



Model FB-9010X Series High Pressure CO₂ Systems 100lb Cylinders and Support Equipment, Electrically Activated, Explosion Proof

Overview

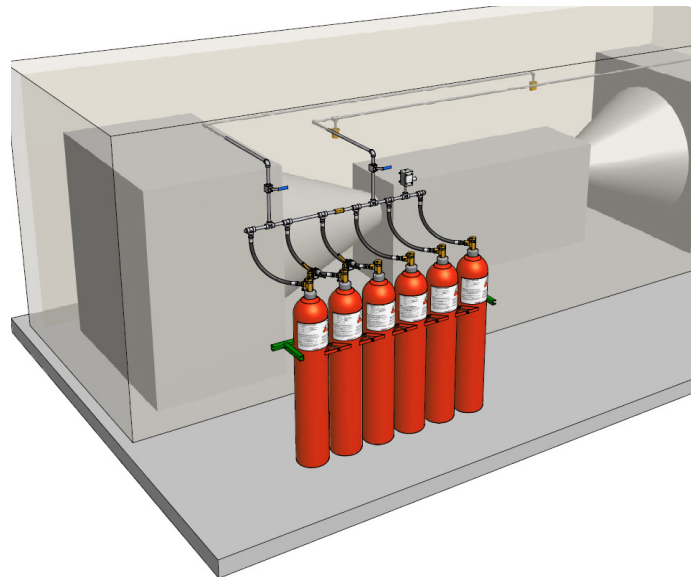
The FireBus High-Pressure Carbon Dioxide Fire Extinguishing System consists of a battery of one or more cylinders manifolded together and connected to a system of distribution pipework terminating with special carbon dioxide discharge nozzles. These systems are custom designed for this specific application. The quantity of carbon dioxide required for the protection of any particular hazard is dependent on the nature and type of the hazard, the type of flammable material involved, and the temperature of the hazard with allowance for special conditions.

FireBus High-Pressure Carbon Dioxide Fire Extinguishing Systems may be actuated manually or automatically. Automatic systems typically incorporate FireBus detection and control equipment. Detection is placed in the hazard area, and when a fire occurs, detectors send a signal to the control panel which releases the carbon dioxide. FireBus automatic systems are electrically operated and always incorporate a manual override feature.

There are two methods of applying carbon dioxide to hazards:

Total flooding

Injects a sufficient volume of carbon dioxide into an enclosure so that an inert atmosphere is created. The enclosure should be reasonably well sealed and doors, vents and other openings should be arranged to close on the discharge of the system. Enclosures with openings that cannot be closed can be protected if known at the design stage. For deep-seated type hazards (insulation, exhaust ducts, storage vaults, etc.) the enclosure must be well sealed to retain the carbon dioxide for a long period of time (approximately 20 minutes per NFPA 12). The location and orientation of discharge nozzles for these applications is not of major concern, minor deviations to project design can generally be accommodated.



Local application

Is the method used to protect a specific hazard (engine, dip tank, etc.) within an enclosure — without flooding the entire enclosure.

Nozzles are arranged to discharge carbon dioxide directly onto the hazard, to build up an inert atmosphere immediately surrounding the hazard. For this application, the layout of piping and nozzles is critical, and deviations to project design must not be made unless approved by the designer.

