NOVEC™ 1230

Safety.. Performance.. Sustainability..

When you specify a system for fire protection, your choices could determine if a person, valuable asset or even an entire business survives a fire. Novec™ 1230 Fire Protection Fluid helps give you the peace of mind that you've made a smart choice. Its unique science helps safeguard all the things in your care:

People	: A larger safety margin protects people.
Operations	: No damage to electronic equipment or the data stored.
Valuable assets	: Safe for paper archives, historical documents, priceless works of art and antiquities.
The planet	: Very low global warming potential and no impact to the ozone layer

Applications :-

- Data Centres
- Gas Turbines
- Petrol Chemical Facilities
- Telecommunications
- Power Generation
- Shipping
- Museums and Archives
- Chemical Storage Rooms

You are not just safeguarding people, you are preserving buildings, equipment, data, and the world we live in..

Another Quality Product Distributed by,

MULTRON®

NOVEC 1230™ Fire Protection Fluid is based on a proprietary chemistry from 3M called C6-fluoroketone (FK-5-1-12)
NOVEC 1230™ is a registered trademark of 3M

CYLINDER HARDWARE & ACCESSORIES

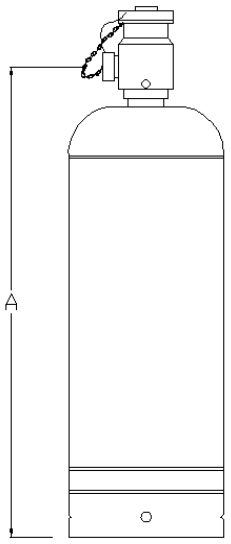
Using water as a fire suppressant in areas where electronics operate and irreplaceable, high-value assets are stored, could be as devastating as fire itself. The ANSUL SAPPHIRE Clean Agent System quickly suppresses fires and protects sensitive equipment without causing harm to people or the environment. The system is especially suited to suppress fires in areas where an electrically non-conductive medium is required, where electronic systems cannot be shut down in an emergency, where cleanup of other agents poses a problem, and in normally occupied areas that demand a non-toxic agent.

The ANSUL SAPPHIRE system uses 3M Novec 1230 fire protection fluid for total flooding applications. The clear, colorless agent has zero ozone depletion potential, an atmospheric lifetime of just five days, and a global warming potential of 1.0. The SAPPHIRE system suppresses a fire before it can be fully engaged and once the fire is suppressed, Novec 1230 quickly evaporates without harming any valuable assets.

Benefits :-

- **In compliance with ISO 14520**
- **Meets NFPA 2001 standards**
- **Discharges within 10 seconds**
- **Wide range of cylinder sizes**
- **Choice of various types of activation**
- **Durability through solid brass valves**
- **Optional Pressure Monitoring Switches**
- **Versatile range of Nozzles**
- **UL Listed**

Environmental :-	
Ozone Depletion	0
Global Warming Potential	1
Atmospheric Lifetime	5 days
Toxicology :-	
Cardiac Sensitization No Observe Adverse Effect Level (NOAEL)	10%
Lowest Observed Adverse Effect Level (LOAEL)	>10%



