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About us

*****SAFETY** provides below to customers.

- >Design and manufacture various kinds of emergency safety shower & eyewash , main in Stainless steel 304, stainless steel 316 & plastic
- >Provide model & type selection proposal for different working conditions
- >Tailor made Industrial emergency safety shower & eyewash system, with alarm, cooler, heater, solar power and so on.
- >Supply technical support >Supply spare parts

Third party inspections are welcome such as BV, SGS, DNV,UL etc

Our team are experienced professionals in the safety of our products sector. Fully consider the working conditions and select suitable products to provide more competitive products, more suitable products. And better solutions to help you win customers and orders. We believe our service can save your mind and so you can focus on your core business; we believe our service can help you seize the opportunities quicker and more accurately; we believe our service could be your strong support. Our core competitiveness: our people; our belief: create value for our customers and so create value for ourselves.

Focus on our products , keep on supplying better quality and new models.

Let us cooperate together to create our better future.

- Product center** -
1. Safety shower & eye wash station – EA-RM-100-series
 2. Combination emergency showers & eye station - EA-CM-200 series
 - 3: Anti - Freeze showers & eye wash station -EA-AT-300 series
 - 4.Trace tape heated safety shower with eye wash – EA-TH-400 series
 - 5.Electrical heated safety shower with eye wash – EA-EH-500 series
 - 6.Portable Emergency eye wash station – EA-PB-600 series
 - 7.Wall mounted eye wash station – EA-WM-700 series
 8. Vertical Stainless steel Emergency Eye Wash – EA-VT-800 series
 - 9.Other

Industries

Emergency shower & eye washers are requested more by China factories in recently 3- 5 years. We don't have our own standards. Previously we just followed the American Eyewash standard ANSI/ISA Z358.1 2014. The Chinese Eyewash standard was officially implemented on July 1, 2020, which is a major event in the Eyewash industry. Article 25 of the Law of the China on the Prevention and Control of Occupational Diseases stipulates that for toxic and harmful workplaces where acute occupational injuries may occur, the employing units shall set up alarm devices, on-site first-aid supplies, washing equipment, emergency evacuation channels and necessary risk relief areas.

Today emergency safety eye wash & shower is widely used in Petrochemical industry, chemical industry, semiconductor industry, pharmaceutical manufacturing industry and places with exposure to hazardous substances.

Generally, our products and services can be applied in various industries:

1, In marine and onshore /offshore industry.



Safety eyewash & shower is equipped in every marine vessel. Usually, combination type is used. And we had supplied a lot to China shipyards, Korean shipyards and abroad, for 16000TEU,45000DWT, 175000CBM and so on. For offshore project, normally safety shower room would be used and the request usually is higher, not only about the material but also explosion proof, salt proof, and corrosion proof.



2 In Petrochemical oil & gas industry



There are many big enterprises in China & abroad. Emergency shower and eye washers are requested before new factory setting up. We ever had a project which need 300 - 400 sets of emergency showers & eye washers. Not only big quantity with different requests according to working conditions, but also big contract amount.

In China, China Petroleum and Chemical Corporation (shorted as Sinopec), China national offshore oil Corp. (shorted as CNOOC) & China National Petroleum Corporation (shorted as CNPC) are biggest & famous oil & gas companies in China. They buy through bidding and tendering because of big quantity.



3. In chemical industry, semiconductor industry, mining industry, pharmaceutical manufacturing industry, food industry and so on. For new setting factory, the quantity of emergency shower & eyewash would be big.



4. In rental service

So far rental service is seldom seen in China, but abroad.

In China, the market for emergency shower and eye wash station is growing rapidly. So you could see small factories. Most of the factories are not only small but also not professional one. Because the market is new and you could not see the quality difference from one or two years.

As abroad, China factories got a lot of market share for combination type and portable type from bradly, Haws, Guardian, Speakman and so on.



As to emergency shower & eye wash station, most orders are still occupied by Hughes & Honeywell.



Our factory just got a little from this part of market and try to do better.



Agent Access

In the website, you may find a lot of makers and products with similar pictures.

You may be confused with the information.

Which one is the same as it is described?

Which factory should I choose?

Different quality, different cost, different profit margin,,,,,

We prefer to be better quality with the reasonable price.

We prefer to be professional as the famous brand Hughes and we hope to be China Hughes here.

If you agree, please contact us for long-term cooperations.



News Center

1. ARTICLE 1 《Application of various safety Eyewash》
2. ARTICLE 2 <How to use the emergency Eyewash in case of sudden eye injury>
3. Common questions about emergency shower & eyewash
4. What factors should be considered in the design and installation of Eyewash?
5. APPENDIX B – INSTALLATION CONSIDERATIONS
6. ANSI Z358.1-2004 – Check list
7. Installation manual for compound SS safety shower & eyewash

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Product center

1. Safety shower & eye wash station – EA-RM-100 series



Safety shower and eye wash station is designed for outdoor & indoor conditions. It is specially for environments that integrates eye washer & shower and waste water collection. It is suitable for installation in workshops of the electronics industry and places where waste water needs to be collected properly.

Outdoor shower range is suitable for the challenges of various climates and working conditions.

Tank fed and plumbed-in types are for both hot and cold environments.

Main Features:

1. Integration: All the functions are integrated and fitted before delivery.

Easy for customer to install and use.

