OUR MISSION

To Protect Your Critical Environment

Critical environment:

1. Areas with critical impact to your business or assets should any fire outbreak occur

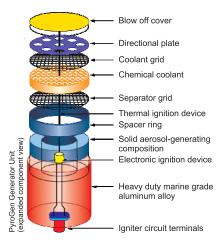
2. Areas that are vulnerable to fire

What steps have you taken to mitigate such risks posed by fire? PyroGen... Your Solution.

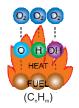
How PyroGen Works

PyroGen is an aerosol fire-extinguishing agent. The principle of PyroGen operation is unique - special solid formulation within a non-pressurized canister, when electrically or thermally activated, generates an aerosol exhibiting excellent fire extinguishing characteristics. The aerosol consists of a suspension of micron sized particles in a mixture of naturally occurring gases comprising mainly of Nitrogen.

Upon activation, the aerosol propels itself rapidly into the protected area, attacking the fire both chemically and physically, and almost instantaneously extinguishes it. Homogeneous distribution is achieved in a matter of seconds, while its long suspension time helps to prevent the fire from reignition.

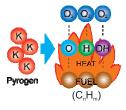


Fire Suppression Mechanism



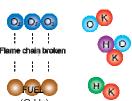
Stage 1

Fire propagates by chain reaction via "chain carriers" O, H & OH



Stage 2

PyroGen aerosol introduces potassium radicals (K) into the flame chain reaction

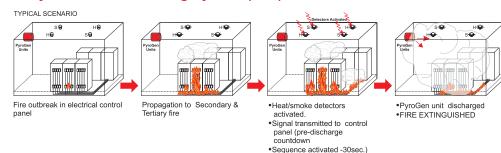


Stage 3

K radicals attach itself to O. H & OH and remove them from the flame chain reaction without depleting oxygen. Thus extinguishing the fire chemically

We Protect in Two Ways

1. PyroGen Total Flooding System (TFS)



PyroGen™ Total Flooding Systems (TFS) are developed for protection of sealed enclosures.

Areas protected include:

- · cargo compartments
- data rooms
- · electrical substations
- · cable tunnels
- generator rooms
- · intelligent buildings
- laboratories
- machinery spaces
- · raised-floors
- · telecommunication cabins



Data Room



Telecommunications Cabin



33KV Sub-Station

2. PyroGen Direct-to-Source System (DTS)



The Pyrogen™ Direct-To-Source (DTS) Fire Protection System is the latest innovation in the fight against the threat of fire, specifically developed for targeting/ extinguishing fire at its source.

Areas protected include:

- CNC machines
- · computer server racks
- distribution boards
- · LV & HV switch gear panels
- · electrical control cabinets
- engine compartments
- · machinery compartments
- · metering panels
- · mining and earthmoving equipments
- TNB feeder pillars



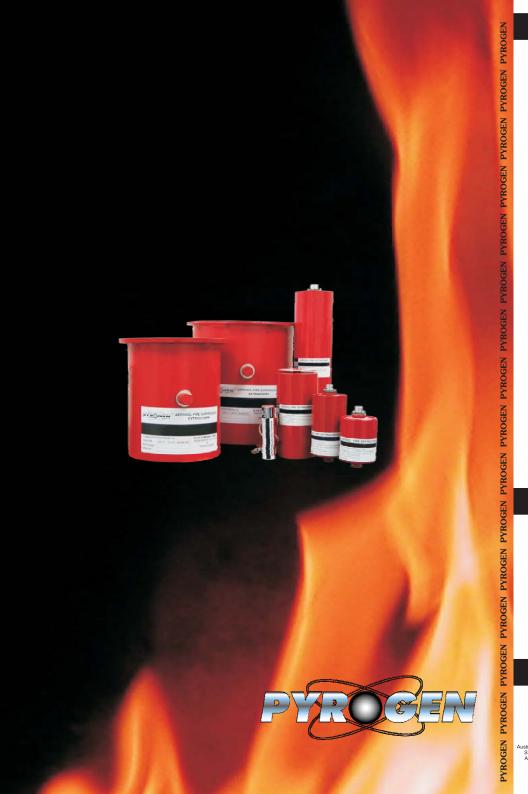
Electrical Cabinet



Server Rack



Telecommunication **Equipment Cabinet**



Why Choose PyroGen

> 3 times more effective than Halon

- Highest effectiveness per weight ratio
- · Certified by Scientific Services Laboratory
- The most cost effective Halon alternative

> Zero pressure storage

- · Never leaks, no refills required
- · Safe to transport & install
- · Safe to place within protected area

No mechanical moving parts

- High reliability, zero maintenance
- · Only electrical circuit check required

> No pipework or manifold

- · No requirement for pipes, nozzles or distribution hardware
- Simple to install & recommission

> 100 % Environmentally Friendly

- Pyrogen is zero ODP and GWP
- Listed by US EPA

Comparison Table

Trade Name	Designation	Global Warming Potential**	Atmospheric Lifetime (yrs)
PyroGen		0	0
FE-13* FE - 125* FM-200* FE-36* Inergen* NAF SIII	HFC 23 HFC 125 HFC 227ea HFC 236fa IG-541 HCFC Blend A	11,700 2,800 2,900 6,300 0.08 1,450	264 33 37 209 Permanent gas 12

^{*} Data from the above table was originally published by DETR/DTI to provide guidance to industry.
** @ 100yr. time horizon, relative to CO₂=1

Technical Data

Canister Characteristics

Tested at 10g for Shock: Suitable for Fire:

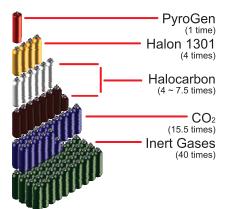
> 13,000 impacts Class A - Combustible Solids

5g @ 50 ~ 250Hz Vibration: Class B - Flammable Liquids Corrosion Resistance: Greater than UL 1058 Class C - Flammable Gases

Impact Resistance: IP558 Class E - Electrically Energised Fires Humidity: ≤ 96% Class F - Fats & Cooking Oils

Compact & weight saving

- Smallest & lightest fire extinguishing system
- · Most compact when compared size for size with other fire extinguishing systems





PYROGEN MANUFACTURING SDN. BHD.

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Certification













Classifications













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