















# Emergency Fixtures Frequently Asked Questions

# Table of Contents

	<b>OSHA 1910.151C &amp; ANSI Z358.1-2004 Regulations.....</b>	<b>3</b>
	<b>Partsource, Installation &amp; Maintenance.....</b>	<b>6</b>
	<b>S19-921 On-Site® Portable Gravity-Fed Eyewash.....</b>	<b>8</b>
	<b>Portable Pressurized Eyewash Stations .....</b>	<b>9</b>
	<b>Eyewash &amp; Eye/Face Wash Units .....</b>	<b>10</b>
	<b>Drench Showers/Combination Fixtures .....</b>	<b>11</b>
	<b>Heat Trace Units .....</b>	<b>12</b>
	<b>Hand-Held Drench Hoses .....</b>	<b>13</b>
	<b>Flow Switch Alarm Systems .....</b>	<b>14</b>
	<b>Emergency Thermostatic Mixing Valves.....</b>	<b>15</b>
	<b>Bottled Eyewash .....</b>	<b>16</b>
	<b>Frost-Proof/Barrier-Free Solutions.....</b>	<b>17</b>

## **OSHA 1910.151c & ANSI Z358.1-2004**

### **Q: What is OSHA's relationship with ANSI.**

A: When OSHA audits a facility they refer to regulation 1910.151c - Medical services and first aid. The regulation states:

“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.”

The American National Standards Institute (ANSI) Z358.1-2004 specifically addresses the details of OSHA regulation 1910.151c - Medical services and first aid. OSHA typically uses the ANSI standard as a guideline when auditing a facility.

### **Q: What is the ANSI Z358.1-2004 Standard?**

A: On January 8, 2004, the American National Standards Institute (ANSI) released its 2004 update to the Z358.1-1998 standard. The ANSI Z358.1 standard establishes minimum guidelines for safety equipment used to flush the body of contaminants. It addresses testing procedures, installation instructions, recommended maintenance and training.

### **Q: Where can I purchase my own ANSI Z358.1-2004 Standard?**

A: ANSI is published by ISEA (International Safety Equipment Association), their phone number is 703-525-1695 and web address is [www.safetysafetyequipment.org](http://www.safetysafetyequipment.org). Bradley posts a Guide to the ANSI Z358.1-2004 Standard on its website:  
<http://www.bradleycorp.com/products/techdata/4002.pdf>

### **Q: How many eyewashes or drench showers do I need, and where should they be installed?**

A: Per ANSI, emergency eyewashes and drench showers will be no more than 10 seconds or 55 feet to reach and must "...be located on the same level as the hazard." The number of eyewashes or showers needed for each hazard is based on the number of workers in that area and the probability that more than one will be exposed at the same time. (4.5.2, 5.4.2, 6.4.2, 7.4.2, Appendix B5)

### **Q: Is tepid fluid required by ANSI, if so how is it defined?**

A: Yes, ANSI Z358.1-2004 requires tepid water. Tepid water is defined by ANSI as fluid between 60-100°F (15.-37.°C). (4.5.6, 5.4.6, 6.4.7, 7.4.5, Appendix B)

### **Q: Does ANSI require the use of a shower curtain (S19-330)?**

A: During an emergency, that involves hazardous material, the injured is encouraged to disrobe to reduce the possibility of chemical burns, over exposure etc. In such a situation, specifically where both sexes work cooperatively, Bradley Corporation strongly recommends the use of a shower curtain. ANSI does not require it.

