Reliable®

CORROSION INHIBITING SOLUTIONS

For Dry and Preaction
Fire Protection Systems

South-Tek Systems

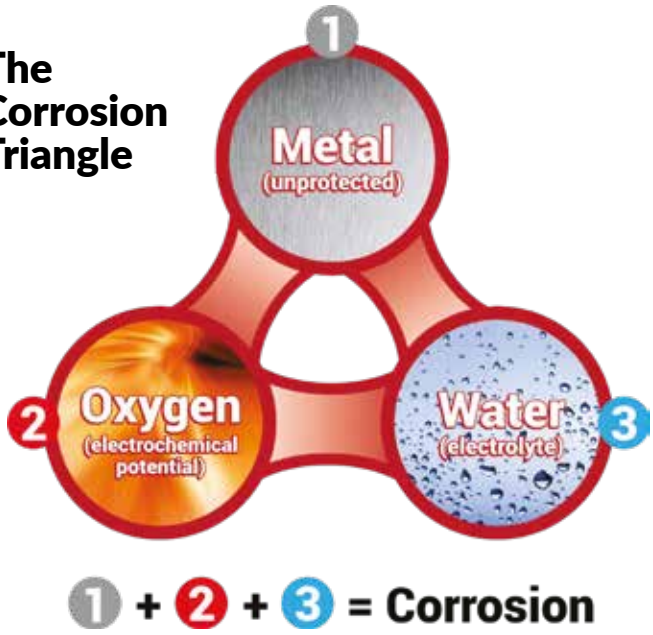
THE CORROSION PROBLEM. SCIENTIFIC FACT.

The Facts on Corrosion:

- *Dry and preaction systems are involved in 59% of fire losses caused by corrosion-related obstructions to sprinkler flow (FM Global).*
- *73% of dry and preaction systems inspected had significant corrosion issues after 12.5 years (VdS Study).*
- *Corrosion leads to property damage, ongoing pipe repair and replacement, decreased c-factor and sprinkler blockage - potentially rendering the system inoperable in the event of a fire. These costs along with the hard and soft costs associated with disrupting your organization's operation are significant.*

An industry leading Nitrogen system offers you the solution.

The Corrosion Triangle



1 + 2 + 3 = Corrosion

1. METAL

- Results in a uniform wall-thinning corrosion mechanism in black steel
- Results in a localized pitting corrosion mechanism in galvanized steel

2. OXYGEN

- There is an inexhaustible source of oxygen in compressed supervisory air

3. WATER

- Comes from residual water and moisture left behind after hydro test

Replacing air and oxygen in a sprinkler system with nitrogen, inhibits corrosion by removing a segment of the corrosion triangle.

PIPE CORROSION AND TESTING RESULTS.

Long-Term Exposure Testing.

Industry leading and ongoing tests over the past eight years by a Third Party (official report available on request) comparing the performance of black and galvanized steel sprinkler pipe in compressed air and nitrogen gas environments have yielded the significant results detailed below. The test environment is comprised of half-filled Schedule 10 black and galvanized steel sprinkler pipe sections individually subjected to either compressed air or 98% nitrogen supervision.

	SCHEDULE 10 BLACK STEEL (7.9 YEARS)		SCHEDULE 10 GALVANIZED STEEL (7.9 YEARS)	
	As Received	Cleaned	As Received	Cleaned
COMPRESSED AIR				
	20.7 Years Projected Service Life		9.9 Years Projected Service Life	
98% NITROGEN				
	63.2 Years Projected Service Life		176 Years Projected Service Life	

As a result of 98% nitrogen in lieu of compressed air supervision:

The projected service life for Schedule 10 black steel pipe can be increased from 20 to 63 years.

The projected service life for Schedule 10 galvanized steel pipe can be increased from 10 to 176 years.

N_2-BLAST® NITROGEN GENERATORS.

South-Tek N_2-Blast® Nitrogen Generator fitted to a Reliable Model DDX PrePak Preaction System and Model DDX Preaction Valve.

