

# Corrosion Management for Sprinkler Systems

Existing Facilities



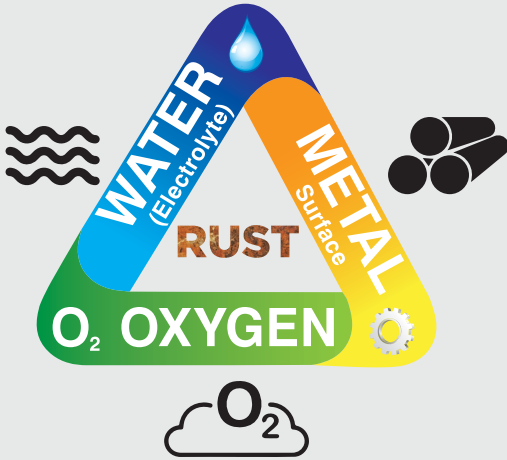
Engineered  
Corrosion  
Solutions

# Sprinkler Corrosion Science

**Oxygen:** Primary Cause of Corrosion

**Nitrogen:** Inert Gas

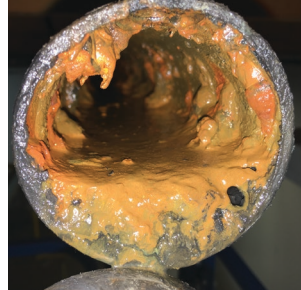
Remove Oxygen, Replace with Nitrogen = **Corrosion Stops!**



Dry Pipe Systems Trap Water



Wet Pipe Systems Trap Air



## RISK

1. Business Downtime + Property Loss = \$\$
2. Life Safety - Blocked Sprinkler Heads

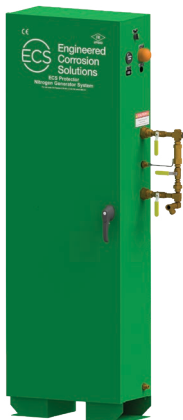
# Corrosion Prevention Methods

## Dry Pipe and Preaction Systems

Dry Pipe Nitrogen Inerting - Nitrogen Generators



Wall-Mount Nitrogen Generator  
Up to 3,500 Gal.  
100,000 sf approx.



Stand Alone Nitrogen Generator  
Up to 22,500 Gal.  
650,000 sf approx.

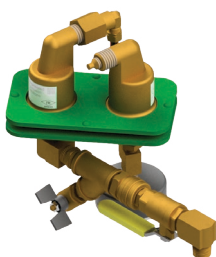


Added Benefit -  
Ice Plug Prevention!

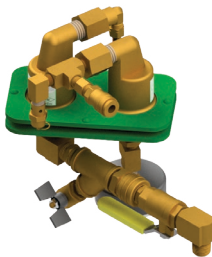
## Wet Pipe Systems

Air Venting

Wet Pipe Nitrogen Inerting



ECS Ejector Automatic Air Vent  
(PAV-W)



ECS Protector Nitrogen Inerting Vent  
(PAV-WN)

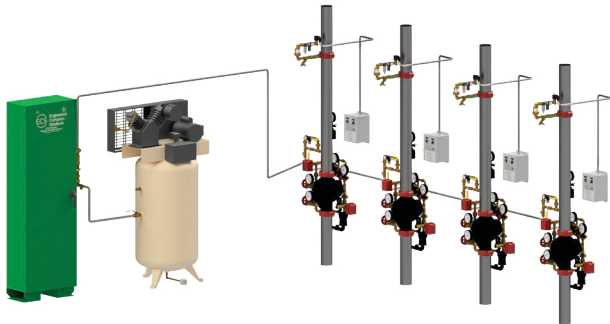
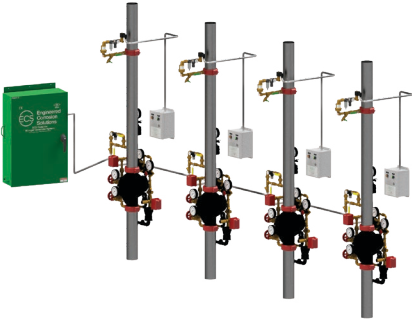


