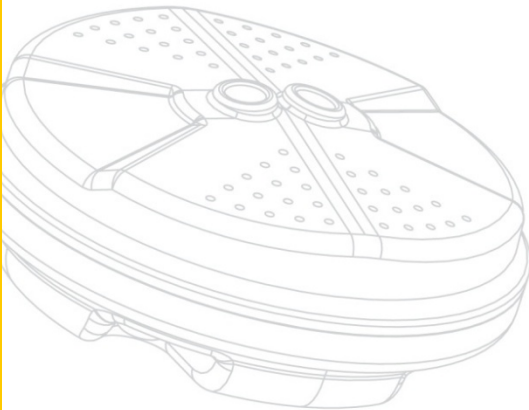


ANSI Z358.1

# HAWS CORPORATION



Overview for Compliance:  
ANSI Z358.1 Emergency Shower and Eye/  
Face Wash Standard

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OCCUPATIONAL HEALTH AND SAFETY

# Today's Topics

Who is Haws®?

ESEW Statistics and Regulation

ANSI Z358.1 Significant Requirements

Knowing Your Current State

Medical Community Alignment

Equipment Options

Additional Training Opportunities



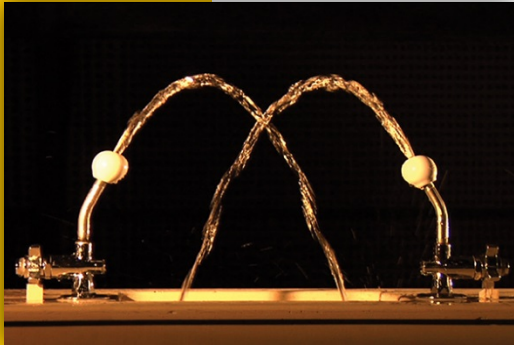
# WHO IS HAWS® AND WHAT DO WE DO?

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**Luther Haws built a drinking fountain in 1906 and that led to....**

- Emergency Equipment in 1950's
- Engineered Tepid Water Systems and Enclosures
- Oil and Gas, Mining, Heavy and Light Industrial Markets
- Education, Municipal and Healthcare Facilities



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## CANADIAN SUPPORT

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- Technical and Sales Representation in every province
- Canadian warehousing with availability through Tenaquip

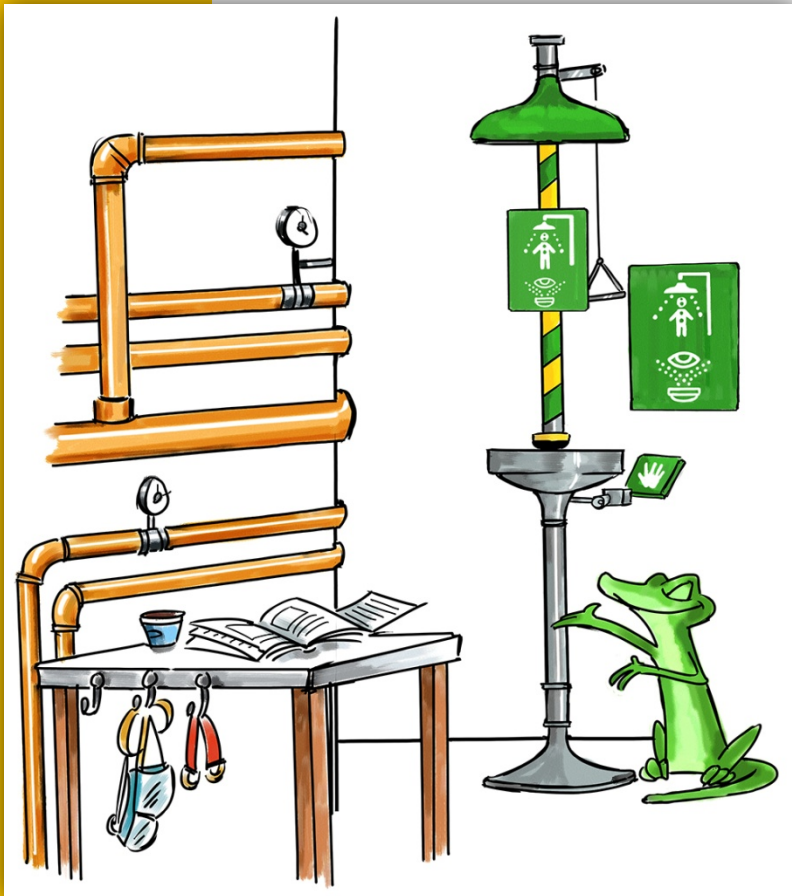
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# WHY IS IT IMPORTANT TO COMPLY WITH THE ANSI STANDARD?