2. Multi functions: (1) Basically shower, eyewash and waste water collection are in one set.
(2) Audible and visual alarm lights when the safety shower or eyewash is activated.
(3) Water tank
(4) Heater for cold area, cooler for hot area. Also temperature controll
(5) Anticorrosive and explosion-proof

Basic Data:

Serial No.: EA-RM-100

Shower Room Size: 1200*1300*2550mm

Material: stainless steel 304

Certificate & Standard: ANSI Z 358

Wall Thickness: 1.2mm

Pipe thickness: 2.5-3mm

Function: eye washing, body showering

Working pressure: 0.2MPa-0.6MPa

Test pressure: 1.0MPa

Ambient temperature: -25° C -55 ° C

Inlet size: NPT 1 1/4"

Drain size: NPT 2"

Eyewash flow rate: ≥11.4L/min

Shower flow rate: ≥75.7L/min

Customizable: Paint Color, external dimensions, pipe/room material SS316, shower basin, eye wash basin, ABS material, Pipe size, sound and light alarm, remote wireless alarm system, cooling system, heating system

Application:

Chemical factory, Electrical factory, oil & gas industry, marine & offshore and so on.

Indoor safety shower - tank fed shower

Outdoor safety shower - for cold climate - immersion heated Tank shower

Outdoor safety shower - for hot climate - jacketed & insulated Tank shower

Outdoor safety shower - temperature controlled Tank shower





Combination safety shower and eyewash is common to see because it is economic and with both shower and eyewash. We use SS304/316 pipe/bowl with good corrosion resistance to acids, alkalis, salts, oil chemicals. ABS coating /Teflon coating would be used in environments with high acid and alkali concentrations and strong corrosiveness.

Shower is activated by hand poll and could wash all the body in one second.

The eyewash is activated by hand push in one second. The eye wash nozzle has a built-in multi-layer filter to effectively filter impurities in the water and make the water flow into a foamy water column. It can effectively prevent the impurities in the water or cause secondary damage to the injured eye nerves and injured parts due to excessive water flow. The eyewash nozzle is equipped with a dust cover, which can be automatically flushed with the water flow during use.

Main Features:

1. Economical model including both shower and eyewash
2. Filter: Easy to clean and easy to maintain, easy to disassemble.
3. ABS coating/ Teflon coating is available.
4. Easy for delivery & assembly

Basic Data

Serial No.: EA-CM-200

Height: 2410mm

Material: stainless steel 304

Certificate & Standard: ANSI Z 358.1-2014

Pipe Wall Thickness: 2.5mm

Function: eye washing, body showering

working pressure: 0.2MPa-0.6MPa

Working environment temperature: 10 ° C -35° C

Inlet size: NPT 1 1/4"

Drain size: NPT 1 1/4"

Shower Head diameter: 10"/ 26cm

Eyewash bowl diameter: 10"/ 26cm

Eyewash flow rate: $\geq 11.4\text{L/min}$

Shower flow rate: $\geq 75.7\text{L/min}$

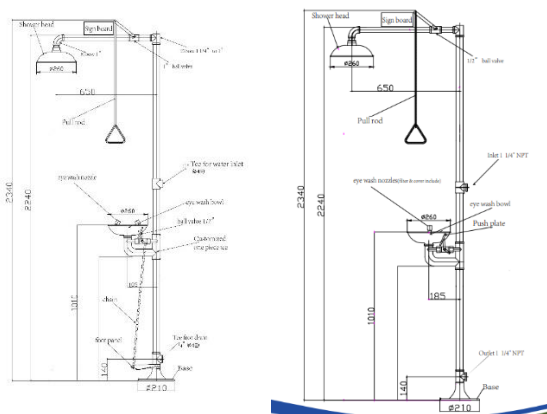
Customizable: Paint Color, dimensions, material SS316, shower basin, eye wash basin, Pipe size, sound and light alarm,

Application: very popular and widely used in Laboratories, nuclear energy, power stations, pharmaceuticals, medical, chemical, petroleum, shipping, electronics, smelting, printing and dyeing, education and scientific research units, industries or fields.

Indoor safety shower – unheated type

Outdoor safety shower – for hot climate -Self- draining type

Outdoor safety shower – for hot climate -Jacketed and insulated type



3: Anti - Freeze showers & eye wash station -EA-AT-300 series



The Anti-freeze type eyewash station can use the combination of a valve at the bottom & an automatic reset device, with gravity to automatically drain water from the pipe after use, thereby avoiding icing in the pipe when the ambient temperature is below zero degrees. which suitable for cold areas where the temperature is below freezing in winter. The way of the main water inlet switch: foot pedal.

Basic data

Series: EA-AT-300 series

Height: 2410mm

Material: 304 stainless steel

Tube wall thickness: 2.5mm-3mm

Standard: American Standard ANSI Z 358.

Working pressure: 0.2MPa-0.6MPa

Working environment temperature: 0 °C -55 °C

Water inlet size: NPT 1 1/4 "

Drain size: NPT 1 1/4 "

Eyewash flow: $\geq 11.4\text{L} / \text{min}$

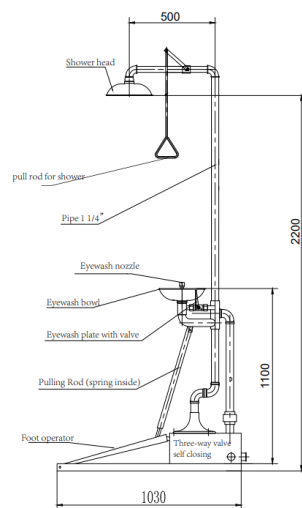
Body flow: $\geq 75.7\text{L} / \text{min}$

Main functions: eye wash / flush, automatic emptying, anti-freeze

Customizable parts: color, material, size, shower basin, eye basin and eye wash nozzle can be equipped with ABS material

How to use:

When in use, just stand on the pedal and the water inlet switch would be turned on. Push the hand plate to turn on the eye washing switch to wash eyes. Pull the hand poll to turn on the shower to shower the body. Leave the pedal after use, and the water inlet switch is closed. When the water inlet switch is closed, the system automatically switches to the empty state, and the system automatically drains the water accumulated in the eyewash pipe within 5 seconds to achieve the effect of anti-freezing.