*The 2016 Edition of NFPA 13 requires a means of venting  
air on all wet pipe fire sprinkler systems.*

# Installation Schematics

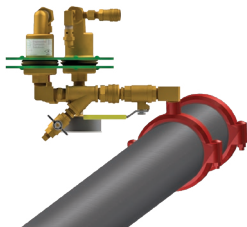
## Dry Pipe and Preaction Systems

Wall Mount Nitrogen Generator



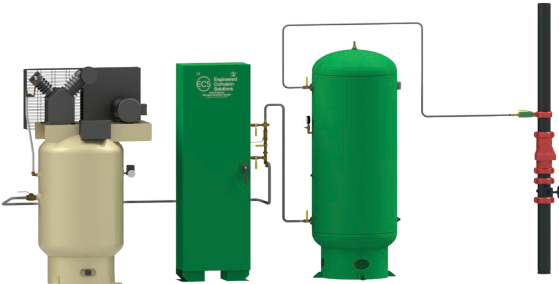
Stand Alone  
Nitrogen Generator

## Wet Pipe Systems



Air Vent Installation  
(Remote High Point)

Wet Pipe Nitrogen Inerting  
Equipment Configuration



# Return on Investment

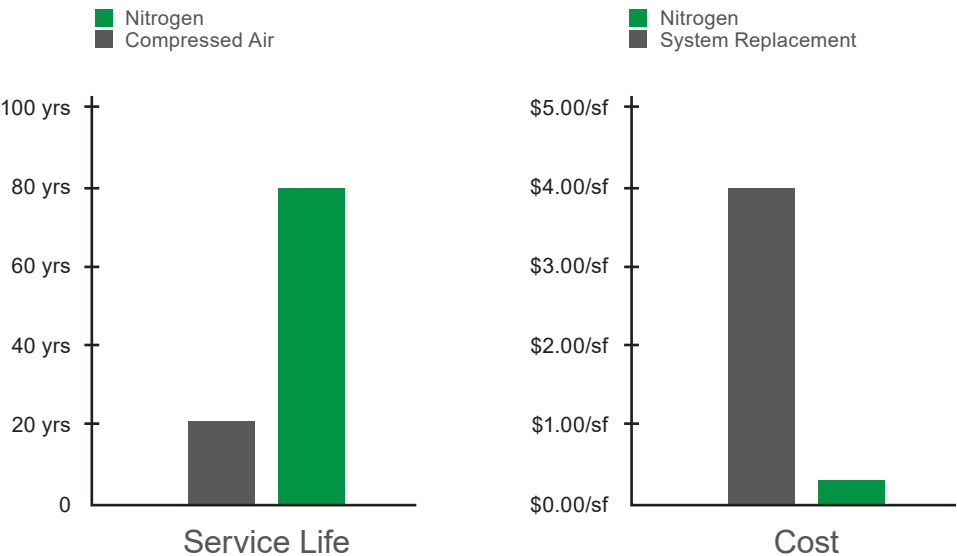
## Dry Pipe and Preaction Systems

**98% Nitrogen: >4x Service Life Multiplier**

**Cost of Full System Replacement:** \$3.00 - \$5.00 per sf

**Average Dry System Service Life:** 20 years

**Cost of Nitrogen Implementation:** \$0.20 - \$0.40 per sf



**Real-Life Scenario:** Resort - Hilton Head, SC  
*Complete dry system replacement after 20-year service life*

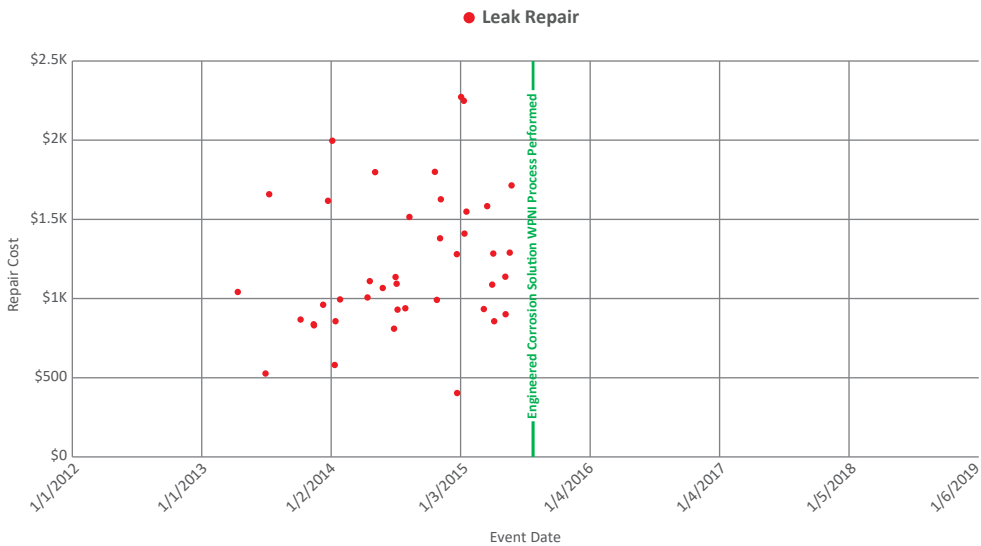
**Facility size:** 142,500 sf  
**Full System Replacement Cost:** \$480,000 (\$3.37/sf)  
**Nitrogen Implementation Cost:** \$34,850 (\$0.24/sf)

Nitrogen Savings/Yr, 80-year expected service life: **\$18,000**  
Nitrogen Return on Investment (ROI): **1.9 Years**

# Return on Investment

## Wet Pipe Nitrogen Inerting (WPNI)

Big Box Store – Wilmington, NC



Years in service: 26  
Pinhole leak repairs: 41  
Total repair cost: \$49,929

WPNI performed on: 8/11/2015  
Cost of WPNI implementation: \$12,000  
Pinhole leaks since WPNI: 0


WPNI: **Stop pinhole leaks in their tracks**  
Avoid complete system replacement for **less than 10% of the cost!**