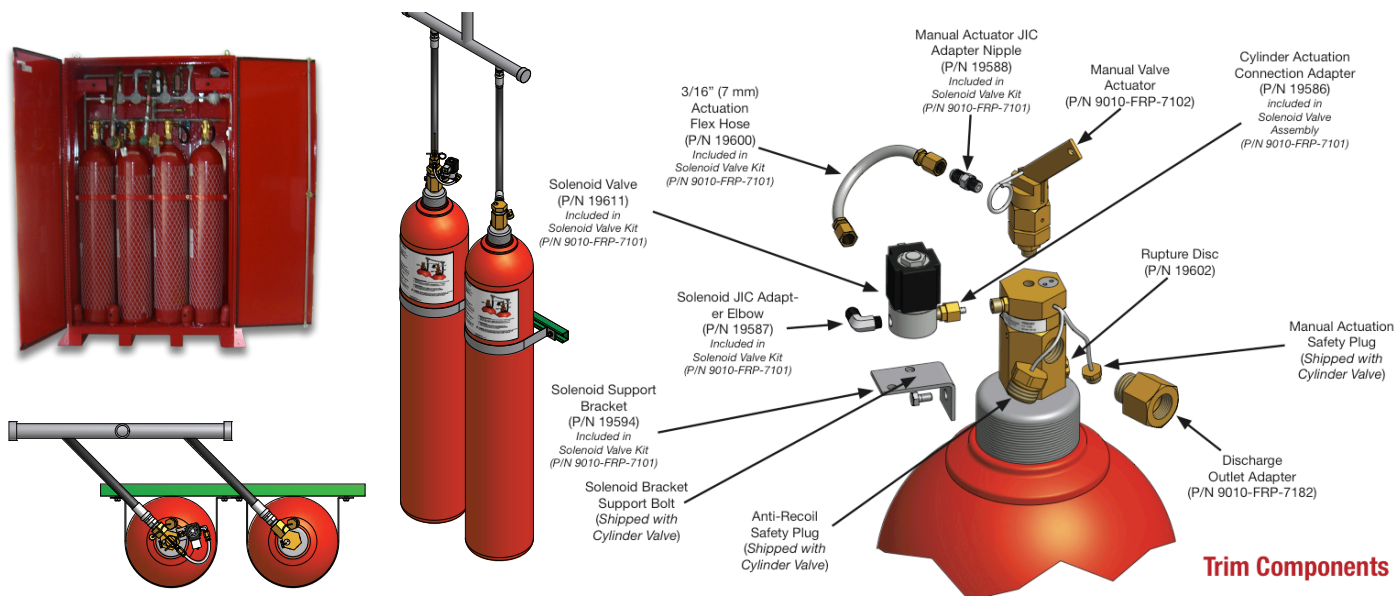
How it works

CO₂ extinguishes fire by diluting oxygen content to a point where it will not support combustion. Reducing the oxygen content from the normal 21 percent in air to 15 percent will extinguish most fires. In some cases its concentration must be lowered to six percent of the volume.

In addition to its smothering action, the reduction in temperature due to its rapid expansion will provide some suppression caused by the cooling effect.

Key Features

- **NFPA 12 compliant systems**
- **CO₂ is a colorless, odorless, clean, dry, electrically non-conductive, non-corrosive inert gas.**
- **CO₂ is a non-deteriorating readily available commercial product.**
- **Once released CO₂ discharges from its cylinders by the force of its own expansion, no other equipment needed, just piping and nozzles.**
- **UL Listed**



Use and Limitations

Carbon dioxide fire extinguishing systems may be utilized for Class A, B, and C fires (North American definition). They are particularly useful for extinguishing fires in specific hazard areas or equipment:

- Where an inert, electrically non-conductive medium is desirable.
- In high value occupancies particularly susceptible to fire, smoke and water damage.
- Where clean up another medium would present a problem.

For more detail on use and limitations see the *FireBus High Pressure CO2 manual: 09-MAN015-A09*.

HPCO2 Options

FireBus High Pressure CO2 (HPCO2) systems can be provided for a wide range of hazards and FireBus has standard design packages for many heavy industrial applications such as onshore and offshore gas turbine package protection.

Mounting Options

In many indoor or protected areas HPCO2 cylinders can be wall mounted. For installation of three or more cylinders, the single row, wall mounting arrangement may

be used. The double row, wall mounting arrangement is generally used when sufficient space is not available for a single row wall mounting arrangement. For marine applications, additional cylinder supports are required. Two straps or sets of retainers must be used. In all cases, mounting bolts must be anchored to a solid structural member.

FireBus offers a wide range of brackets, channel, rack assemblies and rack separators to allow for properly securing a variety of single and double row mounting arrangements. (See manual: 09-MAN015-A09)

Enclosed Systems

FireBus HPCO2 systems can be packaged with main and reserve cylinders, piping manifold, solenoids, and all associated valves and switches in a protective weather-proof steel cabinet suitable for outdoor use.

Weighing Systems

FireBus offers an optional mechanical weighing system that monitors each cylinder for proper fill level and will mechanically indicate when a cylinder needs refilling in accordance with NFPA-12. It also provides an electrical input to the fire panel. The weighing system is suitable for use in explosion-proof (Class I, Div. 1) areas.

Ordering information:

9010-FRP-2001 4 Bottle HPCO2 Enclosure, Power Coated
 9010-FRP-2003 4 Bottle HPCO2 Enclosure, Epoxy Coated
 9010-FRP-4100 Cylinder, 100 lb, HPCO2, Assembly (Full)
 9010-FRP-7112 Adapter, Cylinder Filling, HPCO2

9010-FRP-3010 Weigh Kit, Mechanical, 100 lb HPCO2
 9010-FRP-7101 24VDC Solenoid Assembly
 9010-FRP-7109 24VDC Solenoid Assembly, Explosion Proof
 9010-FRP-7108 Main/Reserve Switch, Explosion Proof

For complete part list and ordering information refer to the *Operation Design & Servicing Manual 09-MAN015-A09*