4.Trace tape heated safety shower with eye wash – EA-HT-400 series



- The heating trace shower & eyewash adopts a low-temperature self-limiting electric heating cable. The maximum temperature of the eyewash tube does not exceed 38 degrees, which can effectively ensure that the internal water temperature of the eyewash tube will not be too high due to the continuous heating of the electric heating cable and the eye nerves of the injured person will be scalded.
- The temperature control system adopts a thermal resistance temperature controller. The factory set temperature is 35 degrees. When the temperature of the eyewash pipe is higher than 35 degrees, the

electric heating cable will automatically power off and stop heating. The dual temperature control system is formed with the self-limiting temperature heating cable to ensure the safety of the equipment.

- Explosion-proof distribution box is equipped with power indicator and working indicator, which can observe whether the equipment is in normal working status in real time.

Basic data:

Series: EA-TH-400 series

Height: 2410mm

Material: stainless steel 304 +ABS engineering plastic Shell + PP insulation

Certificate & Standard: ANSI Z 358.1-2014

Pipe Wall Thickness: 2.5mm

Function: eye washing, body showering, water heating.

Working pressure: 0.2MPa-0.6MPa

Working environment temperature: -15 ° C to 35 ° C

Inlet size: NPT 1 1/4"

Drain size: NPT 1 1/4"

Voltage:220V/50Hz

Power: 200Watt

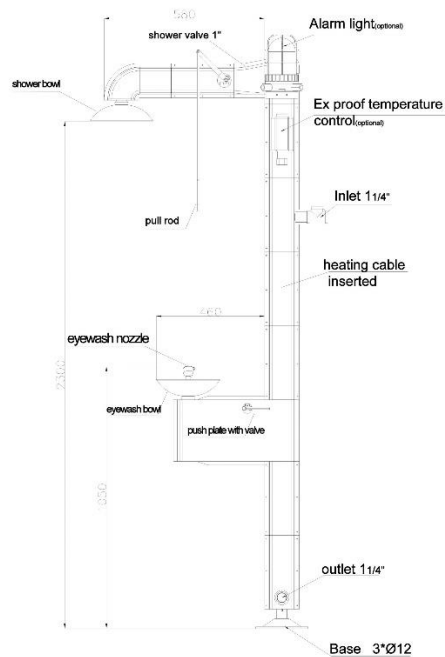
Explosion proof level: Ex II T4-T6

Eyewash flow rate: ≥11.4L/min

Shower flow rate: ≥75.7L/min

Main functions:

The heat tracing Eyewash station uses a constant temperature heat tracing band to trace the water source inside the Eyewash to prevent the water from freezing when the temperature is below zero. The heat tracing Eyewash station is also anti-freeze type. The shell of the electric heat tracing Eyewash is made of the latest green ABS, which is removable and UV resistant. It is very easy for testing and maintenance.



5. Electrical heated safety shower with eye wash – EA-EH-500 series



Series: EA-EH-500 series

Height: 2410mm

Material: 304 stainless steel + ABS engineering plastic

Tube wall thickness: 2.5mm

Working pressure: 0.2MPa-0.6MPa

Working environment temperature: -30 °C to 35 °C

Water inlet size: NPT 1 1/4 "

Drain size: NPT 1 1/4 "

Power: 6KW

Voltage: 220V/50Hz

Power: 200Watt

Eyewash flow: ≥11.4L / min Body flow: ≥75.7L / min

Explosion-proof grade: Exd IIC T6

Protection level: IP65

Standard: American Standard ANSI Z 358.1-2014, EN15154.1 / 2: 2006

Customizable parts:: material stainless steel 316, Sound and light alarm, Remote wireless alarm, Light ,

Voltage: 380V

6. Portable Emergency eye wash station – EA-PB-600 series



Portable Emergency eyewash with shower, equipped with 20 gallon stainless steel water tank, paddle handle control continuous open ball valve, two spray nozzles with dust cover

- Including the hose and air-filling spray nozzle that can be activated by pressing the handle
- Water tank: 20 gallons (about 66 liters) stainless steel
- Sprinkler head: yellow ABS plastic sprinkler nozzle with dust cover · Valve: 1 inch internal thread, brass chrome plated
- Starting device: stainless steel push handle flush hose · valve: 3/8 inch internal thread, brass chrome plated

BASIC DATA

Series: EA-PB-600 series

Water storage bucket size: 110 * 35 * 35cm

Height: 115cm

Material: 304 stainless steel

Standard: American Standard ANSI Z 358.1-2014

Tube wall thickness: 2mm

Reserves: 50L

Working environment temperature: 5 °C -38 °C

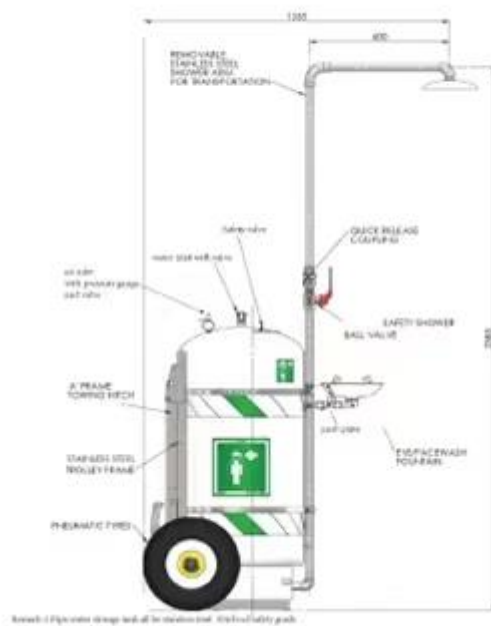
Customizable parts: size, length of shower hose

Eyewash flow: $\geq 1.5\text{L} / \text{min}$

Main functions & applications:

clean eyes, face and body, equipped with wheels, easy to move.