# Analytical Services

## Corrosion Assessments

Primary Investigative Tools:

- Internal Video Scoping ①
- Pipe Sample Analysis ②
- EDS Deposit Analysis ③



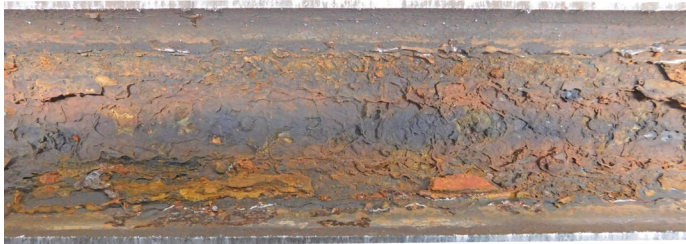
Branch line at 37ft with significant corrosion deposits, clear air-water interface

Same branch line at 16ft with no corrosion, water filled with no air-water interface

***Fire Sprinkler Corrosion is Highly Localized!***

Corrosion Assessment Combined with Surgical Pipe Replacement  
+  
Corrosion Control Program  
=  
**90% Savings vs. Total System Replacement!**

Pipe sample,  
as received



After  
media  
blasting





## Our Mission

We are not your typical fire protection equipment manufacturer. We think differently. We are innovators at the intersection of corrosion and fire protection who set out to become the world's best. Our laser focus on the industry is the reason why we're the leader in corrosion control solutions and services.

Our focus on service keeps our customers coming back. Our clients often remark on how easy it is to receive technical support, all you have to do is call us to immediately get in touch with a product specialist who can solve your problem. Our technical background and extensive fire protection experience allows us to provide services that simply cannot be matched by manufacturers that work through a distributor. We are invested in the success of our partners. We realize that our success is tied to yours.



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