

## 1. 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.

## 2. 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 Prolnert 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, Prolnert is not only safer for your staff and facility; it can help save money on agent, venting hardware and piping.

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

Very 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 judgement 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 Prolnert system requires only moderate venting. A much smaller vent or fewer vents can be installed prior to a door fan test being completed.

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

The Fike 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. Prolnert's even discharge rate does not create the same peak pressures within the protected space and therefore, less room venting is required.

## 5. HOW MUCH CAN WE SAVE ON VENTING [HARDWARE] WITH A FIKE PROINERT SYSTEM?

Up to 60%, depending on the application.

**6. HOW MUCH CAN WE SAVE ON OUR PIPING COST?**

Actual costs will be system dependent, but you can expect a savings up 25% to 50% on an average installed pipe network.

Prolnert System Size	Savings Compared to Competitors Pipe Network
15 Cylinders	25%
20 Cylinders	32%
25 Cylinders	40%
32 Cylinders	50%

**7. WHY DO I NEED LESS EXTINGUISHANT WITH PROINERT COMPARED TO OTHER INERT GAS SYSTEMS?**

NFPA and ISO Standards require that 95% of the extinguishing concentration be achieved within a 60-second time frame. This is difficult to accomplish for inert gas systems using an orifice controlled system. An orifice plate provides a very fast initial discharge and slows down throughout the discharge. In order to comply with the standards, these other inert gas system systems may have to use an additional 10% agent.

The Prolnert constant flow valve assembly offers a steady, consistent flow rate, allowing the required inert agent to discharge within 60 seconds. Only the amount required to actually extinguish the fire is necessary.

**8. IS PROINERT SAFE FOR PEOPLE?**

Fike analyzed a wide variety of inert gas options before selecting IG-55 for its Prolnert system. These naturally occurring gases reduce the oxygen level to approximately 12.5% 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. And the use of an Argon/Nitrogen mixture does not form products of thermal decomposition.

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

**9. WHY IS PROINERT SAFER THAN OTHER INERT GAS SYSTEMS?**

Most inert gas systems discharge from the nozzle into the protected space with a high surge flow rate, creating a potentially hazardous pressure peak, and requiring a large venting area to protect the enclosure.

Fike's Prolnert system enters the protected room at a constant, controlled flow rate preventing destructive turbulence from occurring.

**10. 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. Prolnert uses a constant flow rate, which maintains consistent nozzle pressure. Therefore, Prolnert 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 Prolnert tanks in an unused room, far from the actual protected space.

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

Prolnert 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 Prolnert cylinders.

**12. HOW DOES PROINERT PROTECT MY BUDGET?**

The unique Prolnert valve design provides a constant flow rate, reducing venting costs by as much as 60% compared to other inert gas suppliers.

This constant flow rate also reduces the pipe diameters by approximately 25 - 50% compared to other inert gas suppliers. Plus, Prolnert systems require only Schedule 40 pipe, which is less expensive [compared to schedule 160 pipe used in other inert gas system manifolds].

Finally, according to industry standards, 95% of the required inert gas agent must discharge within 60 seconds. Because of their decaying pressure flow rate, other inert gas systems often need to add 10% more agent than is needed to extinguish the fire, just to reach this requirement. The Prolnert system's constant flow rate allows the required inert agent to discharge within 60 seconds without additional extinguishant (cylinders).