The portable Eyewash is suitable for places without fixed water source or where the working environment needs to be changed, and it is easy to move. Made of 304 stainless steel material, ensuring safety and zero space storage. There is no requirement for the installation of portable Eyewash, which can be directly installed or used according to the actual situation. The combination of technology and fashion meets all your needs. The use of Eyewash is intended to reduce the harm to the body caused by harmful substances at work, and is widely used in petroleum, chemical, semiconductor industry, manufacturing and other places.



7. Wall mounted eye wash station – TP-7400 series



Main Features:

1. Install on the wall, saving floor space
2. Super strong resistance to acid, alkali, salt, oil and other chemicals.

Basic Data

Model: EA-7400

Height: 240mm

Material: 304 stainless steel

Tube wall thickness: 2.5/3mm

Main function: clean eyes and face

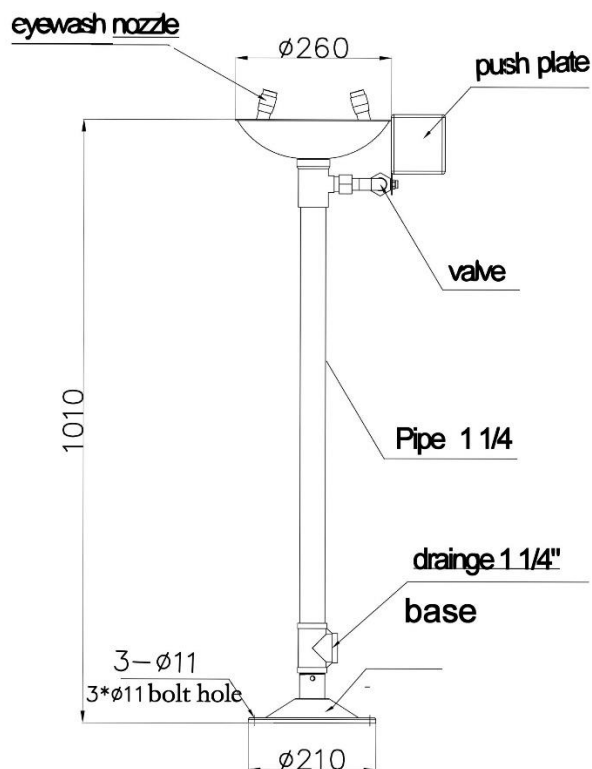
Working pressure: 0.2MPa-0.6MPa

Working environment temperature: 5 °C -35°C

Water inlet size: NPT 1/2 "

Drain size: NPT 1 1/4 "

- Model: EA7300
- Height: 1110mm
- Material: 304 stainless steel + ABS coating
- Standard: ANSI Z 358.1-2014, EN15154.1 / 2: 2006
- Tube wall thickness: 2.5/3mm
- Working pressure: 0.2MPa-0.6MPa
- Working environment temperature: 5 °C -35 °C
- Water inlet size: NPT 1/2 ”
- Drain size: NPT 1 1/4 ”
- Eyewash flow: $\geq 11.4\text{L} / \text{min}$
- Optional accessories: Foot pedal, eyewash bowl cover lid, material update to SS316



9.Others



竞争厂家

HUGHES - 专业的,有基础款, 移动款, 冲淋房(带太阳能), 属于这个集团

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HAWS - 做水管纯水, 基础款为主+有电伴热(1款塑料的)+移动款, 实验室款不少, 无冲淋房

BRADLEY - 做水龙头, 基础款为主, 移动1款+塑料1款, 材质比较多样化, 材质塑料+SS+镀锌

SPEAKMAN - 基础款为主, 偏实验室款, 基础款为主, 有塑料1款+移动款+电伴热, 无冲淋房, 材质: 铜/SS/塑料/铁

GUARDIAN - 基础款为主, 塑料款+移动款+实验室, 材质:SS+塑料为主

HONEYWELL -

ACORN Engineering - 基础款为主, 数量也不多, 材质有塑料

NEWS CENTER

ARTICLE 1 《Application of various safety Eyewash》

Eyewash stations are mainly used in various chemical plants, laboratories, petrochemical and some medical research places, so different Eyewash are used in different occasions. Let's take a look at the application places of various Eyewash.

1. Compound Eyewash

The compound Eyewash is an emergency rescue appliance equipped with a spray system and an eye washing system, which is directly installed on the ground for use. When the chemical substance splashes on the clothing or body of the staff, the spray system of the compound Eyewash can be used for flushing, and the flushing time shall be at least 15 minutes; When harmful substances are splashed on workers' eyes, face, neck or arms, the eye washing system of the compound Eyewash can be used for washing for at least 15 minutes.

2 Vertical Eyewash

The vertical Eyewash has only an eye washing system and no spray system. It is installed on the ground of the work site for use. When harmful substances are splashed on workers' eyes, face, neck or arms, the eye washing system of the vertical Eyewash can be used for washing for at least 15 minutes.