Pneumatic Actuator

Manual Strike Actuator

Discharge Pressure Switch

Solenoid Actuator c/w Manual Override

Solenoid Actuator

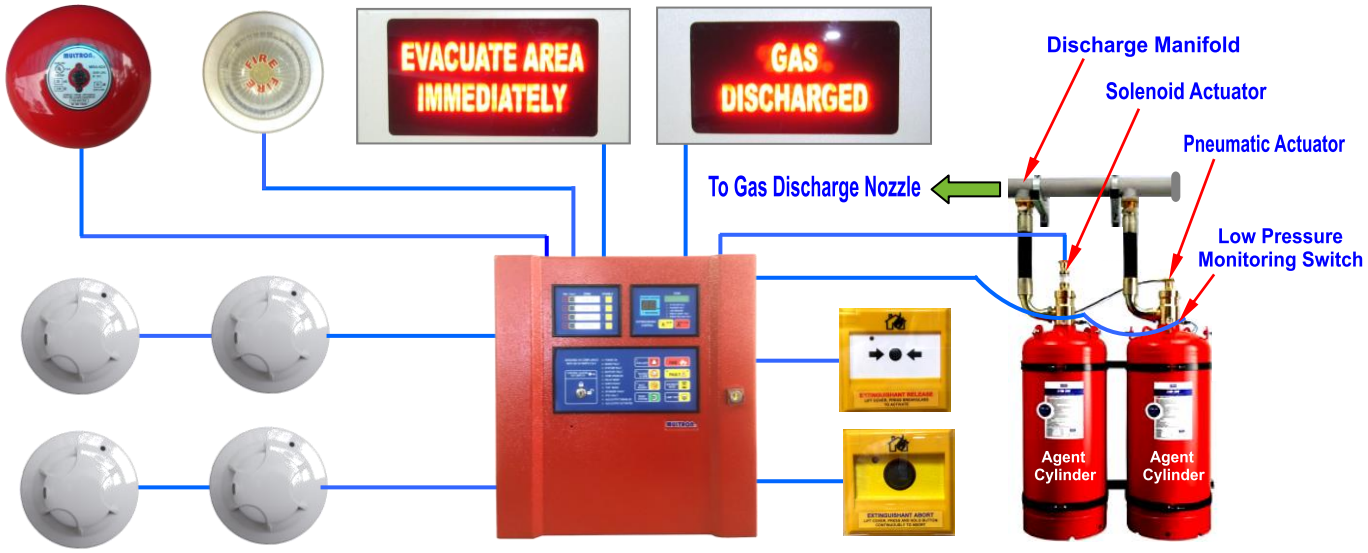
Discharge Nozzles

NOVEC 1230™ CYLINDER

The agent storage vessel consist of a cylinder fitted with a valve and internal siphon tube, factory filled with NOVEC 1230™ and super pressurized with nitrogen to 25 bar. Cylinders are finished in Gloss Enamel Red and are available in

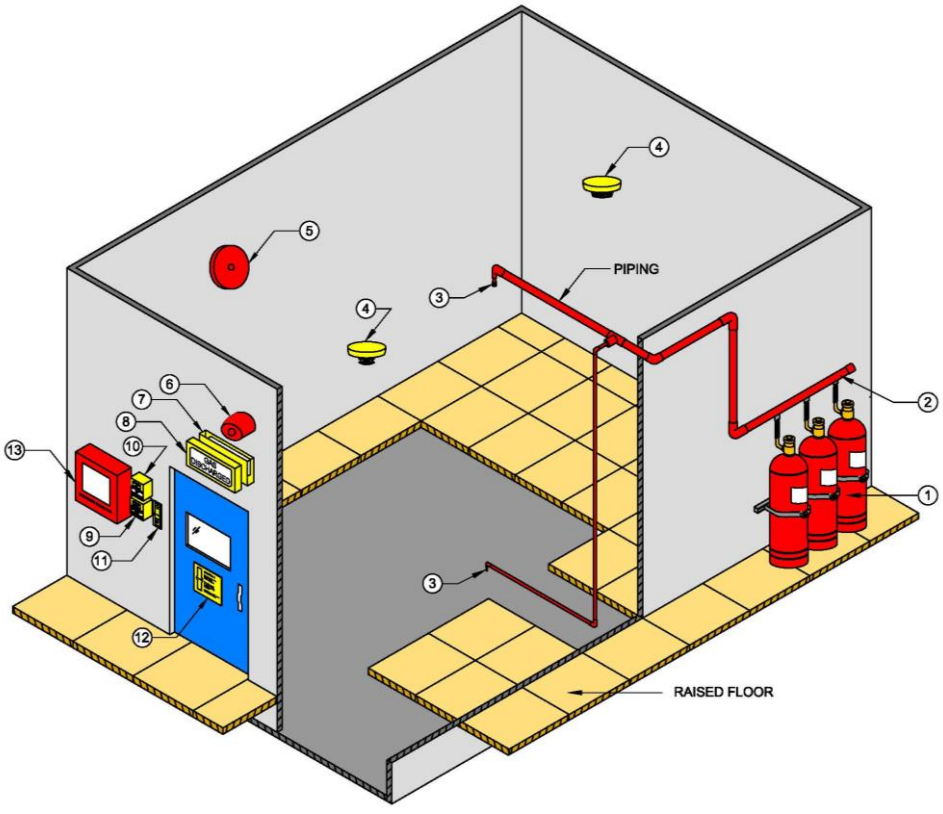
Nominal Volume	Fill Weight (kg)	Outlet Size (mm)	Dimension A (mm)	Diameter (mm)
8 Litre	4.0 to 9.5	Ø25	304	Ø254
16 Litre	8.0 to 19.0	Ø25	502	Ø254
32 Litre	16.0 to 38.0	Ø25	833	Ø254
52 Litre	26.0 to 62.0	Ø50	596	Ø406
106 Litre	53.0 to 127.0	Ø50	1021	Ø406
147 Litre	73.5 to 176.0	Ø50	1354	Ø406
180 Litre	90.0 to 208.0	Ø50	1634	Ø406
343 Litre	171.5 to 386.0	Ø80	1466	Ø610

