



SIEX CFT
541

FIXED EXTINGUISHING SYSTEM

with ARGON, NITROGEN and CO₂
extinguishing agents

CONSTANT
FLOW
TECHNOLOGY

FIRE
PROTECTION

THE GREATEST INNOVATION FOR IG-541



INERT-SIEX™ CFT-541 (Constant Flow Technology) is a step forward in fire protection with IG-541. It combines the unbeatable qualities and performance of this agent (a blend of argon, nitrogen and carbon dioxide) with a marked improvement in its release, thanks to our equipment's innovative air flow control system, developed exclusively by SIEX's R&D and innovation department and laboratory. Approved and certified internationally, this system manages to streamline the installation while minimizing costs in IG-541 systems.

The use of the RGS-MAM-RD constant pressure valve ensures total fire extinguishing as well as the integrity of the enclosure, property and especially people. This is possible because this component regulates the outflow of gas from the cylinder, providing a constant flow during discharge.

It represents a breakthrough in the use of IG-541, which belongs to the group of inert gases used in two thirds of firefighting equipment in Europe, because it ELIMINATES THE USE OF A CALIBRATED RESTRICTOR in the reduction of initial high pressure and maintains a constant discharge, thus making it safer.

Moreover, the controlled release of agent significantly reduces the diameter and thickness of the piping system, thereby cutting costs and facilitating installation.

The software developed specifically for the INERT-SIEX™ CFT-541 (Constant Flow Technology) system is the only accurate method accepted for its design.

INERT-SIEX™ CFT AND IG-541: A WINNING COMBINATION

IG-541 is one of most popular fire protection agents in the world. This is so not only due to its excellent extinguishing power and environmentally friendly features, but also it works at high pressures and covers long distances.

During discharge, pressure needs to be reduced effectively. In this regard, INERT-SIEX™ CFT-541 (Constant Flow Technology) raises the level of safety by replacing the traditionally used calibrated restrictor with an advanced pressure control system.

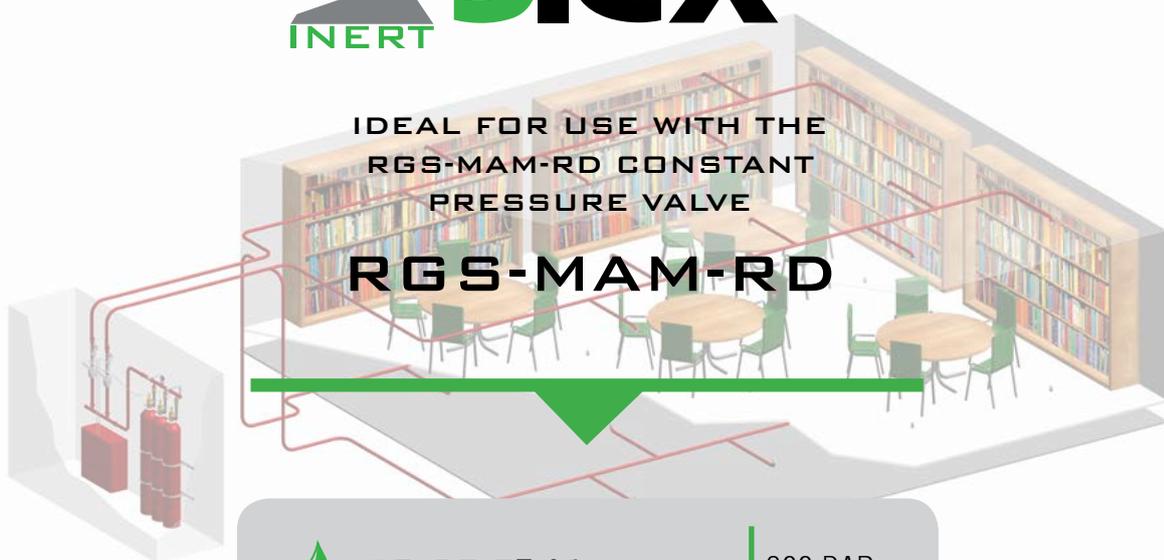
The new RD RGS-MAM-RD valve built into every one of our units boosts performance by perfectly controlled discharge of the IG-541 agent.

