



## **BRADLEY HALO™ EMERGENCY PLUMBING FIXTURES, Deck and Wall Mounted Guide Specification**

Bradley Halo Emergency Plumbing Fixtures are a new generation in safety equipment, featuring separate supply and waste piping to eye/face wash, ergonomic hand activation paddle easy to reach from any direction, and instant water flow on opening the new translucent dust cover. Halo eye/face wash units provide full face water distribution profile recognized as the best design in the industry. Integral strainers, and Bradley's unique patented self-draining design all reduce the potential for bacteria growth, providing safer, more effective fixtures.

Halo units are available in deck and wall mounted, eyewash or combination eyewash/face wash drenching hoses, and laboratory units.

Bradley Corporation, the industry's leading manufacturer of premium quality commercial lavatories and lavatory faucets, wash stations, toilet accessories, TMVs, and emergency plumbing fixtures, serves a diverse customer base ranging from local business facilities to international corporations like Wal-Mart, General Motors, U.S. Postal Service, W.W. Grainger, AMC Theaters Corporation.

Architects, engineers, and specifiers look to Bradley Corporation for innovation in design and leadership in the development of environmentally conscious products. Bradley Corporation, a member of the U.S. Green Building Council, the Wisconsin Green Building Alliance, has several products earning certification by Greenguard Environmental Institute, and Greenguard Children and Schools program.

Bradley eases the specifying process with a seasoned customer service staff and a range of helpful information tools on an advanced website. For example, easy-to-use sizing software, available on Bradley's website, allows engineers to quickly determine the correct size Thermostatic Mixing Valves.

Contact Bradley Corporation, Menomonee Falls, WI 53051; Phone: 800-BRADLEY ((800)272-3539) or visit the Bradley web site [www.bradleycorp.com](http://www.bradleycorp.com). Bradley Corporation is an AIA/CES registered provider currently offering multiple programs providing HS&W Learning Units.

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## SECTION 22 45 00.02 – EMERGENCY PLUMBING FIXTURES, DECK AND WALL MOUNTED

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

1. Wall mounted [eyewash] [eye/face wash] equipment.
2. Deck mounted [eyewash] [eye/face wash] equipment.
3. Water-tempering equipment.
4. Emergency Signaling Equipment.

#### 1.2 RELATED SECTIONS

- A. Division 22 Section "Domestic Water Piping" for [hot and cold] [tempered] water piping.
- B. Division 22 Section "Sanitary Waste Piping Specialties" for floor drains.
- C. Division 26 sections for electrical power and control wiring.

#### 1.3 REFERENCES

- A. American National Standards Institute (ANSI):
  1. ANSI Z 358.1 – American National Standard for Emergency Eyewash and Shower Equipment.
- B. US Federal Government:
  1. Public Law 90-480 – The Architectural Barriers Act of 1968, as amended.
  2. Public Law 101-336 – The Americans with Disabilities Act of 1990, as amended.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each product:
  1. Manufacturer's data sheets indicating operating characteristics, materials and finishes.
  2. Include details of electrical and mechanical operating parts.
  3. Provide mounting requirements and rough-in dimensions.
  4. Mark each sheet with product drawing designation.
- B. Shop Drawings: Submit power, signal, and control wiring diagrams.

#### 1.5 INFORMATION SUBMITTALS

Specifier: Retain paragraphs below when Project requirements include compliance with Federal Buy American provisions. Bradley manufactures enclosed emergency showers in both the US and Canada.

- A. Buy American Act Certification: Submit documentation certifying that products comply with provisions of the Buy American Act 41 U.S.C 10a – 10d.

- B. Manufacturer's Certificates: Submit certificates documenting factory testing of specified units.
- C. Field quality-control test reports.
- 1.6 CLOSEOUT SUBMITTALS
  - A. Operation and maintenance data.
- 1.7 MAINTENANCE SUBMITTALS
  - A. Furnish indicated spare parts that are packaged with identifying labels listing associated products.
- 1.8 QUALITY ASSURANCE
  - A. Source Limitations: Obtain emergency plumbing fixtures through a single source from a single manufacturer.

Specifier: To meet the ANSI Z358.1 the water supply to the equipment must be tempered water. See Part 2 Article WATER TEMPERING EQUIPMENT.

- B. ANSI Standard: Comply with ANSI Z358.1.
- C. NSF Standard: Comply with NSF 61 for fixture components in contact with potable water.

Specifier: All fixtures listed below have accessibility options available from Bradley Corp.

