Product Manual

B-Safety ClassicLine & PremiumLine Emergency Shower Equipment

1. Application

Emergency shower equipment are prescribed first aid installations for workplaces where hazardous substances are handled. They are used for the decontamination of people in emergency situations. They are not a replacement for personal protective equipment. This manual must be left with the facility and people exposed to hazardous materials need to be trained in the operation of this equipment.

2. Water Supply

B-Safety emergency shower equipment must be connected to the drinking water supply. A risk assessment should be carried out to determine if any additional back flow prevention devices are necessary.

Pipework must be flushed before connecting emergency shower equipment to the water supply to prevent contaminants damaging the product. Issues resulting from pipework which has not been flushed will not be accepted under warranty.

3. Standards and Regulations

Installation, commissioning and maintenance of B-Safety Shower equipment must be carried out by a designated, qualified and competent specialist. B-Safety shower equipment is certified as compliant with AS 4775-2007 and ANSI Z358.1-2014. It must be installed, commissioned, operated and maintained in accordance with this B-Safety Product Manual and AS 4775-2007, as well as the Plumbing Code of Australia (PCA), AS/NZS 3500, the relevant Work Health and Safety (WHS) Regulations and any other applicable regulation. No liability is accepted for loss or damage which occurs as a result of failure to observe the operating and maintenance instructions and the operating conditions.

4. Specifications

Max Static Pressure	1000 kPa	
Max Dynamic Pressure	500 kPa	
Minimum Dynamic Pressure	210 kPa	
	Minimum flow rate at 210 kPa dynamic pressure required to achieve AS 4775-2007 and ANSI Z358-2014 compliance*	B-Safety resultant flow rate when tested at 210 kPa dynamic pressure (flow regulator)*
Emergency Shower flow rate	75.7 L /min	>75.7 L/min
Water Supply Inlet Pipework Minimum Size	40mm OD for emergency shower equipment 15mm OD for emergency eyewash and eye/face wash equipment	

* As per AS 4775-2007 the installer needs to ensure that when installed, the shower achieves the minimum flow rate in the above table. A flow regulator is fitted with each emergency shower. The installer needs to assess whether or not the flow regulator is used, particularly when pressures are lower than 210 kPa. Factors to consider may include whether the flow rate is insufficient.

5. Recommended Water Flushing Temperatures

B-Safety recommend tempered water with a flushing temperature between 15.6°C and 25°C is used for emergency shower equipment. The water supply must be guaranteed for at least 15 minutes of flush time. Please refer to the recommendation in AS 4775-2007 that the fluid shall be delivered at a tepid temperature – (*'A recommended temperature range for tepid fluids is 15.6°C to 37.8°C.' – AS 4775-2007).*

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A risk assessment shall be undertaken and documented during design and installation. It should then be reviewed on a periodic basis to determine the appropriate water flushing temperature for the application. As part of this process, it may be helpful to consult medical and work health and safety professionals and suppliers of hazardous chemicals to determine the flushing temperature. The person responsible for work health and safety at the facility should be involved in this process.

6. Location and Installation Height

The B-Safety shower equipment must be installed as close as possible to the hazardous workplace. Access must always be unobstructed and positioned in an accessible location for immediate use. There must be at least 400 mm of free space around the emergency shower. It shall require no more than 10 seconds for a person to reach and as a guide this may mean a maximum of 10 metres away. However, there are situations where the equipment must be much closer. We recommend a maximum distance of 3 to 5 metres if highly corrosive substances are being used.

Please refer to AS 4775-2007 for specific information regarding location and installation height. The area around the equipment must be well illuminated and clearly marked with easily visible signs. A risk assessment shall be undertaken and documented during design and installation. It should then be reviewed on a periodic basis to determine the most appropriate location. As part of this process, it may be helpful to consult medical and work health and safety professionals and suppliers of hazardous chemicals. The person responsible for work health and safety at the facility should be involved in this process.

7. Containment and Disposal of Fluids

A risk assessment should be carried out and documented to determine the most appropriate method for the proper containment and disposal of waste flushing fluids. An adequate sized drain must be installed.

