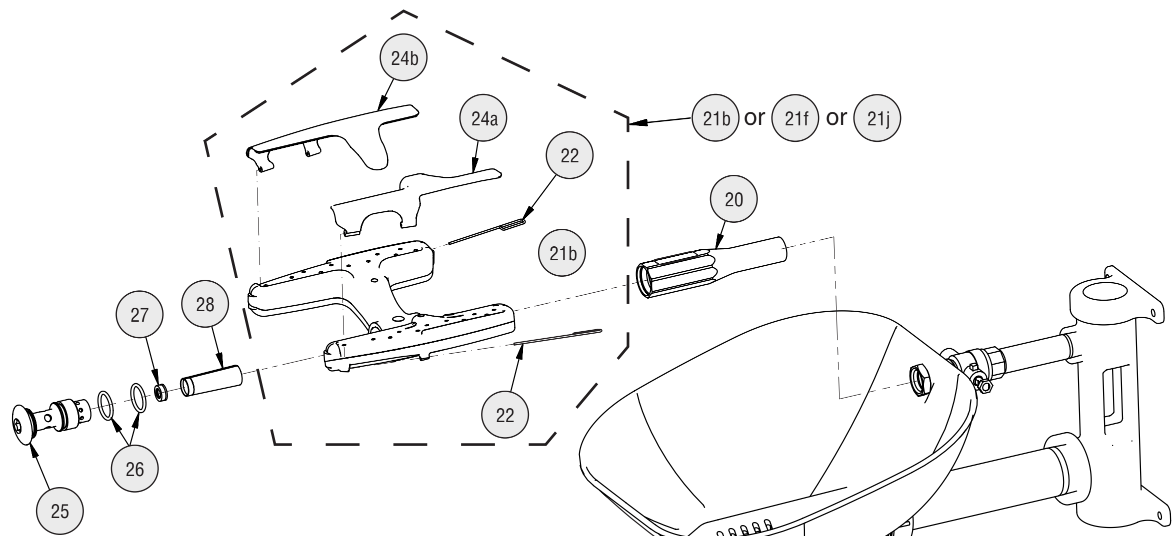

300 Series SS Prepack S90-391 includes items 10b, 11b, 12, 13, 14, 15b
316 Series SS Prepack S90-392 includes items 10b, 11b, 12, 13, 14, 15b



## Service Parts — Eyewash




## Service Parts — Eye/Face Wash

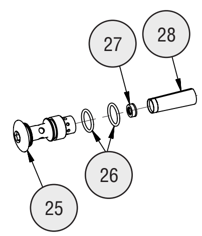



Prepack S65-339 includes items 26, 27, 28

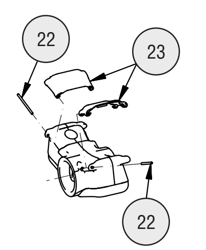
Prepack S88-068 includes items 25, 26, 27, 28

Prepack S88-069 includes items 25, 26, 27, 28 (300 series ss)

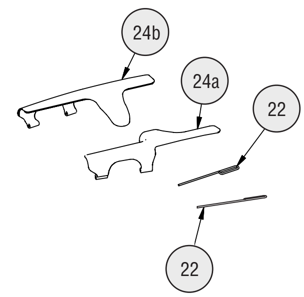
Prepack S88-070 includes items 25, 26, 27, 28 (316 ss)




