

PRODUCING TRUST IN FIRE AND SAFETY



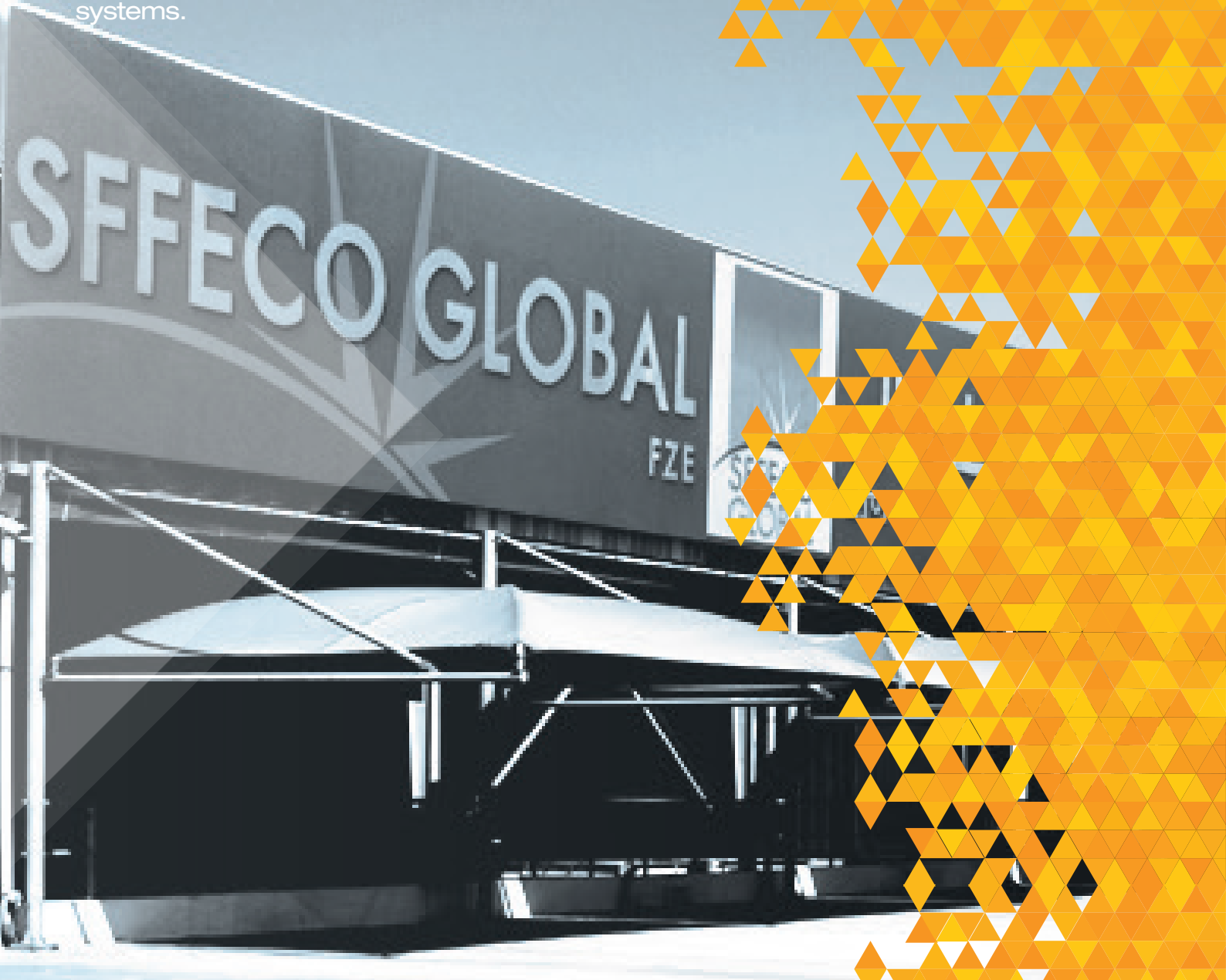
# CO<sub>2</sub> EXTINGUISHING SYSTEM



SFFECO with its more than 30 years of experience has always been a progressive organization that has remained in the forefront of the fire fighting industry with innovative, re-engineered and unique products.

SFFECO in its state-of-the-art manufacturing plants in RIYADH & DUBAI works in close connections with renowned governmental and certification bodies to provide key answers to the challenges faced by the society.

SFFECO brings together over 3-Decades of expertise and experience in form of Design, Consultancy, Testing, Commissioning, Maintenance & Refurbishment of fire protection and fire fighting systems.



SFFECO is proud to be working with International certification bodies. For specific product certifications, please check the respective product page or contact our sales team



LPCB



# CARBON DIOXIDE (CO<sub>2</sub>) SYSTEM

SFFECO Carbon dioxide (CO<sub>2</sub>) system extinguishes fire by reducing the oxygen content of the protected space and or local flame front to a point where it will not support combustion.

Carbon Dioxide is an odorless, colorless, electrically non-conductive, non-corrosive, and non-deteriorating inert suppression agent. Carbon Dioxide is approximately 50% heavier than air, and is normally present in the atmosphere at about 0.03% by volume. Carbon Dioxide is instrumental in controlling respiration and other vital responses in animals and humans, but it WILL NOT support life.

Carbon Dioxide extinguishes fire by reducing the oxygen content of the protected space and/or local flame front to a point where it will not support combustion. Oxygen reduction below 16% by volume will extinguish most fires. Surface or “flash” type fires (oils, paints, etc.) are quickly extinguished.

Deep seated or “smoldering” type fires (paper, baled cotton, clothing, etc.) are extinguished by the prolonged action of a high concentration of Carbon Dioxide. Retaining the agent within the protected space reduces the fire’s ability to re-ignite.

In addition, Carbon Dioxide has a cooling effect on the surrounding atmosphere that has been found to be a benefit to fire extinguishment.

