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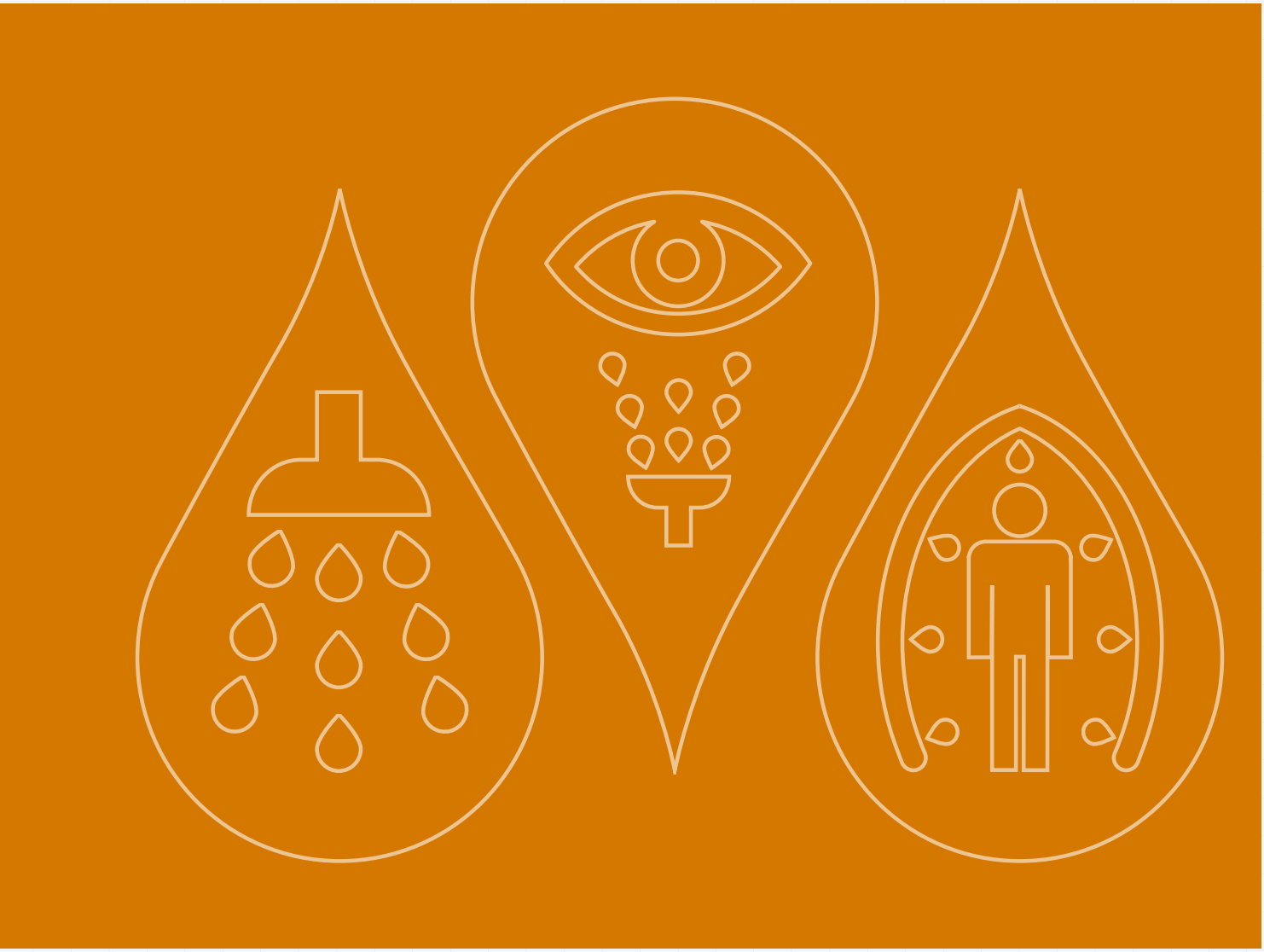