Eyewash Cover Prepack S45-2675 includes items 22 and 23

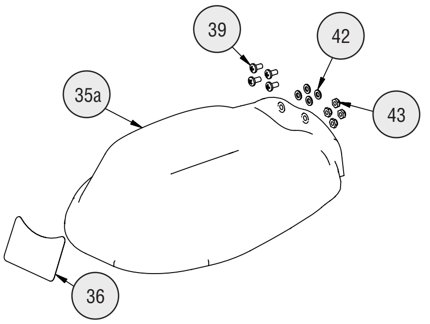


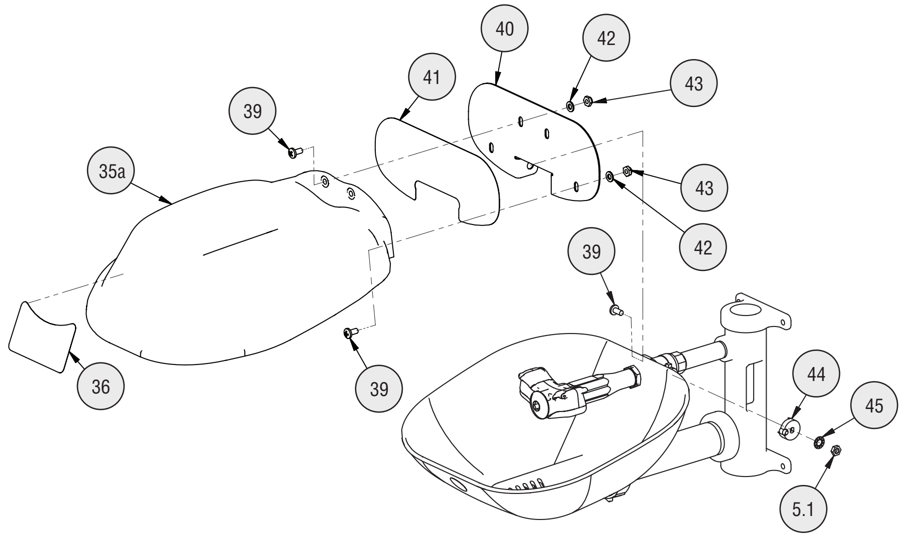

Eye/Face Wash Cover Prepack S45-2676 includes items 22, 24a and 24b



## Service Parts — Plastic Bowl Cover

Plastic Bowl Cover Prepack S90-390
includes items 35a, 36, 39, 42, 43

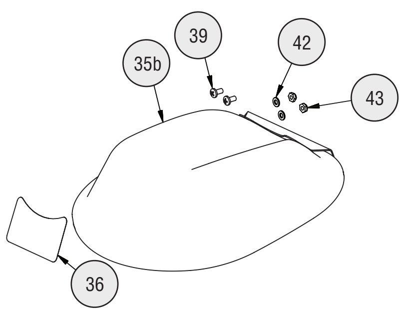


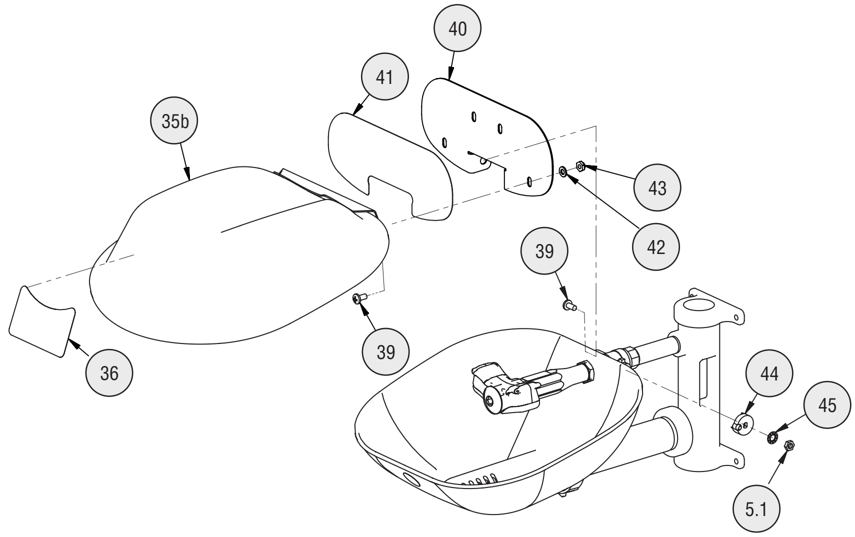




## Service Parts — Stainless Steel Bowl Cover

Stainless Steel Bowl Cover Prepack S90-388 includes items 35b, 36, 39, 42, 43

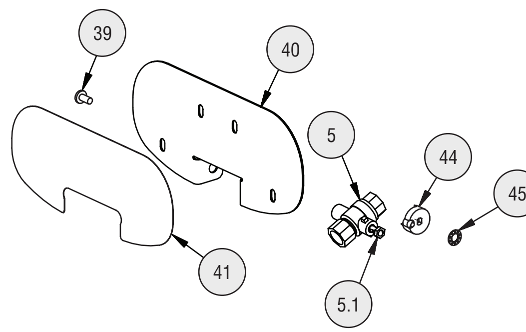
Stainless Steel (316) Bowl Cover Prepack S90-389 includes items 35b, 36, 39, 42, 43




Handle Prepacks include items 39, 40, 41, 44, 45, 5, 5.1

- Prepack S08-390 (for units with brass ball valve)
- Prepack S08-391 (for units with stainless steel ball valve)
- Prepack S08-392 (for units with brass frost-proof ball valve)
- Prepack S08-393 (for units with stainless steel frost-proof ball valve)
- Prepack S08-394 (for units with 316 stainless steel ball valve and handle)
- Prepack S08-395 (for units with 316 stainless steel frost-proof ball valve and handle)



## Service Parts List — Eyewash, Eye/Face Wash and Bowl Covers

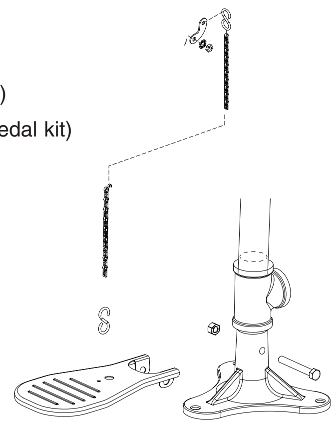
| Item | Part No. | Qty | Description |
|---|---|---|---|
| 20 | 171-001 | 1 | Body |
| 20 | 171-002 | 1 | Body stainless steel |
| 20 | 171-003 | 1 | Body stainless steel 316 |
| 20 | 171-004 | 1 | Body polished |
| 21a | S05-190 | 1 | Sprayhead ass'y. eyewash (includes) |
| 22 | in service kit | 2 | Pivot pin |
| 23 | in service kit | 2 | Flip cover eyewash |
| 21b | S05-192 | 1 | Sprayhead ass'y. eye/face wash (includes) |
| 22 | in service kit | 2 | Pivot pin |
| 24a | in service kit | 1 | Flip cover right |
| 24b | in service kit | 1 | Flip cover left |
| 21f | S05-204 | 1 | Sprayhead stainless steel 304 ass'y. eye/face (includes) |
| 22 | in service kit | 2 | Pivot pin |
| 24a | in service kit | 1 | Flip cover right |
| 24b | in service kit | 1 | Flip cover left |
| 21j | S05-205 | 1 | Sprayhead stainless steel 316 ass'y. eye/face (includes) |
| 22 | in service kit | 2 | Pivot pin |
| 24a | in service kit | 1 | Flip cover right |
| 24b | in service kit | 1 | Flip cover left |
| 25 | 115-158 | 1 | Cap |
| 25 | 115-159 | 1 | Cap stainless steel |
| 25 | 115-164 | 1 | Cap stainless steel 316 |
| 25 | 115-165 | 1 | Cap polished |

| Item | Part No. | Qty | Description |
|---|---|---|---|
| 26 | 125-157 | 2 | O-ring |
| 27 | 125-175 | 1 | Flow control |
| 28 | S65-340 | 1 | Screen (incl. 3 per pack) |
| 35a | in service kit | 1 | Bowl cover plastic |
| 35b | in service kit | 1 | Bowl cover stainless steel |
| 35b | in service kit | 1 | Bowl cover stainless steel 316 |
| 36 | 114-097 | 1 | Bowl cover decal |
| 39 | 160-389 | as req'd. | Screw ¼-20 x ½" stn. steel |
| 39 | 160-469 | as req'd. | Screw ¼-20 x ½" stn. steel 316 |
| 40 | S08-385 | 1 | Handle ss (incl. items 41, 44, 45, 5.1) |
| 40 | S08-388 | 1 | Handle ss 316 (incl. items 41, 44, 45, 5.1) |
| 41 | 114-096 | 1 | Decal |
| 42 | 142-002AV | as req'd. | Bowl cover washer |
| 43 | 161-060 | as req'd. | Nut stainless steel |
| 43 | 161-062 | as req'd. | Nut stainless steel 316 |
| 44 | 153-372R | 1 | Adapter ball valve |
| 44 | 153-372R316 | 1 | Adapter ball valve stainless steel 316 |
| 45 | 142-002DA | 1 | Lockwasher |

## Service Parts and Parts List — Base and Drain

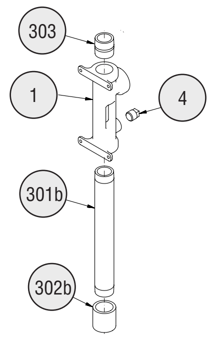
Foot Pedal kits

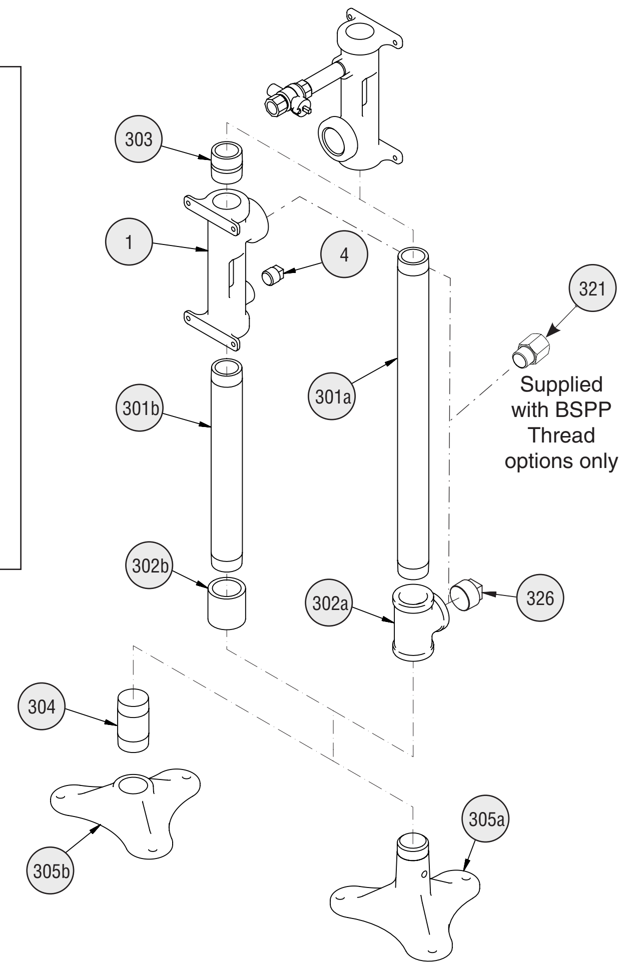
- S45-572 (standard foot pedal kit)
- S45-1314SS (stainless steel foot pedal kit)
- S45-1314SS16 (316 stainless steel foot pedal kit)