The over-pressurization resulting from the protected enclosure during agent discharge is reduced through the use of the INERT-SIEX™ CFT-541 (Constant Flow Technology) system's advanced technology



IDEAL FOR USE WITH THE
RGS-MAM-RD CONSTANT
PRESSURE VALVE

RGS-MAM-RD



IG-541: ARGON + NYTROGEN + CO₂

200 BAR

300 BAR

UNIQUE FEATURES OF INERT-SIEX™ CFT-541 COMPONENTS

PNEUMATIC CONTROL THAT ENSURES MAXIMUM RELIABILITY

Although conventional systems using IG-541 continue to be fully adequate and valid, the advanced INERT-SIEX™ CFT-541 (Constant Flow Technology) technology delivers clear benefits both in the system and the protected enclosure.

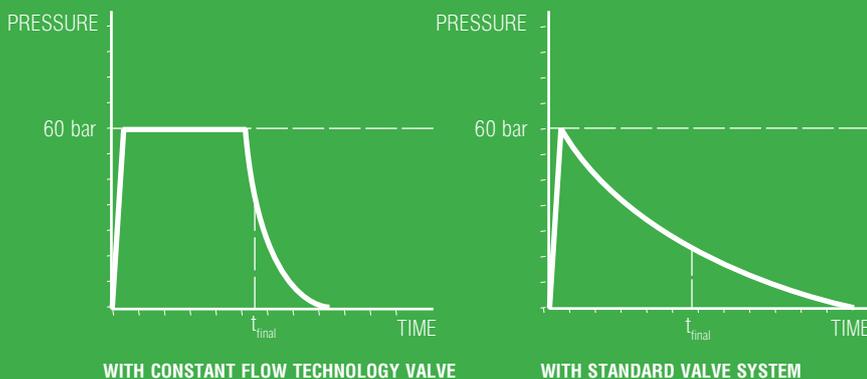
The IG-541 discharge features are regulated by the RGS-MAM-RD valve, adaptable to any storage or control pressure. Thanks to its design, the

flow is adjusted depending on installation requirements (typically 60 bar). Discharge occurs at a constant pressure. A unique pneumatic mechanism controls the decreasing pressure inside the cylinder throughout the discharge.

The restriction of IG-541 gas output varies as the pressure in the cylinder decreases, achieving a constant discharge.

Unlike similar systems that use a mechanical operation based on a spring mechanism, the INERT-SIEX™ CFT-541 (Constant Flow Technology) system uses a safer and more reliable pneumatic mechanism (crucial factor in firefighting), eliminating possible faults due to mechanical property loss (mechanical fatigue of components, locking, jamming, etc.).

The INERT-SIEX™ CFT-541 (Constant Flow Technology) system fill level can be controlled using a gauge, pressure switch, gauge with electric contact, mechanical weighing, etc. This facilitates maintenance and ensures the smooth operation of the system.



THE DISCHARGE PRESSURE
IS ADJUSTED DEPENDING
ON THE NEEDS OF EACH
INSTALLATION

VOLUMES AND PRESSURES ADAPTABLE TO EACH NEED

The storage capacity of the INERT-SIEX™ CFT-541 (Constant Flow Technology) system's IG-541 agent is one of the unique features that make it ideal for protecting against any hazard.

INERT-SIEX™ CFT-541 (Constant Flow Technology) offers modular 26,8, 40, 67, 80 and 140 litre units operating at a pressure of 150 bar for the protection of small hazards. It also has modular systems and cylinder banks that can store IG-541 agent at 200 and 300 bar pressure, allowing the storage of large amounts of extinguishing gas to protect large enclosures far removed from the cylinder storage area.



INERT-SIEX^{CFT541}
200BAR

Cylinders of 26.8, 40, 67, 80 and 140 litres.

Filled respectively with 5.49 m³, 8.20 m³, 13.87 m³, 16.43 m³ and 28.7 m³ of IG-541.