Award Winning Corrosion Inhibiting System.

Minimum Nitrogen Purity: 98%

Introducing the N_2-Blast® - Corrosion Inhibiting System, recipient of the NACE corrosion innovation of the year award. Designed and manufactured by South-Tek Systems, the world leader in nitrogen generation technology. The N_2-Blast® generates and introduces 98%+ pure nitrogen into the dry or pre-action fire protection system. In doing so, oxygen, a key contributor to corrosion, is displaced from the piping through the AutoPurge™ System. The N_2-Blast® effectively inhibits electrochemical, galvanic and microbiologically influenced corrosion (MIC), as well as freeze-ups and ice plugs.

South-Tek Reliability

South-Tek has been a pioneer and leader in the nitrogen generation and solution space since 1997. As the only provider of dual-bed PSA nitrogen separation technology, South-Tek's nitrogen generators yield an efficient 2:1 air to nitrogen ratio. Requiring less feed air to generate the same amount of nitrogen and allowing the feed air compressor to run at lower pressures and temperatures ultimately maximizes the life of the feed air compressor and other integral components. PSA technology also provides 98%+ purity for longer— to the tune of 20+ years. And because South-Tek's nitrogen generators are sized to NFPA 25 leak rates (3 psi [0.2 bar] in 2 hours), they produce significantly more nitrogen and run less frequently, ensuring maximum system longevity.

THE TECHNOLOGY.

The Technology.

As the only provider of dual-bed Pressure Swing Adsorption (PSA) nitrogen separation technology to the Fire Protection Industry, South-Tek's nitrogen generators yield an efficient 2:1 air to nitrogen ratio versus the 3:1 ratio of competing membrane systems. Requiring less feed air to generate the same amount of nitrogen and being tied to NFPA leak rates allows the feed air compressor to run at a lower pressure and temperature than it would in a membrane system, ultimately maximizing the life of the compressor and other integral components. PSA technology is longer lasting because it uses Carbon Molecular Sieve (CMS) material to extract oxygen from the air under pressure and capture nitrogen. South-Tek's PSA technology has been battle tested in the most challenging military and industrial applications in the world resulting in a solution the Fire Protection Industry can rely upon. *(Further Product Specifications Available Upon Request)*

AutoPurge System™

Patented, adjustable and fully pneumatic, the AutoPurge System™ cycles Nitrogen continuously throughout to maximize corrosion protection and help dry out residual moisture. It can be installed anywhere throughout the length of the system, including in the riser room.

South-Tek, like most manufacturers in the fire protection industry, *recommends* the device be placed at a remote point. This is the easiest way to both prove high purity Nitrogen is flowing throughout the system, as well as providing assurance there are no water traps, ice plugs, or other blockages.

SMART-Trak™

South-Tek's exclusive SMART-Trak™ technology allows you to remotely monitor the nitrogen generator from any mobile device. View information such as trending FPS leak rate, equipment runtime, time in air bypass mode, current system status, and maintenance reminders all through the SMART-Trak™ mobile application.

Feed Air Compressors.

Compressors designed to meet 30 minute fill time requirements for systems up to 3,000 gallons (11,350 L) at 40 psi (2.76 bar) and 6,000 gallons (22,700 L) at 20 psi (1.38 bar). *(Further product specifications available upon request.)*