8. Installation

Installation must be carried out in accordance with AS 4775-2007, which includes a risk assessment to determine methods for the proper containment and disposal of waste flushing fluids from operating the equipment. In order to avoid damage to furnishings and floor, the shower should be installed in the vicinity of an adequately sized drain so the water emerging from the shower can be if necessary drained off securely into a suitably sized containment reservoir or tank. Every effort must be taken to avoid any damage or pollution being caused by escaping water when the emergency shower is in use. In accordance with AS 4775-2007 the shower must be installed such that the shower head height is between 2083 mm and 2438 mm, measured from the floor surface.

8.1 Wall/Ceiling Mounted Emergency Showers

Wall or ceiling mounted versions must be bolted securely to the wall/ceiling or appropriate special structures. The attachment technique can be established by the installer on site depending on the design.

8.2 Over-Door Mounted Emergency Showers

For the over door emergency showers the emergency shower is supplied with a valve adapter (type A) already attached for fitting the pull rod valve on the right next to the door. If there is a desire to fit the pull rod valve to the left next to the door, the valve adapter (type A) which is fitted must be replaced by the valve adapter (type B) which is supplied loose. The special tool (C31) which is supplied must be used to fit the valve adapter on the ball valve. The nut of the ball valve must be secured with a standard screw locking device.

8.3 Freestanding Emergency Showers, Emergency Shower Cabins, Emergency Shower Stations

Freestanding emergency showers, emergency shower cabins and emergency shower stations must be bolted securely to the subsurface by means of the base plate and the securing lugs. The best method of installation can be determined by the installer on site depending on the design.

8.4 Emergency Showers with Foot Lever or Platform Operation
Platform activations must be bolted securely to the subsurface. The pedal activation is either bolted to the lug provided on the ground plate or bolted securely to the subsurface. The best method of installation can be determined by the installer on site depending on the design.

The trigger rope is cut to length in the factory. On site it must be ensured that the trigger rope opens the valve fully under appropriate load of the platform / pedal but still has some play. If this play is not present the rope must extended correspondingly otherwise the shower valve may be damaged. When the return spring is fitted on site ensure that the spring holds the platform / pedal at the correct height and that there is no load on the trigger rope to the valve.

8.5 Emergency Showers with Catch Basin
The water drainage occurs via a 40 mm minimum external thread drainage pipe. The further water disposal must be constructed on site. Spray water may also fall outside the basin, especially if the user provides a wider distribution. Please use our strip curtains if this could create danger.

8.6 Frost Protected Self-Draining Emergency Showers with Draining in a frost protected area
The water connection and the feed to the shower must be installed in a frost protected area. During the installation of the trip valves and shower it is important that the water feed line to the shower slopes down to the shower so that the shower is emptied automatically.

8.7 Frost Protected Emergency Showers with Underfloor Actuation
The stainless steel box in which the activation and drainage are located must be placed on a ballast/gravel bed so that the water which is present in the shower can run off into the soil without obstruction following use. Consideration must be given to the best layout of the drainage bed to guarantee problem free operation for many years.

8.8 Models with different Eyewash and Eye/Face Wash Variants
Please also refer to the Product Manual for B-Safety ClassicLine & PremiumLine Emergency Eyewash and Eye/Face Wash Equipment.

8.8.1 Models with Eyewash and Eye/Face Wash
Make connection between eyewash or eye/face wash and emergency shower with the adapter provided.

8.8.2 Models with Handheld Eyewash and Eye/Face Wash
Screw in the bracket for supporting the handheld eyewash or eye/face wash at a height of approximately 800 mm. Make hose connection between handheld eyewash or eye/face wash and emergency shower with the double nipple adapter.

8.8.3 Models with Eyewash Units with White Bowl
Remove the base of the eyewash unit. Drill the holes for the attachment of pipe clamps with the drilling template provided. Place the eyewash on the emergency shower at a height of approximately 900 mm securing in place using the pipe clamps, nuts and bolts. Locate the base and connect the hose from the eyewash to the emergency shower with the double nipple adapter.

9. Safety Marking
Safety marking is provided (self-adhesive information sign) and should be affixed beside the B-Safety shower equipment in accordance with AS 4775-2007 and AS 1319.