## PREVENTION

- Injury/fatalities
- General workplace risk
- Lost time/money

Provinces have stepped up enforcement, particularly for employers who have a history of serious or repeated violations.

**Go Home Safe Every Day**

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# RESEARCH FINDINGS

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12.5% vs 63%

7.5% vs 20.5%

\*University of Wisconsin, School of Engineering Study

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## RESEARCH FINDINGS

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9.5% with  
20.1% without

19% versus 36%

\*University of Wisconsin, School of Engineering Study

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# REGULATION

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- **CCOHS references ANSI**
- Each Province has unique regulations
- There is a difference between the Act, the Regulation, and the Guideline
- **Regulation / Guideline references ANSI which allows for Provincial enforcement**
- Safety data sheets and risk determine product — it's the employer's responsibility!
- CSA references OSHA (which **REQUIRES** ANSI)

# REGULATION

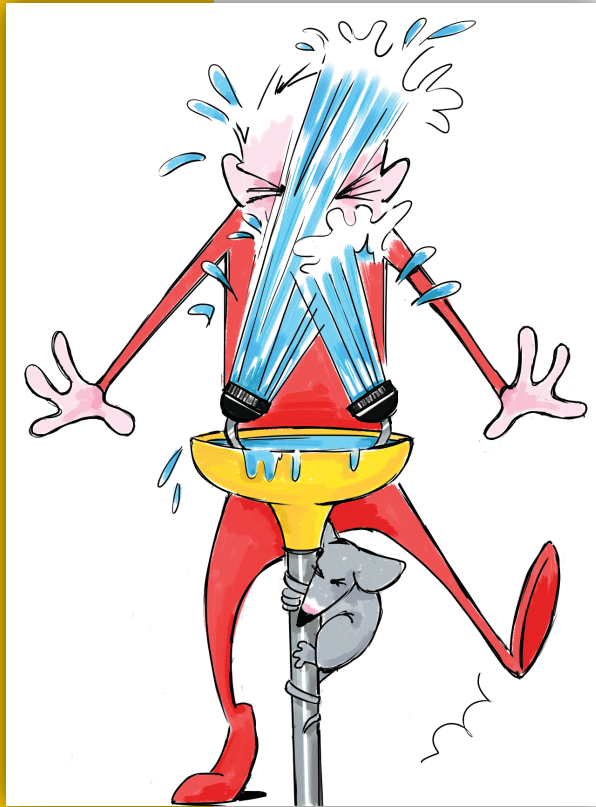
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**It is the employers responsibility to understand and comply with the regulations within their province.**



# WHAT IS THE ANSI Z358.1 STANDARD?

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- First published 1981
- Revised 1990, 1998, 2004, 2009, and 2014

## 2009 Revision Includes:

- Temperature range for water delivery
- Simultaneous use
- Eyewash testing requirements

## 2014 Revision Includes:

- Design, manufacture and installation of emergency showers
- Equipment installation location
- Adjusted measurements



# WHAT ARE THE SIGNIFICANT REQUIREMENTS?

## Emergency Eye/Face Washes, Showers, and Combination Units **MUST:**

- Be accessible within 10 seconds
- Be located on the same level as the hazard
- Be free of obstructions



# WHAT ARE THE SIGNIFICANT REQUIREMENTS?

## Emergency Eye/Face Washes, Showers, and Combination Units *MUST*:

- Be identified with highly visible signage
- Go from “off” to “on” in one second or less
- Deliver flushing fluid for a full 15 minutes



# WHAT ARE THE SIGNIFICANT REQUIREMENTS?

---



## Emergency Eye/Face Washes, Showers, and Combination Units **MUST:**

Provide a **controlled flow**  
of flushing fluid at a  
velocity low enough to be  
**non-injurious** to the user.