Base and Drain Kits for 24" Drains include items 1, 4, 301b, 302b, 303

- S29-098 (standard)
- S29-099 (stainless steel)
- S29-100 (316 stainless steel)
- S29-101 (chrome)

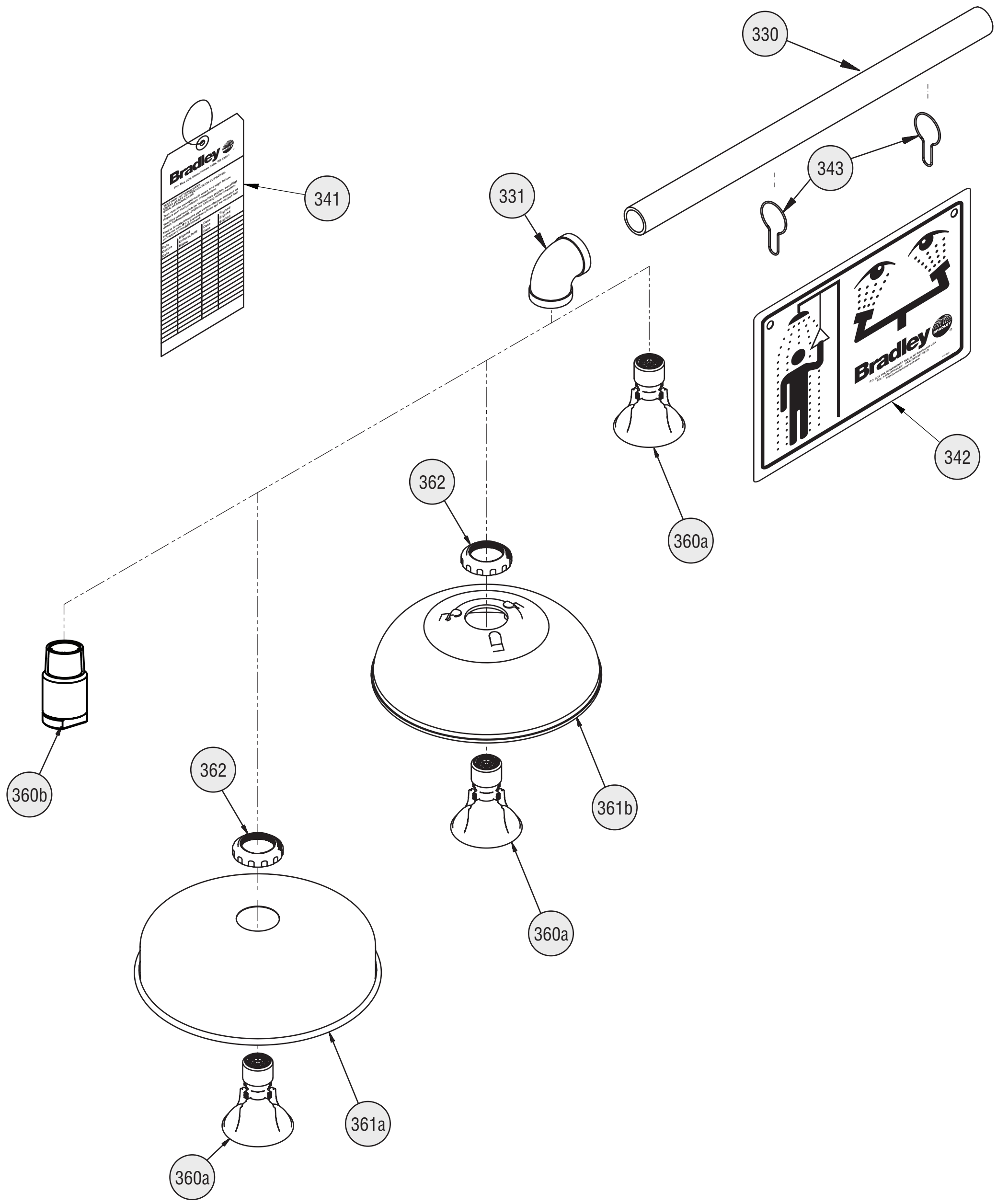



| Item | Part No. | Qty. | Description |
|---|---|---|---|
| 1 | 111-092 | 1 | Hub |
| 1 | 111-093 | 1 | Hub stainless steel |
| 1 | 111-095 | 1 | Hub stainless steel 316 |
| 1 | 111-094 | 1 | Hub stainless steel polish |
| 4 | 300-0393 | 2 | Plug ½" chrome |
| 4 | 153-230 | 2 | Plug ½" stainless steel |
| 4 | 153-460 | 2 | Plug ½" stainless steel 316 |
| 301a | 113-1197 | 1 | Pipe 1¼" x 20½" |
| 301a | 113-1198 | 1 | Pipe 1¼" x 20½" chrome |
| 301a | 113-541 | 1 | Pipe 1¼" x 20½" stainless steel |
| 301a | 113-1213 | 1 | Pipe 1¼" x 20½" stainless steel 316 |
| 301b | 113-1217 | 1 | Pipe 1¼" x 12¾" |
| 301b | 113-1218 | 1 | Pipe 1¼" x 12¾" chrome |
| 301b | 113-1219 | 1 | Pipe 1¼" x 12¾" stainless steel |
| 301b | 113-1220 | 1 | Pipe 1¼" x 12¾" stainless steel 316 |
| 302a | 169-727 | 1 | Tee 1¼" painted galvanized |
| 302a | 269-237 | 1 | Tee 1¼" stainless steel |
| 302a | 269-1398 | 1 | Tee 1¼" stainless steel 316 |
| 302a | 269-253 | 1 | Tee 1¼" chrome |

| Item | Part No. | Qty. | Description |
|---|---|---|---|
| 302b | 169-853 | 1 | Coupling 1¼" galvanized |
| 302b | 269-257 | 1 | Coupling 1¼" chrome |
| 302b | 269-1048 | 1 | Coupling 1¼" stainless steel |
| 302b | 269-2016 | 1 | Coupling 1¼" stainless steel 316 |
| 303 | 113-006NA | 1 | Pipe 1¼" x close painted galvanized |
| 303 | 113-865 | 1 | Pipe 1¼" x close stainless steel |
| 303 | 113-1223 | 1 | Pipe 1¼" x close stainless steel 316 |
| 304 | S06-189 | 1 | Plug chrome solid |
| 305a | 131-059 | 1 | Base painted |
| 305a | 131-062 | 1 | Base stainless steel |
| 305a | 131-079 | 1 | Base stainless steel 316 |
| 305b | 131-044 | 1 | Base chrome |
| 321 | 169-1117 | 1 | BSPP-NPT 1-1/4" 303SS |
| 321 | 169-1118 | 1 | BSPP-NPT 1-1/4" 316SS |
| 326 | 169-724 | 1 | Plug 1¼" painted galvanized |
| 326 | 269-251 | 1 | Plug 1¼" chrome |
| 326 | 269-238 | 1 | Plug 1¼" stainless steel |
| 326 | 269-1402 | 1 | Plug 1¼" stainless steel 316 |