3. Wall mounted Eyewash

The wall mounted Eyewash has only an eye washing system and no spray system. It is installed on the wall of the work site for use. When harmful substances are splashed onto the workers' eyes, face, neck or arms, the eye washing system of the wall mounted Eyewash can be used for washing for at least 15 minutes

4. Portable Eyewash

Portable Eyewash is applicable to places where there is no fixed water source or the working environment needs frequent changes. It can be divided into ordinary portable Eyewash and pressure portable Eyewash. Application industries: offshore oil fields, desert oil fields, disease prevention and control centers, port operations, etc.

How to use the emergency Eyewash in case of sudden eye injury

The emergency Eyewash can be used to wash or shower the eyes and body of operators when their eyes or body are exposed to toxic, harmful and other corrosive chemicals, mainly to avoid further harm to human body caused by chemicals. However, these devices are only preliminary treatments for the eyes and body, and cannot replace medical treatment. In severe cases, further medical treatment must be carried out as soon as possible. When an unexpected injury accident occurs, the rapid spraying and flushing of this product can minimize the degree of injury.

At the same time, there are still many precautions when using the emergency Eyewash. The emergency eyewash is only used in emergency situations to temporarily delay the further damage of harmful substances to the eyes and body, which cannot replace medical treatment. Those with serious conditions after washing must be treated in the hospital as soon as possible; And it is necessary to do a good job in pipeline antifreeze during winter; Relevant articles shall not be covered to affect the normal use of the emergency Eyewash. The installation height of the Eyewash should be about 1.2m to 1.3m. The Eyewash should be installed near the dangerous goods storage place in each workshop (within 30m); When using the Eyewash, gently push the opening/closing valve to allow water to spray out automatically. After use, close the opening/closing valve; The Eyewash is used in emergency situations to temporarily alleviate the harm of harmful objects to the body for further treatment.

Common questions about emergency shower & eyewash

Question: What water temperature is required?

Answer: The ANSI standard recommends that the water should be "tepid". The ANSI 358.1-2004 appendix defines tepid water as water temperature between 60° F – 100° F (16 ° C-38 ° C).

In locations where freezing temperatures exist, frost-proof or freeze protected equipment must be installed.

In locations where temperatures reach scalding levels from heat or exposure to direct sunlight, scald protection valves must be installed.

Question: What are examples of areas that may require eyewash stations?

Answer: Work areas and operations that may require these devices include:

- Battery charging areas
- Laboratories
- Spraying operations
- High dust areas
- Hazardous substances dispensing stations
- Marine shipping vessels & offshore platform
- oil, gas, chemical, petrochemical area and so on

Question: Do I really need to test (activate) plumbed eyewashes weekly?

Answer: Yes, testing of plumbed units is required to ensure a flushing fluid supply is available when needed. Flushing helps clear the supply line of any sediment buildup and minimizes microbial contamination due to sitting water.

A comprehensive inspection should be conducted at least once a week to verify the reliability and effectiveness of the device, ensure effective emergency use in the event of an accident, and provide reliable personal safety and health protection.

Warning: Emergency use is only allowed in the event of an accident. Cleaning and use are strictly prohibited in daily life. Regulations and inspections should be established to prevent violations or frequent use of hand washing tools, which may cause product malfunction and unexpected accidents.

Question: How often do I need to clean and maintain my portable self-contained eyewash?

Answer: Portable eyewashes that mix potable water and preservative should be cleaned and refilled per the manufacturer's instructions, which typically is every four to six months.

What factors should be considered in the design and installation of Eyewash?

The design of the Eyewash is mainly based on the customer's on-site requirements, mainly from three aspects:

1. Chemical substances in the working site of Eyewash.

2. The lowest temperature at the site when using the Eyewash
3. On site water source problem: if there is no stable water source, only portable Eyewash can be used. Otherwise, fixed Eyewash can be used
4. Additional functions

Eyewashes are widely used in chemical enterprises, and there are general principles for the installation position of Eyewash

1. The Eyewash is installed in the dangerous chemical area, and the time for users to reach the Eyewash in a straight line shall not exceed 10 seconds.
2. Rescue range of Eyewash: within 15m.
3. The Eyewash cannot be installed across layers.
4. There is no electrical switch around the Eyewash to prevent accidents.
5. The outlet of the Eyewash must be connected to the sewer or wastewater treatment pool.
6. Water pressure requirement of Eyewash: 0.2-0.4MPa

APPENDIX B – INSTALLATION CONSIDERATIONS

APPENDIX B – INSTALLATION CONSIDERATIONS

B1. Supply Lines

Installation procedures should be in accordance with proper plumbing practices and supply piping adequately sized to meet flow requirements.

B2. Water Capacity

The ANSI/ISEA Z358.1201x standard includes reference to a flow pressure of 207 kPa (30 psi) only in the certification related sections for plumbed equipment.

This is to ensure that the testing for certification purposes is consistent and that reproducible results can be generated regardless of the laboratory conducting the testing.

It is the responsibility of the designer and owner to ensure proper flushing fluid delivery at possible low points of pressure in the plumbing system and to ensure that the plumbed equipment is installed in accordance with the flushing fluid delivery requirements specified by the equipment manufacturer.

The weekly activation of plumbed emergency eyewash and shower equipment is to be conducted at normal facility operating pressures. Excess flow pressure can deliver water to the equipment at velocities that could injure the user or render the equipment inoperable.

Caution should be exercised with flow pressures over 0.552 kPa (80 psi).