# WHAT ARE THE SIGNIFICANT REQUIREMENTS?



## Eyewashes

Flow must deliver a minimum of .4 gallons per minute (1.5 liters)

## Eye/Face Washes

Flow must deliver a minimum of 3 gallons per minute (11.4 liters)

## Drench Showers

Flow must deliver a minimum of 20 gallons per minute (75.7 liters)

## Combination Units

Must provide sufficient pressure and volume to either eyewash or eye/face wash flow simultaneously with shower flow

# WHAT ARE THE SIGNIFICANT REQUIREMENTS?

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## Eyewashes & Eye/Face Washes

Flushing fluid shall cover the areas between the interior and exterior of a gauge at some point less than 8 inches (20.3 cm) above the eyewash nozzle.





# WHAT ARE THE SIGNIFICANT REQUIREMENTS?

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## ALL

- Eyewashes
- Eye/Face Washes
- Combination Eye/Face Wash & Shower Units

**MUST** deliver tepid flushing fluid between 60° F - 100° F (16° C - 38° C)

**75% of ophthalmologists say that having tempered water is very important, citing it increases the chances that a victim can tolerate the 15-minute flush required.**

AXION® Ophthalmologist Study Quantitative Report  
Zeldis Research Associates, April 2014

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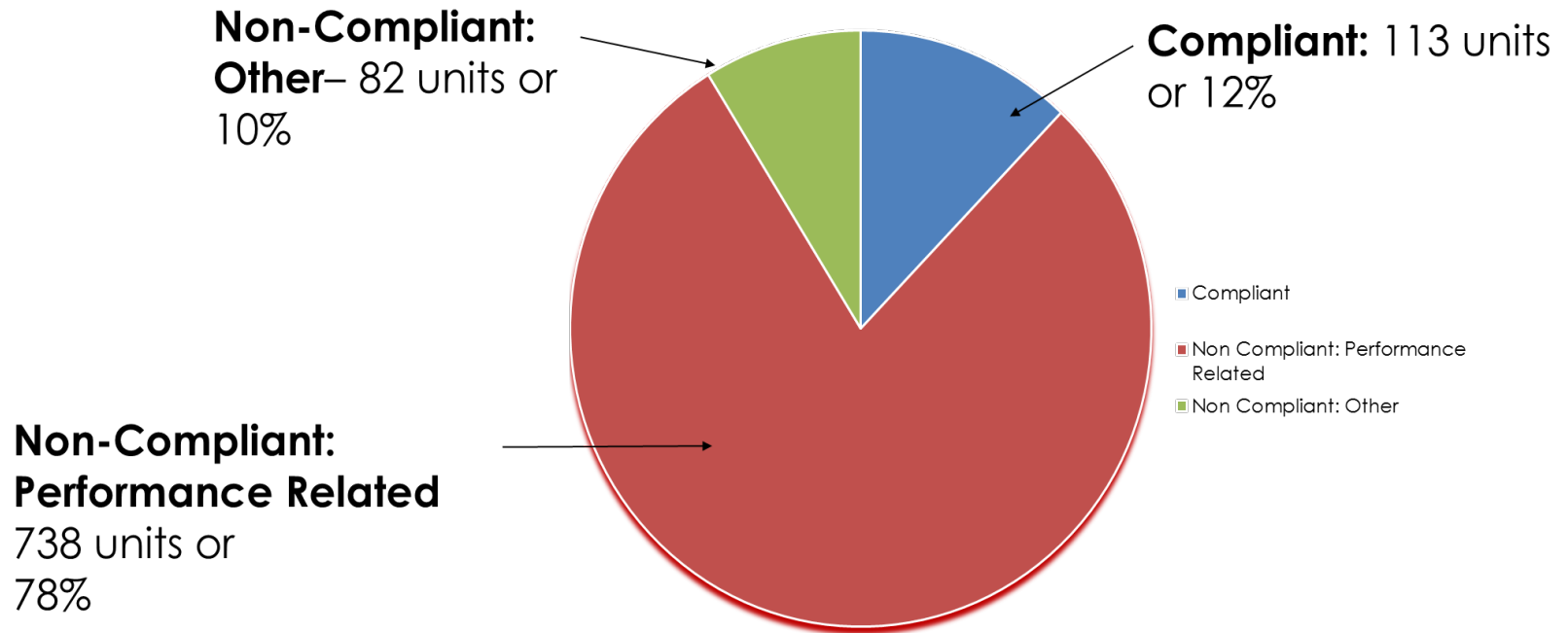


