

CO2 FLOODING SYSTEM

TECHNICAL REVIEW ON STANDARD CO2 FIRE EXTINGUISHING SYSTEM

Introduction

bala-wa CO₂ Flooding Fire Extinguishing system & Components are engineered, designed, manufactured / procured to meet NFPA-12 / IS15528 : 2004 standards.

Scope of our offer

The scope of this offer is supply of CO₂ Fire Protection System for Machineries as per your enquiry. Independent CO₂ Cylinder banks are considered for this offer to protect specified area as per the specification.

System Description

High pressure CO₂ System is offered. The system consists of the following main components.

1. 68 Ltrs.W/C Seamless CO₂ Cylinder to fill 45Kg CO₂ gas.
2. Master & Slave CO₂ Cylinder Valves.
3. Discharge & Actuation Hoses.
4. CO₂ Frame Assembly with Manifold.
5. CO₂ Discharge Nozzles.
6. Fire Alarm cum Gas Discharge Panel.
7. Manual Gas Discharge Station.
8. Electronic Hooter with Flashing Lamp.
9. Discharge Warning Display Board.

Cylinder bank, consisting of required Nos. of 45 Kg Gas capacity CO₂ Cylinders. First cylinder of Cylinder bank will be fitted with 24 V DC Solenoid operated master valve. Remaining cylinders will be fitted with pneumatically operated slave valves. From the cylinder valves ½" H.P Discharge hoses will be connected to CO₂ Manifold through NRV. Actuation hoses will be connected from Master NRV to slave valve. Seamless Sch.80 pipes will be connected from the manifold to discharge nozzles.

Required Spark & Heat Detectors along with Manual Gas Discharge Stations, External Hooter, with Discharge Warning Display Board will be provided at the entrance of the each Protected Area.

Fire Alarm Panel & Gas discharge panel will be provided for interconnecting the Detection signal from Detectors and other instruments.

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The system can be operated by any one of the following method.

1. Automatic detection and automatic extinguishing.
2. Manual detection and Manual discharge through Manual Gas Discharge Stations
3. Mechanical Manual discharge by operating manual release lever

Automatic detection and automatic extinguishing

- On receipt of signal from any spark / Heat detector :
 1. Inbuilt Fire Hooter ON.
 2. External Hooter ON.
 3. Fire Signal will be provided to Gas Discharge Panel.
 4. Delay Timer ON.
 5. Tripping signal will be provided.

After the lapse of preset time delay, Gas Discharge Panel will send 24V DC supply to Solenoid Valve of master cylinder valve . Solenoid valve will open the master valve and CO₂ will be discharged to manifold through discharge hose and master NRV.

Further entire gas will be discharged to Protected area discharge nozzle by using distribution piping from the discharge header. Pressure switch, which is fitted on manifold, will be actuated due to the availability of the pressurized gas in the CO₂ manifold. Simultaneously it will send gas discharge indication to control panel.

Manual detection and Manual discharge by through Manual Call Point

During the actual Fire condition, without waiting for actuation of detectors, Fire signal can be provided to control panel for discharging the CO₂ gas to the protected area, by breaking Glass and pressing both the discharge push button simultaneously. If we press both the push buttons simultaneously, the same will be treated, as a Fire Signal and the other function will be done as explained above.

Mechanical Manual discharge by operating manual release lever

Apart from the above two methods, CO₂ cylinder can be opened by pressing the manual releasing knob of master cylinder valves.

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PROTECTION OF BLOW ROOM MACHINERIES WITH CO2 FLOODING FIRE EXTINGUISHING SYSTEM

