What is the iFLOW Fire Suppression System?

- The iFLOW Fire Suppression System is a regulated flow/pressure inert gas fire extinguishing system.

Is the iFLOW Fire Suppression System brand new?

- No, the iFLOW Fire Suppression System has been on the market since 2010.

Is Tyco the only manufacturer to offer this type of system?

- Tyco is not the only one to offer a "regulated" type system, however, there are some additional features about the iFLOW system that distinguishes it from that of our competitors.

How is iFLOW different from some other "pressure regulating" systems?

- The iFLOW valve will close in the event of the discharge occurring in a closed section of pipe i.e. closed selector valve, thus avoiding the build up of full container pressure in the pipework.

Why is a regulated discharge pressure better?

- One of the major characteristics of an inert gas fire suppression system is that they are stored as high pressure gas(es). Whilst the high pressure is a benefit on the transport of the agent in pipe it also presents some installation challenges. These high pressures cause a pressure spike in the first few seconds of the discharge causing the use of higher pipe sizing and increased venting requirements. When utilising the regulated iFLOW Fire Suppression System it eliminates the pressure spike allowing for smaller piping and reduced venting requirements.

Why has Tyco developed the iFLOW Fire Suppression System when other systems use an orifice plate to control the agent flow?

- An advantage to the iFLOW system is the iFLOW valve itself that regulates the discharge pressure inside the valve allowing for the elimination of the orifice plate. Since the pressure regulation is happening before the manifold or discharge pipe network it allows the advantage of using lower pipe schedules.

Safety

What safety measures exist if the valve fails?

- In the unlikely event that a valve fails, it will fail safe (closed). As an additional safety feature a 120 bar burst disc is installed in the manifold or discharge pipe network.

Are inert gas fire suppression systems safe for people?

- Yes, when used are normal design concentrations inert gas fire suppression systems are safe for use in occupied spaces.

Are higher pressure containers safe?

- When high pressure containers are handled, stored, installed and maintained in accordance with the manufacturer's recommendations and requirements they are safe. Each container valve is fitted with a safety burst disc, designed to safely vent pressure in the unlikely event of over-pressurisation occurring.

Product

How does the iFLOW system deliver the agent over a long distance with the regulated pressure flow?

- The iFLOW valve will open and close to maintain the pressure at a nominal 60 bar at the outlet of the container valve, discharging the inert gas through a fixed distribution piping network and nozzle(s). Due to the physical properties of inert gas it flows relatively easily with minimal friction loss in the pipe compared to that of the chemical based agents thus having less impact on the ability to flow the agent for longer distances.

What are the advantages of the horizontal check valve?

- The horizontal check valve acts as a safety device to prevent agent from leaking from the manifold. Additionally the horizontal check valve may be installed in any orientation, unlike many conventional check valves that need to be installed vertically to be fully effective. This check valve also allows the interconnection of up to 8 containers, feeding into a single pipe, avoiding manifolds, reducing space and installation costs.

What are the advantages of the matrix racking system?

- There are two major advantages of the matrix racking system. One is its flexibility in design. The racking system allows containers to be installed in challenging locations, for example, where the bank needs to wrap around a column or other structure. Secondly is the ease in dismantling for service/maintenance requirements.

In a system using multiple rows of containers, is it necessary to remove all the containers to service the back row?

- No, the matrix racking system allows each container in the back row to be accessed individually by simply removing the containers located directly in front of them.

Is the system limited to 80 litre containers?

- No, also available for most markets is a 140 litre container assembly.

How does the iFLOW system help reduce the space required for the system containers, when compared with 150 bar and 200 bar systems?

- The iFLOW system is offered at both 200 bar and 300 bar. As inert gases are stored as permanent gases as the pressure is increased, so the number of containers is reduced, thus reducing the floor space required.

Why are the room venting requirements less with an iFLOW system?

- Room venting requirements are less with the iFLOW system due to the reduced agent flow rate which lowers the enclosure pressurization levels.

What schedule pipe is needed?

- In general, schedule 80 for the manifold and schedule 40 for the pipe for the feed pipe. However, the flow calculation software should be utilized for final determination of piping requirements.

Can smaller pipe be used?

- Usually you can reduce the pipe size by one pipe diameter with the iFLOW system. However this can vary depending upon the system design and as always the flow calculation software should be utilized for final pipe sizing.

How far can the system piping be run?

- This depends on the system but typically 100 metres would not present the designer with any significant challenges.

Does the system require a pilot container?

- Either a pilot container may be used or alternatively the system can be activated via a metron actuator.

Do the containers have to be mounted vertically? (Can they be mounted horizontally)?

- Mounting of horizontal container would be possible, however, there is no system listing for this orientation.

Do I need a manifold with the system?

- The use of the manifold is not necessary for up to 8 containers utilizing 80 litre containers.

Can the container be refilled quickly and easily?

- iFLOW system containers can be filled by a gas filler equipped to handle 200 or 300 bar pressures.

How many hazards can be protected with one bank of containers?

- It is possible for one bank of containers to protect several hazards with the utilization of selector valves. Technically there is no limitation to the number of areas that may be protected from one bank of containers.

Is the nozzle coverage the same as 200 bar systems?

- The nozzle coverage with the iFLOW system remains consistent between the 200 and 300 bar VdS approved systems.

Can an existing inert system be easily converted to an iFLOW system?

- Yes, however as always a system flow calculation program should be run to verify correct system design.

Can an existing inert gas system still be serviced and maintained?

- Yes, whilst iFLOW technology is the latest development in Inert Gas technology, orifice systems continue to be used in the industry and parts are readily available for both new and existing installations.

Approvals

What approvals does iFLOW have?

- The iFLOW system carries approvals from VdS, CNBOP, CNPP, GOST and meets the requirements of the Marine Equipment Directive (MED) using IG-55.

tyco Fire Protection Products

Tyco Fire Protection Products / Tyco Park / Grimshaw Lane / Newton Heath
Manchester / M40 2WL / +44 (0)161 259 4000 / www.tfppemea.com