

HIGH PRESSURE CO₂

fire extinguishing system



COST EFFECTIVE SOLUTION FOR CLOSED SPACES



Extinguishing fires in closed spaces requires solutions that can be deployed quickly and effectively with minimal risk to the environment and equipment.

The Unitor High Pressure CO₂ Fire Extinguishing System (Unitor CO₂ System) is a total flooding system for closed spaces. The system, proven to be fast and effective, has been supplied to hundreds of vessels worldwide.

The system can be applied on merchant marine and offshore structures, as the design is in accordance to SOLAS and IMO MODU Code. In addition it is approved by all major classification societies.



Effective protection of equipment and cargo

The Unitor CO₂ System is designed as a total flooding system for machinery spaces of Category A, engine rooms, pump rooms and cargo holds onboard vessels and offshore installations.

The system has pressure operated cylinder top valves that quickly discharge the CO₂ gas. This ensures almost instantaneous extinguishing of the fire.

A self contained system

The Unitor CO₂ system is a self contained solution consisting of valves and pressurised cylinders. There is no requirement for electrical power, water or machinery to release the gas. The system requires no maintenance except from the regulatory periodic inspections.

Solution benefits

The Unitor CO₂ System is a high quality fire extinguishing system that is easy to install and operate with minimal maintenance. Refilling of the CO₂ cylinders is available worldwide.

A cost effective solution

The Unitor CO₂ system is designed for optimal system performance. The system can be supplied in rack modules to save installation time and cost. The quick discharge reduces potential cost of damages. Minimal and easy maintenance keeps operational cost low.

System description

The cylinder bank and manifold are stored in a well-ventilated and insulated room. The pressure operated valves are connected to the manifold using flexible high pressure hoses.

From the main distribution valves, a piping system is used to distribute the gas to the discharge nozzles which are placed uniformly throughout the protected spaces. The top valves can be operated both pneumatically and manually.

When releasing the system, the main distribution valve opens. The pilot gas to the pressure operated CO₂ cylinder top valve is delayed for a specified time. After the delay, the cylinder top valves open and the gas is discharged through the piping and nozzles into the protected space.

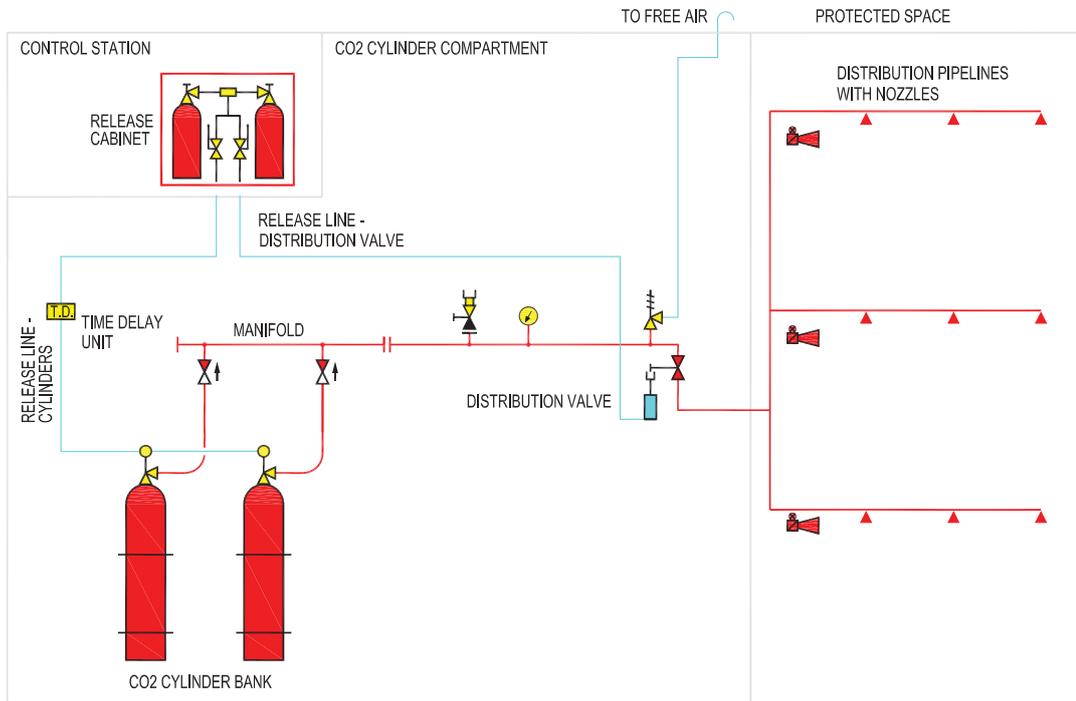
A manual release system is available to individually release the CO₂ cylinders, or by group sequence depending on the state of the fires. CO₂ is highly suffocative and the protected space must be evacuated before the CO₂ is released. The Unitor CO₂ system is designed with a pre-alarm system and a time delay function to allow the evacuation of the hazard area and avoid danger to the crew.

The system can be complemented by the Unitor XFlow Local Application Fire Fighting System for providing total fire protection for engine room. Local systems for paint lockers and galley ducting are available and smoke sampling systems for cargo holds can also be incorporated in the CO₂ system package.

Extinguishing fire using CO₂

CO₂ gas suffocates fire by reducing the oxygen content, thereby breaking the combustion chain. It is a colourless, non-corrosive gas that causes no chemical reaction to metals, electrical equipments or oil. The gas and has no mechanical damage to applied surfaces and leaves no residue to clean up. It is compressed to liquid state in high pressure cylinders for storage and it can be stored for an indefinite time.

Standard configuration



Technical data

CYLINDERS

Volume [ltr]	67.5/80
Weight of CO₂ gas [kg]	45/55
Weight of filled cylinder [kg]	125/140
Storage pressure@20°C [bar]	60
Test pressure [bar]	250
Certificates	all major classes
Standard	ISO, DOT, EN

DISTRIBUTION VALVES

Sizes	DN20 to DN150
Nominal pressure	PN100 and PN160
Material of construction body	steel
Stem and ball	stainless steel
Certificates	DNV or according to specifications

RELEASE CABINET

Cylinders	2.68 ltr with 1.78 kg CO ₂
Degree of protection	IP55

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