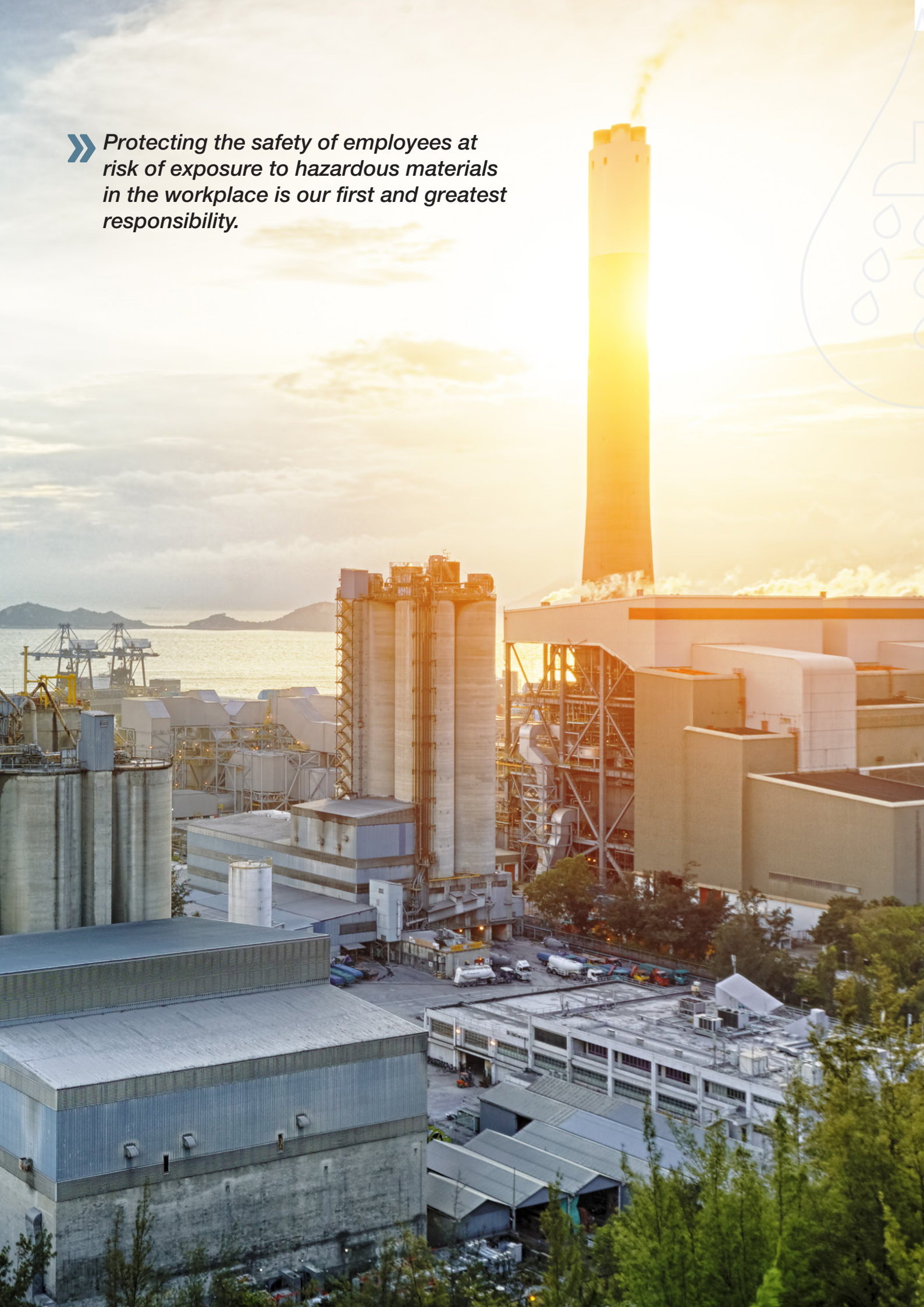
Justrite Safety Group

