



KIDDE CARBON DIOXIDE (CO₂) Fire Suppression Systems

Quality and Reliability



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Quality and Reliability

Kidde recognizes that the responsibility of selecting a fire protection system to satisfy specific needs is a significant one. Our commitment to you is **Quality** and **Reliability**, enabling you to challenge those ever changing needs with superior Carbon Dioxide Fire Protection by Kidde.

As technology advances, fire hazards become more complex and difficult to protect. For over 70 years Kidde has dedicated itself to provide the most professional expertise and advanced fire suppression equipment available – protecting the hazards of today and tomorrow.

Kidde realizes you cannot afford loss of revenue, customers, or time, resulting from interruption of service due to fire. That's why we continue our pledge by providing the most technologically advanced carbon dioxide (CO₂) fire suppression systems available.

Now, before a fire starts, is the time to plan your fire protection. Kidde offers the best protection available, a quality product, backed by research, development, design and manufacturing skills of the world's leading manufacturer of carbon dioxide fire suppression systems.

Remember: **Quality & Reliability** means
Kidde!



Carbon Dioxide The Clean Fire Extinguishant

Carbon Dioxide (CO₂) is a colorless, odorless, electrically nonconductive gas with an approximate density 50% greater than air.

It is stored in steel cylinders as a liquid, under pressure. When applied to a fire, it provides a blanket of heavy gas that reduces the oxygen content of the atmosphere to a point where combustion becomes impossible. In addition, CO₂ gas provides a cooling effect and leaves no residue. It dissipates into the atmosphere, allowing for rapid cleanup and minimal downtime.

System Operation

Kidde Automatic Carbon Dioxide Systems utilize fire detectors which sense fire conditions in the hazard area. An electric signal is sent through a control panel to a control head, which releases CO₂ from the cylinders. The CO₂ is delivered through a fixed piping network to discharge nozzles directed at the hazard.

System Types

Kidde Fixed Carbon Dioxide Systems are designed using three (3) methods of application:

- Total Flooding
- Local Application
- Hand Hose Line Systems

Total Flooding (figure 1)

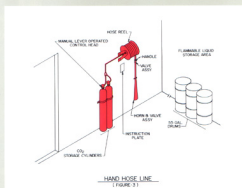
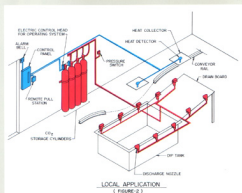
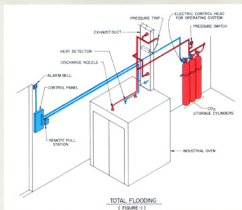
"A total flooding system consists of a fixed supply of carbon dioxide normally connected to fixed piping with nozzles arranged to discharge carbon dioxide into an enclosed space or enclosure around the hazard."

Local Application (figure 2)

"A local application system consists of a fixed supply of carbon dioxide normally connected to fixed piping with nozzles arranged to discharge carbon dioxide directly on the burning material."

Local Hose Line (figure 3)

"A hand hose line consists of a fixed supply of carbon dioxide supplying hose lines."



System Equipment



Cylinder & Valve Assemblies

Kidde Carbon Dioxide Cylinder and Valve Assemblies are of heavy-duty construction, specifically designed for the rugged service they encounter and to provide rapid response when needed.

Our cylinders are available in a wide range of capacities (25, 35, 50, 75 and 100 lb.) and manufacture in strict compliance with Department of Transportation (DOT) specifications.

To ensure that **Quality & Reliability** are built into every unit, each cylinder assembly is subject to four (4) separate inspections during assembly and must pass a hydrostatic pressure test over 3,000 psi prior to acceptance.

The cylinder valves are made of corrosion resistant brass and engineered to provide high flow and maximum efficiency during discharge.

Our cylinder valves have also passed the following extensive testing by Underwriters Laboratories (UL) and will provide the durability required to ensure long lasting service.

- 5,000 psi valve leakage test
- 240 hour corrosion test
- One year leakage test
- 500 cycle operation test

UL/AULC Listed and FMUSCG/MEA Approved.*



Control Heads

Control heads are a vital part of system operation, and must respond immediately to initiate system discharge.

Kidde control heads are manufactured from corrosion resistant brass and are subject to five (5) separate inspections during assembly. Each control head is further tested after assembly for proper operation, prior to acceptance. Electric, pneumatic, and manual versions are available to satisfy any requirement.

Our control heads also include some important features:

- (1) A visual inspection can be made to verify actuation and assure proper operation without disassembly.
- (2) No replacement parts are required after operation. Simply reset the control head and it's ready for continued service.
- (3) Easy removal from service allows for regular testing or maintenance.
- (4) A manual emergency bypass lever is included for immediate actuation.

In addition, Kidde control heads have passed strict UL testing, demonstrating excellence in design and durability.