INERT-SIEX^{CFT541}
300BAR

Cylinders of 26.8, 40, 80 and 140 litres.

Filled respectively with 7.65 m³, 11.41 m³, 22.85 m³ and 39.95 m³ of agent.

INERT-SIEX™ CFT-541 (Constant Flow Technology) features the full range of pressures accepted by current regulations for various volumes. It can thus ensure the design concentration required for each hazard using only the necessary amount of agent and assure its proper distribution.

IG-541

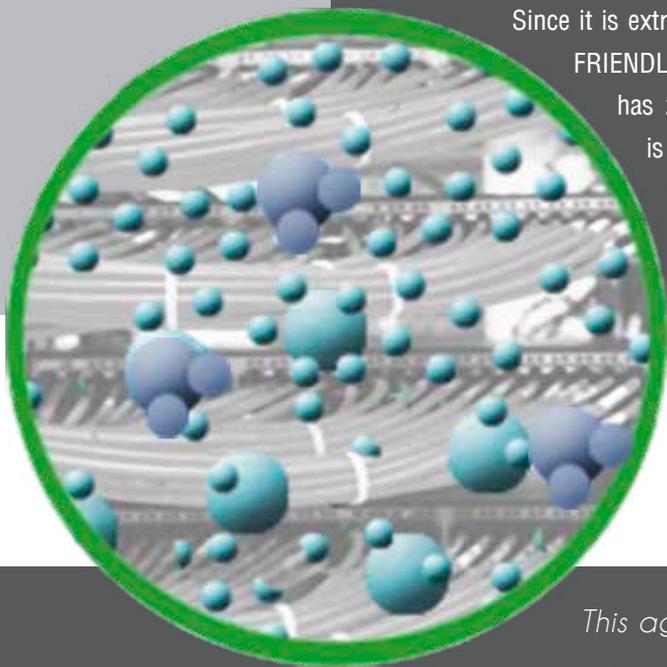
THE EXTINGUISHING AGENT

INERT-SIEX™ CFT-541 (Constant Flow Technology) contains a blend of nitrogen, argon and carbon dioxide that combines their properties for a highly effective and multipurpose extinguishing.

It is a suitable agent for occupied premises. In addition to being effective and safe, it does not damage protected property, especially electronic equipment.

It is a colourless and odourless blend of gases. It is CLEAN and does not generate residue, either during or after discharge, so that visibility is total, facilitating evacuation. It is recommended for use in cases where damage to sensitive equipment and people must be avoided.

Since it is extracted from atmospheric air, it is an ENVIRONMENTALLY FRIENDLY agent that does not deplete the ozone layer (ODP) and has zero global warming potential (GWP). Once released, it is removed with simple ventilation. It can be used at low temperatures and is compatible with common building materials.



52% NITROGEN
40% ARGON
8% CO₂

This agent ranks highest in sales around the world, reflecting the suitability of its use, its reliability and its excellent performance in extinguishing fire in many different hazards.

**HIGH
EXTINGUISHING
EFFICIENCY**

- *SUITABLE FOR OCCUPIED AREAS*
- *HARMLESS TO THE OZONE LAYER*
- *100% ENVIRONMENTALLY FRIENDLY*
- *ELECTRICALLY NON-CONDUCTIVE*
- *CLEAN, LEAVES NO RESIDUE*
- *IMMEDIATE RETURN TO BUSINESS*
- *INERT AGENT, DOES NOT REACT*
- *HIGH EXTINGUISHING CAPABILITY*
- *DESIGN FLEXIBILITY*
- *GOOD STRATIFICATION.*
- *LOW COST.*
- *CONVENIENT INSTALLATION.*
- *EASY RESTAMPING.*
- *REAL TEST DISCHARGE POSSIBLE.*
- *SUITABLE FOR USE WITH SELECTOR VALVES*
- *EXTENSIVE MARKET RECORD.*

HOW IT WORKS

The agent is stored in gaseous form at high pressure. The blend and each of its components are inert and highly stable, and therefore does not behave dangerously in reaction to any external condition (temperature, humidity, other chemical compounds, light, etc.).