B3. Valve Operation

In the interest of safety, a control valve remaining open is most desirable to allow the user the use of both hands for disrobing or holding the eyes open. However, a selfclosing 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.

B4. Alarm Devices

In addition to the equipment identification required by ANSI/ISEA Z358.12014, users may also want to use audible alarms or warning lights 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.

B5. Placement of Emergency Eyewash and Shower Equipment

Emergency eyewash and shower equipment should be available for immediate use, but in no instance should it take an individual longer than 10 seconds to reach the nearest facility.

There are several factors that might influence the location of emergency facilities. It is recognized that the average person covers a distance of approximately 55 ft. (16.8 m) in 10 seconds when walking at a normal pace.

The physical and emotional state of a potential victim (visually impaired, with some level of discomfort/pain, and possibly in a state of panic) should be considered along with the likelihood of personnel in the immediate area to assist.

The installer should also consider other potential hazards that may be adjacent to the path of travel that might cause further injury.

A single step up into an enclosure where the equipment can be accessed is not considered to be an obstruction.

Additionally, installers should allow for adequate overhead clearance to accommodate the presence of cabinets over counter- or faucet- mounted emergency eyewashes, so as not to create an additional hazard that could be encountered when using the device. A door is considered to be an obstruction. Where the hazard is not corrosive, one intervening door can be present so long as it opens in the same direction of travel as the person attempting to reach the emergency eyewash and shower equipment and the door is

equipped with a closing mechanism that cannot be locked to impede access to the equipment. ANSI/ISEA Z358.12014

In situations that might warrant the placement of emergency eyewash and shower equipment close to the hazard, such as exposure to highly corrosive chemicals, the appropriate professional should be contacted for advice on the proper distances.

Equipment should be located adjacent to the hazard, but situated in such a manner such that exposure to the splash hazard or other hazards (e.g., exposed electrical conductors) does not occur while using the eyewash.

B6. Delivered Flushing Fluid Temperature

Continuous and timely irrigation of affected tissues for the recommended irrigation period are the principal factors in providing first aid.

Providing flushing fluid at temperatures conducive to use for the recommended

irrigation period is considered an integral part of providing suitable facilities. Medical recommendations suggest a flushing fluid at tepid temperatures be delivered to affected chemically injured tissue.

Temperatures in excess of 38°C (100°F) have proven to be harmful to the eyes and can enhance chemical interaction with the skin and eye tissue.

Consideration should be given to the impact of isolated ambient temperature changes. Colder ambient temperature might require an enclosure for added protection.

Warmer ambient temperature might require a reevaluation of the water temperature. While cold flushing fluid temperatures provide immediate cooling after chemical contact, prolonged exposure to cold fluids affect the ability to maintain adequate body temperature and can result in the premature cessation of first aid treatment.

Recent information indicates that a temperature of 16°C (60°F) is suitable for the lower parameter for tepid flushing fluid without causing hypothermia to the equipment user.

B7. Weekly Activation for Plumbed Emergency Eyewash and

Shower Equipment

The intent of the weekly activation to be conducted on plumbed emergency eyewash and shower equipment is to ensure that there is a flushing fluid supply at the head of the device and to clear the supply line of any sediment buildup that could prevent fluid from being delivered to the head of the device and minimize microbial contamination due to stagnant water.

The duration of this test is dependant on the volume of water contained in the unit itself and all sections of pipework that do not form part of a constant

circulation system (also known as “dead leg” portions). Water in these sections is stagnant until a flow is activated by opening a valve. The goal is to flush out stagnant water in the dead leg completely. Where mixing valves are used, both the hot water and cold water supplies to the valve must be considered.

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6. ANSI Z358.1-2004 – Check list

ANSI Z358.1-2004 – Check list

Introduction

The selection of emergency eye wash and shower equipment is often a complicated process. In addition to addressing design and engineering issues, specifiers must be aware of regulatory requirements and compliance standards. A common reference point when specifying emergency equipment is ANSI Z358.1, “Emergency Eye Wash and Shower Equipment.” This standard is a widely accepted guideline for the proper selection, installation and maintenance of emergency equipment.

紧急眼睛选择洗淋浴设备往往是一个复杂的过程。除了解决设计和工程问题，还必须了解和遵守法规要求的标准。一个共同的参考点时，指定应急设备是ANSI Z358.1，“紧急洗眼和淋浴设备。”该标准是一个正确的选择，安装和维修的应急设备被广泛接受的准则。

To assist specifiers in understanding the provisions of this standard, we has prepared this ANSI Compliance Checklist. In this Checklist, we have summarized and graphically presented the provisions of the standard. This Checklist can serve as a starting point for designing emergency eye wash and shower systems.

为了帮助理解本标准规定的说明符，我们根据ANSI列出 遵从清单。在这份清单，我们总结和生动地介绍了该标准的规定。这个清单可以作为紧急洗眼设计和淋浴系统的起点。

Legal requirements

The Occupational Safety and Health Act of 1970 was enacted to assure that workers are provided with “safe and healthful working conditions.” Under this law, the Occupational Safety and Health Administration (OSHA) was created and authorized to adopt safety standards and regulations to fulfill the mandate of improving worker safety.

职业安全及健康1970 年颁布法令，以确保工人有“安全和健康的工作条件。”根据这项法律，职业安全及健康管理局（OSHA）成立，并授权采取的安全标准和规章，以实现改善工人的安全任务。

OSHA has adopted several regulations that refer to the use of emergency eye wash and shower equipment. The primary regulation is contained in 29 CFR 1910.151, which

requires that...“...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.”