- Jarring/impact test
- 500 cycle operation test
- Overload test
- Variable voltage test
- 240 hour corrosion test

UL/AULC Listed and FMUSCG/MEA Approved.*

*Listings and Approvals:

UL	-Underwriters Laboratories
ULC	-Underwriters Laboratories of Canada
FM	-Factory Mutual Engineering
USCG	-United States Coast Guard
MIA	-New York City
CSFM	-California State Fire Marshall



Nozzles

Kidde discharge nozzles use the multijet principle. The discharge flow is divided into separate patterns and then directed toward the inner side wall of the nozzle before exiting. This permits greater volumes of carbon dioxide to be discharged by a single nozzle. The result is fewer nozzles, less pipe, less fittings, and lower installation costs. This design, perfected and patented by Kidde, does not agitate liquid surfaces and prevents the spread of flame to adjacent areas.

The nozzles are made of steel and corrosion resistant brass and are available with a "blow off" cover to prevent foreign material from entering the nozzle and obstructing the flow.

Our nozzles are offered in various types and coverages (overhead, tank-side, and duct application). This permits the flexibility to consider several application methods, resulting in the most cost effective system for your operation.

UL/LC Listed and FMUSCGMEA Approved *

Detection & Controls

A vital part of any automatic fire suppression system is the means for detection and control. Kidde offers sophisticated detection and control systems (electric or pneumatic) which sense fires in their early development. This results in rapid detection, early suppression, and less potential for damage or injury.

The GEMINI Suppression Control Panel, and advanced microprocessor based system, is a complete self-contained control unit designed specifically for Kidde Systems. It offers a modular design that can accommodate from 1 to 4 independent suppression systems and is field programmable, providing the flexibility for a wide variety of applications.

The GEMINI system exceeds all requirements of NFPA 72A and offers power limited circuits for ease of installation.

In the event of an AC power failure, the GEMINI system will immediately transfer to battery backup, providing continuous protection for limited periods.

UL/LC Listed and FMUSCGMEA Approved *



Accessories

From pressure switches and warning signs, to manual pull stations and hose reels, Kidde provides you with the necessary equipment to complete the job to your specifications. If future expansion is a concern, our system can be easily expanded or modified to include additional hazard areas.

UL/LC Listed and FMUSCGMEA Approved *



Engineering

Kidde engineers combine years of experience and dedication, together with computer aided design (CAD) equipment, to provide the advanced engineering technology necessary to challenge the complex hazards of today. Our combustion research facility allows for continuous research and development of

Kidde products which set the pace for fire protection industry standards.

Kidde, a pioneer in fire protection technology.



Technical Support

A factory trained international distribution network provides system design, installation, service, and technical assistance for Kidde systems worldwide. Their training, skill and experience is unsurpassed throughout the fire protection industry.

Kidde Distributors, a network of professionals serving you.



Applications

Kidde systems are used on a wide variety of hazards throughout the world. These systems are designed to provide the type of fire protection you expect – where it is important to detect, isolate and suppress fires at the first indication of flame.

One of the main applications for carbon dioxide systems is in industrial processes where flammable liquids and vapors present a potential hazard. Fires spread rapidly and become so intense that many times they cannot be approached, let alone be extinguished with the usual portable fire equipment. A "fixed CO₂ system" designed specifically for the hazard and operated automatically, assures immediate detection and rapid suppression.

Kidde Carbon Dioxide systems are ideal for:

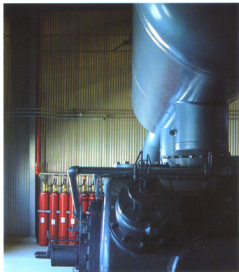
- flammable liquid storage areas
- printing presses
- quench tanks
- mixing operations
- spray booths
- turbine driven generators
- electrical areas
- rolling mills
- industrial ovens
- dust collectors
- large commercial fryers
- engine rooms
- paint lockers
- and many more industrial and marine applications.

Whatever the application, Kidde equipment provides "Peace of Mind," through the knowledge that **Quality** and **Reliability** is a reputation with Kidde, not just words to live by. Our carbon dioxide systems are specifically designed with your needs in mind – protecting the hazards of today and tomorrow.

Remember-Quality and Reliability means

KIDDE
Fire Systems

A World Leader in Fire Protection!



Total flooding protection for a natural gas compressor/pumping station.



Local application protection for an industrial quench tank operation.

Total Capabilities

In addition to carbon dioxide systems, Kidde is one of the few fire protection system manufacturers offering **total fire protection capability**. This includes the ability to engineer, design and manufacture large scale, custom-engineered fire protection systems and smaller pre-engineered systems. This concept includes a wide variety of fire protection systems and agents, allowing one supplier to be utilized for all your fire protection needs.

- FM-200™ Clean Agent
- Dry Chemical
- Wet Chemical
- Detection and Controls
- Marine Systems (USCG Approved)
- Military Specification Equipment

Our Quality is Certified

Kidde CO₂ Fire Suppression Systems are made in America in accordance with ISO 9001 certified quality standards and installed and serviced by Kidde Distributors worldwide. When you've specified "Kidde," you've chosen the world's most respected name in fire protection.



Kidde Suppression Systems Are Available From

This literature is provided for informational purposes only. KIDDE assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to work correctly. If you need more information on this product, or if you have a particular problem or question, contact KIDDE, Ashland, MA 01721. Tel: (508) 881-2000.

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