Carbon Dioxide is a standard commercial product commonly used for carbonating beverages, fast freezing food products, purging pipes and tanks, medical purposes, and a multitude of additional tasks. It is also used for firefighting purposes: i.e. hose reels, portable hand extinguishers, and engineered fixed pipe systems. Carbon Dioxide is available in most large cities and seaports throughout the world.



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# SYSTEM FEATURES



SUITABLE  
FOR CLASS  
A, B AND C

UL LISTED HIGH  
PRESSURE CARBON  
DIOXIDE SYSTEM

LOWER OVERALL  
MAINTENANCE  
COSTS

IN ACCORDANCE  
TO ANSI/ NFPA 12  
& GLOBAL STANDARDS

ELECTRONIC,  
PNEUMATIC &  
MECHANICAL ACTUATED

ONLINE, DIGITAL AND  
MECHANICAL WEIGHT LOSS  
INDICTORS & MONITORING

STRONG  
ALLOY STEEL  
CYLINDERS

ANTI RECOIL  
SAFETY DISC FOR  
CYLINDER PROTECTION

TOTAL FLOODING  
& LOCAL FIRE  
PROTECTION

PRESSURE AND  
MECHANICALLY ACTUATED  
SLAVE VALVES

## OPERATING PRESSURE

58 BAR (850 PSI)  
AT  
21°C (70°F)

## NOMINAL CHARGING CAPACITY

4.4 LBS - 220 LBS  
OR  
2 KG - 100 KG

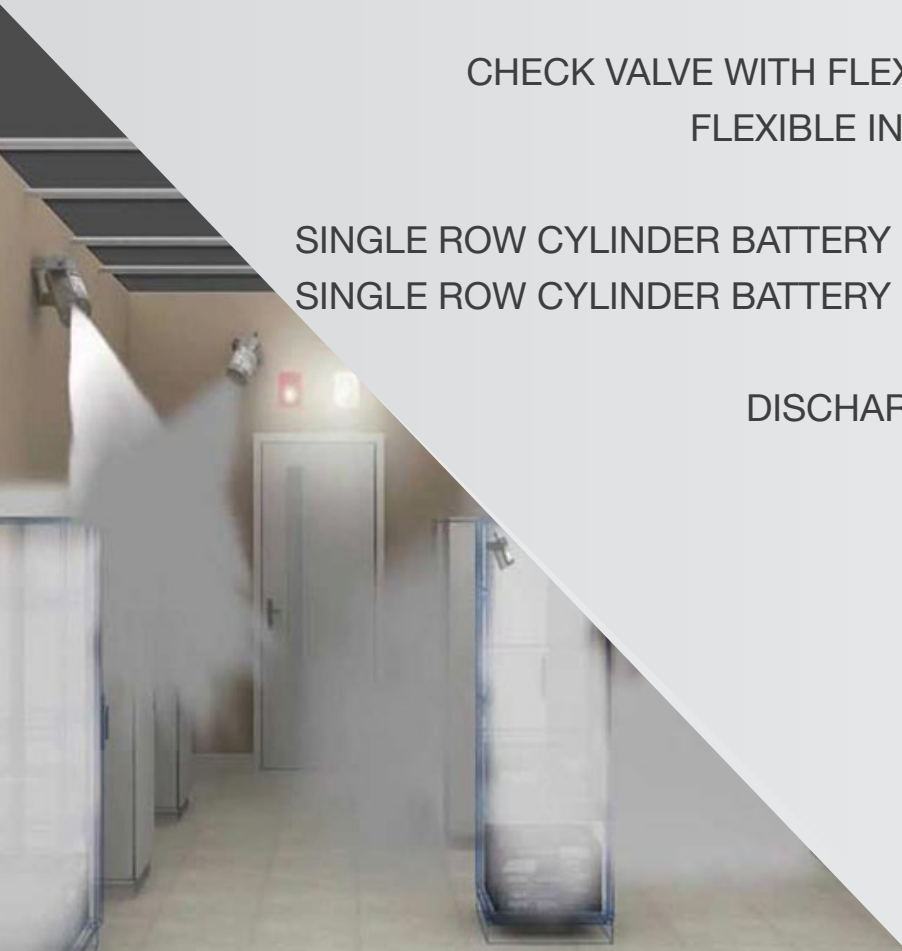
## OPERATING TEMPERATURE

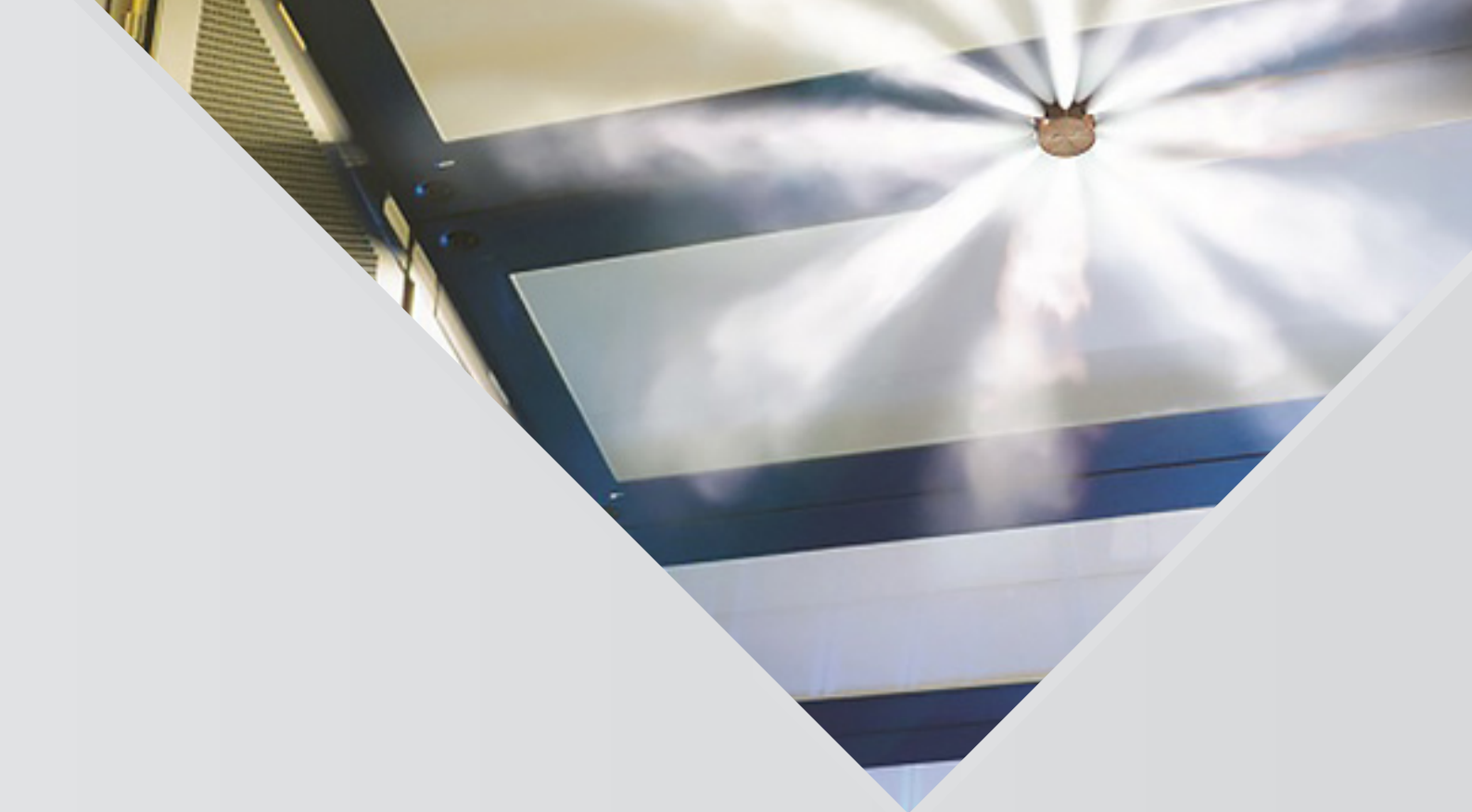
-18°C TO 54.4°C  
OR  
0°F TO 130°F

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**LISTED**

# TECHNICAL DATA SHEET



## 45KG CO<sub>2</sub> CYLINDER



A basic cylinder is nothing but a pressure vessel. A variety of cylinder sizes are available. They are all designed to hold pressurized carbon dioxide in liquid form at ambient temperatures, corresponding to a normal pressure of 850 psi at 21°C (58.6 bar at 21°C). All cylinders are seamless. They are manufactured and tested in accordance with the requirements of International Standards and department of Explosives. Except for special temperature conditions, all cylinders are filled to their specified weight with liquid carbon dioxide. The pressure inside the cylinder will vary as the temperature changes. In