Industrial Safety Showers and Eye/Face Washes for Hot Climates

» Tepid water solutions from Hughes Safety Showers





Protecting the safety of employees at risk of exposure to hazardous materials in the workplace is our first and greatest responsibility.

Contents

The Importance of Tepid Water	4-5
Tepid Water Solutions	6
Tank Showers and Coolers	6-7
Hughes Zero Power Cooler	8-9
Tank Shower Accessories	10-11
Self-Draining Solutions	12
Jacketed Solutions	13
Mobile Safety Showers	14
Self-Contained Eye Washes	15

The importance of tepid water

The international standard for safety showers and eye/face wash equipment ANSI Z358.1-2014, specify that water delivered by an emergency safety shower must be tepid. Tepid water is controlled within a fixed temperature range. For the ANSI standard this is stipulated as 16C to 38C (60F to 100F).

Why is tepid water important?

Imagine a situation in which a worker spills a caustic agent such as bleach and suffers immediate chemical burns. They follow procedure and rush to the nearest emergency shower to activate it, but the water has heated up to above 38C (100F) due to solar radiation and high ambient temperatures. The water scalds the casualty, adding temperature burns to their chemical injury.

When skin is exposed to the heat of the scalding water, blood vessels close to the surface of the body dilate to allow more blood flow to the area. This removes heat from the skin and prevents the core temperature from rising too high, blood is directed away from vital internal organs and causes cardiovascular strain. In the event of a chemical spill or splash this process allows more chemicals to be absorbed through the skin, worsening the injury and causing potential internal damage.

In addition, on realising the water is too hot, the casualty may jump out of the shower too early, leaving chemicals on their skin and/or clothes. This residual chemical can still cause tissue damage.

Whether the water is scalding or freezing, the natural human reaction is to withdraw from the extreme temperature to protect the body. ANSI recommend at least 15 minutes of shower time to completely rinse away most hazardous chemicals. The only way to ensure this length of time is possible is to control the water temperature in the tepid range.

Challenges of Tepid Water Provision

- **Remote Locations**

From oil refineries to manufacturing plants, there are many situations in which industrial operations must occupy large areas due to the complex combination of processes and the high volumes produced. Expansions to existing facilities to take advantage of economies of scale increase the site footprint even more.

Remote sections of a plant can be a significant distance from utility supplies. Some areas may suffer from low water pressure and supply, while others may not be connected to a utilities network at all.

- **Extreme Ambient Temperatures**

Oil and gas fields, mining sites or petrochemical facilities need to be close to their raw material supply.

Many of these sites operate in extreme conditions—like the intense heat of the Middle East in the summer. The ambient temperatures can reach highs of +54C (129F) in the summer making it difficult to supply water in the tepid range.

- **Plant Expansions**

Over the years of their life, production facilities require expansions and modifications to keep pace with production needs and product changes. Each time this happens, demand rises on their central utility systems.

In some cases, plants reach the capacity of their potable water supply and adding another emergency shower that needs tepid water becomes more challenging.

Emergency Tank Showers

Emergency tank showers are essential in remote environments where tepid water or a constant supply of water is unavailable. These units are suitable for use where insufficient water pressure exists or when it is impractical to use a plumbed-in safety shower.

Self-contained and resilient, emergency tank showers are often the simplest and most comprehensive way to stay compliant.

ANSI compliant water flow, allowing for full decontamination
Model shown: EXP-J-14K/1500

- The 1500L tank shower meets and exceeds ANSI requirements providing 76 litres of potable water per minute for the recommended 15 minutes
- Gravity-fed to ensure correct and consistent water flow
- Corrosion-resistant, stainless steel frames are designed to be earthquake-proof and conform to the California Building Code
- Quick and simple to activate using the highly visible panic bar - add an optional foot panel for hands-free operation
- External water level indicator provides visibility of tank levels
- Covered eye/face wash unit protects against dust and debris

EXP-J-14KS/1500
shown with Hughes Zero Power Cooler®

Hughes tank showers are fully customisable to fit your application

See pages 10-11

Description	Capacity Litres/US Gal	W x D x H	Inlet Size	Minimum Pressure bar g/PSI	Water Flow per Minute Litres/US Gal	Model
1500L tank fed safety shower - jacketed and insulated	1500/396	1366 x 1495 x 3845mm 54 x 58.9 x 151.4in	3/4" female BSP	0.5/7	76/20 (shower) 12/3 (eye/face)	EXP-J-14K(S)/1500

Tank Shower Cooling Options

Non-flameproof Chiller Unit

This chiller unit, for areas classified as non-hazardous, will maintain the tank water temperature within the tepid range.

- Side mounted, freeing up valuable floor space
- Fitted with an air-filter to prevent ingress of dust/sand and inhibit damage to the unit
- Ability to set required temperature range ensuring the water in the tank remains tepid at all times
- Completely retrofittable to your existing Hughes emergency tank showers

Description	Total Cooling Duty	W x D x H	Power Supply
Non-Flameproof Chiller Unit - Single Phase	3 kW	580 x 840 x 510mm 22.8 x 33 x 20in	230V/1Ph/50Hz or 230V/1Ph/60Hz
Non-Flameproof Chiller Unit - Three Phase	3 kW	580 x 840 x 510mm 22.8 x 33 x 20in	380-420V/3+PE/50Hz or 440-480V/3+PE/60Hz

Flameproof Chiller Units

Flameproof chillers are suitable for use in hazardous environments (ATEX Zone 1) and will maintain the water temperature within the tank in the tepid range.