## **OSHA 1910.151c & ANSI Z358.1-2004**

**Q: Does ANSI allow a door between the particulate or hazardous material and where the emergency fixture is located?**

A: Where the contaminant is not hazardous, ANSI allows “swinging doors that open in both directions and require only minimal pressure to open...” Note that ANSI allows only 10 seconds to reach an emergency fixture, the path to the fixture cannot be obstructed.(Sections 4.5.2, 5.4.2, 6.4.2, 7.4.2)

**Q: How frequently should emergency fixtures be tested, and for what duration of time?**

A: Plumbed emergency fixtures should be tested on a weekly basis long enough to flush the line of sediment. Self-contained units should be visually inspected weekly. Bradley highly recommends using inspection tags (204-421) to document regular inspections. (4.6.2, 5.5.2, 6.5.2, 7.5.2, 8.2.4.2)

**Q: Are annual inspections required?**

A: Each year a facility must be inspected to ensure it is still in compliance per the current ANSI standard. Often work stations are relocated and new equipment is purchased, it is important to take the time to re-evaluate where your fixtures are located and be sure they are functional. (4.6.5, 5.5.5, 6.5.5, 7.5.5)

**Bradley provides complimentary annual inspections. (1-800-Bradley)**

To schedule your free inspection, go to [www.bradleycorp.com](http://www.bradleycorp.com) and click on **Where to Buy** at the top of the page. Enter your location information in the appropriate field and select **Safety Fixtures & Parts** as the product line. Contact the Safety Fixture Representative found at the top of the page to schedule an inspection.

**Q: Does Bradley offer any products to facilitate testing emergency fixtures?**

A: Bradley recommends the use of a shower tester (S19-330ST), which catches the water released from a drench shower and funnels it into a floor drain or bucket. Typically an eyewash tester gauge (269-1444) is placed over the eyewash to be sure it achieves a compliant pattern per ANSI Z358.1-2004. In addition, customers may use a flow meter, to confirm the flow rate.

**Q: Bradley is known for its BradTect yellow coating, how do coated fixtures differ from uncoated galvanized steel product?**

A: Bradley’s standard product features BradTect yellow coating, it provides superior corrosion-resistance in comparison to raw unprotected pipe that is directly exposed to natural elements and chemicals. As an added benefit, the bright yellow coating makes the fixture highly visible in cluttered, dim facilities, and is very easy to identify and locate during an emergency.

## **OSHA 1910.151c & ANSI Z358.1-2004**

### **Q: How do I know if I need to install an emergency fixture?**

A: Consult your organization's Safety Director/personnel for their recommendation. Review chemical MSDS sheets, which indicate the type of treatment recommended for each hazardous material. Other common locations are battery charging or welding stations, anywhere fine particulate or cleaning materials are present and areas where one may be exposed to blood borne pathogens. For specific guidance and a tailored survey of your facility contact the Bradley Corporation for a free annual inspection. (1-800-Bradley)

### **Q: Does ANSI address potable water and its use with emergency fixtures?**

A: Potable water is required by ANSI Z358.1-2004. It states that the fixtures should "ensure a controlled flow of flushing fluid". Flushing fluid is defined as "Potable water, preserved water, preserved buffered saline solution or other medically acceptable solution manufactured and labeled in accordance with applicable government regulations." (4.1.4, 4.4.2, 5.1.1, 5.4.5, 6.1.1, 6.4.5, 7.4.4, 8.1.1.2)

### **Q: Are self-closing ball valves compliant with ANSI Z358.1-2004?**

A: Emergency fixtures must be equipped with stay-open ball valves to be compliant in most installations. ANSI does however make note that "...a self-closing valve may be permitted in a school laboratory situation as a limited exception only where the enforcing authority is of the opinion that the hazard posed is not a serious threat." (Appendix B3)

### **Q: Does ANSI require an alarm system on emergency fixtures?**

A: ANSI states that:

"...users may also want to use audible alarms or a blinking light to indicate that the unit is in operation. These are particularly important in remote areas. Many companies connect valves electrically to warning lights or buzzers in central dispatch areas to alert the appropriate authorities when the unit is in use."  
(Appendix B4)

Alarms serve the functions listed below:

- Alert safety personnel that an emergency occurred and medical assistance is necessary
- Serve as a deterrent to vandals

### **Q: Does ANSI require that emergency fixtures feature a single-step activation?**

A: The current 2004 ANSI standard states that the fixture should go from 'off' to 'on' in one second or less. Bradley interprets this statement to mean that a compliant fixture requires only a single-step to activate. (4.2, 5.2, 6.2, 7.2, 8.2.2)