## Service Parts — Drench Shower



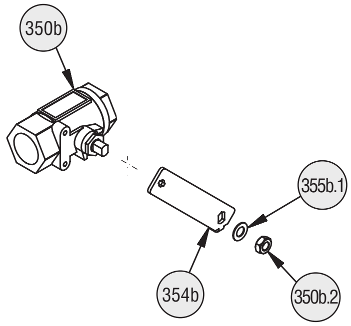
## Service Parts — Drench Shower

Stainless Steel Valve Prepacks include items 350b, 354b, 355b

S30-061 (for stainless steel valve)

S30-081 (for 316 stainless steel valve)

S30-104 (for frost-proof stainless steel valve)

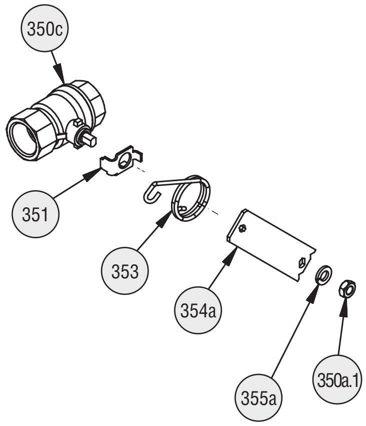



Self-Closing Valve Prepacks

S19-0011 (for standard brass valve)

S30-107 (for frost-proof brass valve)

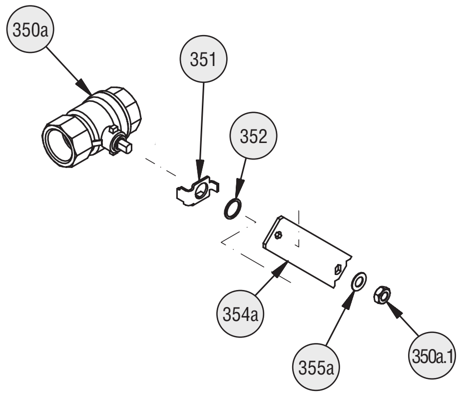
includes items 350c, 351, 353, 354a, 355a

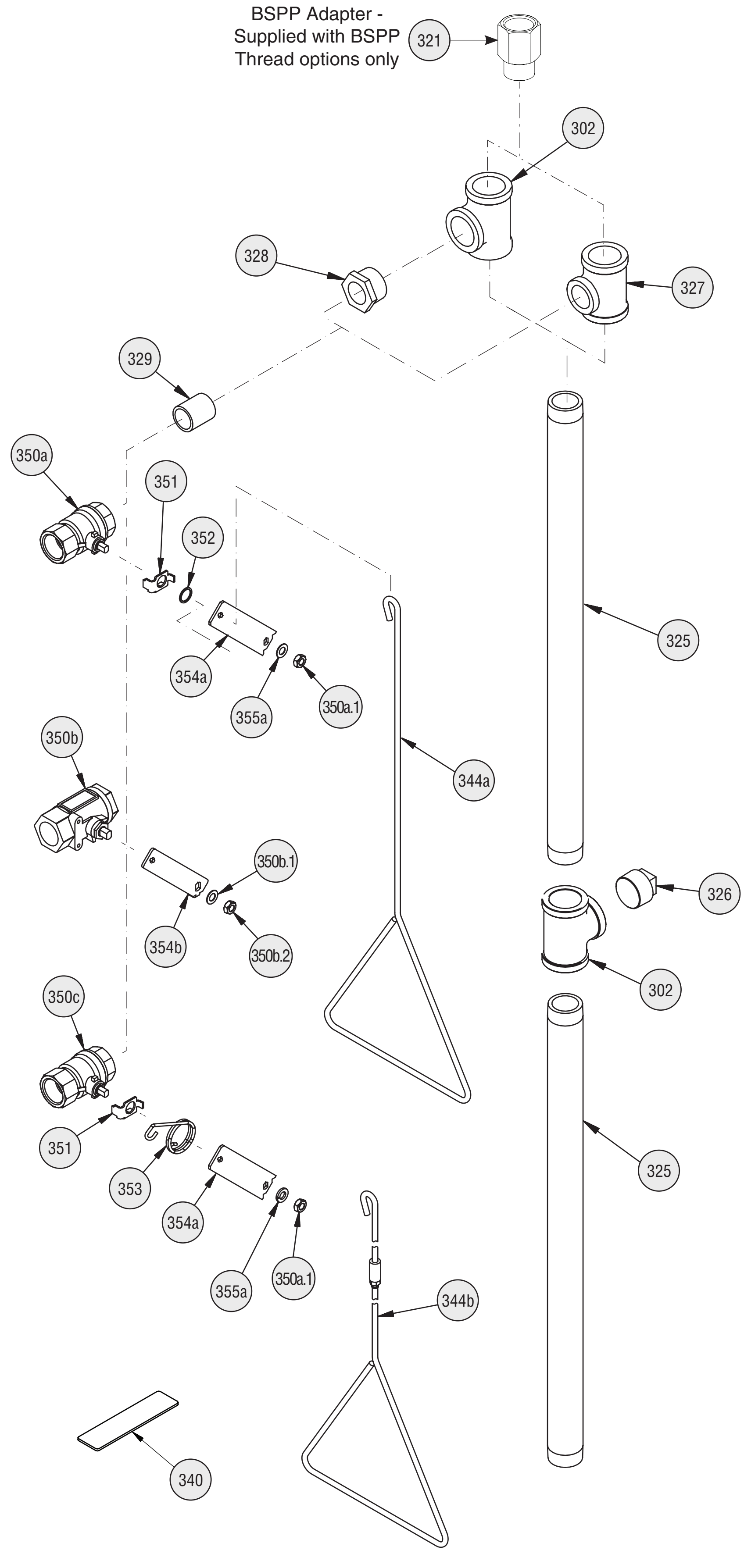



Brass Valve Prepacks include items 350a, 351, 353, 354a, 355a

S30-059 (for standard brass valve)

S30-103 (for frost-proof brass valve)



## Parts List — Showerhead and Shower Valves

BSP = British Standard Pipe Thread (not available in the U.S.)

| Item | Part No. | Qty | Description |
|---|---|---|---|
| 302 | 169-727 | 1 | Tee 1¼" painted galvanized |
| 302 | 169-727B | 1 | Tee 1¼" painted galvanized BSP |
| 302 | 269-237 | 2 | Tee 1¼" stainless steel |
| 302 | 269-1398 | 2 | Tee 1¼" stainless steel 316 |
| 302 | 269-253 | 1 | Tee 1¼" chrome |
| 321 | 169-1117 | 2 | BSPP-NPT 1-1/4" 303SS |
| 321 | 169-1118 | 2 | BSPP-NPT 1-1/4" 316SS |
| 325 | 113-1199 | 2 | Pipe 1¼" x 26" |
| 325 | 113-1195 | 2 | Pipe 1¼" x 26" stainless steel 316 |
| 325 | 113-1200 | 2 | Pipe 1¼" x 26" stainless steel |
| 325 | 113-1201 | 2 | Pipe 1¼" x 26" chrome |
| 326 | 169-724 | 1 | Plug 1¼" painted galvanized |
| 326 | 269-251 | 1 | Plug 1¼" chrome |
| 326 | 269-238 | 1 | Plug 1¼" stainless steel |
| 326 | 269-1402 | 1 | Plug 1¼" stainless steel 316 |
| 327 | 169-722 | 1 | Tee 1¼" x 1" x 1¼" |
| 327 | 269-249 | 1 | Tee 1¼" x 1" x 1¼" chrome |
| 328 | 269-1400 | 1 | Reducer 1¼" x 1" stainless steel 316 |
| 328 | 269-236 | 1 | Reducer 1¼" x 1" stainless steel |
| 329 | 113-006LN | 1 | Pipe 1" x close painted galvanized |
| 329 | 113-1214 | 1 | Pipe 1" x close stainless steel 316 |
| 329 | 113-006NL | 1 | Pipe 1" x close stainless steel |
| 329 | 113-625 | 1 | Pipe 1" x close chrome |
| 330 | 113-006MT | 1 | Pipe 1" x 21" painted galvanized |
| 330 | 113-1215 | 1 | Pipe 1" x 21" stainless steel 316 |
| 330 | 113-864 | 1 | Pipe 1" x 21" stainless steel |
| 330 | 113-1216 | 1 | Pipe 1" x 21" chrome |
| 331 | 169-847 | 1 | Elbow 1" painted galvanized |
| 331 | 169-1073 | 1 | Elbow 1" chrome |
| 331 | 169-1074 | 1 | Elbow 1" stainless steel |
| 331 | 169-1075 | 1 | Elbow 1" stainless steel 316 |

