INNOVATIONS IN FLOW CONTROL FOR FIRE PROTECTION

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SAN ANTONIO, TX

AFSA American Fire Sprinkler Association

1

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Regional Channel Manager, Watts Water Technologies

- Over a decade of experience in sales and education
- Sold backflow products and trained wholesalers, municipalities, and end users on their usage
- Provided hands-on field support for backflow preventer repairs
- Presented AIA-accredited training sessions to architects and engineers

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3

HOUSEKEEPING ITEMS

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National Fire Protection Association
The authority on fire, electrical, and building safety

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4

Why This Topic Matters Today

- Extend valve life with anti-corrosion protection
- Improve fire system reliability with flood sensing
- Monitor backflow preventer performance
- Focus monitoring where it adds the most value
- Labor and lifetime costs savings

5

New Technologies. Improved Protection

Anti-Corrosion Coating	Leak / Flood Detection	Fire / Tamper Detection	Freeze Detection
Anti-corrosion coating inhibits bacteria causing MIC and kills bacteria to extend the live of your valve	The add-on sensor connection kit is available for both third-party building management systems, or BMS, and cellular communication.	A Safety Device that indicates Open / Close position of OS&Y Gates in Fire Sprinkler Systems.	The add-on sensor connection kit, will provide you with advanced warnings of freezing conditions.

6

Corrosion Shortens the Lives of Valves

7

Decades of Backflow Innovation

2000 Series – 1980s

Industry First
- Swing checks
- Fabricated thin-wall steel construction
- Checks in a single body

SS Series – 1989

Industry First
- Stainless steel body
- Engineered plastics
- Single access port
- Formed SS cover

Colt Series – 2000

Industry First
- Butterfly shutoffs
- Built-in tamper switches
- Flexible couplings
- Line size body
- Portless design

8

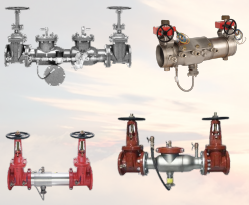
Advancements in Stainless Steel Backflow Design

Industry Firsts and New Technologies
- Only all stainless valve
- Only large diameter valve with integral shutoffs
- Patented Dual-Action check modules
- Tamper resistant test cocks

Shortest and Lightest Valve - 2012
- Patented Bow-Seal cover
- Micro-Bypass™ (RPDA-II and DCDA-II)
- Non-binding, compact stainless steel relief valve

9

Innovation Solves Real Problems



Innovation Solves Customer Issues

Smaller and smaller mechanical rooms
- Shorter valves

Fewer personnel, less expensive installation
- Lighter weight
- Easier to service

Lower cost of ownership
- More reliable
- Higher performance

10

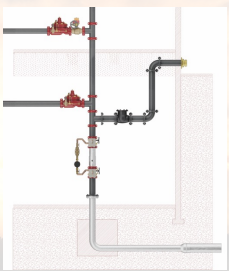
In-Building Fire Protection Risers

- Common component of many fire protection systems
- Traditionally assembled from multiple fittings and connections
- Installation quality can directly impact long-term performance
- Innovation continues to simplify installation and maintenance

11

Stainless Beyond the Valve: In-Building Risers

- Single-piece riser replaces field-assembled fittings and elbows
- Corrosion-resistant stainless-steel construction supports long-term reliability
- UL/FM approved, meets NFPA 24
- Reduces leak/failure points vs. traditional mechanical-joint installs
- Cuts installation to one or two people, with major time and labor savings
- Factory-tested integrity — pressure-ready on install



12

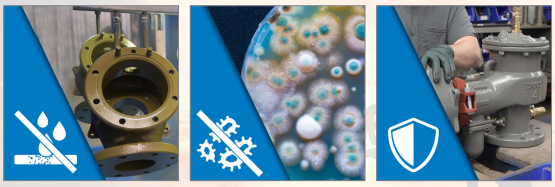
The Stainless Advantage, Summed Up

- Long-term reliability
- Corrosion-resistant
- Lightweight, easier handling
- Faster, simpler installation
- Pressure guarantee on install

13

Advanced Corrosion Protection

Three-Pronged Approach to Corrosion Protection



Anti-Corrosion Primer | Microbial Inhibitor | Robust Topcoat

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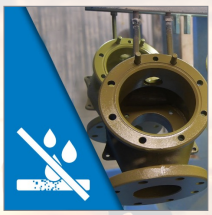
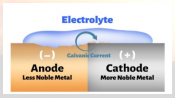
Anti-Corrosion Primer

First Coating – Galvanic Corrosion Inhibitor

- Contains a galvanic corrosion inhibitor.
- Utilizes the same principle as the anode rods in water heaters.
- Forms galvanic cell with iron and water, protecting the iron.