general, the ambient storage temperature for standard cylinders used in local application systems should be between 0°C and 49°C For standard cylinders used in total flooding systems, the ambient storage temperature should be between -18°C and 54°C. A rigid siphon tube is used in all cylinders to ensure liquid discharge. All cylinders must therefore be installed in a normal upright position.



### TECHNICAL DATA

Make:	SFFECO
System Standard:	UL 2127, NFPA 12
Type:	Seamless Concave Bottom
Bottom:	W 28.8 x 1 / 14"
Material:	Chrome Moly Steel
Neck Threads:	W 28.8 x 1 / 14"

### DESIGN DATA

Filling Density:	0.667 Kg/Litre maximum						
Storage Pressure:	60 Bars						
Working Pressure:	200 bar 150 bar						
Weight (Empty):	334 bar						
Water Capacity:	50	56	60	68	75	80	82
Test pressure: (kg approx)	63	68	72	79	85	90	92
Gross Weight: (kg approx)	100	110	120	130	140	150	155



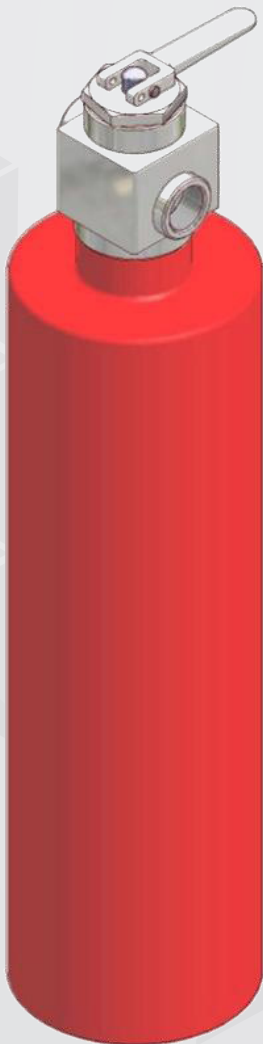


# TECHNICAL DATA SHEET



## TIME DELAY UNIT

Due to the personnel hazard involved in the use of carbon dioxide systems, an adequate time delay must be provided to allow people in or near the protected area to exit. Time delays accompanied by audible and visible alarms allow people to evacuate. In total flooding carbon dioxide systems, personnel must evacuate before the agent starts to fill the enclosure. In local application systems, it is only necessary for people to move far enough away from the protected area so they are not affected by agent discharge or by fire.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-AC-04
<b>Material:</b>	Stainless Steel
<b>Threads:</b>	Inlet: 25.4 mm Outlet: 3/4" BSP (F)

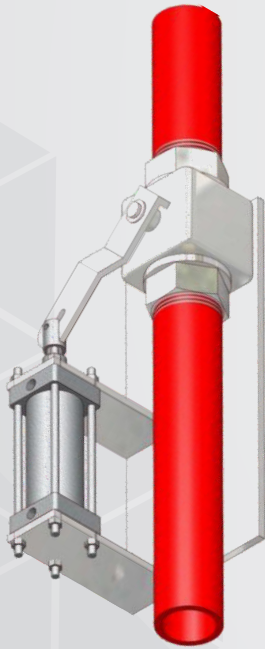
### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Time Delay:</b>	30 Seconds

# TECHNICAL DATA SHEET

## DIRECTIONAL VALVE

These are installed for using one common system for discharge to different areas. The operation is by pneumatic pressure. Available in various sizes.