## REVISIONS & APPENDIX INFO

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- A single step up into an enclosure where the equipment can be accessed is not considered to be an obstruction.
- Personal Wash Units are supplemental.
- Appendix info
  - Waste Disposal
  - Valve Operation and Alarm Devices
  - Placement of Equipment
  - Delivery of Flushing Fluid Temperature
  - Weekly Activation for Plumbed Equipment

# KNOWING YOUR CURRENT STATE





# KNOWING YOUR CURRENT STATE

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## Common Causes of Non-Compliance

- Obstructed access
- Missing or inoperable parts
- Incorrect installation
- Insufficient flow
- Non-tepid flushing fluid

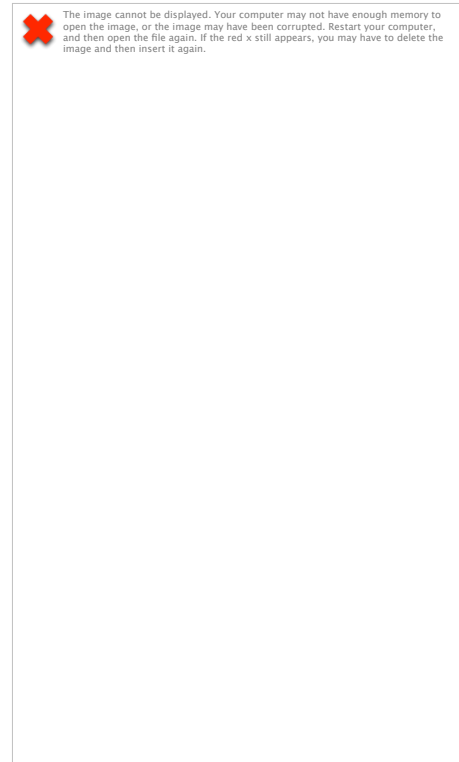


# KNOWING YOUR CURRENT STATE

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## Common Causes of Non-Compliance

- Too much flow
- No dust covers
- Lack of signage
- Fails simultaneous use



# KNOWING YOUR CURRENT STATE

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## COMPLIMENTARY ANSI EMERGENCY SHOWER AND EYEWASH SURVEY

### **INSPECTION REPORT (PDF):**

Fully detailed report on each piece of equipment and its current status.

### **EXECUTIVE SUMMARY CHART:**

Comprehensive overview of findings.

### **RECOMMENDATIONS:**

Detailed summary of key observations, potential root causes, and recommendations.

### **DEBRIEFING MEETING/WEB CONFERENCE:**

Interactive meeting to discuss proposed solutions and best practices.

# KNOWING YOUR CURRENT STATE

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## Benefits to Site

1. Mitigate risks
2. Compliance with ANSI requirements
3. Improved safety & “readiness” of equipment
4. Improved reliability reduces equipment maintenance
5. Properly trained survey inspectors
6. Upgrade to new technology at a fraction of the cost (*no need to replace complete units*)

## ALIGNMENT WITH MEDICAL COMMUNITY

### New Specifications and Retrofits to Existing Equipment

- Inverted streams wash from the inside out
- Retrofits to existing equipment
- Addition of tempering units and controls
- Movement to **eye/face wash** vs **eyewash**
- Flushing inside to out is preferred **4 to 1**
- 86% of ophthalmologists said comfortable water pressure is **VERY** important



# AXION MSR – Medically Superior Response®

Doctors recommend **AXION** for eye/face wash victim comfort



## INJURY REDUCTION

Inverted water streams gently flush contaminants away from glands surrounding the eye

## VICTIM COMFORT

Laminar flow water streams provide no disruption between water layers allowing for consistent pressure and water lines at a predictable stream height



## CLEAN FLUSHING FLUID

In-line strainer collects debris to help guarantee the flush fluid is not aggravating an injury

## COMPLETE ANSI COMPLIANCE

All AXION MSR products contribute to, comply and exceed the important ANSI Z358.1 requirements

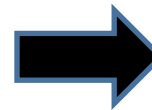
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# AXION MSR – Medically Superior Response®



