HUGHES
HUGHES-SAFETY.COM
Justrite Safety Group

Installation, Operation and Maintenance Instructions

Emergency Tank Showers

- **Immersion Heated (including Polar)**

Warranty Information

Hughes Safety Showers Ltd guarantees the products it manufactures or sells against defects in workmanship and material for a period of one (1) year from the date of invoice. The product must be used, maintained and installed according to the instructions and procedures provided, or this warranty is void. Any alteration or modification of the product will also void this warranty. Hughes Safety Showers obligation under this warranty is limited to repair or replacement of defective products. No other warranty or remedy shall be provided. This warranty specifically does not guarantee or cover payment or reimbursement of any damages or consequential damages other than repair or replacement of the product.

Any claim under this warranty must be made in writing within twelve (12) months of the date of invoice. The owner must prepay shipping costs of all products returned to Hughes Safety Showers Ltd under this warranty. If it is determined that the product is defective in material and /or workmanship the repair or replacement will occur, at Hughes Safety Showers option, at no charge and return freight prepaid by Hughes Safety Showers. All other return of the product to the owner shall be at the owner's expense.

Proper use by the customer is necessary for the effectiveness of the product, as well as the safety of those using the same. The user is solely responsible to determine the suitability of any Hughes Safety Showers product for any intended use. The user assumes all risk and liability for use of any Hughes Safety Showers product. User specifically acknowledges receipt of proper instructions regarding the use of the product in the original packaging and disclaims any consequential damages to person or property, damages for loss of use, lost time, loss of profit, lost income, loss of the Hughes Safety Showers product itself and/or other incidental or consequential damages other than as warranted by this limited warranty. User accepts the responsibility of removing from service any product that becomes worn out, unusable, unfit for the intended use or defective in any way such as to make the product a potential safety hazard. Hughes Safety Showers is unable to undertake such obligations or responsibilities on behalf of the user as the user is in sole possession and control of the product.

General Considerations

When planning the installation of emergency safety showers and eye/face wash equipment, the advice of a qualified first aid representative or medical advisor should be sought to establish the most suitable location and procedures for first aid and decontamination.

Installation should be in accordance with local legislation and industry standards such as EN15154 and/or ANSI Z358.1-2014 recommendations. Visit www.hughes-safety.com/standards for more information.

Location & Accessibility

- Emergency safety showers and eye/face wash equipment must be installed within 20 metres, or 10 seconds reach of, and on the same level as, a potential hazard. Where strong acids or caustics are used, equipment must be immediately adjacent to the hazard and outside of any spray paths.
- Equipment must be in a prominent position, free from any obstructions and clearly visible.
- Adequate drainage should be available in the area around and underneath the safety shower or eye/face wash. Consideration should be given to the placement of equipment in the vicinity of the safety shower that are sensitive to water or diluted chemicals, notably electrical items.
- For equipment located indoors, wastewater must be contained for subsequent safe disposal or there must be adequate drainage. Procedures must be in place for cleaning residue water after safety shower use.
- Loose objects or gravel should not obstruct the operation of the shower where walk-on foot panels or foot treadles are fitted.

Visibility

- An ISO 3864.1 compliant safety sign should be displayed on or near the safety shower or eye wash. The sign should be well positioned so it is visible to all within the hazardous area.
- The area must always be well lit with the operating mechanism remaining clearly visible.

Installation and Commissioning

Assembly and mounting

The safety shower may be supplied partially assembled to reduce transport costs (unless specified otherwise at point of ordering).

Equipment must be mounted to a suitable level surface using bolts of a length and type to suit the base material. Please refer to the general arrangement drawings for position of fixing bolt holes.

Once mounted, the stability should be tested to ensure it is safe and poses no danger to the user.

Please note that space should be made available above the shower to enable removal of the tank lid for maintenance purposes.

Installation of safety showers

Once assembled, the shower rose or nozzle, and eye wash diffusers should be removed during initial flushing.

All pipework should be flushed prior to connection to clear the line of all installation debris.

The shower should be activated to ensure proper operation.

Care must be taken not to over-tighten the shower rose, nozzle or eye wash diffusers when replacing after flushing.

The commissioning procedure for the syphon dump valve optional fitting (if purchased) can be found at www.hughes-safety.com using the search function.