### TECHNICAL DATA

<b>Make:</b>	SFFECO			
<b>System Standard:</b>	UL 2127, NFPA 12			
<b>Part Number:</b>	SFD-CDES-DC-11	SFD-CDES-DC-12	SFD-CDES-DC-13	SFD-CDES-DC-14
<b>Size:</b>	1"	1 - ¼"	1 - ½"	2"
<b>Material:</b>	Stainless Steel			

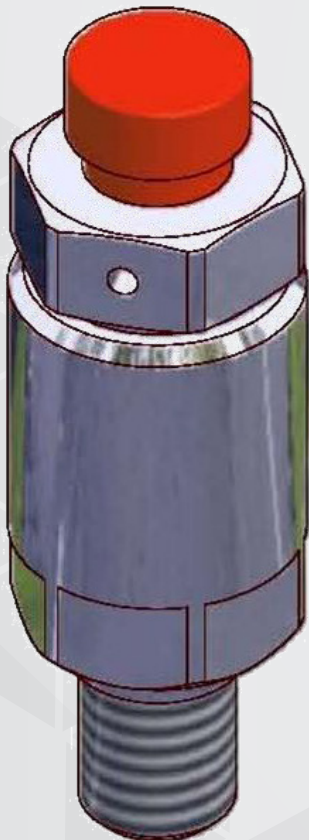
### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>
<b>Approval:</b>	UL Listed
<b>Actuation</b>	Upto 7 kg/cm <sup>2</sup>

# TECHNICAL DATA SHEET

## BLEEDER VALVE

Bleeder valves are used in the manifolds of main and reserve banks of cylinders, as well as in the manifolds of systems that have selector valves (joint systems). The bleeder valve vents accidental check valve leakage (that could discharge the other bank or banks of cylinders) from one bank to the other. The valve is normally open and closes when manifold pressure reaches approximately 20 psi (1.4 bar) to prevent loss of CO<sub>2</sub> under normal discharge conditions.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-23
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	3/8"

### DESIGN DATA

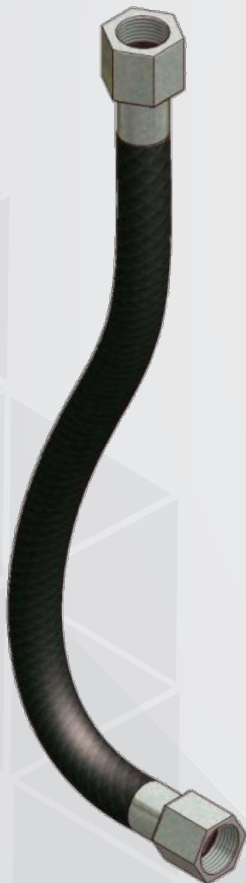
<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

# TECHNICAL DATA SHEET

## CO<sub>2</sub> FLEXIBLE DISCHARGE HOSE



These are used for discharge of gas from cylinders to NRV of manifold. Available in various lengths and made of high pressure wire braided hose.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-06
<b>Material:</b>	<b>Hose:</b> Flexible Wire Braided Rubber <b>End Fittings:</b> SS
<b>Threads:</b>	7/8" UNF x 7/8" UNF

### DESIGN DATA

<b>Temperature Ratings:</b>	-20 C to +55 C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

## CHECK VALVE WITH FLEXIBLE DISCHARGE HOSE



These are used for discharge of gas from cylinders to manifold. Available in various lengths and made of high pressure wire braided hose. The hoses are provided with NRV on one end to prevent flow of gas into the cylinder.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-07
<b>Material:</b>	<b>Hose:</b> Flexible Wire Braided Rubber <b>End Fittings:</b> SS <b>Check Valve:</b> SS
<b>Threads:</b>	7/8" UNF(F) x 3/4" BSPT (M)

### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

## FLEXIBLE INTERCONNECTION HOSE



These are used for interconnecting the pneumatic slave valves for operating the cylinders together for flooding. Available in various lengths and made of high pressure wire braided hose.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-08
<b>Material:</b>	<b>Hose:</b> Flexible Wire Braided Rubber <b>End Fittings:</b> SS
<b>Neck Threads:</b>	3/8" BSP (M) x 3/8" BSP (M)

### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

# TECHNICAL DATA SHEET

## INLINE CHECK VALVE



A range of check valves are available. These are used to isolate the main cylinder manifold from the interconnected reserve cylinder manifold. In the manifolds of joint systems they are also used to prevent the discharge from activated cylinders causing activation of the other cylinders in the bank.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-19 to SFD-CDES-DC-22
<b>Material:</b>	Stainless Steel
<b>Size:</b>	1", 1 - ¼", 1 - ½ ", 2" BSP (F)

### DESIGN DATA

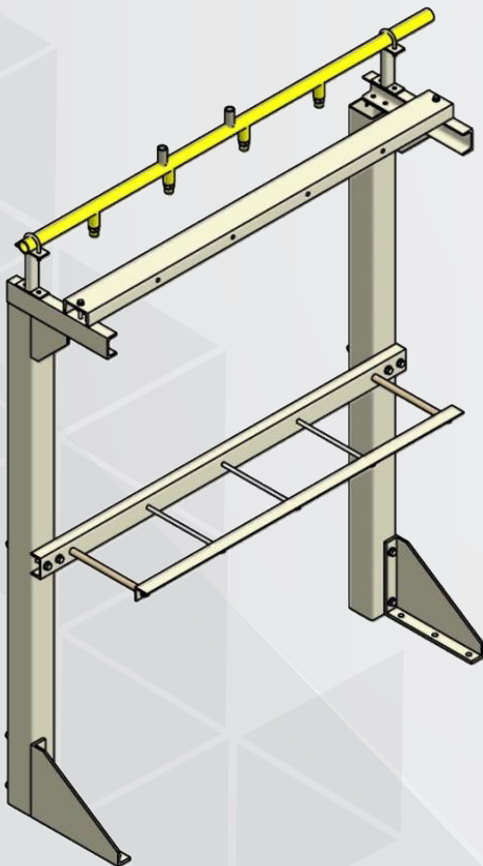
<b>Temperature Ratings:</b>	-20 C to +55 C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