# PLUMBED EYE/FACE WASH UNITS

## Wall mounted, deck mounted or floor mounted



- **Model 7260B-7270B:** Wall-mounted eye/face wash with ABS plastic bowl
- **Model 7610:** Deck-mounted, pull-down eye/face wash common in labs and near sinks
- **Model 7611:** Deck-mounted, swing-in eye/face wash
- **Model 7655WCC:** Barrier-free, recessed-mount eye/face wash
- **Model 9102:** SS dust cover keeps the bowl clean and can be added to most units (*Haws* and other)



## PLUMBED SHOWER UNITS

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Typically sold as part of a combination with face wash

**Haws AXION Showers** can also be independent and available with flush ceiling mount options.



- **Model 8300-8309:** Popular galvanized combo unit with stainless steel eye/face wash bowl
- **Model 8317CTFP:** Freeze-protected and insulated for colder outdoor locations
- **Model 8330:** All stainless steel combination for high-corrosion environments

Models are also available in wheelchair accessible versions.

# STANDALONE & PORTABLE UNITS

## Potable water is more convenient than cartridges



Haws recommends potable water with a bacteriostatic additive. Cartridge units can't be tested, are costly when used, and require dated inventory storage.

- **Model 7501:** 9-gallon wall-mounted eyewash with or without freeze protection
- **Model 7500:** 16-gallon wall-mounted eyewash with or without freeze protection
- **Models 7601 & 7602:** Air-charged units with body hoses ASME Certification available in 13, 15 or 37 gallon
- **Model 9082:** Sterile bacteriostatic additive



ANSI Z358.1  
COMPLIANT

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# FAUCET-MOUNTED EYEWASH

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**An extremely popular ANSI compliant solution**



**Installs onto gooseneck faucets.** Provides AXION delivery in a clean, simple, hygienic design.

- Designed with thermostatic safety valve that ensures water remains under the ANSI 100F limit. **Competitive units don't offer this.**
- Includes common adapters.
- Very popular in healthcare, education, food service, and light industrial applications
- Does not impact the use of the sink!
- Includes a free ANSI required sign.



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# MIXING VALVES

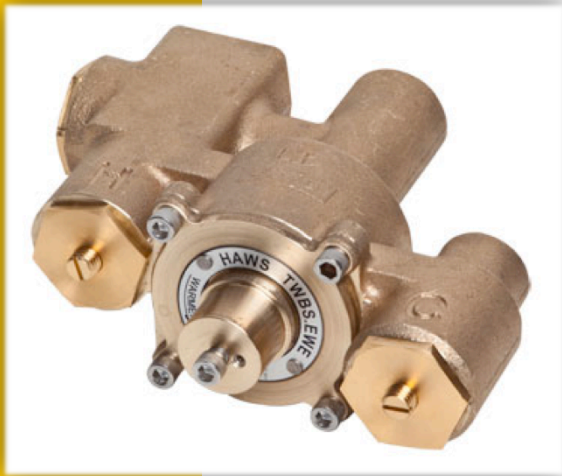
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## INDUSTRIAL VALVES



## EMERGENCY VALVES

- ASSE 1071 & CSA B125.3 certified
- Wax filled thermostat – 10X faster response



- Smaller and lighter than traditional valves
- Increased flows, lower pressure drops
- 100% hot water shut-off at cold water failure
- 100% cold water bypass at hot water failure

