

## Corrosion Inhibiting System for Fire Protection Systems

### INCREASED SAFETY

The MicBlast™ generates Nitrogen on demand at low pressure (60-110 psi) as opposed to handling high pressure (2500+ psi) Nitrogen cylinders. These high pressure cylinders must be handled with extreme care, are heavy, and must be chained up at all times. Also note that most cylinders that are being used today date back to the early 60's. Keep safe and generate Nitrogen onsite with the MicBlast™!

### CONVIENCE

Since the MicBlast™ generates Nitrogen on demand you will not have to worry about running out of gas or constantly changing-out high pressure Nitrogen cylinders!

### COST

The cost of high pressure Nitrogen cylinders quickly adds up. Most gas companies charge fees that included fuel surcharge, delivery, yearly rental, all on top of the cost to refill each cylinder with Nitrogen. With the purchase of the MicBlast™ the only other cost is an inexpensive annual filter kit. Therefore, in the long term the most cost effective solution to carrying Nitrogen is generating Nitrogen onsite with the MicBlast™!



### How the MicBlast™ System Works

MicBlast™ is a patent pending compact system that generates and introduces high purity, corrosion inhibiting, Nitrogen (N<sub>2</sub>) into your dry or pre-action Fire Protection Systems (FPS). The MicBlast™ can be integrated with or replace your existing supervisory air compressor. It uses minimal space, runs quiet, and can be installed within your fire pump or riser room. The MicBlast™ generates high purity N<sub>2</sub> at the same rate as a high pressure N<sub>2</sub> cylinder, therefore making it a safer, more convenient, cost effective solution to inhibit corrosion.

Installation is simple, requiring only a connection to a compressed air line (compressor is an available option) and in turn the MicBlast™ can be connected directly to the FPS riser. When not generating N<sub>2</sub>, the system does not consume compressed air, thus it is environmentally friendly by saving energy. The MicBlast™ system can be designed to initially charge the FPS to the specified supervisory pressure within 30 minutes, as required by NFPA 13. Thereafter, the MicBlast™ system will maintain supervisory pressure and continuously cycle Nitrogen throughout the FPS by means of the patented MicBlast - AutoPurge System™ (APS). This ensures that high purity N<sub>2</sub> (typically 95% to 99.8%) makes its way to all of the branches within the FPS. In utilizing the APS, the low dew point of nitrogen allows for the continuous absorption of any residual moisture within the system piping, thereby "drying out" your FPS system during the cycling/purging stage. The MicBlast™ is provided with the Blast-Off™ Patented- Leak Detection System which will alarm when the leakage from the FPS exceeds the maximum rate as specified by NFPA 13, ensuring safety, FPS integrity and maximizing the life of the MicBlast™ - Corrosion Inhibiting System.



The MicBlast™ is designed to supply low pressure, supervisory Nitrogen, a clean, dry, non-flammable, inert gas to pre-action and dry sprinkler systems. Traditionally compressed air is used as a supervisory gas for such systems. However, the constant availability of oxygen in the compressed air supports corrosion of the steel and galvanized piping. Microbiologically influenced corrosion (MIC) has also been identified as a real threat for the integrity of these types of fire protection systems.

### Benefits of a Nitrogen Generator

- Cost effective, continuous supply of Nitrogen to the FPS.
- "The Green Solution to Inhibiting Corrosion" Eliminate the need for chemical corrosion inhibitors.
- Eliminates the need to change-out Nitrogen gas cylinders, the liability of handling gas cylinders (high pressure), and the inconvenience of changing out the gas cylinders.
- Eliminates the risk of de-pressurization of the FPS due to untimely Nitrogen gas cylinder run-outs.
- Requires only compressed air supply to produce high-purity Nitrogen.
- No need for desiccant or regenerative dryers when membrane Nitrogen generators are employed.
- Nitrogen is not a chemical additive and poses no possible chemical hazard.
- The inert nature of Nitrogen prevents the oxidation and aging of polymeric gaskets, seals and O-rings, within the FPS, thereby prolonging their service life.

### How Nitrogen Inhibits Corrosion in a FPS

- Nitrogen is an inert gas, which does not support the corrosion reaction (the oxygen in compressed air does).
- The Nitrogen effectively displaces all oxygen from the system and stops the corrosion reaction by eliminating the cathodic oxygen reaction.
- The dew point of 95% Nitrogen is approximately -40°F, which enables it to absorb significantly more moisture than compressed air. Cyclic venting of Nitrogen will, over time, completely remove any residual moisture from the system and thereby completely arrest electro-chemical corrosion.
- Inert nature of Nitrogen eliminates oxidation of non-metallic components of FPS.
- Absence of water will completely eliminate the potential threat of Microbiologically Influenced Corrosion (MIC).
- Prevents the formation of ice blockages in freezer FPS systems.