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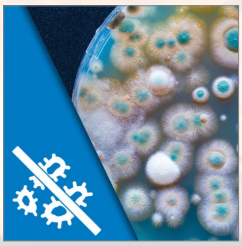
Microbial Inhibitor

Included in First Coating – Microbial Inhibitor

- Built into the coating.
- Inhibits the growth of bacteria that causes MIC.
- Testing has shown that it can effectively kill microbes in static conditions.



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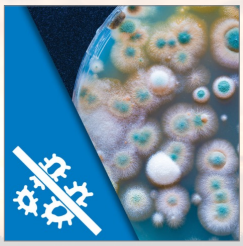
Robust Topcoat

Second Coating – Epoxy

- The same color epoxy coatings you are familiar with.
- Primer is specially formulated to bond with the topcoat.
- Can give wear indication when worn through to the primer coat (yellow-green).



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Field Test Results

Traditional Coating – 14 months

In these images taken 14 months after installation you can see many of the tubercles common to MIC and extensive corrosion.

Anti-Corrosion Advanced Coating – 16 months

These images taken after 16 months in the same application as above shows little to no corrosion. Any corrosion resulting from a breach in coating has not spread.

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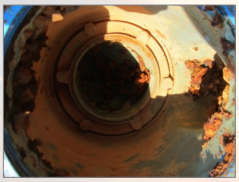
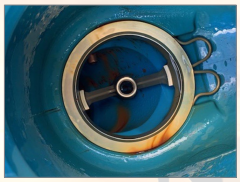
Field Proven Protection

ASTM Tested and 5 Years of Field Testing:



Standard Coating



Anti-Corrosion Coating

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Three-Pronged Corrosion Protection

Anti-Corrosion Primer

Significantly slows the spread of corrosion.

Microbial Inhibitor

Prohibits the growth of the bacteria that causes MIC.

Robust Topcoat

Provides a high strength barrier between the iron substrate and water.

20

Smart and Connected Monitoring Advantage

21

Reduce Response Times

- Real time monitoring of multiple backflows and locations
- Discharge Event mitigation
- Reduce risk of property damage
- Water conservation & sustainability – Green Initiatives
- Insurance cost reduction

22

Conservation

- How much time goes by before an RP discharge is noticed? Days? Weeks?
- How much water loss per minute on a 4”-8” valve? – 240GMP to 950GPM.
- Excessive water use fines vary by state - in CA, NV, AZ - $50 to $5,000 per incident

23

Civil Engineering Advantage

- More and more RPZ’s are being spec’d
- Flood Sensors provide specification of a water conserving solution
- Help Meet sustainability and green initiatives

24

Fire Sprinkler Codes

- How long can a fire main be non-operational?
- The NFPA requires a fire watch to be implemented if a commercial system is down for more than four hours in a 24-hour timeframe.
- Fire Sprinkler Codes Violations - $50 - $200 a day!

The American Society of Civil Engineers (ASCE) supports water conservation and water use efficiency measures as essential elements of sound water resources management. ASCE encourages suppliers, regulators, legislators, and consumers to support laws, regulations, policies, and programs for water conservation.

25

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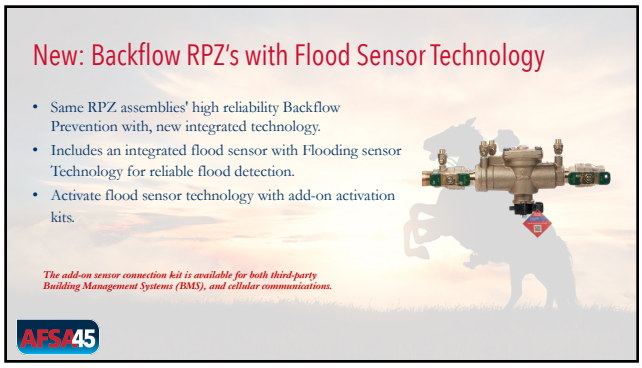