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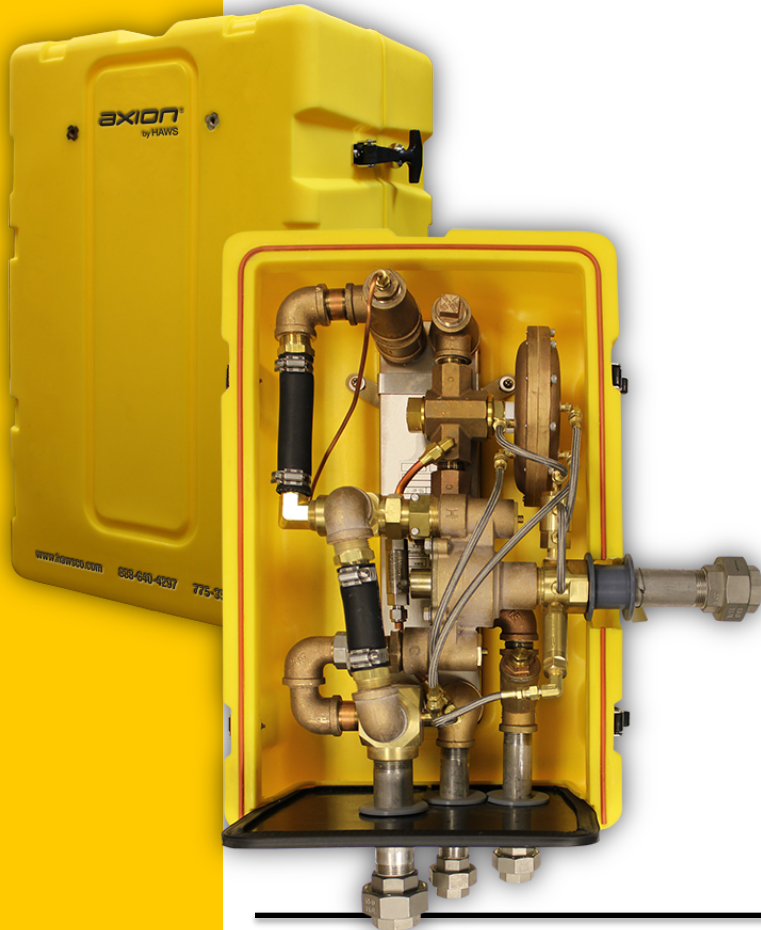
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# AXION<sup>®</sup> STEAM WATER HEATER (#9400)

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Only Steam Water Heater available on the market



Uses existing plant steam and water supply to provide ANSI compliant tepid water.

- Instantaneous tepid water
- Lightweight polyethylene enclosure
- Maintains constant 85° F (29° C) output
- Freeze and scald protection
- Conforms to OSHA and ANSI recommendations

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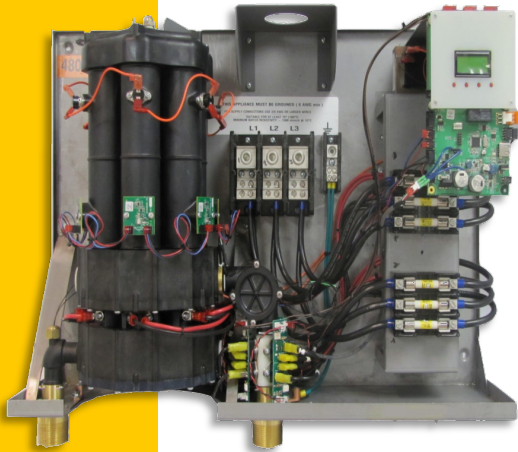
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# AXION<sup>®</sup> INSTANTANEOUS TEMPERING (#9326)

## Instant and continuous tempered water



- Six parallel heating chambers with pressure balancing cap
- Modular Heating Chamber Assembly
- Dry Fire and Overheating Protection  
Thermo-Optical Sensor  
Electronic Cut Off
- Predictive Control Algorithm
- Control Board with Digital Read-Out  
and Controls



# WATER STORAGE SOLUTIONS

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## Standalone tepid or hot water to mix with cold



### Components

- Skid mounted
- Immersion heater reliability
- Hot water tank / Warm water tank
- Expansion tank
- Recirculation options
- ASME/CRN
- Volume options depending on system requirements/design

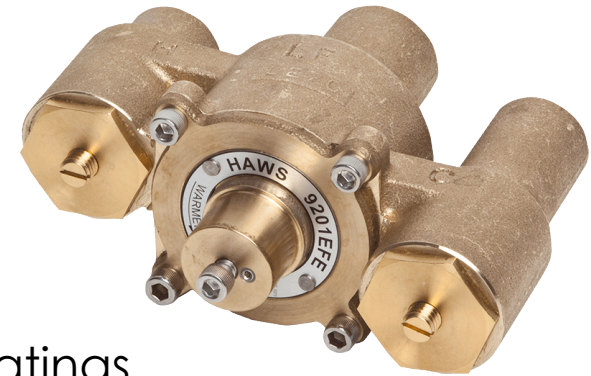
# ACCESSORIES and OPTIONS

There's more than just the showers to think about



**Showers and eye/face washes are typically part of a system.** There are accessories and options that may need to be considered.

- Alarm systems
- Tempering valves
- Foot treadles
- Corrosion protective coatings
- PVC piping
- Polished metal and other custom options





# KEY CONTACTS



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