- D. Accessibility Requirements: Comply with ICC/ANSI A117.1; [Public Law 90-480 and Public Law 101-336] and requirements of authorities having jurisdiction.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide emergency plumbing fixtures manufactured by **Bradley Corporation**, Menomonee Falls, WI 53051, (800)272-3539; Email [info@BradleyCorp.com](mailto:info@BradleyCorp.com); Website [www.bradleycorp.com](http://www.bradleycorp.com).

Specifier: Retain one of three paragraphs below based upon Project requirements.

1. Submit comparable products of one of the following for approval by Architect:
  - a. [Specifier: Insert name of manufacturer of comparable product.]
2. Submit requests for substitution in accordance with Instructions to Bidders and Division 01 General Requirements.
3. Provide specified product; Owner will not consider substitution requests.

Specifier: Retain the required articles from the remainder of PART 2, then select and paste Model # and Description into the specification text at the appropriate insert points.

Specifier: Retain the required articles from the remainder of PART 2, then select and paste Model # and Description into the specification text at the appropriate insert points.

## 2.2 EMERGENCY PLUMBING FIXTURES, GENERAL

- A. Eyewash and Eye/Facewash Units: Integral flow control at 5.1 gpm (19.1L/m) with steady water flow under varying water supply conditions from 30 to 90 psi; self-draining bowl with integral strainer; ergonomic stainless steel paddle operated unless otherwise indicated.
1. Supply piping 1/2-inch NPT with stay-open ball valve.
  2. Drain piping 1-1/4-inch NPT (on S19224 units only)

Specifier: Retain "Drench Hose" Paragraph below if selecting fixture that includes drench hose.

- B. Drench Hose: 8-foot (2438 mm) yellow reinforced thermoplastic hose. Operating range 30-90 psi and flow rate of 2.4-2.8 gpm. 3/8-inch NPT male thread, with chrome-plated brass stay-open valve, [with vacuum breaker] [with backflow preventer], attachment supply, fittings, and hangar, equipped with ABS plastic spray head and cover.

## 2.3 WALL-MOUNTED EMERGENCY PLUMBING FIXTURES

### BRADLEY WALL-MOUNTED EMERGENCY EYEWASH AND EYE/FACEWASH STATIONS

Model	Description
Halo S19224B	Eyewash with ABS plastic sprayhead and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; stainless steel bowl; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224BPT	Eyewash with ABS plastic sprayhead and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; stainless steel bowl; safety yellow coated galvanized steel pipe, tailpiece and chrome-plated P-trap; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224DCFW	Eye/face wash with ABS plastic sprayhead, chrome-plated brass ball valve, push paddle activated; stainless steel bowl with hinged dust cover; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224DCRPT	Eye/face wash with ABS plastic sprayhead, chrome-plated brass ball valve, push paddle activated; stainless steel bowl hinged dust cover; safety yellow coated

	galvanized steel pipe, tailpiece and chrome-plated P-trap; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224PDCF	Eye/face wash with ABS plastic sprayhead, chrome-plated brass ball valve, push paddle activated; ABS plastic bowl with hinged dust cover; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224DC	Eyewash with ABS plastic sprayhead, chrome-plated brass ball valve, push paddle activated; stainless steel bowl with hinged dust cover; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224DCPT	Eyewash with ABS plastic sprayhead, chrome-plated brass ball valve, push paddle activated; stainless steel bowl with hinged dust cover; safety yellow coated galvanized steel pipe, tailpiece and chrome-plated P-trap; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224PDC	Eyewash with ABS plastic sprayhead, chrome-plated brass ball valve, push paddle activated; ABS plastic bowl with hinged dust cover; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224EW	Eyewash with ABS plastic sprayhead and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; ABS plastic bowl; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224PT	Eyewash with ABS plastic sprayhead and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; ABS plastic bowl; safety yellow coated galvanized steel pipe, tailpiece and chrome-plated P-trap; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224FW	Eye/face wash with ABS plastic sprayhead and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; ABS plastic bowl; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224FWPT	Eye/face wash with ABS plastic sprayhead and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; ABS plastic bowl; safety yellow coated galvanized steel pipe, tailpiece and chrome-plated P-trap; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224P	Eye/face wash with ABS plastic sprayheads and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; drench hose; stainless steel bowl;

	safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224SC	Eye/face wash with polished 304 stainless steel sprayheads, 316 stainless steel ball valve, push paddle activated; 304 stainless steel bowl with hinged bowl dust cover; 304 stainless steel piping; stainless steel mounting bracket; barrier free model
Halo S19224SS	Eye/face wash with polished 304 stainless steel sprayheads with flip-open dust covers, 316 stainless steel ball valve, push paddle activated; 304 stainless steel bowl; 304 stainless steel piping; stainless steel mounting bracket; barrier free model
Halo S19224T	Eye/face wash with ABS plastic sprayheads and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; stainless steel bowl; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224TPT	Eye/face wash with ABS plastic sprayheads and flip-open dust covers, chrome-plated brass ball valve, push paddle activated; stainless steel bowl; safety yellow coated galvanized steel pipe, tailpiece and chrome-plated P-trap; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19224Y	Eye/face wash with ABS plastic sprayheads and flip-open dust covers, chrome-plated brass ball valve, push paddle and foot pedal activated; stainless steel bowl; safety yellow coated galvanized steel pipe, tailpiece; safety yellow coated aluminum mounting bracket; barrier free model
Halo S19274HWB	Swing-down activated, wall-mounted eyewash for installation over sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings, barrier free model
Halo S19274JWB	Swing-down activated, wall-mounted eye/face wash for installation over sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings, barrier free model
Halo S19274HW	Swing-down activated, wall-mounted eyewash for installation over sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings
Halo S19274JW	Swing-down activated, wall-mounted eye/face wash for installation over sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings

A. Wall-Mounted, Plumbed Eye/Face Wash Units: ANSI Z358.1, self-draining, with separate supply and waste piping. Provide factory-assembled and tested units with standard-compliant identification sign and inspection tag.

1. Basis of Design Manufacturer/Model: **Bradley**, <Insert model number from above>.
2. Model Description: <Insert corresponding model description from above>.

#### 2.4 DECK MOUNTED EMERGENCY PLUMBING FIXTURES

A. Deck-Mounted Units: ANSI Z358.1, self-draining, with separate supply and waste piping. Provide factory-assembled and tested units with standard-compliant identification sign and inspection tag.

1. Basis of Design Manufacturer/Model: **Bradley**, <Insert model number from above>.
2. Model Description: <Insert corresponding model description from above>.

#### 2.5 DECK-MOUNTED EMERGENCY PLUMBING FIXTURES

<u>BRADLEY DECK-MOUNTED EMERGENCY EYEWASH AND EYE/FACEWASH STATIONS</u>	
Model	Description
Halo S19274HDB	Swing-down activated, deck-mounted eyewash for installation adjacent to sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings, barrier free model
Halo S19274JDB	Swing-down activated, deck-mounted eye/face wash for installation adjacent to sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings, barrier free model
Halo S19274HD	Swing-down activated, deck-mounted eyewash for installation adjacent to sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings
Halo S19274HDR	Swing-down activated, deck-mounted reduced length eyewash for installation adjacent to sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings
Halo S19274JD	Swing-down activated, deck-mounted eye/face wash for installation adjacent to sink, with ABS plastic sprayheads and flip-open dust covers, ceramic stay-open valve; chrome-plated brass pipe and fittings

#### 2.6 WATER TEMPERING EQUIPMENT

Specifier: Thermostatic mixing valve assembly is recommended by Bradley as best way to satisfy ANSI Z358.1 requirement for providing tepid water delivery to emergency plumbing fixtures. To meet the ANSI Z358.1 the water supply to the equipment must be tempered water.

- A. Thermostatic Mixing Valve for Eyewash and Eye/Face Wash Fixtures: ANSI Z358.1 compliant single valve design with liquid-filled unit-mounted dial thermometer, providing 85 deg F (29 deg C) tepid, potable water, maintaining temperature at plus or minus 5 deg F (3 deg C) for required 15-minute test period, and with automatic shutoff in case of unit failure to continue cold-water flow, with associated corrosion-resistant housing and fittings.
1. Basis of Design Manufacturer/Model: **Bradley, Navigator S19-2000 (EFX8)**.
  2. Model Description: Emergency fixture thermostatic mixing valve for eyewash and eye/facewash units: 7 gpm at 30 psi.
  3. Supply Connections: Hot and cold water.
  4. Finish: [Rough bronze] [Chrome-plated bronze].

Specifier: Retain and edit "Cabinet" Subparagraph below if cabinet enclosure for TMV is required for Project.

5. Cabinet:
  - a. Mounting: [Surface mounted] [Recessed] [Bracket only; no cabinet].
  - b. Material and Finish: [Steel, white enamel painted] [Satin finish stainless steel] [, with plexiglass window in door].
  - c. Door: Cylinder door lock.