10. Emergency Shower Operation
Always refer to the material safety data sheets (MSDS) of hazardous substances used in the location where the emergency equipment is installed for first aid advice on those substances. In an emergency seek medical attention immediately. People who may be exposed to hazardous materials shall be trained in the location and proper operation of this emergency equipment.

We recommend that an additional handheld eyewash is used to support the cleaning process. The rinsing effect of a safety shower in a first-aid-case is thus improved further.

10.1 Operation of Emergency Showers with Lever or Pull Rod
The activation of the B-Safety emergency showers with lever or pull rod occurs by pulling down the lever or the pull rod. If this is activated the handle locks in the open position. The shower is closed by pushing the lever or pull rod upwards.

10.2 Operation of Emergency Showers with Foot Lever or Platform Activation
The activation of the B-Safety emergency showers with pedal or platform activation occurs by pressing down the pedal or platform. Closing the shower occurs by pushing the valve back into the closed position.

10.3 Operation of Frost Protected Self-Draining Emergency Showers with Underfloor Actuation
The activation of the B-Safety frost protected self-draining emergency showers with underfloor actuation occurs by pressing down the pedal or platform. In order to switch off the shower, first press the clevis of the pull rod activation of the underfloor activation down. The pull rod must remain in the open position for a few minutes in order to guarantee complete emptying.

10.4 Models with Eyewash and Eye/Face Wash Equipment
For operation of the eyewash and eye/face wash equipment please refer to the separate Product Manual document for the eyewash and eye/face wash equipment.

11. Maintenance and Care
The Emergency shower equipment must be inspected for externally visible damage and defects after installation, prior to initial start-up and subsequently at the time periods stated below and following modifications or repairs.

B-Safety emergency shower equipment must have their functionality checked once a week (AS 4775-2007). It should be activated for approximately 5 seconds for this purpose. In this way the function is tested and the stagnant water in the equipment is replaced by fresh water (to reduce microbial contamination) and sediment is flushed out.

All Emergency shower equipment must be inspected annually to ensure continuous readiness for operation of the equipment and conformance with the requirements of AS 4775-2007. As part of the annual inspection the following should be checked: leaks, contamination such as dust or calcium deposits, defective parts, corrosion, signage, temperature of water (e.g. heating of water from the sun or freezing) and flow. The hose of the handheld eyewash and eye/facewash equipment must be examined for possible twists, kinks or other forms of damage. Defective parts must be replaced immediately.

A tag must be permanently attached to all shower equipment and should be marked at the successful completion of each annual inspection.

Test	Interval	Who	Reason
Functional Test	Weekly	End User	• Protection against contamination from stagnant water (regular change of the standing water) • Ensuring the short-term readiness for operation of the equipment
Extensive Service	Annually	Qualified Specialist	• Ensuring the continuous readiness for operation of the shower • Replace any backflow prevention device every 2 years

12. Care

In the event of contamination or calcium deposits the emergency shower equipment should be cleaned properly with a suitable cleaning agent which is not aggressive towards the fittings and then rinsed with water following use. High pressure cleaners must not be used.

13. Faults

Fault	Possible Cause	Possible Solution
The quantity of water which flows out of the shower does not appear to be sufficient	• Water pressure is too low or pipe diameter of the feed pipe is too small	• Check the pipework to make sure that the pipe size is adequate for the required flow rate and that the available water pressure is also capable of delivering the required flow rate
The quantity of water which flows out of the eyewash or eye/face wash does not appear to be sufficient	• Water pressure too low or pipe diameter of the feed pipe is too small	• Check the pipework to make sure that the pipe size is adequate for the required flow rate and that the available water pressure is also capable of delivering required flow rate.
	• Flow regulator blocked or defective	• Remove the flow regulator and clean it. Change the flow regulator
Water drips out of the shower continuously	• The valve is not closing properly	• Check the valve stop for damage and ensure that the valve is pressed back into a completely closed position
Water drips out of the shower continuously	• The valve seal is damaged	• Change the valve
The emergency shower equipment, eyewash or eye/face wash do not switch off automatically after use	• This is NOT a fault according to AS 4775-2007	• This is NOT a fault according to AS 4775-2007

13. Disposal

The emergency shower equipment can be fully dismantled. The individual sections such as metal, insulation and other parts may be sent for recycling separately. National and local waste disposal regulations must be observed.