| Item | Part No. | Qty | Description |
|---|---|---|---|
| 340 | 269-915 | 1 | Rubber Grip Pad |
| 341 | 204-421 | 1 | Emergency Inspection Tag |
| 342 | 114-052 | 1 | Safety Sign |
| 342 | 114-052E | 1 | Safety Sign (not available in the U.S.) |
| 343 | 151-001 | 2 | Curtain Hook for Safety Sign |
| 344a | 128-156A | 1 | Pull Rod |
| 344b | S90-365D | 1 | Pull Rod ADA |
| 344a | 128-157 | 1 | Pull Rod stainless steel 316 |
| 350a | S27-278 | 1 | Ball valve 1" |
| 350a | S27-301 | 1 | Ball valve 1" frost proof |
| 350a.1 | 110-214 | 1 | Nut |
| 350b | S27-276 | 1 | Ball valve 1" stainless steel |
| 350b | S27-325 | 1 | Ball valve 1" stainless steel frost proof |
| 350b.1 | 142-002BC | 1 | Lockwasher |
| 350b.2 | 161-079 | 1 | Nut |
| 350c | S27-286 | 1 | Ball valve 1" self-closing |
| 351 | 140-720 | 1 | Bracket stop ball |
| 352 | 124-048 | 1 | Washer flat |
| 353 | S19-001 | 1 | Spring |
| 354a | 128-129 | 1 | Handle |
| 354b | 128-142 | 1 | Handle stainless steel |
| 354b | 128-155 | 1 | Handle stainless steel 316 |
| 355a | 142-002DC | 1 | Lockwasher ⅜" |
| 360a | S24-188 | 1 | Drench shower assembly |
| 360b | S24-191 | 1 | Drench shower stainless steel |
| 360b | S24-201 | 1 | Drench shower stainless steel 316 |
| 361a | 187-053 | 1 | Shroud stainless steel |
| 361b | 154-058 | 1 | Shroud plastic |
| 362 | 154-147 | 1 | Shroud ring |

***Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.***

# Dayton® Electric Utility Heaters

E N G L I S H

E S P A Ñ O L

F R A N Ç A I S

## Description

Dayton electric utility heaters are designed to meet a variety of heating requirements by switching a few wires located in the base of the unit. Heat output ranges from 6,396 to 17,065 BTU per hour. Features horizontal and vertical flow (horizontal air throw approximately 18 ft.), built-in thermostat, and high-limit thermal cutout.

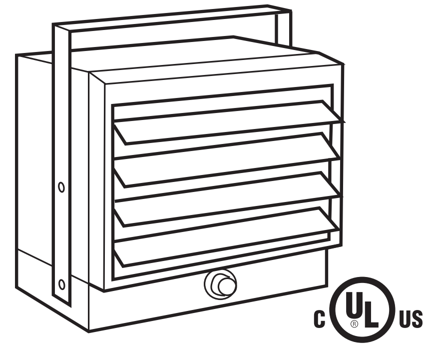



**Figure 1**

## Specifications

| Model | Watts | Volts | Phase | Hz | Amps @ 240V | Amps @ 208V | CFM | Temp. Rise | BTU/Hr. @ 240V | BTU/Hr. @ 208V |
|---|---|---|---|---|---|---|---|---|---|---|
| 3UG73E* | 5000** | 240/208 | 1 | 60 | 20.9 | 18.0 | 270 | 60°F | 17,065 | 12,799 |
| | 4165 | 240/208 | 1 | 60 | 17.4 | 15.0 | 270 | 60°F | 14,215 | 10,659 |
| | 3332 | 240/208 | 1 | 60 | 13.9 | 12.0 | 270 | 60°F | 11,365 | 8,533 |
| | 2500 | 240/208 | 1 | 60 | 10.4 | 9.0 | 270 | 60°F | 8,533 | 6,393 |
| 3UG74E | 5000** | 208 | 1 | 60 | – | 24.0 | 270 | 60°F | – | 17,065 |
| | 4165 | 208 | 1 | 60 | – | 20.0 | 270 | 60°F | – | 14,215 |
| | 3332 | 208 | 1 | 60 | – | 16.0 | 270 | 60°F | – | 11,365 |
| | 2500 | 208 | 1 | 60 | – | 12.0 | 270 | 60°F | – | 8,533 |

(*) Can be operated at 208V (see Table 1 for ratings).

(**) Heater is shipped from factory wired for these wattages. Heater can be field adjusted to the other wattages (refer to "Adjusting the Heat Output" on page 4).

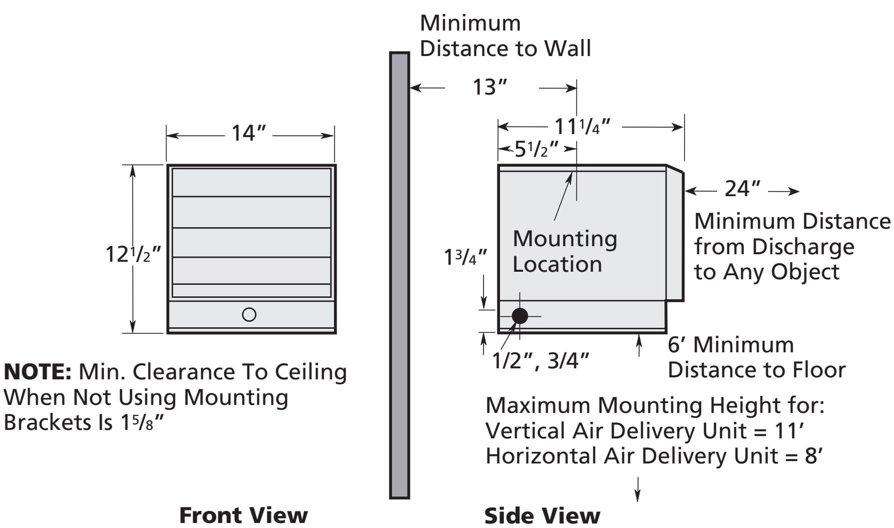



**Figure 2 – Dimensions**

## Unpacking

Remove the heater from box and inspect for any damage. If it appears to be damaged, immediately return.

Check the contents of the box to make sure it contains one heating unit and one mounting bracket.