OSHA已通过的一氧化碳指紧急使用清洗眼睛和淋浴设备的若干规定。主要调控是在29 病死率1910.151，这需要...“...如眼睛或身体的任何人可能会接触到有害，腐蚀性物质中，适当的设施快速湿透或冲洗眼睛和身体应提供即时的紧急使用，在合适的工作场地范围内。

The OSHA regulation regarding emergency equipment is quite vague, in that it does not define what constitutes “suitable facilities” for drenching the eyes or body. In order to provide additional guidance to employers, the American National Standards Institute (ANSI) has promulgated a voluntary standard covering emergency eye wash and shower equipment.

该条例对一氧化碳应急设备已相当模糊，因为它并没有界定什么是“适当的喷淋设施”的眼睛或身体。为了提供进一步的指导雇主，美国国家标准学会（ANSI）颁布实施了自愿性标准，包括紧急洗眼和淋浴设备。

This standard—ANSI Z358.1—is intended to serve as a guideline for the proper design, performance, installation, use and maintenance of emergency equipment.

ANSI Z358.1 was originally adopted in 1981. It was rewritten in 1990, 1998 and again in 2004. This Compliance Checklist summarizes and graphically presents the provisions of the 2004 version of the standard.

这个标准的ANSI Z358.1，目的是作为适当的设计，性能，安装，使用和应急设备的维修。准则的ANSI Z358.1 最初于1981 年通过。这是重写于1990 年，1998 年和2004 年。这符合性检查表总结并生动地介绍了该标准2004 版的规定。

General considerations

ANSI Z358.1-2004 contains provisions regarding the design, performance, installation, use and maintenance of various types of emergency equipment (showers, eye washes, drench hoses, etc.). In addition to these provisions, there are some general considerations that apply to all emergency equipment. These considerations may not necessarily be part of the standard, but we believe that they should be addressed when considering emergency equipment.

ANSI Z358.1-2004包括有关于设计，性能，安装，使用和应急设备（淋浴，洗眼睛，雨淋软管等），各种维修。除了这些规定，有一些一般的考虑，适用于所有应急设备。这些考虑并不一定是标准的一部分，但我们认为他们应该在考虑应急处理设备。其中包括以下内容：

These include the following:

First aid devices

Emergency eye wash and shower units are designed to deliver water to rinse contaminants from a user's eyes, face or body. As such, they are a form of first aid equipment to be used in the event of an accident. However, they are not a substitute for

primary protective devices (including eye and face protection and protective clothing) or for safe procedures for handling hazardous materials. 紧急洗眼器和淋浴器的设计目的是提供冲洗用水来自使用者眼睛、面部或身体的污染物。因此，它们是一种急救形式发生事故时使用的设备。然而，它们不能替代初级防护装置（包括眼部和面部防护以及防护服）或用于处理危险材料的安全程序。

Emergency response

Simply installing emergency equipment is not a sufficient means of assuring worker safety. Employees must be trained in the location of emergency equipment and in its proper use. Emergency equipment must be regularly maintained (including weekly activation of the equipment) to assure that it is in working order and inspected at least annually for compliance with the standard.

只需安装应急设备是不是安全，确保工人有足够的手段。雇员必须经过培训在紧急设备的位置，并在其正确使用。应急设备必须定期维护（包括设备每周激活），以确保其在工作秩序，至少每年核对合规性。

Most importantly, employers should develop a response plan to be used in the event that an accident does occur. The focus of the response plan should be to provide assistance to the injured worker as quickly as possible. We offer a variety of alarm systems which may be installed in conjunction with our emergency equipment. They serve to alert personnel and summon assistance if an eye wash or shower is activated.

最重要的是，雇主应该制定一个应对计划，以便在以下情况下使用确实发生了事故。应对计划的重点应是尽快找到受伤的工人。我们提供各种报警系统与我们的应急设备一起安装。如果启动了洗眼器或淋浴器，需要提醒其他人员，请寻求帮助。

Location of emergency equipment

In general, the ANSI standard provides that emergency equipment be installed within 10 seconds walking time from the location of a hazard. The equipment must be installed on the same level as the hazard (i.e. accessing the equipment should not require going up or down stairs or ramps). The path of travel from the hazard to the equipment should be free of obstructions and as straight as possible.

在一般情况下，ANSI 标准规定，应急设备安装在步行在10 秒内的位置。该设备必须安装在与危险品同一的水平位置（即访问该设备不应要求上涨或上下楼梯或坡道）。从危险区域到设备应是畅通无障碍物，越直越好。

However, there are certain circumstances where these guidelines may not be adequate. For example, where workers are handling particularly strong acids, caustics or other materials where the consequences of a spill would be very serious, emergency equipment should be installed immediately adjacent to the hazard.

但是，也有可能在这些准则是不够的某些情况。例如，如果工人在搬运，特别是强酸，抗磨损，腐蚀或其他材料那里泄漏，后果将是非常严重的，应急设备应安装紧邻危险区域。Laboratory environments may also require special consideration. It is common in many laboratory buildings to install emergency equipment in a corridor or hallway outside of the lab room. This may satisfy the provisions of the standard but still not provide workers with

immediate access to emergency equipment.

实验室环境中可能也需要特别的考虑。这是常见的许多实验室楼宇安装在走廊或走廊以外的实验室应急设备。这可能符合标准，但仍然不能提供即时访问应急设备的工人的规定。

In these cases, we recommend installing combination eye wash/drench hose units at lab sinks (see page 7). These units are highly accessible and versatile. They provide immediate protection for the eyes, face or body when a spill involves a relatively small amount of hazardous material.