Although the storage pressure is high to minimize the size and number of cylinders, the RGS-MAM-RD cylinder valve reduces it to below a threshold value stipulated by the designer (typically 60 bar) before it reaches the distribution pipework. The piping and fittings may therefore be conventional so that the installation costs are reduced.

Another advantage is that the storage area can be removed from the protected hazard, if necessary. The piping can also handle complex runs and architectural barriers that pose problems for other systems.

INERT-SIEX™ CFT-541 (Constant Flow Technology) is suitable for the protection of hazards occupied by persons, acting on the fire while maintaining a safe oxygen level, good visibility and absence of hazardous, corrosive or toxic substances during and after discharge. The slight presence of CO₂ (8%) stimulates breathing and counteracts the effects of a lower concentration of oxygen ensuring safe evacuation.





APPLICATIONS

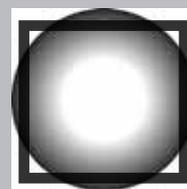
- *MUSEUMS AND ART GALLERIES*
- *TELECOMMUNICATION SYSTEMS*
- *COMPUTER ROOMS*
- *HOSPITALS*
- *PETROCHEMICAL FACILITIES*
- *LABORATORIES AND CLEAN ROOMS*
- *ELECTRICAL CABINETS AND SUBSTATIONS*
- *ARCHIVES AND LIBRARIES*
- *DPCS*
- *OTHERS*

UNBEATABLE BENEFITS

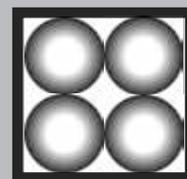
MORE ENCLOSURE SECURITY

The enclosure pressure varies more in systems featuring a calibrated restrictor, with an initial value which then drops rapidly. This technology reduces the initial overpressure and eliminates the related risks, decreasing the space required for enclosure overpressure relief. This is achieved by regulating the discharge and maintaining constant flow.

**SIEX CONSTANT FLOW TECHNOLOGY
minimizes overpressure in the room.**



OTHERS SYSTEMS



*CONSTANT FLOW
TECHNOLOGY*

OPTIMIZATION OF PIPING DIAMETER

The piping diameters required for installation are significantly reduced. For example, if a chemical gas system requires 4" pipe, an inert gas system would require 2" pipe, whereas a INERT-SIEX™ CFT-541 system would require a pipe diameter of only 1 1/4".



QUEMICAL AGENTS

INERT AGENTS

CONSTANT FLOW TECHNOLOGY

CUSTOM SOFTWARE

Hydraulic calculations are performed using the program developed exclusively by the SIEX R&D and innovation department and laboratory, tested in our own laboratory and validated by external agencies. It is based on measuring different configurations that take into account all the limits for which the system is designed.

SIEX meets ISO 9001:2000 and ISO 14001:2004.



- *SPECIFIC SOFTWARE FOR EACH SYSTEM*
- *MAXIMUM DESIGN FLEXIBILITY*
- *RELIABLE MECHANISMS (pneumatic control)*
- *POSSIBILITY OF SELECTING DISCHARGE PRESSURE*
- *REDUCED INSTALLATION COST*
- *LESS VIBRATION DURING DISCHARGE*
- *ADDITIONAL PROTECTION OF SENSITIVE ELECTRICAL EQUIPMENT*
- *LESS NOISE DURING DISCHARGE*
- *MINIMUM REQUIREMENTS FOR PRESSURE DAMPERS*
- *CERTIFICATION BY INDEPENDENT AGENCIES*



Switching from restrictor to continuous flow control also translates into tangible benefits to all stakeholders:

- **FOR THE INSTALLER:** : the thickness, weight and cost of the pipe is reduced, facilitating installation.
- **FOR THE USER:** the maximum pressure in the chamber is reduced, providing greater protection.
- **FOR END USERS:** the overall installation cost of the installation and risk for equipment (especially the more sensitive gear) is reduced, and the impact of overpressure is minimized, especially over building elements.

SIEX

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