Flameproof Chiller Unit - Zone 1

- Suitable for hazardous environments, ATEX certified
- Completely retrofittable to your existing Hughes emergency tank showers
- Ability to set required temperature range ensuring the water in the tank stays tepid at all times

Description	Total Cooling Duty	W x D x H	Power Supply
Flameproof Chiller Unit - Zone 1- Single Phase	3 kW	698 x 1017 x 1175mm 27.5 x 40 x 46.2in	230V/1Ph/50Hz - 250V/1Ph/60Hz
Flameproof Chiller Unit - Zone 1 - Three Phase	3 kW	698 x 1017 x 1175mm 27.5 x 40 x 46.2in	380-420V/3Ph/50Hz or 420-460V/3Ph/60Hz

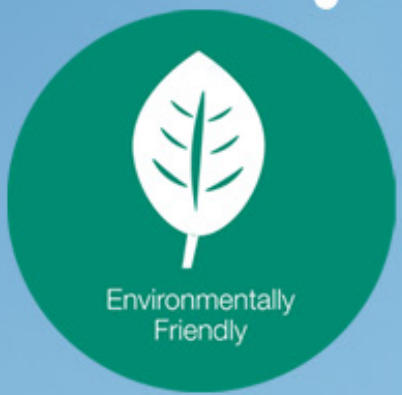
Hughes Zero Power Cooler®

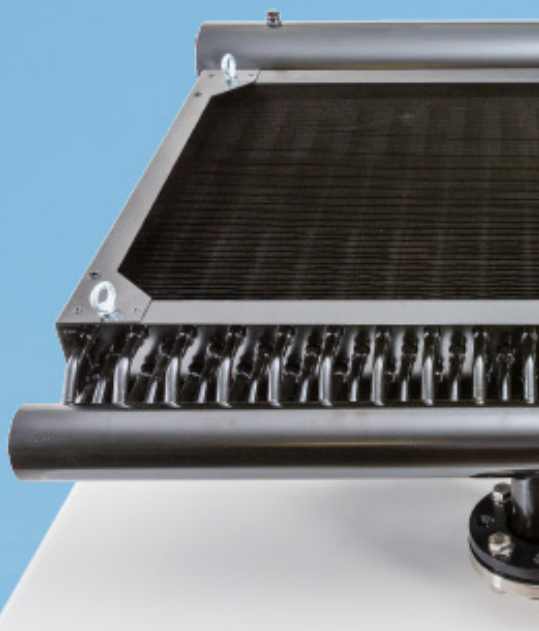
Award winning cooling option for emergency tank showers to temper the water within the tank in hot ambient climates, without the need for power!

Designed and developed in collaboration with Celantel, the Zero Power Cooler helps to cool the water inside the tank using lower night time ambient temperatures. The insulation on the Hughes tank shower then maintains this temperature during the daytime, ensuring the delivery of safe and tepid water.

- Perfect for remote locations, no power required
- Maintenance free - no moving parts means expensive service options are a thing of the past
- Environmentally friendly with a carbon saving of up to 14,500kg per chiller per year, when compared with electrically powered chillers
- Retrofittable to existing 1200L and 1500L Hughes emergency tank showers

Description	Coolant Medium	W x D x H	Power Rating	Locations Suitable For Use	Model
Hughes Zero Power Cooler®	H^2O	1188 x 1188 x 1765mm 46.7 x 46.7 x 69.5in	No power required	Suitable for use in areas classified as hazardous and non-hazardous	TS Chiller ZPC





How does it work?

The system cools during the night when the ambient temperatures are lower, using the reduced ambient temperature to draw heat from the water in the tank.

During the day the system is designed to insulate against the higher daytime ambient temperatures to maintain the cool water temperature.

In what locations has it been tested?

The cooling system has been tested in the UAE during the summer months where temperatures reached up to 55C during the day and 35C at night. There are also units in use in Saudi Arabia and Oman.

What temperature range will the system maintain?

Testing has proven that the unit will maintain a water temperature of 2C higher than the average night-time temperature.

