

شرکت NK در زمینه طراحی و تامین سیستم های اطفاء حریق بر پایه دی اکسید کربن تحت فشار یا High Pressure CO2 system دارد فعالیت.

در این گونه سیستم ها دی اکسید کربن بصورت تحت فشار در مخازن بدون درز ذخیره گردیده و در موقع لزوم توسط سیستم کنترل و از طریق منیفولد و مسیرهای توزیع در فضای مورد نظر تزریق می گردد.

- High Pressure CO2

- Low Pressure CO2

- High Expansion Foam

- Low Expansion Foam

- INERGEN

- Dry Chemical Powder

- Water Mist

- FM-200

System Description

High Pressure CO2

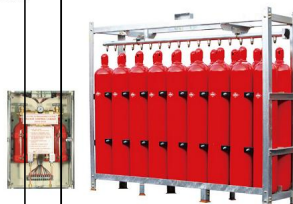
NK High Pressure CO2 system is a highly effective, cost-beneficial extinguishing system designed with reliable expertise. The HP CO2 system includes a large number of pressure cylinders charged with CO2 gas as the extinguishing agent. Cylinders are connected through a common manifold. From the main manifold, the extinguishing agent is led through distribution valves to the protected spaces.

Advantages

- Fast
- Economical
- Versatile Adaptability

Application

- Engine Room
- Cargo Hold
- Boiler Room
- Purifier Room
- Paint Store
- Pump Room
- ECR



High Pressure CO₂ System Main Component



Cylinder

NK manufactured seamless high pressure cylinders are provided in accordance with various specifications for different standards of rules and regulations. A quantity of CO₂ sufficient to extinguish the type of fire anticipated in the protected hazard area is stored in 49L, 68kg or 125L, 125kg cylinders. Cylinders are packed into a single rack unit and form the piping network together. With the actuation signal (pneumatic/electric), CO₂ gas is released from cylinders into the piping distribution system.

Cylinder Valve

Cylinder valves are installed in each of the CO₂ cylinders. Each one is designed to actuate upon the CO₂ gas pressure from the actuating pilot cylinder in the control cabinet. Depending on the actuation valve type, the cylinders can be operated manually, pneumatically, or electrically.



Release Control Cabinet

Release Control Cabinet is assembled with pilot cylinders and control ball valves. Each RCC (Release Control Cabinet) is equipped with two pilot cylinders and two ball valves. There are two separate valves, each controlling the main valve and cylinder actuator.

Main Valve

The main valve is designed to discharge CO₂ gas immediately in the hazard area where total flooding suppression is applied. The main valves are operated by gas pressure led from the actuating unit with pilot cylinders.



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|---|----------------------------------|
| ENVIRONMENT/AMBIENT TEMPERATURE | -18 – 55 [°C] |
| DESIGN WORKING PRESSURE | 51 – 98 bar (5.8 MPa) at 20 [°C] |
| TEST PRESSURE | 130 bar (13 MPa) |
| BODY / HYDRO PRESSURE | |
| ACTUATION PRESSURE AT UNPRESSURIZED VALVE | 7 bar (0.7 MPa) |
| ACTUATION PRESSURE AT PRESSURIZED VALVE | 30 bar (3 MPa) |



CO₂ Discharge Nozzle

CO₂ discharge nozzles are provided in a number of different calculated designs by considering CO₂ agent flow through piping network and pressure.

Time Delay Unit

Audible and/or visual alarms actuate for the safety evacuation period before discharging CO₂. Delay unit waits approximately 20-30 seconds before the release of CO₂ from the system to allow safe evacuation.



Repeat Panel



Main Control Panel

Smoke Detection System

The smoke detection system allows air circulation from protected spaces through the smoke detection panel. Circulating air is monitored by sensor in the panel for smoke. Fan motor unit continues the suction of sampling air from protected space. If any gas or smoke is detected, it gives a warning signal, indicating the area of the smoke source has been detected.



Fan Motor Unit



3-Way Valve



Smoke Accumulator

Smoke Detection system



Alarm