## General Safety Information

**⚠ WARNING** ***When using electric appliances, basic precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:***

1. Read all instructions before installing or using this heater.
2. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, etc. and curtains at least 3 feet (0.9 m) from the front of the heater.
3. Extreme caution is necessary when any heater is used by or near children or invalids, and whenever the heater is left operating and unattended.

Form 5S5433

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Dayton®

# Dayton® Electric Utility Heaters

E N G L I S H

## General Safety Information (Continued)

4. Do not operate any heater after it malfunctions. Disconnect power at main service panel and have heater inspected by a reputable electrician before using.
5. Do not use outdoors.
6. To disconnect heater, turn controls to off, and turn off power to heater circuit at main service panel.
7. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock, fire, or damage to the heater.
8. To prevent a possible fire, do not block air intake or exhaust in any manner.
9. A heater has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable liquids are used or stored.
10. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
11. This heater is provided with a red alarm light that will illuminate only if the heater has turned off as a result of overheating. If you see the light on, immediately turn the heater off and inspect for any objects on or adjacent to the heater that may have blocked the airflow or otherwise caused high temperatures to have occurred. **DO NOT OPERATE THE HEATER WITH THE ALARM LIGHT ILLUMINATING.**
12. This heater is intended for comfort heating applications and not intended for use in special environments. Do not use in damp or wet locations such as marine or greenhouse or in areas where corrosive or chemical agents are present.
13. When installing, see INSTALLATION INSTRUCTIONS for additional warnings and precautions.
14. For safe and efficient operation, and to extend the life of your heater, keep your heater clean. See MAINTENANCE INSTRUCTIONS.

## SAVE THESE INSTRUCTIONS

## Installation Instructions

**⚠ WARNING** ***To prevent a possible fire, injury to persons or damage to the heater, adhere to the following:***

1. Disconnect all power coming to heater at main service panel before wiring or servicing.
2. All wiring procedures and connections must be in accordance with the National and Local Codes having jurisdiction and the heater must be grounded.
3. Verify the power supply voltage coming to heater matches the ratings as shown on the heater nameplate.

**⚠ CAUTION** ***Energizing heater at a voltage greater than the voltage printed on the name-plate will damage the heater and void the warranty and could cause a fire.***

**⚠ CAUTION** ***High temperature, risk of fire; keep electrical cords, drapery, furnishings, and other combustibles at least 3 feet (0.9 m) from front of heater. Do not install heater behind doors, below towel racks, or in an area where it is subject to being blocked by furniture, curtains or storage materials. Hot air from the heater may damage certain fabrics and plastics.***

4. To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.
5. When heater is to be wall or ceiling mounted, the anchoring provisions must be of sufficient strength to support the total weight of the heater plus the weight of the mounting provisions. Failure to properly secure the supporting members of the building structure could allow the heater to fall.
6. The following minimum clearances must be maintained:

   For vertical airflow, bottom of heater to floor: 6’ (1829 mm) minimum, 11’ (3353 mm) maximum.

   Horizontal aiflow, bottom of heater to floor: 6’ (1829 mm) minimum, 8’ (2438 mm) maximum.

   Sides of heater to adjacent wall: Airflow from horizontal to 45° downward: 13” (330 mm) - Airflow from 45° downward to straight down 48” (1219 mm).

   Discharge to any object: 36” (915 mm) minimum.
7. Do not use this heater for dry out as the paint, plaster, sawdust and drywall sanding dust will permanently damage the heater and must be kept out of the heater.

# Models 3UG73E and 3UG74E

## Installation Instructions (Continued)

### LOCATING HEATER

Install heater out of traffic areas, maintaining clearances stated in Figure 2. The direction of airflow should not be restricted (ie: by columns or machinery) and the airflow should wipe exposed walls, rather than blowing directly at them. When more than one heater is used in an area, the heaters should be arranged so that the air discharge of each heater supports the airflow of the others to provide best circulation of warm air, as indicated in Figure 3.

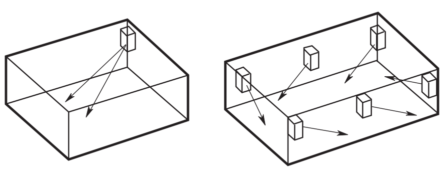


**Figure 3**

### MOUNTING THE BRACKET

Refer to Figures 4a and 4b.

1. Locate a stud in the ceiling joist.
2. Remove the mounting bracket from the heating unit by loosening bracket screws with a wrench and slipping the handle off over the screw heads.
3. Place a washer on screws before inserting through the holes in the mounting bracket, and screw them securely into a ceiling joist.

**NOTE:** If you want to swivel the heater either to the right or left, adding a washer to both sides of the bracket is recommended. A longer lag bolt may be required to properly secure the unit (see Figure 4a).

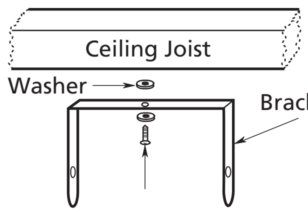



**Figure 4a – Single-Screw Mounting**

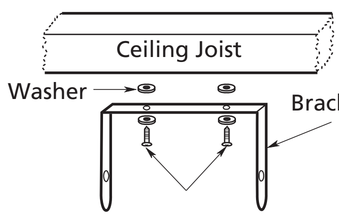



**Figure 4b – Double-Screw Mounting**

4. Tighten screws enough to securely hold heating unit with airflow pointed in proper direction.

### HANGING THE HEATER

1. Attach the heating unit to the mounting bracket.
2. Lift the heater up and into the mounting bracket.
3. Align the bracket screws with the keyhole slots in the mounting bracket.
4. If the heater is to be tilted, it must be positioned in the keyhole slots (see Figure 5).

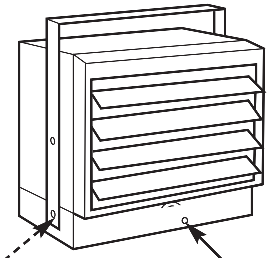



**Figure 5**

5. Tighten the bracket screws with a wrench so the unit is securely suspended at desired horizontal or vertical level.

### CONNECTING THE POWER

1. Remove the screw from the front of the unit to connect the power to the heater.
2. Attach the cable connector to the unit (see Figure 6) and slide the 10 gauge wire through the cable connector.

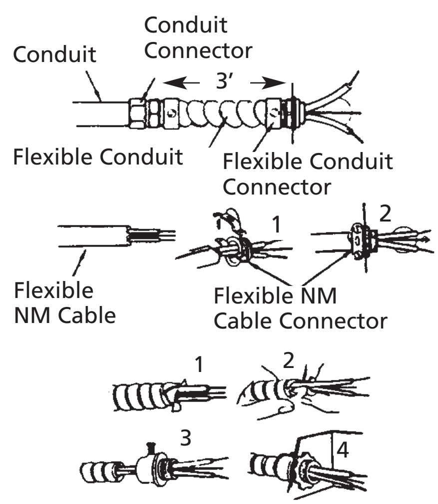



**Figure 6 – Connectors, cable, and hardware used to wire the heater**

# Dayton® Electric Utility Heaters



## Installation Instructions (Continued)

**NOTE:** For certain applications, conduit may be required (see Figure 6). Check local electrical codes. If you run the wiring in conduit and wish to be able to turn the heater be sure to purchase enough flexible conduit to allow the heater to be turned.