For example, if your average night-time temperature is 32C in the summer the water in the tank shower will be maintained at or below 34C.

What type of locations is this suitable for?

The system is designed for use outdoors in both hazardous and non-hazardous areas.

When retrofitting, is it easy for me to install or do you offer an installation service?

A retrofit kit and instructions are provided allowing your engineers to fit the Hughes Zero Power Cooler® to our emergency tank showers on site. Hughes can offer further support where needed - please contact our sales team for more information.

What are the maintenance requirements?

Little maintenance is necessary, it is completely sealed and requires no spare parts. A yearly check is recommended with water top up if required.

What is the lifespan of the cooling system?

The cooling system is constructed to specifications where a design life of 20-25 years is required. A two year warranty is offered on the system as standard.

Tank Shower Accessories

Further customise your emergency tank shower with options that improve safety, increase function, and add convenience.

GRP Ladder Platform

Designed to be attached to an emergency tank shower allowing easy access for maintenance and inspection.

The ladder platform offers increased safety for workers and removes the need to hire scaffolding for inspection or servicing.

- Exceeds the HSE recommended height for working platforms
- Hi-visibility yellow, heavy-duty GRP construction for improved strength and corrosion resistance, water resistance and UV stability
- Slip resistant steps and caged ladder area
- Choice of left, right or rear mounting dependant upon location

Description	W x D x H	Model
GRP ladder platform for 350L tank shower	1161 x 1579 x 3410mm 45.7 x 62.2 x 134.2in	GRP-LADDER 350
GRP ladder platform for 1500L tank shower	1186 x 1843 x 3528mm 46.7 x 72.5 x 138.9in	GRP-LADDER 1500

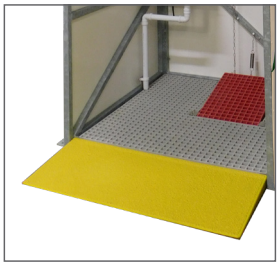
1500L tank shower shown with GRP ladder platform, safety barriers and anti-slip ramps for enhanced safety and visibility.

GRP Anti-Slip Ramps

These GRP ramps prevent slips and trips on entering and enable easy access in the event of an emergency. Hi-visibility ramps also provide a demarcation zone to help stop the access area at the front of the safety shower becoming obstructed.

- Hi-visibility yellow, heavy-duty GRP construction for improved strength and corrosion resistance, water resistance and UV stability
- Anti-slip resistant resin surface for added peace of mind
- Easily retrofittable to existing Hughes emergency tank showers and cubicle safety showers

Description	W x D x H
GRP anti-slip ramp for tank showers/cubicles with foot grating (shallow)	1215 x 465 x 40mm 47.8 x 18.3 x 1.6in
GRP anti-slip ramp for tank showers/cubicles with foot grating (deep)	1215 x 1000 x 40mm 47.8 x 39.3 x 1.6in
GRP anti-slip ramp for tank showers/cubicles with sump	1215 x 1000 x 175mm 47.8 x 39.3 x 6.8in
GRP anti-slip ramp for cubicle showers	900 x 1000 x 215mm 35.4 x 39.3 x 8.5in
GRP safe area demarcation zone anti-slip panel	1215 x 1215mm 47.8 x 47.8in



For tank showers/cubicles with foot grating (shallow)

For tank showers/cubicles with foot grating (deep)

For cubicle showers

Safe area demarcation zone anti-slip panel

GRP Safety Barriers

These hi-visibility barriers provide a demarcation zone to help prevent the access area at the front of a safety shower being obstructed. In addition, they offer stability to the casualty who can use the barriers as a handrail in the event of an emergency.

- Floor or wall mounted to give improved access to safety showers and eye/face washes
- Manufactured in hi-visibility yellow, lightweight GRP for improved corrosion resistance
- Choose from single posts, side barriers, corner barriers or U-shaped barriers to protect from 3 sides - complete with floor mounting plates

Description	W x D x H
U-shape GRP safety barriers	1000 x 1200 x 1120mm 39.3 x 47.2 x 44.1in
L-corner GRP safety barriers	1000 x 1200 x 112 39.3 x 47.2 x 44.1in
Single GRP safety barrier	1000 x 1120mm 39.3 x 44.1in

Hydroclenz

Hydroclenz provides constant protection against pathogenic bacteria such as Legionella. Immersed in water, the complex integral electrolytic activity of the ceramic media produces constant oxidising, while the noble metal in the form of a fine matrix format produces ionisation. The ionisation is enhanced by the ceramic media, acting as a powerful disinfectant with exceptional kill rates against pathogenic bacteria.