## Partsource, Installation & Maintenance

### **Q: What incoming water supply size should be used when installing eyewash or drench showers?**

A: According to the ANSI standard, the minimum flow rate requirements are defined below, the pipe size is based on Bradley fixtures.:

Eye/Face Wash (.4gpm/3gpm @ 30 PSI)=1/2" incoming supply pipe

Drench Shower (20gpm @ 30PSI) = 1" Incoming supply pipe

Combination Drench Shower w/Eyewash = 1-1/4" incoming supply pipe

*Note:* If the pipe size is too small, inadequate flow will be released and the unit will not provide enough flushing fluid.

### **Q: Where can I find information about how to maintain my emergency fixture?**

A: The ANSI standard requires that emergency fixtures be tested on a weekly basis to ensure the lines are clear of sediment and debris. ANSI also states that each facility should conduct an annual inspection to be sure they are compliant, as work stations may have changed and new hazards may be present.

**Bradley provides complimentary annual inspections. (1-800-Bradley)**

### **Q: I need parts, what is the best way to determine the model number I own and then locate a parts breakdown?**

A: If you know the product's model number, you may use Partsource (See button located in the right column of Bradley's webpage under emergency fixtures) or you may enter that model number in the search function to bring up the installation instructions, which feature a complete parts breakdown. If you do not know what model number you have, you may search via image and description under the Emergency Fixture category. Click on the technical data sheet for detailed descriptions of each model.

### **Q: Is there a minimum required distance between an emergency fixture and an obstruction?**

A: Yes, ANSI Z358.1-2004 states there should be a 16" clearance from the center of the spray pattern of a drench shower to the nearest obstruction and 6" from the center of the spray pattern of an eyewash or eye/face wash. (4.1.5, 5.4.3, 6.4.4, 7.4.4)

### **Q: What is the counter-top thickness for deck-mounted eyewashes and/or drench hoses?**

A: Bradley Corporation designs its fixtures around the standard one-inch lavatory deck thickness. If you need a fixture to accommodate a lavatory deck that is thinner or thicker than this, please contact Bradley's Customer Service Department for assistance. (1-800-Bradley)

## Partsource, Installation & Maintenance

**Q: I tested my eyewash or drench shower and it doesn't have enough pressure, does Bradley have any suggestions?**

A: First identify the source of the low pressure, which may be: incorrect pipe sizing, a system design issue, an improperly sized emergency thermostatic mixing valve, instantaneous water heater or an obstruction in the line, such as pipe dope, which occasionally accumulates at the flow restrictor on eye or eye/face washes. Another possible cause of low flowing pressure is due to inadequate source supply pressure, perhaps requiring an up-sized Water Service or a Domestic water booster system. A flowing pressure of 30 PSI (or 2 BAR) is required at the fixture supply connection. When installing an emergency thermostatic mixing valve, Bradley recommends the 20 GPM flow restrictor (S19-866, S19-866SS) for proper operation. With the restrictor in place, the design flow may be determined as given online by Bradley's Emergency TMV sizing program <http://www.bradleycorp.com/products/tmv/tools/EFXsize.jsp>

NOTE: Weekly testing will help alleviate debris accumulation. Testing the drench shower before the eyewash on a combination unit will promote the removal of larger debris through the shower that may otherwise accumulate at the more restrictive eyewash device.

**Q: What is the part number for the yellow plastic handle on my eyewash?**

A: The part number for the plastic handle only is 128-135.

**Q: I need to replace the dust covers for the chrome-plated eyewash heads, what part number should I order?**

A: The part number is 107-371, they are sold individually.

**Q: I need to replace the dust covers on my black eye/face wash sprayheads, what part number should I order?**

A: The eye/face wash dust cover is part number 107-428, they are sold individually.

**Q: I need to replace the inspection tags on my eyewash, what is the part number?**

A: Inspection tags are sold individually and have enough space to test the eyewash once every week of the year, as required by ANSI. The part number is 204-421.