3. Connect the wire to the power block located in the base of the heater (see Figure 7).

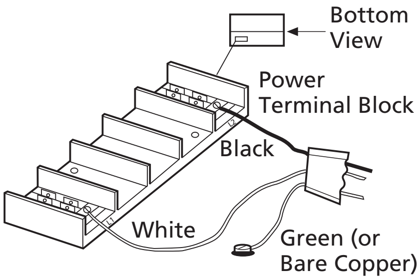



**Figure 7**

**NOTE:** Unit is 240/208 volts. When wiring a two conductor cable with ground, the white wire must be marked black by adding a piece of black electrical tape to the wire near the point of connection.

**NOTE:** To decrease the heat output of the heating unit, see Table 1 and Figure 9.

4. Turn on the power at the main service panel.

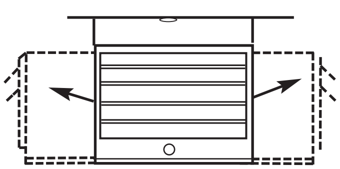
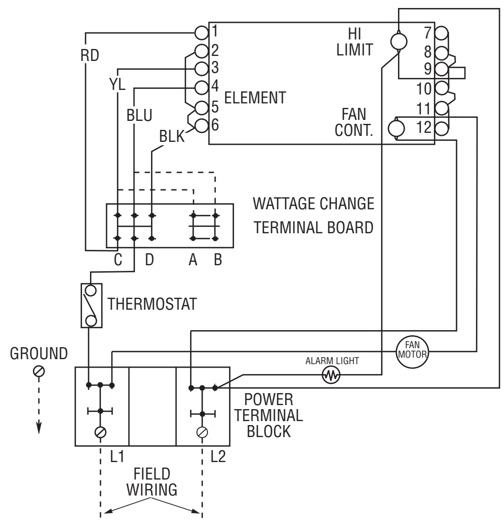


**Figure 8 – Adjustable Louvers**

**WIRING**




208/240V - 3UG73E
208V - 3UG74E

**Figure 9 – Wiring Diagram**

**NOTE:**

1. Do not move blue wire at L1. (Table 1 refers to blue wire at terminal T.)
2. It is recommended that #10 AWG wire be used in all installations to provide for possible future reconnection at the higher wattage. Refer to NEC (National Electrical Code) for maximum run length to minimize voltage drop to 3% max. Circuit runs exceeding 100 ft. may require larger conductor size).
3. Wires #2, #3, & #4 should be routed through indicated element jumper wire eliminating use of wire tie.

**Table 1 – Heat Output Adjustments**

| Model | BTU/Hr. | Volts | Watts | Max Fuse Size | Heater Amps | Move Jumpers from C-D to A-B |
|---|---|---|---|---|---|---|
| 3UG73E | 17065 | 240 | 5000 | 30 | 20.9 | None |
| | 14215 | 240 | 4165 | 25 | 17.4 | Blue |
| | 11365 | 240 | 3332 | 20 | 13.9 | Blue & Yellow |
| | 8533 | 240 | 2500 | 15 | 10.4 | Blue, Yellow & Red |
| | 12799 | 208 | 3750 | 25 | 18.0 | None |
| | 10659 | 208 | 3123 | 20 | 15.0 | Blue |
| | 8533 | 208 | 2500 | 15 | 12.0 | Blue & Yellow |
| | 6393 | 208 | 1874 | 15 | 9.0 | Blue, Yellow & Red |
| 3UG74E | 17065 | 208 | 5000 | 30 | 24.0 | None |
| | 14215 | 208 | 4165 | 25 | 20.0 | Blue |
| | 11365 | 208 | 3332 | 20 | 16.0 | Blue & Yellow |
| | 8533 | 208 | 2500 | 15 | 12.0 | Blue, Yellow & Red |

# Models 3UG73E and 3UG74E



## Operation Instructions

1. Heater must be properly installed before operation.
2. After heater is completely assembled, rotate thermostat knob counter-clockwise until control stops. This is the minimum heat setting.
3. Turn power supply to heater "ON" at main service panel.
4. Heater should not operate. If it operates disconnect power and recheck wiring.
5. Rotate thermostat clockwise until it stops (maximum heat setting).
6. Heater should turn on after a brief delay (see "Automatic Fan Delay"). If heater and fan do not come on, disconnect power and check wiring.

**NOTE:** The first time you operate the unit, it may smoke slightly. This is due to the residual cleaning agents used to clean the element when the heater is manufactured. This is normal and does not indicate a problem with the unit. This condition will stop after the heater has been in operation for a few minutes.

7. Allow heater to continue to operate until room temperature reaches desired comfort level. Then rotate thermostat knob counterclockwise slowly until thermostat clicks off. (Note that the fan delay will keep the fan running until the elements cool.) Heater will cycle on and off to maintain room temperature.
8. It may be necessary to readjust thermostat until exact comfort level is attained. Rotation in the clockwise direction will increase the amount of time the heater will produce heat. Rotation in the counterclockwise direction will reduce the amount of time the heater is on.

### AUTOMATIC FAN DELAY

The heaters have an automatic fan delay. When the thermostat calls for heat, fan action is delayed momentarily until the heating element warms. This prevents the circulation of cold air. When the heater raises the temperature of the room to the thermostat set point, the heating element is turned off but the fan will continue to run until the heating element cools down. This prevents exposing the unit to residual heat, provides a higher comfort level and prolonged element life.

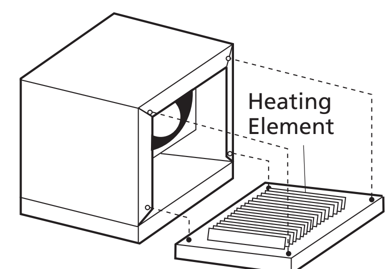



**Figure 10**

### THERMAL SAFETY LIMIT

The heaters are equipped with a thermal cutout which will automatically shut off the heater in the event of overheating. The heater will turn on when the abnormal temperature returns to normal. Should the unit overheat and cause the thermal limit to cycle, a red alarm light will illuminate to alert the user that the heater is off and the cause of the overheating should be determined and corrective action should be taken before further operation.

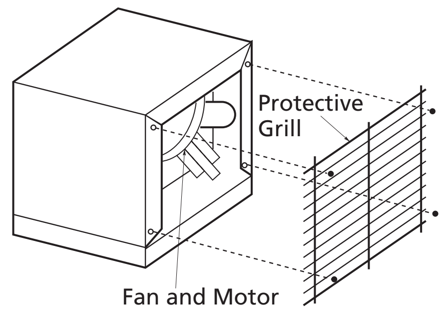



**Figure 11**

**NOTE:** If the unit is installed in an area where the temperature is below 50°F, the fan may cycle on and off until the temperature in the room rises above 50°F, this is normal and does not indicate a problem with the unit. As soon as the heater warms the air in the room above 50°F, the unit will operate normally.

### ADJUSTING AIRFLOW DIRECTION

1. Turning the Unit – If the unit has been installed with a single lag bolt, as shown in Figure 4a, simply turn the entire unit as needed to adjust airflow.
2. Tilting the unit – Loosen the bracket screws, tilt the heater to the desired position, and retighten the bracket screws (see Figure 5).

**NOTE:** To tilt the heater it must be mounted in bottom keyhole slots of mounting brackets to maintain adequate clearance and prevent possible overheating.

# Dayton® Electric Utility Heaters



## Operation Instructions (Continued)

3. Adjusting the louvers to the desired position (see Figure 8).

**NOTE:** The louvers are designed so they cannot be completely closed. Do not attempt to defeat this feature, damage to the unit can result.