- Simple to install and easy to use
- Chemical free, environmentally friendly, cost effective alternative to chemicals and UV treatments
- Approved by the Water Research Commission and NAMAS accredited laboratories
- Complies to BS6920 Part 1 and COSSH Regulations

Ask about our customised emergency tank showers, engineered to fit your application

» If you don't find what you are looking for, please contact us to discuss your unique site requirements.

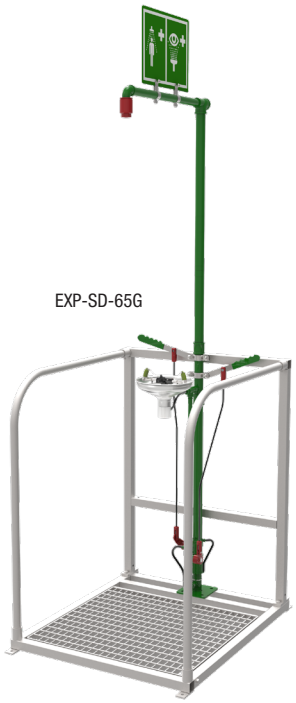
Tank showers can be configured to your needs with GRP panels, strip screens, hand-free foot activation, sumps, alarm packages and more.

Self-draining Safety Showers

The unique design of these units allows any standing water left in the standpipe to drain away when the valve is closed. The valve is situated below the bleed pipe at the base of the shower, allowing the water to drain to the ground. This ensures the standpipe is empty when not in use and prevents the risk of trapped water in the shower pipework heating up and scalding a casualty.

- Ideal for outdoor use in climates with a maximum ambient temperature of 45C (113F)
- ANSI Z358.1-2014 compliant when connected to a suitable water supply
- Rigorously tested shower nozzle provides an accurate water flow and even distribution at a rate of 76 litres per minute
- Optional foot panel for a secondary means of activation, ensuring ease of use in an emergency
- Select from a drench shower or combination safety shower with ABS or stainless steel open eye/face wash

EXP-SD-18GS/75G



EXP-SD-65G

Description	W x D x H	Inlet Size	Minimum Pressure bar g/PSI	Water Flow per Minute Litres/US Gal	Model
Self-draining safety shower	337 x 763 x 2300mm 13.2 x 30 x 90.6in	1 1/4" female BSP	2/29	76/20 (shower)	EXP-SD-18G(S)
Self-draining safety shower with ABS closed bowl eye wash	462 x 738 x 2300mm 18.2 x 29 x 90.6in	1 1/4" female BSP	2/29	76/20 (shower) 12/3 (eye/face)	EXP-SD-18G(S)/45G
Self-draining safety shower with stainless steel open bowl eye wash	595 x 738 x 2300mm 23.4 x 29 x 90.6in	1 1/4" female BSP	2/29	76/20 (shower) 12/3 (eye/face)	EXP-SD-18G(S)/85G
Self-draining safety shower with ABS open bowl eye wash	595 x 738 x 2300mm 23.4 x 29 x 90.6in	1 1/4" female BSP	2/29	76/20 (shower) 12/3 (eye/face)	EXP-SD-18G(S)/75G
Self-draining safety shower with body spray	395 x 750 x 2300mm 15.6 x 29.5 x 90.6in	1 1/4" female BSP	2/29	115/30 (shower/body spray)	EXP-SD-20G(S)
Self-draining safety shower with body spray and ABS closed bowl eye wash	549 x 650 x 2320mm 21.6 x 25.6 x 91.3in	1 1/4" female BSP	2/29	115/30 (shower/body spray) 12/3 (eye/face)	EXP-SD-20G(S)/45G
Self-draining safety shower with stainless steel open bowl eye wash within a protective single frame	838 x 1080 x 2300mm 33 x 42.5 x 90.6in	1 1/4" female BSP	2/29	76/20 (shower) 12/3 (eye/face)	EXP-SD-63G(S)
Self-draining safety shower and separate stainless steel open bowl eye wash within a protective double frame	1638 x 1080 x 2300mm 64.5 x 42.5 x 90.6in	1 1/4" female BSP	2/29	76/20 (shower) 12/3 (eye/face)	EXP-SD-65G(S)

