PROINERT^2 (INERT GAS) FIRE SUPPRESSION SYSTEM FREQUENTLY ASKED QUESTIONS

WHY HAS FIKE CHOSEN IG-55?

Fike analyzed a wide variety of inert gas options before selecting IG-55, a blend of 50% Argon and 50% Nitrogen. Because it has a density very similar to that of air, you can count on exceptional extinguishing hold time, minimal required room sealing and improved penetration from top to bottom [of the protected space]. In addition, Argon and Nitrogen occur naturally in the environment, so it is readily available and affordable, does not decompose into toxic or corrosive elements in a fire, and is safe for people and assets. IG-55 is also a non-patented blend of natural gases, meaning that it is an open market and available to everyone; unlike other inert gas blends.

WHY HAS FIKE CHOSEN A PRESSURE REGULATING VALVE WHEN COMPETITORS USE A VALVE THAT IMMEDIATELY GOES FULLY OPEN AND THE DISCHARGE IS CONTROLLED BY AN ORIFICE PLATE?

Fike's market research has shown that a big concern among inert gas system users, building services contractors and system installers is room venting -- particularly since there is conflicting information within the fire protection market with respect to proper room venting. However, one thing is clear -- adding an additional 50% for agent volume into a protected space will cause a pressure increase (which can cause damage to the room) if some of the air in that space is not allowed to vent. And the amount of venting is dependent NOT on the amount of gas, but the flow rate of that gas.

Most inert gas systems discharge from the containers at a high surge flow rate, creating a potentially hazardous pressure peak and the need for a larger installed venting area to protect the integrity of the protected space. These systems then use pressure reducers further down the pipe network, so the system layout requires both high-pressure and low-pressure piping to handle the extinguishing agent as it travels to the discharge nozzle.

Fike's unique PROINERT valve allows a smooth, constant flow rate throughout the system discharge. This steady flow rate prevents destructive turbulence from occurring, reduces the venting area required and enables the use of less expensive, smaller-diameter, low-pressure piping. Therefore, PROINERT is not only safer for your staff and facility; it can help save money on agent, venting hardware and piping.

CAN WE USE THE RESULTS OF A DOOR FAN TEST TO REDUCE THE NECESSARY VENTING?

Yes, results should be used in spaces to receive a fire suppression system, even though quite often systems are installed prior to the completion of the building construction and long before a realistic door fan test can be performed. Plus, sealing a space to retain the extinguishing agent after the discharge is usually a challenge. The system designer needs to make a judgment call as to how well the room is sealed -- erring on the side of caution is always best as an undersized vent may cause considerable damage. Fortunately, the Fike PROINERT system requires only moderate venting. A much smaller vent or fewer vents can be installed prior to a door fan test being completed.

WHY ARE THE ROOM VENTING REQUIREMENTS SO MUCH LESS WITH A PROINERT SYSTEM?

The Fike PROINERT system uses a constant flow rate during a system discharge. Smaller pipe diameters and smaller nozzles working at a constant pressure, allows for a smooth, controlled discharge. PROINERT's even discharge rate does not create the same peak pressures within the protected space and therefore, less room venting is required.

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HOW MUCH CAN WE SAVE ON OUR PIPING COST?

There are two areas that need to be considered when determining piping cost. All inert gas systems, including PROINERT, require manifold piping. However, other inert gas system piping pressures can reach 2,900 psi with 200 BAR systems, requiring a minimum of schedule 80 pipe. While other 300 BAR systems, with working pressures of 4,350 psi, would need a minimum of schedule 160 pipe. With PROINERT 200 and 300 BAR the manifold piping is a constant pressure 645 psi requiring schedule 40 pipe.

System piping networks are also an area for cost savings. PROINERT's constant pressure of 645 psi and flow rate, this can reduce the pipe sizes required by 25 to 50% compared to other inert gas system equally significant cost savings to end users.

IS PROINERT SAFE FOR PEOPLE?

Fike analyzed a wide variety of inert gas options before selecting IG-55 for its PROINERT system. These naturally occurring gases below 43% reduce the oxygen level to approximately 12% by volume. This level will not support a combustion reaction (thus extinguishing the fire), but is safe for human exposure over a short period of time. Unlike with other clean agents, PROINERT does not require LOAEL/NOAEL testing, meaning no animals are needed in testing human safety. Additionally, the use of an Argon/Nitrogen mixture does not form products of thermal decomposition.

The PROINERT IG-55 blend is an environmentally safe, people compatible, clean agent fire extinguishant for normally occupied spaces.

CONSIDERING ITS LOWER FLOW RATE, HOW DOES THE PROINERT SYSTEM DELIVER THE EXTINGUISHING AGENT OVER A LONG DISTANCE?

With long pipe distances, the higher the system flow rate the more pressure reduction there is along the pipe until you reach a point where pressure at the nozzle is too low. PROINERT uses a constant flow rate, which maintains consistent nozzle pressure. Therefore, PROINERT nozzles can be located further distances from the cylinder. This is a clear advantage in many situations where it is more convenient to locate the PROINERT cylinders in an unused room, far from the actual protected space.

HOW LONG WILL IT TAKE TO RECHARGE A PROINERT CYLINDER(S)?

PROINERT uses a readily available inert gas blend (nitrogen and argon) which is available at major gas supply companies. Fike Corporation can recommend gas supply companies in major cities and around the world that have the capabilities to refill PROINERT cylinders. If refilled through Fike, refill advanced replacements will typically ship within 48 hours.

HOW IS PROINERT 200 BAR DIFFERENT FROM 300 BAR?

PROINERT^2 is now offered with a 300 BAR option allowing for less cylinder footprint over the traditional 200 BAR. Each 300 BAR cylinder will now be capable of covering more square footage over traditional 150 BAR and 200 BAR systems.

Example: A 6,000ft^3 space would require: Quantity 4 of 300 BAR cylinders vs. Quantity 5 of 200 BAR cylinders.

This will reflect lower system costs as less piping and cylinder actuation will be required at the interface.

IS PROINERT ONLY OFFERED IN THE UNITED STATES?

PROINERT^2 is now a global offering. Cylinders are now EN/DOT approved, and system components are UL and LPCB approved. With these approvals nearly all countries worldwide will accept these standards upon importing .

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