**ADJUSTING HEAT OUTPUT**

Increase or decrease heat output by switching wires at the wattage change terminal board. The heaters are factory wired to deliver a heat output of 17,065 BTU per hour. Should your particular application require less heat output, refer to Table 1 and change the wires at the wattage change terminal board as shown in Wiring Diagram (see Figure 9).

**⚠ WARNING** ***To prevent possible electric shock, disconnect power to the heater at the main service panel before attempting to adjust the heat output of this unit.***

It is important to keep this heater clean. Your heater will give you years of service and comfort with only minimum care. To assure efficient operation follow the simple instructions below.

**⚠ WARNING** ***All servicing beyond simple cleaning that requires disassembly should be performed by qualified service personnel.***

**⚠ WARNING** ***To reduce the risk of fire and electric shock or injury, disconnect all power coming to heater at main service panel and check that the element is cool before servicing or performing maintenance.***

**USER CLEANING INSTRUCTIONS**

1. After the heater has cooled, a vacuum cleaner with brush attachment may be used to remove dust and lint from exterior surfaces of the heater including the grille openings.
2. With a damp cloth, wipe dust and lint from grille and exterior surfaces.
3. Return power to heater and check to make sure it is operating properly.

**MAINTENANCE CLEANING INSTRUCTIONS**

***(To be performed only by Qualified Service Personnel)***

At least annually, the heater should be cleaned and serviced by a qualified service person to assure safe and efficient operation. After completing the cleaning and servicing, the heater should be fully reassembled and checked for proper operation.

## Maintenance Instructions

It is important to keep this heater clean. Your heater will give you years of service and comfort with only minimum care. To assure efficient operation follow the simple instructions below.

**⚠ WARNING** ***All servicing beyond simple cleaning that requires disassembly should be performed by qualified service personnel.***

**⚠ WARNING** ***To reduce the risk of fire and electric shock or injury, disconnect all power coming to heater at main service panel and check that the element is cool before servicing or performing maintenance.***

**USER CLEANING INSTRUCTIONS**

1. After the heater has cooled, a vacuum cleaner with brush attachment may be used to remove dust and lint from exterior surfaces of the heater including the grille openings.
2. With a damp cloth, wipe dust and lint from grille and exterior surfaces.
3. Return power to heater and check to make sure it is operating properly.

**MAINTENANCE CLEANING INSTRUCTIONS**

***(To be performed only by Qualified Service Personnel)***

At least annually, the heater should be cleaned and serviced by a qualified service person to assure safe and efficient operation. After completing the cleaning and servicing, the heater should be fully reassembled and checked for proper operation.

# *For Repair Parts, call 1-800-Grainger*

## *24 hours a day – 365 days a year*

*Please provide following information:*
-Model number
-Serial number (if any)
-Part description and number as shown in parts list

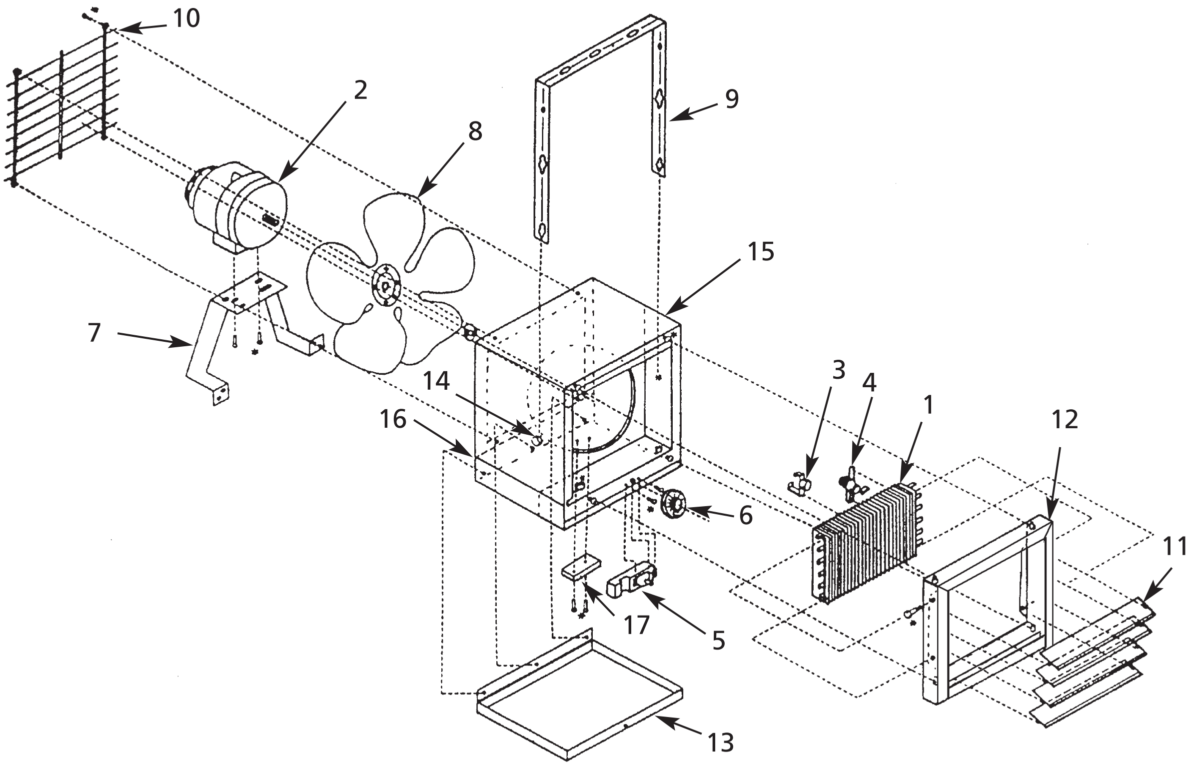



**Figure 12 – Repair Parts Illustration for Electric Utility Heaters**

## Repair Parts List for Electric Utility Heaters

| Reference Number | Description | Part Number for Models: 3UG73E and 3UG74E | Quantity |
|---|---|---|---|
| 1 | Element for 3UG73E | 302006807 | 1 |
| | Element for 3UG74E | 302006847 | 1 |
| 2 | Motor | 3900-2008-000 | 1 |
| 3 | Fan Delay Control | 410148000 | 1 |
| 4 | High Temperature Limit Control | 410027000 | 1 |
| 5 | Thermostat | 5813-2050-000 | 1 |
| 6 | Thermostat Knob | 3301-2014-006 | 1 |
| 7 | Motor Mount | 310914001 | 1 |
| 8 | Fan Blade | 1210-2017-000 | 1 |
| 9 | Ceiling Bracket | 310876002 | 1 |
| 10 | Wire Guard | 312056802 | 1 |
| 11 | Louver | 3503-2004-009 | 4 |
| 12 | Bezel Assembly | 1219-0414-000 | 1 |
| 13 | Cover (Access Door) | 310104902 | 1 |
| 14 | Bracket Screw | 402029008 | 2 |
| 15 | Cover Wrap Assembly | 200193902 | 1 |
| 16 | Control Box Assembly | 200161902 | 1 |
| 17 | Power Terminal Block | 5823-0004-005 | 1 |

# Dayton® Electric Utility Heaters

E N G L I S H

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***Manufactured for Dayton Electric Mfg. Co., 100 Grainger Parkway, Lake Forest, Illinois 60045-5201 U.S.A.***