Self-draining Eye Washes

- ANSI compliant, eye/face wash unit flow rate of 12 litres per minute
- Protective dust covers lift off upon activation using the pull down lever
- Gentle aerated washing action prevents any further discomfort to the casualty
- Optional foot treadle for a secondary means of activation, ensuring ease of use in an emergency

EXP-SD-85GS/P

EXP-SD-75G/P

Description	W x D x H	Inlet Size	Minimum Pressure bar g/PSI	Water Flow per Minute Litres/US Gal	Model
Self-draining pedestal mounted eye wash with stainless steel open bowl	400 x 505 x 1273mm 15.7 x 19.9 x 50.1in	1 1/4" female BSP	2.0/29	12/3	EXP-SD-85G(S)/P
Self-draining pedestal mounted eye wash with ABS open bowl	400 x 505 x 1273mm 15.7 x 19.9 x 50.1in	1 1/4" female BSP	2.0/29	12/3	EXP-SD-75G(S)/P

Jacketed and Insulated Safety Showers

These units are suitable in environments that require protection from the adverse effects of direct sunlight experienced in warm climates. The pre-insulated outer jacket provides a barrier against solar radiation.

- Rigorously tested shower nozzle provides an accurate water flow and even distribution at a rate of 76 litres per minute
- Simple to operate in the event of an emergency using the pull rod handle or optional foot treadle
- Ideal for warm climates requiring additional protection - the pre-insulated outer jacket provides a barrier against solar radiation
- The chemical and UV resistant lid of the eye wash on the combined units shields the bowl and diffusers from dust, dirt and debris
- Suitable for environments that reach a maximum of 38C (100F)

EXP-EJ-5GS/45G

Description	W x D x H	Inlet Size	Minimum Pressure bar g/PSI	Water Flow per Minute Litres/US Gal	Model
Jacketed and insulated safety shower with ABS closed bowl eye wash	339 x 792 x 2316mm 13.3 x 31.2 x 91.2in	1 1/4" female BSP	2/29	76/20 (shower) 12/3 (eye/face)	EXP-EJ-5G(S)/45G
Jacketed and insulated safety shower with body spray	320 x 890 x 2330mm 8.3 x 35 x 91.7in	1 1/4" female BSP	2/29	115/30 (shower/body spray)	EXP-EJ-5G(S)/10G
Jacketed and insulated floor mounted safety shower	210 x 890 x 2330mm 8.3 x 35 x 91.7in	1 1/4" female BSP	2/29	76/20 (shower)	EXP-EJ-5G(S)
Jacketed and insulated wall mounted safety shower	230 x 924 x 690mm 9 x 36.3 x 27.2in	1 1/4" female BSP	2/29	76/20 (shower)	EXP-EJ-2G(S)

Jacketed and Insulated Eye/Face Washes

- Medium density polyethylene impact resistant outer casing
- Acrylic capped ABS lid protects bowl and diffusers from external contaminants
- 12 litres per minute flushing flow rate through the aerated diffusers gives a gentle yet thorough decontamination
- Automatic eye wash operation when the integral lid is pulled down
- Hands-free operation can be achieved by adding the optional foot treadle

EXP-EJ-45GS/P

Description	W x D x H	Inlet Size	Minimum Pressure bar g/PSI	Water Flow per Minute Litres/US Gal	Model
Jacketed pedestal mounted eye wash with ABS closed bowl	320 x 640 x 1224mm 12.6 x 25.2 x 48.2in	1 1/4" Male BSP	2.0/29	12/3	EXP-EJ-45G(S)/P

Mobile Safety Showers

An essential addition to sites where a stationary safety shower and eye wash is unsuitable, for stand-by use in locations where no water supply is available, or when existing safety showers are undergoing maintenance.

Mobile self-contained safety shower with eye wash - 114 litre

Designed to supplement permanent plumbed-in models, the 114 litre unit is easy to manoeuvre as the location of the hazard changes during a project.

This model incorporates a polypropylene lined cylinder, heavy duty powder coated stainless steel frame and large pneumatic tyres to aid mobility.