**Q: What is the part number for the 1" and 1/2" chrome-plated ball valve?**

A: The 1" ball valve, used on drench showers is part number S30-059. The 1/2" ball valve used on eyewash and eye/face washes is part number S27-282.

**Q: Is yellow touch-up paint available?**

A: Bradley's touch-up paint is sold in a 12oz aerosol can, part number 269-964.

## **S19-921 On-Site® Portable Gravity-Fed Eyewash**

**Q: How does the On-Site (S19-921) compare to other gravity-fed portable eyewashes on the market?**

A: The On-Site or the S19-921 is a unique patented innovation offered exclusively by the Bradley Corporation. It features Bradley's hallmark clear yellow tank, accessible only when the fixture is being maintained, to prevent vandals from tampering with the contents. It provides the ANSI mandated 15 minute flush requiring only 7 gallons of water and an 8oz. bottle of preservative. The fixture ships with a mounting bracket allowing a customer to easily wall-mount the fixture. To facilitate the collection and disposal of the water, a waste cart (S19-399) may be purchased to move the product as working environments are reorganized. A heater jacket may be purchased (S19-921H, S19-921HR) to prevent the water from freezing in frigid conditions.

**Q: Will the On-Site (S19-921) eyewash provide more than a 15 minute flush?**

A: If the tank is filled completely, yes it will provide minutes of additional flush time. However the unit is designed to provide a single user a 15 minute flush.

**Q: How does the On-Site (S19-921) compare to the single use, preserved and sterile solution used in portable fixtures on the market?**

A: The On-Site allows people to view the contents inside the tank, activate the fixture, and still have enough fluid to satisfy the 15 minute flush requirement, provided that the water is not below the fill line. Competitive preserved and sterile portable eyewashes do not feature a clear tank, and allow for a single activation only. After that single activation, the unit is no longer compliant, and new pouches must be ordered and installed. This significantly increases the cost to maintain the fixture.

**Q: Is sterile solution required?**

A: No, neither the FDA, OSHA nor ANSI require that an eyewash be sterile. There are many ways to provide employees access to safe, reliable fixtures. Safety personnel may choose from plumbed fixtures, preserved or sterile solutions, or from gravity-fed eyewashes, which use potable water, combined with water preservative.

**Q: What is the shelf life of an unopened bottle of Kleersite Ultra Concentrate Eyewash Preservative (S19-865)?**

A: Two years from the date of manufacture.

**Q: Does Bradley Corp. sell a dust cover for the S19-921 to protect the unit from debris?**

A: Please contact Customer Service for assistance and reference part number 269-1627.

**Q: How often do the S19-921 Gravity-Fed fixtures need to be tested?**

A: After completing installation, test the eyewash briefly for proper operation by pulling down the tray. Visually inspect the eyewash weekly for cleanliness and proper solution level, as indicated on the tank. When the water level drops below the 15-minute fill line, the tank must be emptied and then refilled with potable water and preservative. (S19-865/S19-899) To refill the eyewash tank, follow the procedures outlined in the installation instructions.(Section 5.5.3)

## Portable Pressurized Eyewash Stations

**Q: Why would I need a ASME pressurized eyewash?**

A: Usually it is a code requirement. Units with the pressure vessel rating are traceable back to the unit's component part origin. ASME rated units are certified to that performance standard.

**Q: Can Portable Pressurized eyewash units be retrofitted with eye/face wash sprayheads?**

A: No. By retrofitting the fixture with dual eye/face wash heads, the tank will not provide the same flow rate/duration as indicated on technical data sheets. Many customers request a fixture that will provide a 15 minute flush (S19-690 or S19-788), by changing the flow rate, the fixture will not fulfill the 15 minute requirement.

**Q: What happens if I don't change out the water preservative every 120 days?**

A: Bacteria and other organisms will begin to grow after 120 days.

**Q: Can I clean the tanks with bleach?**

A: No, using bleach will corrode the stainless steel tank and is a dangerous liability, should the tank not be rinsed completely. The tank should be cleaned with warm, soapy dishwater and rinsed out before being refilled with potable water and preservative every 4 months.