## SINGLE ROW CYLINDER BATTERY FRAME WITH MANIFOLD



This is cylinder securing storage device constructed of a frame equipped with single row manifold. Manifold is made up of high pressure seamless pipes welded with suitable coupling for Check Valve. Manifold can be made in various sizes and lengths.

The battery frame is made of MS angles, MS square, MS C channel, MS plate & nut bolts. The frame can be made in various sizes of single row and double row.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-ME-01 to SFD-CDES-ME-05
<b>Material:</b>	Mild Steel
<b>Size:</b>	Suitable for 2, 3, 4, 5, 6 cylinders

### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
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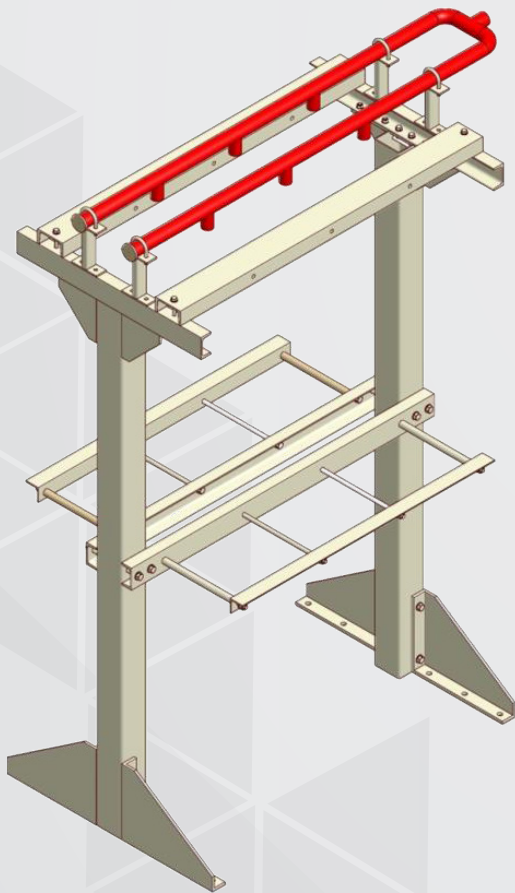


## DOUBLE ROW CYLINDER BATTERY FRAME WITH MANIFOLD



This is cylinder securing storage device constructed of a frame equipped with double row manifold. Manifold is made up of high pressure seamless pipes welded with suitable coupling for Check Valve/Non Return Valve. Manifold can be made in various sizes and lengths.

The battery frame is made of MS angles, MS square, MS C channel, MS plate & nut bolts. The frame can be made in various sizes of single row and double row.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-ME-06 & SFD-CDES-ME-07
<b>Material:</b>	Mild Steel
<b>Size:</b>	Suitable for 10 & 12 cylinders

### DESIGN DATA

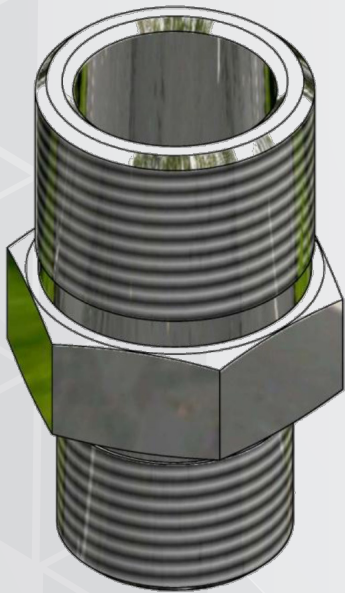
<b>Temperature Ratings:</b>	-20°C to +55°C
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# TECHNICAL DATA SHEET

## NON RETURN VALVE



These are installed on Manifold between the CO<sub>2</sub> Cylinder and Manifold for preventing flow of gas during discharge from manifold to empty cylinders if any.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-09 & SFD-CDES-DC-10
<b>Material:</b>	Stainless Steel
<b>Threads:</b>	7/8" UNF (M) x 3/4" BSP (M)

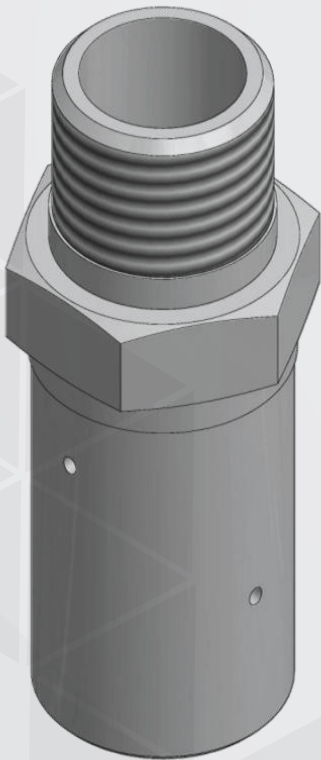
### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

## DISCHARGE NOZZLE OPEN TYPE



Open type nozzles are used where an even distribution of gas is required throughout and enclosure. Nozzles are designed to discharge large volumes of carbon dioxide without freezing. All nozzles have a drilled orifice. The nozzle orifice size will vary depending on the flow and the location of the nozzle in the system. It is important that nozzles are installed exactly as specified on the project drawings, otherwise system performance will be jeopardized.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-27
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	1/2" BSP

### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

## DISCHARGE NOZZLE DOME TYPE



Dome type nozzles are usually used where a slower, low velocity discharge is required and where a high velocity discharge could seriously damage the contents.