## MICBLAST™ PRESS RELEASE

**January 5<sup>th</sup>, 2010 - Wilmington, NC** -- South-Tek Systems, the leading designer and manufacturer of Nitrogen generators, has recently launched the *MICBlast™*, a compact system that generates and introduces high purity, corrosion inhibiting, Nitrogen (N<sub>2</sub>) into dry and pre-action Fire Protection Systems (FPS).

*MIC* stands for Microbiologically Influenced Corrosion and MIC, along with galvanic corrosion is one of the most widespread threats to the integrity of Fire Protection Systems. Traditionally, compressed air is used to maintain Supervisory Pressure in a FPS; however the moisture in the compressed air as well as residual water trapped in the FPS piping system during hydrostatic testing supports the cathodic oxygen reaction resulting in oxidation or corrosion of the steel and galvanized piping. This corrosion not only causes detrimental and costly leaks in the FPS but the remaining debris can also clog sprinkler heads rendering them ineffective in the event of a fire.

The *MICBlast™* is designed to inhibit problematic corrosion by supplying dry, low pressure, supervisory N<sub>2</sub>, which is an inert, non-flammable gas. The *MICBlast™* is also equipped with the patented *BlastOff™ - Leak Detection System* which alarms when the Nitrogen Generator is operating more frequently than normal, due to a sizable leak in the piping system downstream. This feature protects the *MICBlast™* from running unnecessarily, thereby maximizing the life of the system and forewarns the building management that a significant leak requiring attention is developing within their FPS piping system.

The *MICBlast™* offers a much safer alternative by generating its own high purity N<sub>2</sub> (95% - 99.8%) onsite, at low pressure. This translates to less required maintenance and reduced operational costs. There is no risk of running out of N<sub>2</sub> or having to deal with dangerous high pressure (2400 PSI) N<sub>2</sub> cylinders. Care and replacement of these high pressure cylinders is an expensive hassle since they must be chained up when in use and they require extra caution when handling. The *MICBlast™* eliminates these issues and only requires a simple, low cost, annual maintenance procedure of replacing the filter elements (a 15 minute operation).

Installation of the *MICBlast™* system is also simple and it can easily fit into new building designs or can be integrated into an existing FPS. It operates quietly and uses minimal space; therefore it can be installed in smaller areas, such as inside a building's equipment room.

Along with the Nitrogen Generator, the patented *MICBlast - AutoPurge System™* (APS) technology ensures the FPS piping is pressurized and completely blanketed with high purity nitrogen, hence providing the utmost protection from corrosion and MIC. The APS creates gas movement within the FPS guaranteeing that high purity Nitrogen will reach the farthest of branches within the FPS resulting in uniform N<sub>2</sub> purity throughout the piping. In addition, Nitrogen has a -40 degree dew point therefore the APS allows for the continuous absorption of any residual moisture left within the piping after hydrostatic testing, thereby completely "drying out" the sprinkler pipes. This device is easy to install and attaches to the bottom of the Inspector's Test Valve at the end of each zone.

In today's world, there are an increasing number of accidents in a variety of buildings that require the flawless response and operation of a Fire Protection System. The dry and pre-action systems maintaining Supervisory Pressure with compressed air run the risk of encountering corrosion and ultimately requiring costly repairs down the road or even worse, not operating correctly in the event of a fire. The *MICBlast™* system minimizes this risk by generating its own N<sub>2</sub> and together with the APS, constantly cycling inert gas through the FPS to maximize purity and also "dry out" the residual moisture left behind after hydrostatic testing. Furthermore, the *MICBlast™* is safer than using high pressure N<sub>2</sub> cylinders and is more cost effective in the long run. It also offers an environmentally friendly, "green," alternative to using expensive, toxic chemicals to treat or coat the piping interior walls. The *MICBlast™* is the best solution to inhibiting corrosion and will allow the building management team to have complete confidence in their building's FPS and that it will react flawlessly in the event of a fire or accident.

To learn more about the *MICBlast™ - Corrosion Inhibiting System* or South-Tek Systems, please visit: <http://www.southteksystems.com/micblast.asp> or call (888) 526 - 6284.



**Canadian Distributor:** National Fire Equipment Ltd. (800) 267-8508 [www.nationalfire.com](http://www.nationalfire.com)