CAUTION: For units with electrical heating, it is essential that a water supply is established, and the equipment is checked before connection to an electrical supply.

Installation of eye and eye/face washes

Prior to initial operation it is advisable to remove the “Y” strainer filter basket, where fitted, along with the diffusers to ensure they are free of any debris. Once refitted, test to verify proper operation. (see fig. 1 and fig. 2)

Once the Y strainer head is removed, using a 22mm box spanner or socket, the gauze filter can also be removed and cleaned. (see fig. 1)

If necessary, the flow rate of the eye/facewash diffusers be adjusted via the three-pronged regulator or using the grub screws on each side of the tee-piece in the centre of the eye/facewash bowl. A 4mm allen key will be required for this adjustment. (See fig. 3)

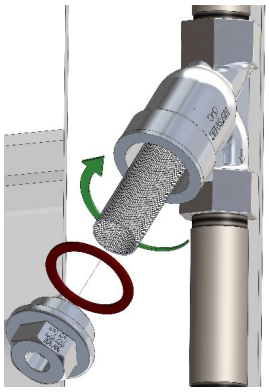

Fig. 1

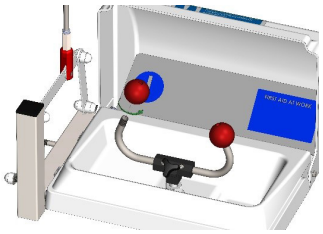

Fig. 2

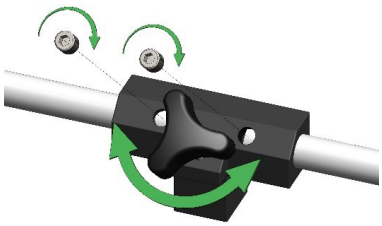

Fig. 3

Water supply and supply pipe materials

Emergency safety showers and eye/face wash equipment must be fed from a potable water supply – drinking water or water of a similar quality.

Minimum Supply Pressure: 0.5 Bar (7 PSI)
Maximum Supply Pressure: 7 Bar (101 PSI)

Where a high unregulated pressure is experienced, this must be monitored to ensure it does not exceed the recommended maximum. If the water pressure exceeds the recommendations, please contact Hughes Safety Showers for advice.

The water supply pipe must be of a material compatible with the safety shower and/or eye/face wash equipment to avoid corrosion.

The supply pipe should have at least the same diameter as the inlet pipe on the equipment.

If required, the supply pipe should be fitted with a non-return check valve.

Minimum flow rates must be in accordance with International and European standards, namely EN15154 or ANSI Z358.1-2014.

Water inlet size: Please refer to your general arrangement drawing for details.

Good practice: Fit isolation valves to the supply pipes in an accessible position for use during maintenance. These valves should have locking mechanisms to prevent unauthorised shutoff and be labelled accordingly with fixed permanent tags.

Electrical supply

Where an emergency safety shower, eye or eye/face wash unit requires an electrical supply, either for heating, cooling, alarms or lighting, then the supply should conform to the requirements as detailed in the job specific electrical drawings.

Electrical equipment fitted to these units should be supplied through a safety protection device (MCB, RCD, RCCB for example) to provide additional protection against electric shock while also ensuring satisfactory protective bonding arrangements are in place. Please consult a qualified electrician when installing & commissioning electrical equipment.

CAUTION: Safety showers with non-certified electrical equipment cannot be used in hazardous areas, as per IEC-60079-10 and API RP 505.

To comply with ATEX Directive 2014/34/EU please note: *“The enclosure is non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.”*

Electrical details

The electrical components of the shower are wired into junction boxes positioned as shown on the general arrangement drawing. Wiring diagrams are provided with each shower and placed inside each junction box.

Immersion heaters are available for both hazardous and non hazardous areas.

For hazardous areas, these are ATEX certified (IECEx & EAC certified version also available) and are wired to a separate junction box.

Electrical rating (for hazardous and non-hazardous version): 240VAC, 1 phase, 50/60Hz, 3kW.
Different voltage versions (three phase - single phase) are available upon request.

350L tank shower immersion heater power rating (for hazardous and non-hazardous version): 1kW.
1500L & 1200L tank shower immersion heater power rating (for hazardous and non-hazardous version): 3kW

Operation

Employees working within hazardous areas must be trained in the use and location of emergency safety showers or eye/face wash equipment. Instructions for all emergency equipment should be readily available and accessible to personnel.