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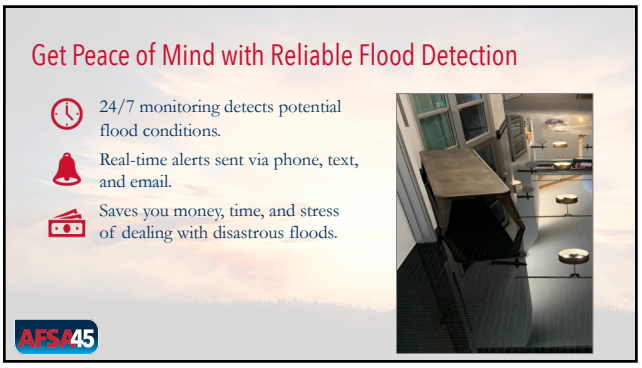

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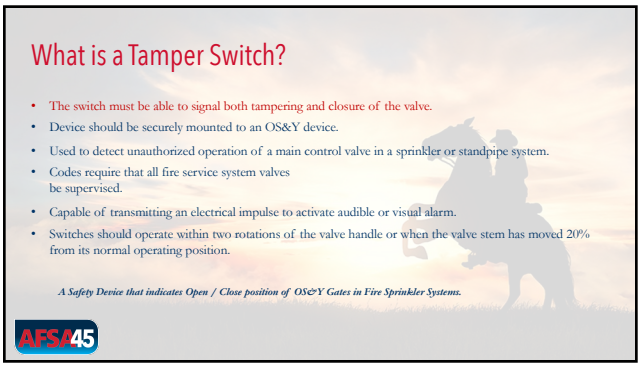

31

Tamper Solutions – Chains / Bracket Mounted / Integrated

Chains are common in US Market

Integrated Butterfly Tamper Switches

Bracket Mounted Tamper Switch

- Often requires 2-3 people to install
- Requires filing grove into stem
- Seems finicky and easily moved
- Vibration can sometimes set it off
- Difficult Time calibrating "Getting it Right"

Field Installation can be Time Consuming!

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New! Integrated OS&Y Tamper Switch

Features and Benefits

- **Rigid Mounting** – Integrated with the Valve. No brackets to adjust or tighten
- **Factory Installed** – Calibrated and tested
- **Simple Install** – No mechanical installation required
- **External field adjustment if required or needed**
- **Maintenance** – same warranty as valve, field repairable and replaceable
- **Meet Fire Codes** (UL / FM)

Factory Installed, Calibrated, Test and Ready to Go

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Get Peace of Mind with Factory Installed Tamper Switches

Stay Connected

Continuously monitor your valve for fire tampering through your BMS system.

All-in-One Purchase

Purchasing a backflow preventer with a tamper switch already installed means one less purchase to deal with.

No More Headaches

Having fire tamper detection already installed and calibrated means less frustration in the field.

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Freeze Detection

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Why Freeze Detection?

The Challenge

Freeze is a costly problem and the #1 cause of PVB damage.

- Freezing and Cracking
- Loss of Functionality
- Leaks
- Contamination Risk

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How it Works

What makes it smart

- Senses the temperature from sensors mounted on PVB and DC Backflows.
- The activation module is designed with two relay controlled temperature and time delays.
  - **Alert #1** has a 37°F, 60 min. time delay.
  - When temperature rises above 37°F, the alert is deactivated immediately.
  - **Alert #2** has a 32°F, 30 min. time delay.
  - When temperature rises above 32°F, the alert is deactivated after 30 minutes.
- Either relay or both relays can be used according to user preference.

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Get Peace of Mind with Reliable Freeze Protection
Prevent Freeze Damage
Replacing a cracked backflow preventer is costly and time-consuming.
Reduce Water Waste
Avoid the mess of flooding that follows freeze damage.
Monitor Backflow Preventer 24/7
Receive real-time alerts when freezing conditions are detected.
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Key Takeaways
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Bringing It All Together
Earlier Awareness
Extended Equipment Life
Reduced Downtime
Greater System Confidence
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40

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✓ Badge scanned at start of seminar
✓ Attend full seminar
✓ Complete evaluation 1 of 2 ways:
✓ Evaluation link is emailed to attendees with scanned badges
✓ Event App by EventsAir
• Login to app (using your email & 6-character app pin)
Only attendees who were scanned in will have evaluation access at end of session.
Thank you!
Sara Hiers
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Scan QR code to submit questions for Ask the Experts!