**Q: Could the water freeze in the eyewash yoke if the unit has a Bradley heater jacket?**

A: No, the yoke is equipped with a heating element that will prevent the water from freezing.

**Q: Should a 5, 10 or 15 gallon tank, be filled with 5, 10 or 15 gallons of water respectively?**

A: No, a 5-gallon, 10-gallon, and 15-gallon tank should not be entirely filled with water. Each fixture needs to maintain a specific water to air ratio as called out in the installation instructions. If the tanks are filled with more water than indicated on the installation instructions, Bradley cannot guarantee that the unit will provide the appropriate duration of the flush.

**Q: If the unit has not been activated, should the eyewash be tested weekly as stated in the ANSI Z358.1-2004 standard? If it has been activated?**

A: The unit does not need to be tested weekly, but it does need to be inspected on a weekly basis, to ensure it is pressurized. If the unit has been activated, then it should be refilled, re-pressurized and tested as soon as possible after activation.(Section 5.53)

**Q: What if the water to air ratio is not exact?**

**Ie: Too much water and too little air in the tank.**

A: The height of the eyewash arch will remain standard, but the tank will be unable to provide the maximum duration of flow.

**Q: How should Portable Pressurized Eyewash tanks be pressurized?**

A: Bradley recommends two independent methods:

A CO<sub>2</sub> compressor at a high rating

A clean diaphragm air compressor with a clean supply

Note: Piston compressors often are used in conjunction with oil, which would be harmful to the eye. Refrain from using this type of compressor.

Bradley Emergency Fixtures Frequently Asked Questions Guide

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## **Eyewash & Eye/Face Wash Units**

**Q: How do I determine if I need to order an adapter with my faucet mounted eyewash (S19-200B)?**

A: The S19-200B, faucet mounted eyewash ships with three standard adapters. Bradley recommends that customers check the thread size and gender of their faucet, in advance and compare that to the details on the S19-200B technical data sheet.

**Q: Will the faucet mounted eyewash (S19-200B) work with a sensed faucet?**

A: No, this unit cannot be used in conjunction with a sensed faucet; the eyewash needs to have a constant supply of tepid water flowing to it. The valve must remain open once the user activates the fixture. (Section 5.2, 6.2)

**Q: What is the difference between standard eyewash spray heads, dual eye/face wash spray heads and an eyewash with a face spray ring?**

A: Standard eyewash sprayheads emit a gentle, concentrated flow of water designed to rinse the eyes. Bradley's black, eye/face wash sprayheads emit a soft, wide sprinkler-like flow of water to primarily rinse the eyes and areas around the eyes. Face spray rings are designed to emit a soft sprinkler-like flow of water that encompasses most of the face, and is used in conjunction with standard spray heads focused on the eyes.

**Q: Can spray heads be interchanged on Bradley eyewash units? If so, will I need to purchase and/or replace any parts other than the sprayheads?**

A: In most cases, sprayheads can be easily switched between standard eyewash and eye/face wash sprayheads. Bradley offers a few options for spray head and spray ring assembly replacement, however we recommend contacting customer service for direction on which parts to order and what components may need to be removed from the existing unit to be completely functional.

**Q: When I test my eyewash, the water shoots very high, sometimes out of the bowl; what would cause this and how can it be fixed?**

A: Inspect your fixture and be sure that the flow control is still positioned properly. If you own an eyewash or eye/face wash with a spray ring, your flow control will be located in the stem assembly. If you own a dual black head eye/face wash, the flow control is located inside each sprayhead. You may also soak your fixture's yoke in vinegar to remove lime deposits and build-up. Be sure to rinse with vinegar before reinstalling. Build-up causes the water to spray higher, similar to the effect when you place your finger over a garden hose.

## **Drench Showers/Combination Fixtures**

**Q: Under what circumstances would you recommend the installation of a scald valve on a drench shower or combination fixture?**

A: Scald valves are recommended for warm climates where ambient temperature regularly reaches 85°F /30°C and above for any length of time. The scald valve is activated when the water in the pipes reaches temperatures of 85°F /30°C and above. The valve opens and expels the hot water from the unit.

