SYSTEM DESCRIPTION

IG-541 is developed for human being safety and environment friendly alternative of Halon or Carbone dioxide gas.
This is a mixture gas of 52% nitrogen, 40% argon and 8% carbon dioxide.
Min. 15% of oxygen is required to keep burning. Inert gas system removes the burning condition decreasing oxygen level up to 12.5% to add inert gas. Simultaneously the carbon dioxide in Inert gas protects anyone that may be trapped in the fire area from the effects of the lowered oxygen levels, by increasing the rate of respiration.
It offers excellent protection of personnel and equipment by providing a safe, clean and efficient fire suppression agent.

ADVANTAGE

Environment friendly

- No ozone destruction
- No global warming effect
- No Atmospheric life time
- No thermal decomposition

Efficient

- Long retention time
- Cover all fire class include deep seat fire
- Competitive price
- Application for total flooding system
- Quick and Even diffusion
- Easy control by automatic, manual, remote

Safety

- No toxic
- No suffocation
- No Residue
- No Contamination
- No damage to protected equipment
- No conductive
- No corrosive

APPLICATION

Inert gas system is designed for total flooding and independent extinguishing system.
It is effective on Class A, B and C fires which is divided into two categories,

- Surface fires involving flammable liquids, gases and solids
  - Machinery space incl. emergency generator room, pump room and purifier room.
  - Paint locker
- Deep seated fires involving solids subject to smouldering
  - Electric equipment / control room

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INERT GAS (IG-541)

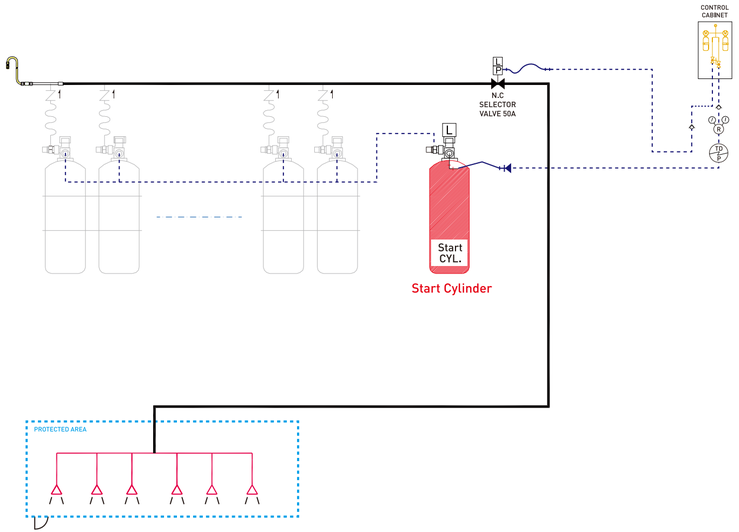
Fire Extinguishing System

APPROVALS

- DNV type approval
- ABS type approval
- MED certificate by KRS

OPERATION

- Automatic release by fire detection system
- Manual remote release by control cylinder cabinet
- Manual emergency release to open cylinder and selection valve



MAIN EQUIPMENT

Agent

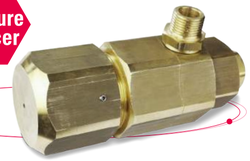
Agent		INERT GAS IG-541
Mixture	Nitrogen	52%
	Argon	40%
	CO_2	8%
Environment Effects	[1] ODP	0
	[2] GWP	0
	[3] TDP	0
	[4] ALT	0
Design standard		NFPA2001
NOAEL		43%
LOAEL		52%
Design concentration		43.6%

★[1] ODP – Ozone depleting potential
★[2] GWP – Global warming potential
★[3] TDP – Thermal decomposition products
★[4] ALT – Atmosphere lifetime

Cylinder

Standard : ISO 9809-2
Water volume : 83L
Inert gas : 33.8kg
Material : Cr-Mo Steel
Storage pressure : 300bar at 20°C
Test pressure : 450bar
Weight : Approx. 150kg

Pressure reducer



Pressure reducer acts to control discharge pressure from 300bar to 60bar. It is installed in cylinder valve directly.

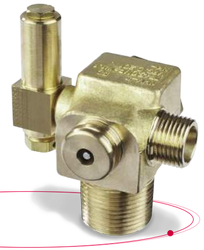
Material : Brass
Inlet pressure : 300bar
Outlet pressure : 60bar
Test pressure : 450bar

Pressure gauge/ switch

Pressure gauge/switch in connection with cylinder valve can monitor for decrease in pressure of cylinder due to leakage and discharge.

Standard : EN837-1
Pressure range : 0–400bar
Working temperature : -20–60°C
IP Grade : IP65
Material : Movement - Copper alloy
Dial – Aluminum
Pointer : Plastic
Case : Stainless steel
Window : Polycarbonate

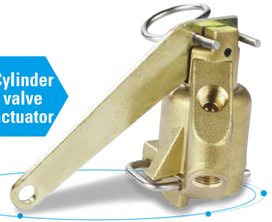
Cylinder valve



Each cylinder is provided with a valve for pneumatic/manual operation. It is also equipped with a pressure gauge and switch to measure the cylinder pressure and a safety bursting disc to prevent over pressure.

Material : Brass
Safety disc : Copper
Working pressure : 300bar
Test pressure : 450bar
Disc burst pressure : 360–405bar
Weight : Approx. 0.6kg

Cylinder valve actuator



Each cylinder valve can be opened pneumatically or/and manually when the appropriate actuator is fitted to it. The valve is opened by depressing an actuator rod, the end of which is recessed into the valve body.

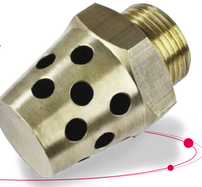
Material : Brass
Weight : Approx. 0.35kg

Main valve

The main valve is designed to discharge Inert gas immediately into fire area where total flooding suppression is applied. This valve is operated by pneumatic and/or manual.

Size : 1", 1-1/2", 2", 3", 4", 6"
Weight : Approx. 3.2kg, 13.8kg, 23.8kg, 43.5kg, 66.5kg, 147.2kg
Material : Brass for 1", cast steel for 1-1/2" ~ 6"
Working temperature : -18–55°C
Actuation pressure : 7bar
Manual type : Lever for 1" ~ 2", Hand wheel for 3"~6"
Test pressure : 150 bar

Inert gas nozzle



Nozzle is opened type and the size of nozzle is determined by vendor's flow calculation program to deliver uniform discharge in each protected space.

Size : 15A ~ 40A
Material : Brass
Melting point : 940°C