Typical System Installation

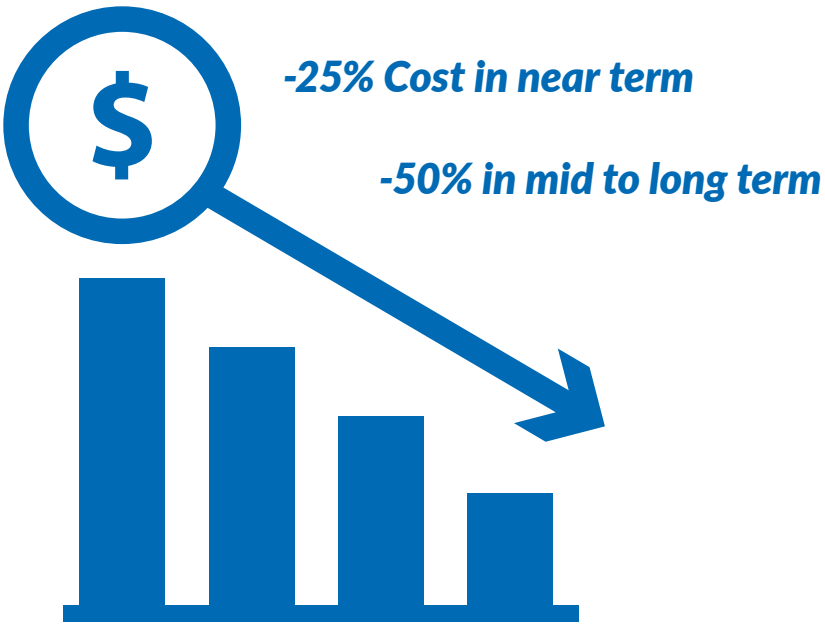
ROI & BENEFITS.

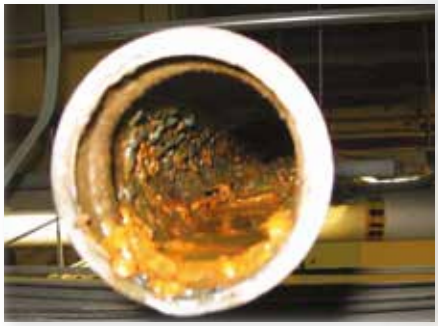
A variety of Dry and Preaction Systems exist, and within each one is an ROI ready to be unlocked.

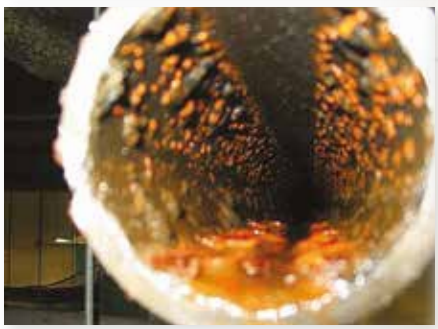
System sizes and configurations change, but since the facts behind the corrosion problem and nitrogen solution do not, the economic and operating benefits are there for the taking.

Consider this scenario:

- Maintenance cost for a facility with 1-2 Dry Systems more than 4-5 years old is between $300-$800 per month.
- Selective pipe replacement and a nitrogen generator easily reduces that cost $100-$200 per month during the first 60-90 days after installation.
- Thereafter nitrogen supervision reduces the corrosion rate to a negligible amount, increasing the savings over time vis-vis systems without nitrogen and their inevitable corrosion, pipe degradation and leaks.
- That's a potential cost reduction of 25% in the near term and 30-50% in the mid to long term.
- Beyond basic maintenance, consider the cost of ongoing selective and eventual full pipe replacement without nitrogen. And in newly installed fire protection systems, corrosion never even gets a chance, thereby preserving your asset for the long term. Now consider all the following economic and operating benefits.







ROI & BENEFITS.

End Customer Benefits:

1. Lower pipe repair and replacement costs.
2. Reduced monthly maintenance costs by 25% near term and 30-50% mid to long term.
3. More predictable monthly maintenance costs.
4. Less business interruption due to fewer leaks, problems and maintenance.
5. Reduced liability related to a system not functioning properly.
6. Reduced threat from a potential catastrophic problem due to corrosion.
7. Drastically lower long-term expense for full pipe replacement.
8. Having a fire protection system & partner you can trust.

ROI

Customer Satisfaction

Operating Efficiency

New Customers

Decrease in
- Liability
- Costs
- Unpredictability

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TECHNICAL SERVICES

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South-Tek Nitrogen + Reliable Systems = The Perfect Package.

For more about the Corrosion Problem and the Nitrogen Solution please contact Reliable.

Let's Discuss The Opportunities.

www.reliablesprinkler.com