**Q: Why is it important to consider installing drains whenever possible?**

A: ANSI compliant drench showers feature a stay-open ball valve that allows the shower to flow at a minimum of 20 gallons of water per minute. A person is to remain under the drench shower for 15 minutes, which equates to at least 300 gallons of water that may collect and spread. Drains prevent water damage and minimize slip hazards. Alarm systems may serve as a strong deterrent to vandals, and will minimize the amount of water damage, should there be a false activation.

**Q: How does an Emergency Fixture drench shower differ from a standard household shower?**

A: A standard household shower releases a maximum of 3gpm. Per ANSI, a compliant safety drench shower must release a minimum of 20gpm. The high volume of water is intended to dilute and completely flush the hazardous material off the body. (4.1.4.)

**Q: I would like to test my drench showers, do you have anything to minimize the spray?**

A: The drench shower tester (S19-330ST) is typically used when activating the drench showers for testing purposes. See the technical data sheet on [www.bradleycorp.com](http://www.bradleycorp.com) for details.

**Q: I have a drench shower and would like to attach a single head drench hose, can the drench hose also be used as an eye/face wash?**

A: No. The single head drench hose is intended as a body wash only.

**Q: I have a barrier-free fixture, and would like to attach a foot treadle kit, in addition to the paddle activation handle. Would the fixture still be considered barrier-free with this addition?**

A: No, a foot treadle kit should not be installed on a barrier-free fixture.

**Q: I have a barrier-free fixture and wish to purchase the S45-2396, stainless steel retrofit dust cover kit. Will the fixture still be considered barrier-free?**

A: Yes. The fixture will still be considered barrier-free. The user merely needs to push against the stainless steel handle, which requires less than 5lbs of force, and the dust cover will pop open, and activate the fixture.

## Heat Trace Units

**Q: What is the difference between a Class I Division I and a Class I Division II fixture?**

A: Fixtures that carry a Class I Division I rating are typically selected for environments that have hazardous and explosive material present on a continuous basis. Class I Division II fixtures are normally installed in locations that have explosive materials that frequently enter and leave the vicinity. Consult the local authority having jurisdiction for proper compliance to codes in your area.

**Q: What do the Explosion Groups B, C, D signify?**

A: The groups signify that the fixture is rated for use when the explosive gases in these groups are present. See NFPA(National Fire Protection Association)/NFC (National Fire Code) for further information. Consult the local authority having jurisdiction for proper compliance to codes in your area.

**Q: I accidentally ordered a top supplied fixture, and need it to be bottom-fed. Can I re-locate the supply myself?**

A: No. Relocating the supply voids the manufacturer's warranty. The supply should not be relocated in the field; it presents a risk of freezing due to the configuration of the pipes and the location of the freeze valve.

**Q: Does the heat trace wire keep the water tepid? 60-100°F (15-37°C).**

A: No the heat trace wire, insulation and freeze protection valve prevent the water from freezing and bursting the pipes.

**Q: Can I order the fixture with a bowl, stainless steel dust cover or foot treadle kit?**

A: The heat trace (S19-300), cannot be ordered with a bowl, foot treadle kit or a stainless steel dust cover. The foot treadle kit and the stainless steel dust cover may freeze in place.

**Q: Is the Heat Trace available as a drench shower only?**

A: Please contact Customer Service for more information. (1-800-Bradley)

## Hand-Held Drench Hoses

**Q: Does a single head drench hose qualify as an eyewash under ANSI Z358.1-2004?**

A: Drench hoses are available with a single sprayhead or dual sprayheads. Per ANSI, drench hoses with a single sprayhead do not meet all the criteria of an eyewash because they do not have dual spray heads for flushing both eyes simultaneously. Compliant drench hoses with dual spray heads feature a stay-open ball valve and allow the hands to remain free to help open the eye lids. (8.2.1)

**Q: Can a drench hose be substituted for a drench shower?**

A: A drench hose is a supplemental device only. It will not satisfy OSHA or ANSI's requirement of a 20gpm and a 15 minute full body drench.