Nozzles are designed to discharge large volumes of carbon dioxide without freezing. The velocity of discharge from the nozzle is reduced to prevent agitation and splattering of hazardous material which could spread the fire. All nozzles have a drilled orifice. The nozzle orifice size will vary depending on the flow and the location of the nozzle in the system. It is important that nozzles are installed exactly as specified on the project drawings, otherwise system performance will be jeopardized.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-26
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	1/2" BSP
<b>Orifice Code:</b>	1 thru 18

### DESIGN DATA

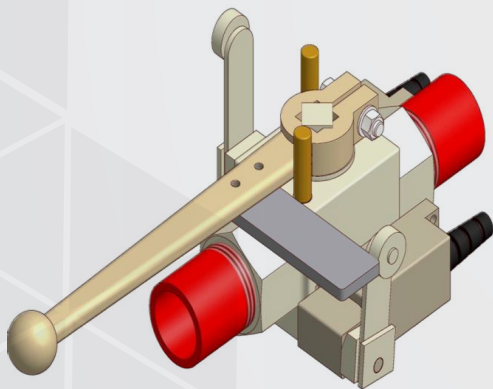
<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

## LOCK OUT VALVE



A lockout valve is a manually operated valve installed between the CO<sub>2</sub> manifold and the discharge pipe to the protected area. The lockout valve can be locked in the closed position to prevent carbon dioxide from discharging into the protected area where the occupants cannot proceed to a safe location within the time delay period. The lockout valve shall be installed at the end of the CO<sub>2</sub> manifold or, if a common manifold protects multiple hazards, after each selector valve.

The valves shall be supervised for both automatic and manual systems.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-15 to SFD-CDES-DC-18
<b>Material:</b>	Stainless Steel
<b>Size:</b>	1", 1 - 1/4", 1 - 1/2", 2"
<b>NO/NC Contacts:</b>	Available in Open and Closed position.

### DESIGN DATA

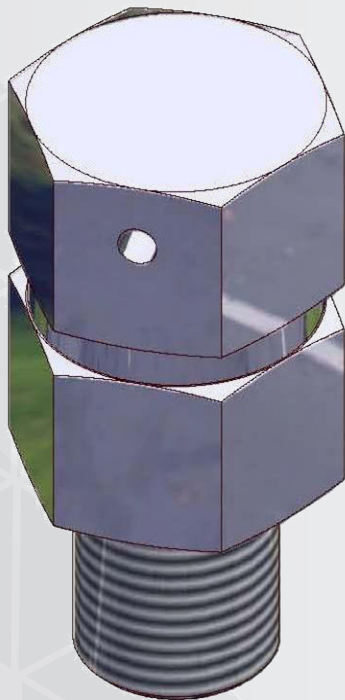
<b>Temperature Ratings:</b>	-20 C to +55 C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>

# TECHNICAL DATA SHEET

## SAFETY RELEASE VALVE



This pressure relief device is installed in sections of closed piping such as between selector valves and the cylinder manifold. It is a frangible disc assembly designed to rupture if trapped CO<sub>2</sub> expands and the line pressure exceeds 180 to 200 bars.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-24
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	1/2" BSP (M)

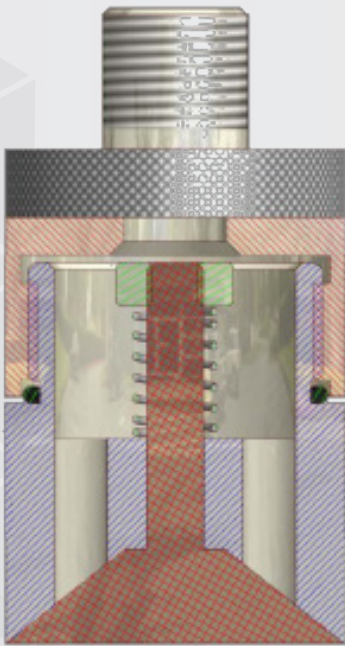
### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Rated pressure:</b>	170 Bar

## DISCHARGE NOZZLE RESET TYPE



This type of nozzle ensures covered orifice all the time to avoid blockage. During the discharge the nozzle pressure pushes the plunger away clearing the orifice and allowing the gas discharge. After the completion of discharge, the spring pulls back the plunger to seal the nozzle orifice hence the name reset type nozzle.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-28
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	½" BSP

### DESIGN DATA

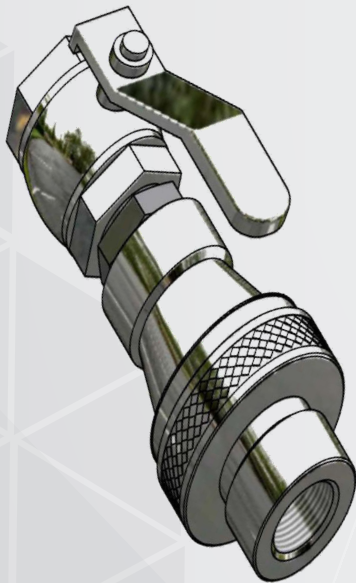
<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>
<b>Approval:</b>	UL Listed

# TECHNICAL DATA SHEET

## AIR CONNECTION ASSEMBLY



The Air Connection Assembly is installed on the manifold. It consists of quick release coupling with dual NRV. It is used for flushing the lines by air after installation and during yearly maintenance to ensure the discharge lines are clean.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-ME-08
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	1/2" BSP

### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
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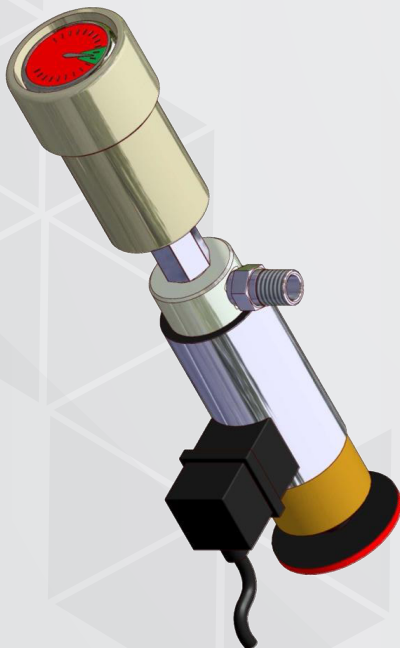


## ELECTRIC ACTUATOR WITH CANISTER



Electric actuation is achieved by using a solenoid valve with Canister kit. The solenoid valve is normally closed device, closed when de-energized and open when energized. The standard solenoid voltage is 24 VDC, but other voltages and special enclosures (including explosion proof) are available by special order. The solenoid coil is designed and rated for continuous duty service. However, it is recommended that the actuating circuit incorporate a shut-down device (e.g. a pressure switch or time delay relay) to open the circuit when the cylinder is empty. When the coil is energized for a long period of time, the solenoid enclosure becomes hot. This is a safe operating temperature and will not damage the solenoid. Any excessive heating will be indicated by smoke or burning oil insulation.

The solenoid valve connects directly to a special adapter on the cylinder valve. The discharge side of the solenoid valve is connected to the pressure port on the cylinder Valve with supplied 3/16" braided hose. When energized, the solenoid valve opens allowing pressure from the canister to operate the pressure actuator and open the valve. The solenoid should be connected to a control panel that is powered through a separately fused circuit, and that also incorporates battery backup power.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-AC-01
<b>Material:</b>	Stainless Steel
<b>Neck Threads :</b>	1/2" BSP (M)

### DESIGN DATA

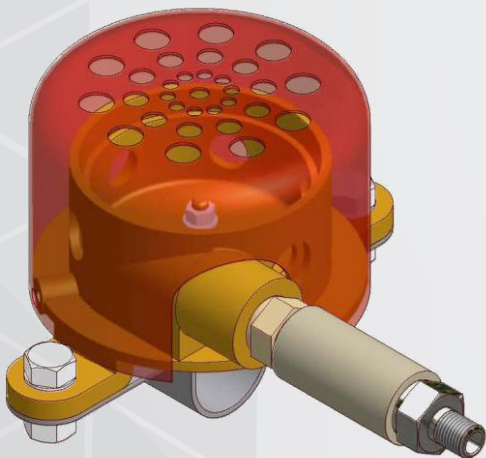
<b>Temperature Ratings:</b>	-20°C to +55°C
<b>Rated Voltage:</b>	24 VDC

# TECHNICAL DATA SHEET

## PRESSURE OPERATED SIREN



The Pressure operated siren is installed in the discharge line within the protected area. The siren continuously operates on pressure above 1 Bar & produces audible siren signalling evacuation of protected area by any personnel if present.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-AC-03
<b>Material:</b>	Stainless Steel
<b>Threads:</b>	1/4" BSP (M)

### DESIGN DATA

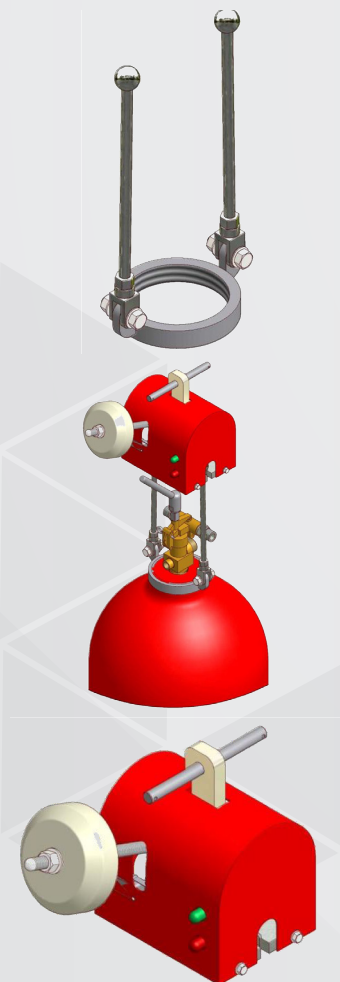
<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Sound:</b>	More than 90 Decibels at 6 Bar

## WEIGHT LOSS UNIT MECHANICAL



A weight loss indication device is made to monitor the loss of weight in cylinders by more than 5%. A cantilever device is provided with counter weight where the balance is upset on leakages from cylinder.

A limit switch is provided near the counter weight to send the signal to control panel. The counter weight has to be perfectly balance with cylinder weight during installation to achieve equilibrium and a 90 degree angle. The toggle of limit switch is to be adjusted to change contact once the toggle is moved. Necessary NO/NC contacts are provided in the limit switch.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-ME-09
<b>Material:</b>	Stainless Steel
<b>Audio Visual Alarm:</b>	Starts on Weight Loss of 5% and above

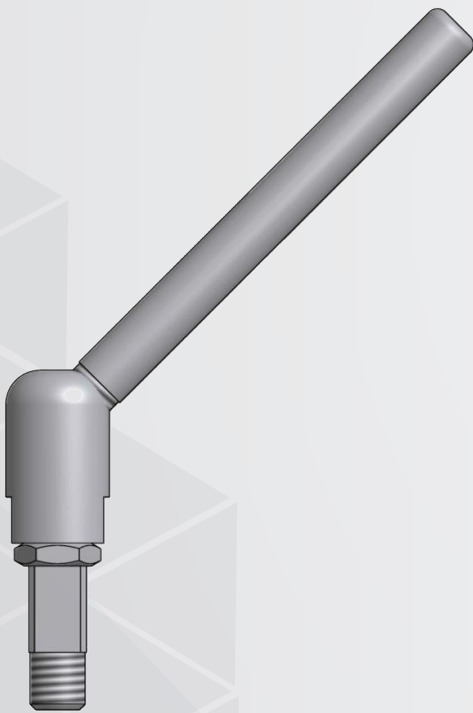
### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
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# TECHNICAL DATA SHEET