在这种情况下，我们建议您安装组合洗眼/淋在实验室水槽软管单位（见第 7 页）。这些单位高度适中，用途广泛。它们提供了眼睛，面部或身体时，立即保护泄漏涉及有害物质相对较少。

Water temperature

The 2004 version of the standard states that the water temperature delivered by emergency equipment should be “tepid” (i.e. moderately warm or lukewarm). However, where it is possible that a chemical reaction might be accelerated by warm water, a medical professional should be consulted to determine what the optimum water temperature would be.

由于制定了水的温度紧急交付的设备标准规定2004 年版本应该是“温和的”（即适度温暖或冷淡）。但是，如果它有可能产生化学反应可能会加速温水，医疗专业人员应当提出意见，以确定最佳的水的温度。

The delivery of tepid water to emergency equipment may raise complicated engineering issues. At a minimum, it generally involves providing both hot and cold water to the unit, and then installing a blending valve to mix the water to the desired temperature. Guardian offers a variety of mixing valves to blend and temper water. Please contact our office for further information.

在温水应急设备交付可能产生复杂的工程问题。至少，它通常涉及同时提供热水和冷水的单位，然后再安装一个混合阀，水混合至所需温度。监护人提供了混合阀的混合水和各种锻炼。详情请咨询我们。

Disposal of water

The standard does not include any provisions regarding the disposal of waste water. However, designers must give consideration to where waste water will go. In particular, care must be taken that waste water not create a hazard (i.e. by creating a pool in which someone might slip) or freeze.

标准不包括任何规定，将废水处理。但是，设计人员必须考虑的污水会。特别是，必须小心浪费水不会造成危害（即建立一个水池中，有人可能会滑）或冻结。

Generally, our eye wash, eye/face wash and safety station units are designed with waste connections for connection to drain piping. WE RECOMMEND THAT EMERGENCY EYE WASH AND SHOWER UNITS BE CONNECTED TO DRAIN PIPING. FOR EMERGENCY SHOWERS AND FOR OTHER UNITS WITHOUT WASTE CONNECTIONS, FLOOR DRAINS SHOULD BE PROVIDED.

一般来说，盥洗眼睛，眼睛/洗面和安全站单位专为连接到排水管道与废物连接。我们建议急诊洗眼沐浴单位连接到排水管道。的紧急淋浴设施以及其他不浪费的联系单位，地漏应提供

After an emergency eye wash or shower has been used, the waste water may contain hazardous materials that cannot or should not be introduced into a sanitary sewer. It may be necessary to connect the drain piping from the emergency equipment or floor drain to the building's acid waste disposal system or to a neutralizing tank.

使用紧急洗眼器或淋浴器后，废水可能含有不能或不应引入卫生下水道的危险物质。可能有必要将应急设备或地漏的排水管道连接到建筑物的酸性废物处理系统或中和罐。

Emergency showers

This checklist is a summary of the provisions of ANSI Z358.1-2004 relating to emergency showers. Please refer to the standard for a complete listing of these provisions.

All our emergency showers (except units with self-closing valves) are third-party certified to meet or exceed provisions of ANSI Z358.1-2004.

本检查表概述了ANSI Z358.1-2004中有关应急淋浴的规定。有关这些规定的完整清单，请参阅标准。我们所有的应急淋浴器（带自闭阀的装置除外）都经过第三方认证，符合或超过ANSI Z358.1-2004的规定。

"Hands-free" stay-open valve activates in one second or less. (Section 4.2)

“自动感应”保持开阀在一秒钟内激活或更少。（第 4.2 节）

Shower shall provide 20 gallons (75.7 liters) of water per minute for 15 minutes.

淋浴应提供20加仑（75.7 升每分钟水）为15 分钟。

Water supply shall be sufficient to supply at least 20 GPM in required pattern for 15 minutes. 供水应足以提供所需的模式15 分钟，至少 20 GPM 的。

Shower head shall be between 82" (208.3 cm) and 96" (243.8 cm) above floor.

花洒离地距离，应该在82"（208.3厘米）和 96"（243.8 厘米以）之间。

Center of the water pattern shall be at least 16" (40.6 cm) from any obstructions.

水花的中心应至少16"（40.6 厘米的任何障碍物）。

At 60" (152.4 cm) above floor, the water pattern must be at least 20" (50.8cm) in diameter.

Easily located, accessible actuator no higher than 69" (173.3 cm) above floor.

在60"（152.4厘米以上层），水模式必须至少20"（50.8 厘米）直径。轻松位置，方便执行机构不高于69"（173.3 厘米以上楼）。

Location

Install shower within 10 seconds of hazard, on the same level as hazard and with unobstructed travel path. (Section 4.5.2)

安装淋浴在10 秒的危险，从危险性的区域到达洗眼器道路通畅。

Water temperature

Water delivered by shower shall be tepid (lukewarm). (Section 4.5.6)

由淋浴交付应温热水（不冷不热）。

Training

Instruct all employees in the location and proper use of emergency showers. (Section 4.6.4) maintenance/inspection

Activate shower at least weekly. (Section 4.6.2) Inspect annually for compliance with standard. (Section 4.6.5)

指示，在全体员工的位置和正确使用紧急淋浴。

第4.6.4) 维修/检查激活至少每周淋浴。

第4.6.2 节) 每年检查标准的规定。（第4.6.5)

Identification

Identify shower location with highly visible sign. Area around shower shall be well lighted.

确定淋浴非常明显标志的位置。淋浴周围地区，应良好照明。

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