Safety shower activation methods (where fitted):

- Pull handle
- Push down lever
- Foot treadle
- Walk on foot panel
- Push activated panic bar (emergency tank showers only)

For optimum safety, the valves remain open when activated and must be shut off manually.

Eye and eye/face wash activation methods (where fitted):

- Lift lid
- Pull lid down
- Push plate
- Push down lever
- Lock-on actuating button
- Foot treadle

Maintenance

Regular servicing and maintenance of emergency safety shower and eye/face wash equipment is essential to ensure correct functionality. All services and weekly activations must be recorded to ensure a full history is maintained as per European and International standard requirements.

Weekly activation

All equipment should be visually inspected and activated at least once a week to ensure it is operating properly, to clear the line of any sediment build up and check that the water runs clear.

Where fitted, the external test handle can be used for ease.

Please visit www.hughes-safety.com/weekly-activation to download the checklist and video detailing what to look out for to remain compliant.

Servicing and cleaning

Hughes recommend equipment be serviced and cleaned regularly, and at least every 6 months. To discuss Hughes service contract options or to purchase spare parts call us on +44 (0)161 430 6618 or email service@hughes-safety.com

Periodic analysis of the water quality is recommended to ensure there is no build-up of harmful bacteria.

Regular cleaning of the outside of the emergency equipment is recommended. Abrasives or solvents must not be used to clean the unit as this can damage the surface or affect the instruction stickers.

Servicing and cleaning (continued)

Safety showers:

- Remove the shower head/nozzle periodically to clean, disinfect and ensure any build-up of debris or bacteria is removed.
- Remove the shower rose and replace after flushing.

Tank Showers (we strongly recommend organising a service via Hughes):
Tank showers should be internally disinfected to combat legionella and other bacteria growth.

- The water supply is isolated, the shower rose and filter is removed and placed in a container of 50 PPM dissolved Free Chlorine for 1 hour.
- The lid is removed and the tank is cleaned then refilled with clean water. Chlorine release agent is added to the water to gain 50 PPM of Free Chlorine for 1 hour.
- The eye bath is operated to hold chlorinated water in the feed line. After being left for one hour, the system is emptied and flushed with clean water before being refilled. The rose and filter are replaced.

Eye and eye/face washes:

- The fine mesh strainers should be cleaned regularly, particularly in the first 6 months of service as there may be contamination of the water from dirt, jointing compounds, etc. which may have remained in the pipework following installation, despite the recommended flushing procedure.
- Nozzles should be cleaned regularly; the frequency will depend on the ambient conditions of the installation.
- Diffusers can be unscrewed for cleaning.
- To clean the 'Y' strainer filter basket remove the strainer housing using a 22mm socket. The filter basket can be found inside the housing and can easily be removed for cleaning. To ensure hygienic operation, the diffusers and filter baskets should be replaced if they become excessively dirty or damaged.
- After any cleaning or maintenance work has been carried out on the equipment it is imperative that the eye and eye/face washes are given a full operational test and any flow regulator or volume control screws are re-adjusted to ensure optimum performance. It is recommended that eye wash diffusers are replaced every six months.

Electrical equipment:

- Thorough visual inspections should be carried out to check for external damage to the electrical units, their cables or the junction boxes. Should any part be found to be damaged, this must be reported and repaired or replaced as soon as possible. A further test should be carried out to establish that it functions as intended. Any additional electrical tests should be carried out at the discretion of a qualified electrician.

Out of Service Procedure

In the event of an emergency safety shower, eye bath or eye/face wash unit being temporarily out of service, a standard procedure should be followed.

- Place a sign on the unit indicating it is 'Out of Service'.
- Notify the relevant manager/supervisor of the area that the unit is out of service
- Prohibit or suspend any work where there is a significant hazard requiring use of the unit
- If work cannot be prohibited or suspended, a portable unit must be provided to supply the initial wash only, after which it will be necessary to move the person to a plumbed emergency safety shower, eyebath or eye/face wash unit to complete the procedure.

Note: Portable units are not acceptable as a long-term substitute for permanent locations.

A selection of our emergency safety showers are available to hire. Ensure your workforce are protected around the clock, visit www.hughes-safety.com/hire for more information.