BRADLEY EMERGENCY FIXTURE SIGNALING SYSTEMS

Model	Description
S19-322E	Solid state signaling system for eyewash or eye/facewash emergency fixtures; 85dB horn, green/amber LED beacon, and double pole, double throw brass flow switch 1/2 inch NPT, 24VDC; remote building management system compatible; recessed NEMA 1 General Purpose interior use enclosure for electrical components
S19-323E	Solid state signaling system for eyewash or eye/facewash emergency fixtures; 108dB horn, amber LED beacon, and brass double pole, double throw flow switch 1/2 inch NPT, 24VDC, with 6 foot power cable; remote building management system compatible; NEMA 3R indoor and outdoor gasketed waterproof enclosure for electrical components
S19-324	Solid state signaling system for drench shower or combination shower/eyewash emergency fixtures; 108dB horn with multiple tone options, [amber halogen flashing beacon in corrosion resistant NEMA 4X enclosure] [halogen area light in corrosion resistant NEMA 4X enclosure], and brass double pole, double throw flow switch 1-1/4 inch NPT, auto-reset silence switch, 24VDC, with 6 foot power cable; remote building management system compatible; NEMA 4X indoor and outdoor gasketed waterproof enclosure for electrical components
S19-324EG	Solid state signaling system for eyewash emergency fixtures; 108dB horn with multiple tone options, amber halogen flashing beacon in corrosion resistant



S19-324EGW	NEMA 4X enclosure, and brass double pole, double throw flow switch 1/2 inch NPT, panel mounted auto-reset silence switch, 24VDC, with 6 foot power cable; remote building management system compatible; NEMA 4X indoor and outdoor gasketed waterproof enclosure for electrical components
	Solid state signaling system for eyewash emergency fixtures; 108dB horn with multiple tone options, amber halogen flashing beacon in corrosion resistant NEMA 4X enclosure halogen and area light in corrosion resistant NEMA 4X enclosure, and brass double pole, double throw flow switch 1/2 inch NPT, panel mounted auto-reset silence switch, 24VDC, with 6 foot power cable; remote building management system compatible; NEMA 4X indoor and outdoor gasketed waterproof enclosure for electrical components
S19-324E	Solid state signaling system for eyewash emergency fixtures; 108dB horn with multiple tone options, amber halogen flashing beacon in corrosion resistant NEMA 4X enclosure, and brass double pole, double throw flow switch 1/2 inch NPT, panel mounted auto-reset silence switch, 24VDC, with 6 foot power cable; remote building management system compatible; NEMA 4X indoor and outdoor gasketed waterproof enclosure for electrical components

- B. Automatic Audible and Visual Signaling System: Signaling system intended to alert others that the emergency fixture has been activated with flow switch.
  - 1. Basis of Design Manufacturer/Model: **Bradley**, <Insert model number from above>.
  - 2. Model Description: <Insert model description from above>.
  - 3. Electrical: 90-260 VAC, 15W.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Assemble fixtures and associated fittings and trim in accordance with manufacturer's instructions.
- B. Install fixture supports attached to building structure for fixtures requiring supports.
- C. Install fixtures onto waste-fitting seals or flanges and attach to supports or building structure.
- D. Install fixtures level, plumb, and firmly in place in accordance with manufacturer's rough-in drawings.
- E. Install water supply piping to each fixture requiring water supply connection. Provide stop on each supply in readily-serviced location. Fasten supply piping to supports or substrate.
- F. Install trap and waste piping to each fixture requiring sanitary system connection.
- G. Install escutcheons at exposed piping penetrations in finished locations and within cabinets.

- H. Seal joints between fixtures and walls, floors, and countertops with mildew-resistant silicone sealant.

### 3.2 CLEANING AND PROTECTION

- A. Repair or replace defective work, including damaged fixtures and components.
- B. Clean unit surfaces, test fixtures, and leave in ready-to-use condition.
- C. Turn over keys, tools, maintenance instructions, and maintenance stock to Owner.
- D. Protect units with water-resistant temporary covering. Do not allow temporary use of plumbing fixtures unless approved in writing by Architect. Remove protection at Substantial Completion and dispose.

### 3.3 TESTING AND ADJUSTING

- A. Set field-adjustable temperature set points of temperature-actuated water mixing valves. Adjust set point within allowable temperature range.
- B. Test and adjust installation.
- C. Remove and replace malfunctioning thermostatic mixing valves and retest.

END OF SECTION