CO_2 FIRE SUPPRESSION SYSTEM

The Carbon Dioxide (CO_2) Fire Suppression System is an engineered system using either a fixed nozzle agent distribution network, hose reel(s), or a combination of both.

NAFFCO CO2 Systems are designed in accordance with the latest revision of the National Fire Protection Association (NFPA) Standard 12, “Carbon Dioxide Extinguishing Systems”. When properly designed, the carbon dioxide system will extinguish fire in Class A, B, and C hazards by depleting oxygen in the room which supports combustion.

The system can actuate by detection and control equipment for automatic system operation along with providing local and remote manual operation as needed. Accessories are used to provide alarms, delay discharge, ventilation control, door closures, or other auxiliary shutdown or functions. Due to the method of extinguishment, personnel occupying areas protected by carbon dioxide systems must be evacuated prior to system discharge. For this reason, discharge time delays and alarms are mandatory for occupied hazards. Two or more hazard areas can be protected with a single group of agent storage containers (cylinders) by means of directional or selector valves.

Basic Use: The Carbon Dioxide system is particularly useful for suppressing fires in hazards where an electrically non-conductive medium is essential or desirable; where clean-up of other agents presents a problem; or where the hazard obstructions require the use of a gaseous agent. The following are typical hazards protected by carbon dioxide systems:

- Printing Presses
- Vaults
- Open Pits
- Dip Tanks
- Spray Booths
- Ovens
- Engine Rooms
- Coating Machines
- Process Equipment
- Hoods And Ducts
- Flammable Gas Or Liquid Storage Areas
- Generators

CO_2 HIGH PRESSURE CYLINDER

The high pressure seamless steel CO_2 cylinder has concave base and manufactured in accordance with 84/825 EEC.

MATERIAL	
Cylinder	Steel
Head Valve	Brass

HYDRAULIC TEST PRESSURE	
Test Pressure	250 bar

FINISH
Primed and painted in accordance with BS 4800 : 04 E 53

CAPACITY & DIMENSION	
Model No.	Cylinder Capacity
NCO_2	45 Kg (68 Ltr.)

CYLINDER VALVE ASSEMBLY

The cylinder valve assembly is a forged “brass” body. When the actuation pressure reaches 100 to 110 psi (689 to 758kPa), the valve opens automatically. Exceeding 3000 psi (20,685kPa) pressure in the cylinder, a safety relief disc, inserted into all valves, will rupture and a pilot port will be utilized for two aims:

- Fill port for charging the cylinder
- Actuator port for both the manual/mechanical and electrical release functions

To settle the valve, two plugs must be removed and either the 12VDC or 24VDC actuation kit must be installed. For marine applications, the local lever actuator assembly must be installed for converting slave configuration to a master valve.

Operation:

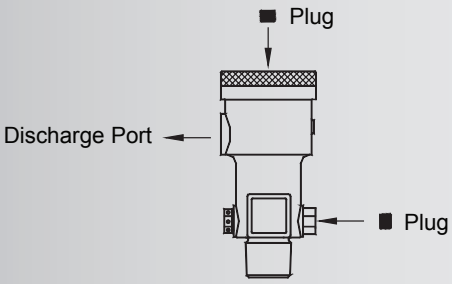
By entering through the valve discharge port, CO_2 pressure from piping manifold send pressure to the top piston chamber. Then, the slave valve cylinder is actuated.

The greater surface area of the piston allows discharging CO_2 through the discharge port into the piping system, since the pressure pushes the main seal downward.

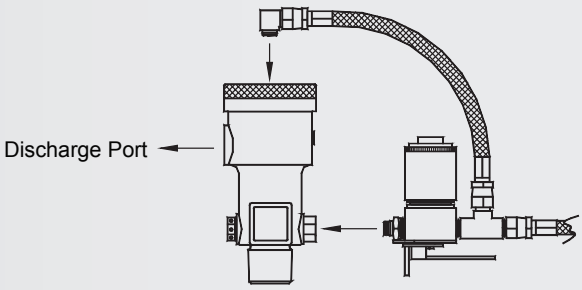
The pilot port send CO_2 pressure of the cylinder to the top pressure port and the master valve cylinder actuates.

SPECIFICATIONS	
Materials	Valve – Brass Pilot Port - Stainless Steel
Operating Pressure	100 to 110 psi (689 to 758 kpa)

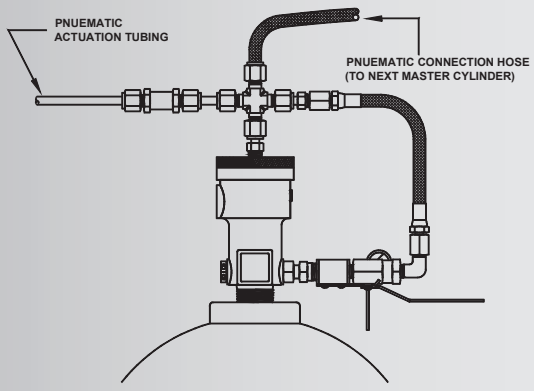
Slave Valve



Master Valve



Marine Master Valve



CO_2 Valve Section View