- 114 litre capacity provides a constant flow of water for over 1½ minutes
- Cylinder is polypropylene lined for internal corrosion resistance
- Stainless steel frame and cylinder are powder coated for added protection and longevity
- Simple shower activation using the hand lever, while the eye wash activates when the lid is pulled forward
- Lidded ABS eye wash protects bowl and diffusers from dust and debris
- Suitable for indoor or outdoor use with the addition of an optional insulated jacket to combat solar radiation

Easy to manoeuvre by one person, allowing full flexibility of location.
Model shown: STD-40K/45G

STD-40K/45G

STD-J-40K/45G

Description	Capacity Litres/US Gal	W x D x H*	Inlet Size	Minimum Pressure bar g/PSI	Water Flow per Minute Litres/US Gal	Model
Mobile self-contained safety shower with eye wash	114/30	2312 x 677 x 1461 mm 91 x 26.6 x 57.5 in	1/2" quick release hose connector	3/43	50/13 (shower) 12/3 (eye/face)	STD-40K/45G
Mobile self-contained safety shower with eye wash and insulated jacket	114/30	2312 x 677 x 1461 mm 91 x 26.6 x 57.5 in	1/2" quick release hose connector	3/43	50/13 (shower) 12/3 (eye/face)	STD-J-40K/45G
Mobile self-contained heated safety shower	1200/317	1530 x 3556 x 2770 mm 60.2 x 140 x 109.1 in	18" hinged manlid cover	2/29	76/20 (shower) 12/3 (eye/face)	STD-MH-P-1200L

*Dimensions shown are for fully assembled shower.

STD-MH-P-1200L

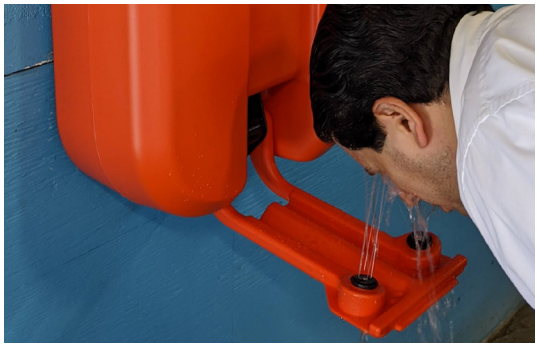
Where a larger-capacity mobile shower is required, the 1200 litre mobile self-contained safety shower is available with optional insulated jacket. Designed to meet ANSI standards, it is capable of delivering a continous flow of tepid water for over 15 minutes at a rate of 76 litres per minute.

Self-contained Eye washes

Reliable, ANSI-compliant solution suitable in locations where a continuous water supply is unavailable—no plumbing needed.

Wall mounted self-contained gravity fed eye wash - 38 litre

- Slimline tank delivers a controlled flow of a minimum 1.5 litres per minute of water for up to 15 minutes
- Delivery manifold drains away unused water reducing the risk of stagnating water becoming trapped
- High visibility orange unit supplied with concealed wall mounting bracket to make moving and relocating easy
- Easy to maintain—wide fill opening with threaded cap enables quick inspection, cleaning and filling
- Suitable for indoor or outdoor use with the addition of an optional insulated jacket to combat solar radiation



Simple to use pull-down activation manifold
Model shown; Optiwash®

OPTIWASH®

OPTI-INS-JKT

Description	Power Supply	Model
Insulated jacket	N/A	OPT-INS-JKT

Description	Capacity Litres/US Gal	W x D x H	Operating Duration (min)	Water Flow per Minute Litres/US Gal	Product Weight Full/Empty	Model
Wall mounted self-contained gravity fed eye wash	38/10	749 x 457 x 184 mm 29.5 x 18 x 7.25 in	15	1.5/0.4	42 kg (93 lbs)/ 5.8 kg (13 lbs)	Optiwash®

STD-68G
Portable self-contained gravity fed eye wash - 45 litre

- Easy to transport and ideal for use where a continuous supply of water is not available
- Can be wall mounted or used on a bench or tabletop
- Simple and quick to operate using the pull down manifold on the front of the unit
- Easy to maintain—wide fill opening with threaded cap enables quick inspection, cleaning and filling
- Built to last with high density polyethylene body and manifold

STD-68G

Description	Capacity Litres/US Gal	W x D x H	Operating Duration (min)	Water Flow per Minute Litres/US Gal	Product Weight Full/Empty	Model
Portable self-contained gravity fed eye wash	45/12	533 x 584 x 457 mm 21 x 21 x 18 in	15	1.5/0.4	56.3 kg (124 lbs)/ 11.3 kg (25 lbs)	STD-68G

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