**Q: How does one choose a back flow preventer for a drench hose?**

A: Local codes and ordinances govern what type of backflow preventer is required. Bradley offers three models. See their technical data sheets for more information. Consult the local authority having jurisdiction for proper compliance to codes in your area. (S27-303, S45-2309, S45-2310)

**Q: What is the part number for an under-counter hose guide bracket for hand-held drench hoses?**

A: The hose guide bracket is part number 140-226.

## Flow Switch Alarm Systems

**Q: How does a flow switch alarm system work?**

A: The flow switch fitting is installed horizontally into the line with a vertical T. When the drench shower or eyewash has been activated, a paddle inside the alarm system toggles and activates the alarm system, sounding an audible and visual alarm. In cases where a separate electrical cable has been wired into the main control room, an electrical signal will be sent indicating an emergency has occurred and emergency personnel should be notified.

**Q: Does Bradley sell a flow switch only?**

A: Yes, please contact customer service. (1-800-Bradley)

**Q: Bradley's alarm systems are double pole, double throw, what does that mean?**

A: The number of poles refers to the total number of contact sets included with the alarm system. Meanwhile, the term throw refers to the positions with contact that are electrically isolated and available for connection.

Each of Bradley's alarm systems is double pole, double throw, meaning they include an extra set of electrical contacts, that allow hard wiring into a central computer system.

**Q: Can the eyewash alone trigger an alarm system?**

A: Yes. The flow switch activates at 2.4gpm, and all of our eyewash units have a flow great enough to activate the alarm.

**Q: Is it possible to connect the Flow Switch Alarm System to an existing security/safety system?**

A: Yes, Bradley Alarm Systems are DPDT, or Double Pole Double Throw, so there is an extra set of contacts in the flow switch junction box, which work mechanically in parallel with the contact set used by the local alarm. The contacts are electrically isolated from the set being used, so there is no interference. For more details visit [www.bradleycorp.com](http://www.bradleycorp.com), type S19-320 in the search function, and see page 8 of the installation instructions under "REMOTE SENSING OPTION".

**Q: Does Bradley sell a recessed alarm system?**

A: Yes, please contact Customer Service. (1-800-Bradley)

## Emergency Thermostatic Mixing Valves (TMVs)

**Q: Is tepid water required?**

A: Yes. The 2004 ANSI Z358.1 standard is the first to require tepid water. Tepid water is defined as 60-100°F (15-37°C). (4.5.6, 5.4.6, 6.4.6, 7.4.5, 8.2.3.4)

**Q: What differentiates Bradley's Emergency Valves from the competition?**

A: Bradley is the only manufacturer that makes its own emergency fixtures and emergency thermostatic mixing valves. Bradley employs a unique fixed cold-water bypass design to ensure that scalding does not occur.

**Q: What are the benefits of purchasing an Emergency Fixture Thermostatic Mixing Valve as opposed to a standard TMV?**

A: An emergency thermostatic mixing valve features an integral fixed cold-water bypass that provides cold water even if the hot water supply is lost. Bradley's valves maintain a full volume of water even if the hot water runs out before the ANSI mandated 15 minute flush is complete.

**Q: How do I properly size Emergency Thermostatic Mixing Valves?**

A: There are several factors to consider before getting started. First, you must determine the manufacturer's flow rate for each type of fixture. (The ANSI minimums are .4 GPM @30 PSI for eyewashes, 3 GPM @ 30 PSI for eye/face washes and 20 GPM @ 30 PSI for drench showers. However, manufacturers' flow rates may vary.) Second, figure out the pressure available in your building, taking into consideration that long runs of pipes add to pressure drop. Contact the valve manufacturer for specific pressure drop information.

Now, total up your fixtures and multiply them by their actual flow rates.