41

2027 Training Schedule

WEBINARS

1/6	Updates to NFPA 20
1/20	Calculating Pressure Reducing Hose Valves
2/3	Consumer Alert: Nitrogen in Sprinkler Systems
2/17	Reviewing Hydraulic Calculations
3/3	Updates to NFPA 13, 2028 Ed.
3/17	Updates to NFPA 13R & 13D, 2028 Eds.
4/7	Topic Coming Soon
4/21	NFPA 25: Roles & Responsibilities
5/5	Standpipe Flow Test Procedures
5/19	Storage 101
6/2	NFPA Technical Meeting - Voting Guide
6/16	Topic Coming Soon
6/30	Topic Coming Soon
7/7	Updates to NFPA 14, 2027 Edition
7/21	Adjacent Hazards & Design Methods
8/4	Acceptance Testing
8/18	Modifications to Existing Systems
9/22	Topic Coming Soon
10/6	Seismic 101
10/20	Proposed Updates to NFPA 25, 2029 Ed.
11/3	Evaluating Fire Pump Flow Tests
11/17	Top 10 Tech Reviews
12/1	Designing Water Storage Tanks
12/15	Pump Room Layout

PROGRAMS

Feb 9 - Mar 5 Apr 20 - May 14 Aug 3 - Aug 27** Oct 26 - Nov 19	Beginning Design School*
Apr 26 - May 7 Nov 1 - 12	Intermediate Design School*
Feb 8 - 10** Apr 12 - 14 Jul 12 - 14 Oct 11 - 13	Sprinkler Hydraulics Calculations Workshop
Apr 19 - 21 Oct 18 - 20	Advanced Hydraulics Calculations Workshop
Feb 11** Apr 30 Jul 23 Sep 24	Introduction to the Fire Sprinkler Industry
Mar 1 - 3 May 17 - 19 Aug 16 - 18 Oct 18 - 20**	NFPA 25 Essentials Workshop
Jun 7 - 10 Sep 20 - 23	Experienced Inspector Skills Lab
Mar 4 - 5 May 20 - 21 Aug 19 - 20 Oct 21 - 22**	NFPA 25 Fire Pump Workshop
Spring Summer Fall	ITM Inspector Development Program* *This program is 20 months.*

** Hybrid course **At General Air Products Lab, Exton, PA*

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September 8-11	Manchester Grand Hyatt San Diego, CA

For More Details Visit:
firesprinkler.org

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Dates subject to change. Programs subject to minimum registrations.

rev 9/14/2026

Virtual Instruction Path (VIP)

for Sprinkler Fitting Apprentices

Level 1 - Begins January 2027

Level 2 - Begins February 2027

Level 3 - Begins January 2027

Level 4 - Begins March 2027

www.firesprinkler.org/VIP

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HANDS-ON WORKSHOPS FOR 2027

FEATURING AFSA'S TRAINING LAB

NFPA 25 Essentials Workshop

Mar | May | Aug | Oct

Description: Understand roles, responsibilities, and NFPA 25 ITM procedures through hands-on testing of wet systems, dry systems, and fire pumps.

NFPA 25 Fire Pump Workshop

Mar | May | Aug | Oct

Description: Develop practical NFPA 25 fire pump ITM skills, including no-flow and full-flow testing, water supply graphing, and performance evaluation.

Introduction to the Fire Sprinkler Industry

Feb | Apr | Jul | Sep

Description: This course is designed for those new to the industry. An introductory, wide-ranging 8-hour course that provides a broad overview of core fire sprinkler industry concepts for those new to the field.

Experienced Inspector Skills Lab NEW

Mar | Sep

Description: Take your ITM expertise beyond the basics. Designed for experienced technicians, this course combines focused classroom instruction with hands-on system lab training to strengthen your application of current NFPA 25 inspection, testing, and maintenance requirements. Refine fire sprinkler testing practices, improve documentation, deliver more consistent service, and help reduce liability while reinforcing knowledge commonly covered on certification exams.

Learn more about AFSA's fire sprinkler lab featuring functional risers, a spray room, fire pumps, and an interactive classroom.

firesprinkler.org/lab