



■ Gas Base Fire Suppression Systems

Solution
Partner

Building
Technologies

SIEMENS

Vesta®



شرکت مهندسی اردال
ARDAL ENGINEERING CO.



Gas base fire suppression Systems over view

CO2 fire suppression

Extinguishing solutions with natural agent for maximum flexibility in design and engineering of systems.

Due to the point that Carbon Dioxide is extremely toxic, this solution cannot be used for hazardous area which contains personnel.

Ext, Time: 60s

FM200 Fire & Novec 1230 Suppression

Extinguishing solution based on the globally known HFC 227ea & Fk-5-1-12 with 42-bar technology for fast and reliable extinguishing. Best know reliable solution for Halon replacement.

Ext. Time: 10s

N2 and Ar Fire Suppression

Known as IG-01, IG100 and IG-55- at 200 bar

Extinguishing solutions with natural agents for maximum flexibility in design and engineering of systems. Low pressure and low costs of equipment

Ext, Time: 60s

N2 and Ar Fire Suppression

Known as IG-01, IG100 and IG-55- at 300 bar Extinguishing solutions with natural agents for maximum flexibility in design and engineering of systems.

High pressure and less number of cylinders.

Ext, Time: 60s

FIRE-FIGHTING SYSTEMS USING CHEMICAL GASES (HFC-227ea(A.K.A. FM200) &FK-5-1-12mmy2 (A.K.A. Novec 1230))

The chemical gas fire-fighting systems are anyway irreplaceable for all the risks where the following results are required:

- Very quick fire-extinguishing (the gas discharge must take place in a maximum time of 10 seconds)
- Personnel safety even for the people involved during the discharge
- Safeguard of equipments or materials in the protected enclosures
- Very low environmental impact of the fire extinguishing agent



CHEMICAL EXTINGUISHANTS

GENERIC NAME	COMMERCIAL NAME	COMPOSITION	MANUFACTURER
HFC 227ea	FM 200®	HFC 227ea	GLCC/USA
	FE 227®	HFC 227ea	DuPont/USA
FK-5-1-12mmy2	Novec® 1230	CF3C2C(O)CF(CF3)2	3M/USA

Generally the cylinders are pressurized at 42 bar (high pressure) but also 25 bar tanks (low pressure) are available.



FIRE-FIGHTING SYSTEMS USING INERT GASES

TECHNOLOGY AT 200 AND 300 BAR

Besides the traditional cylinders filled at 200 bar, Gastec -Vesta is the first company in this field that offers also cylinders capacity of 80 liters and 140 liters and also 180 Liters at 300 bar, granting the customers an interesting saving and efficacy.



System	Component	Type
ARGONFIRE™	100% Argon	IG-01
AZOFIRE	100% Nitrogen	IG-100
AZOTECH	50% Argon + 50% Nitrogen	IG-55
INERTMIX	50% Argon+ 42% Nitrogen+ 8% CO ₂	IG-541



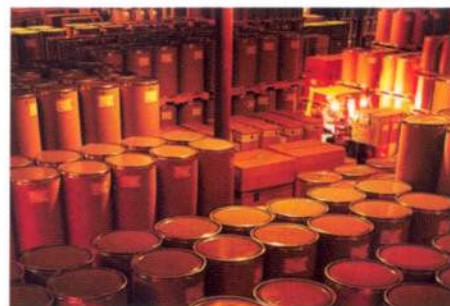
CO₂ Extinguishing Systems

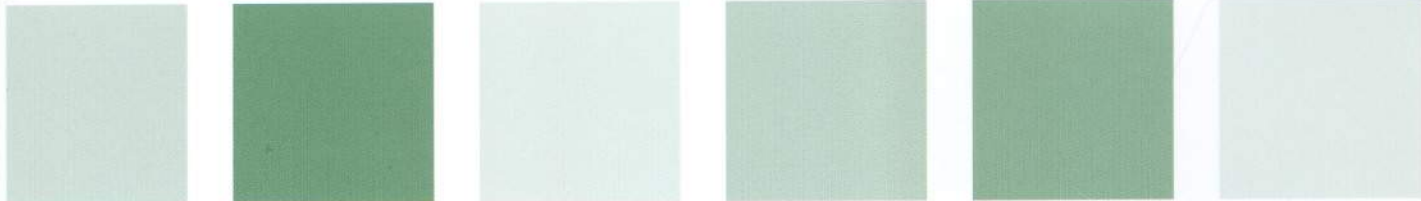
Sinorix CO₂ – intelligent extinguishing solutions to keep fire virtual
 Sinorix CO₂ extinguishing solutions use pure natural gases as well as state-of-the-art technology for fast and reliable extinguishing without harming the environment. In addition, the extinguishing solutions with natural agents can be precisely tailored to the existing building structure, requirements, and risks of fire thanks to their high flexibility regarding system planning and design.



CO₂ typical applications:

- Storage for flammable liquids
- Unmanned generator and transformer stations
- Local applications such as oil baths, turbines or machines





Legend

- 1 Fire detection and extinguishing control panel
- 2 Fire detector
- 3 Aspirating smoke detector
- 4 Alarm sounder
- 5 Combined sounder beacon
- 6 Manual release for extinguishing system
- 7 Warning display
- 8 Extinguishing agent cylinders
- 9 Piping network with nozzles
- 10 Overpressure flap

Highlights

- Reliable extinguishing due to efficient displacement of oxygen
- Design concentration can be reached quickly thanks to tailored and exact calculation
- Optimal adaptation to existing building structure and requirements

Integrated Fire Safety and Security Solutions



شرکت مهندسی اردال
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