For example:

3 eye wash stations	3.0 GPM @ 30 PSI (actual flow)	9 GPM
4 eye/face washes	3.5 GPM @ 30 PSI (actual flow)	14 GPM
		23 GPM Total Output @ 30 PSI

You would need a valve that would provide a minimum of 23 GPM total output to accurately supply tepid water to all fixtures if they were used simultaneously.

**Q: What incoming water supply pipe size should be used when installing eyewash or drench showers?**

According to the ANSI standard, the minimum flow rate requirements are:

- o Eye and facewash (.4 gpm/3 gpm @ 30 PSI) = 1/2" incoming supply pipe
- o Drench Shower (20 gpm @ 30 PSI) = 1" incoming supply pipe
- o Combination Drench Shower w/Eyewash = 1 1/4" incoming supply pipe

If pipe size is too small, inadequate flow will be released and the unit will not provide enough flushing fluid. It is important to reference the installation instruction manuals for the equipment you are installing to ensure proper pipe size is being used based on the design of the equipment.

## **Bottled Eyewash**

**Q: If I have several bottles of eyewash near each other, does that satisfy ANSI?**

A: No. Bottled eyewash is a supplemental resource only. A compliant station provides 15 minutes of uninterrupted flow that follows an ANSI mandated pattern. Bottled eyewash is meant to be used for immediate first aid, and used to flush the eye before the 15 minute flush. (5.1.6, 5.1.8, 6.1.6, 6.1.7, 8)

**Q: How does one interpret the stamped date code on the bottled eyewash?**

A: Prior to January of 2007. The Date code was stamped as you see it below.

Example: B40520A ←Alphanumeric code indicating lot # for tracing batches of eyewash solution.

EXP 04/06 ←Expiration date deciphered as 04 = April, 06 = 2006

**Q: What is the shelf life of Bradley's bottled eyewash?**

A: The Opti-Aid, Opti-Aid Plus and the OneStep have an expiration date of 3 years from the date of manufacture. Please note, when the seal has broken, the solution is no longer sterile and the bottle should be disposed.

## **Frost-Proof/ Barrier-Free Solutions**

**Q: What type of fixtures does Bradley manufacture that accommodate freezing conditions?**

A: The Bradley Corporation offers three different types of products that accommodate freezing conditions.

One of the most popular solutions is the Heat Trace (S19-300), this product is built to order, and features a thermostat and electrical cable that wraps around the pipes, which are then covered with insulation. It also features a freeze protection valve that bleeds off the cold water prevents freezing if power is lost. The Heat Trace is often installed in locations that may reach -50°F or those that require a Class I Division I or Class I Division II rating.

Another alternative would be a frost-proof fixture, which features a buried ball valve, or a valve that is located inside the building, sheltered from freezing conditions. Other versions of these fixtures feature a supply connection pipe that extends into the ground below the frost line. Excess water is drained off this pipe and is expelled to prevent pipes on the surface from freezing and/or bursting when ambient temperature is below freezing. To order this fixture, a customer should know the freeze depth in their region. (S19-120HFP, S19-210HFP, S19-220HFP, S19-310HFP, S19-310TW, S19-310NN)

Frost-proof valves are a third solution that are recommended for locations that may on occasion have temperatures below freezing, but primarily remain above 32° F/ 0°C. Freeze valves are activated at 45°F / 7°C and function by opening to expel water in the pipes onto the ground, or through a hose or diversion instrument attached to remove water from the pipes so it doesn't have a chance to freeze. This method is not recommended in areas where freezing temperatures are frequent and last for any extended period of time. (S45-1986, S45-1987)

**Q: I need an ADA compliant Emergency Fixture, does Bradley offer fixtures that comply?**

A: ADA does not directly address Emergency Fixtures in its text. Bradley does however have many fixtures that have been designed with handicapped accessibility in mind. These fixtures are referred to as Barrier-free. Bradley dedicates a specific Barrier-free section of emergency fixtures, to these handicapped accessible units.

**Q: I purchased a standard fixture and would like to make it handicap accessible, or Barrier-free, what parts do I need to order?**

A: Please contact Customer Service. (1-800-Bradley)