TYPICAL CLEAN AGENT SYSTEM SCHEMATIC



The above may varies in accordance to the practices in different countries and requirements of the Authorities having jurisdiction.

TYPICAL CLEAN AGENT SYSTEM EQUIPMENT LAYOUT



Legend :-

1. Gas Cylinders
2. Manifold
3. Discharge Nozzle
4. Fire Detectors
5. Alarm Bell
6. Sounder Strobe
7. EVACUATE AREA Flashing Sign
8. GAS DISCHARGED Flashing Sign
9. Manual Release Station
10. Manual Abort Station
11. Manual Release Sign
12. Caution Sign
13. Fire Extinguishing Panel

TYPICAL OPERATING SEQUENCE

1) Activation Stage 1 (1st Alarm)

1.1) First detector senses Fire in the protected area and send signal to the Control Panel.
1.2) Alarm Bell Sound
1.3) `Evacuate Area' Sign flashing
1.4) Strobe Light flashing

2) Activation Stage 2 (2nd Alarm)

2.1) Adjacent detector senses Fire and send signal to the Control Panel
2.2) Sounder Alarm
2.3) `Gas Discharged' Sign flashing
2.4) Countdown Timer commence (Normally pre-set to 60s)
2.5) Once Countdown reaches zero, signal will be sent to activate the Solenoid Actuator at the Agent Cylinder.

GENERAL SYSTEM EQUIPMENT & ACCESSORIES

FIRE EXTINGUISHING PANELS

UL Listed,
FM Approved

Compliance to
EN Standards

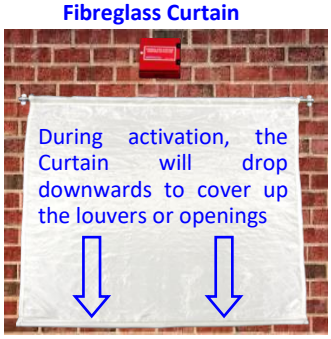
Compliance to
Singapore Standards

FIRE DETECTION & INITIATING DEVICES

AUDIO / VISUAL WARNING DEVICES

EQUIPMENT TO CLOSE UP OPENINGS OR LOUVERS

Fibreglass Curtain



Automatic Damper

IN-HOUSE DESIGN & AGENT FILLING STATION (UL LISTED)

Multron Design Team is able to offer cost effective and suitable solutions to meet various hazards requirements.

Our Computer Hydraulic Calculations will ensure optimum pipes sizing, and agent applications to efficiently protect the hazardous areas.

Our Filling Station is one of the rare few in this region that is approved and UL Listed, ensuring our clients that we are providing quality products (Clean Agent), adhering to proper procedures, and with qualified technicians handling the equipment.

WALKER SAFETY PRODUCTS

Walker Safety Products Pte Ltd

Due to constant improvement in our products, we reserved the right to modify or withdraw any product or service without prior notice.

Version : 09-09-2016