## MANUAL ACTUATOR

Manual Actuator is fitted on the cylinder valve which can be manually pulled to operate the valve for discharge of CO<sub>2</sub> gas.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-AC-02
<b>Material:</b>	Stainless Steel

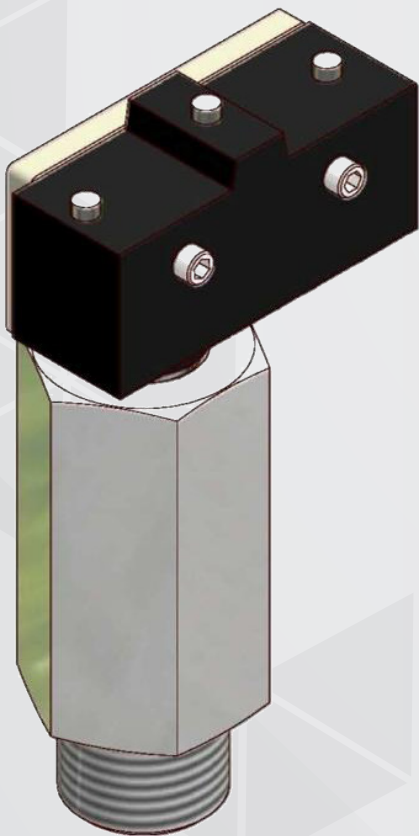
### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to + 55°C
-----------------------------	-----------------

## PRESSURE SWITCH

The pressure switch connects to the carbon dioxide discharge piping and operates when the system discharges. The switch may be wired with contacts in the open or closed position. Operation causes the electrical switch contacts to reverse position. Switches can be used to confirm system discharge, to operate alarms, to shutdown motors, pumps, fans and conveyors, to release magnetic door holders, etc., automatically when the system discharges.

The switch may be mounted in any position, but preferred installation is with the pressure connection (CO<sub>2</sub> supply line) entering from the bottom. The switch enclosure is rated for standard conditions. When the line load of the equipment to be operated is greater than the switch rating, the switch should be used to break a relay holding coil circuit.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-25
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	½" BSP (M)

### DESIGN DATA

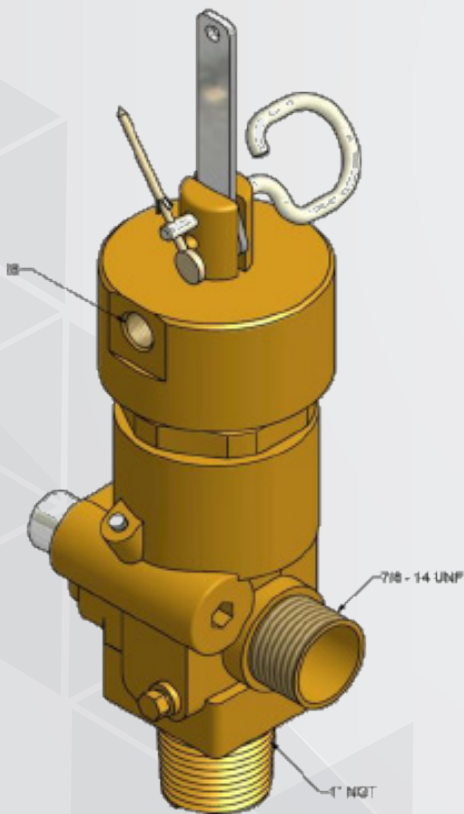
<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Operating Voltage:</b>	NO/ NC Contacts Above 10 Bar
<b>Approval:</b>	UL Listed

# TECHNICAL DATA SHEET

## SLAVE VALVE TYPE



These valves are dependent on the master valve for their operation and are connected to it via flexible interconnection hose. As the master valve operates, the pressurised CO<sub>2</sub> reaches the slave valve and actuates it.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-05
<b>Material:</b>	Brass
<b>Neck Threads:</b>	Inlet : 25.4 mm

### DESIGN DATA

<b>Temperature Ratings:</b>	-20°C to +55°C
<b>Test pressure :</b>	180 kg/cm <sup>2</sup>
<b>Approval :</b>	UL Listed

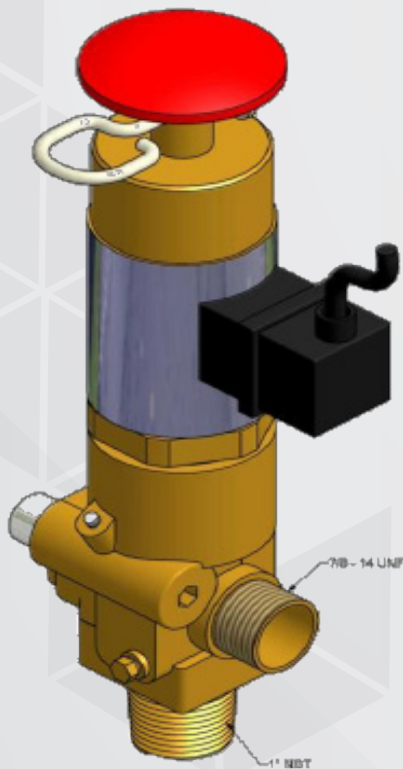
## MASTER VALVE SOLENOID TYPE



Electric actuation is achieved by using a solenoid valve kit. The solenoid valve is normally closed device, closed when de-energized and open when energized. The standard solenoid voltage is 24 VDC, but other voltages and special enclosures (including explosion-proof) are available by special order. The solenoid coil is designed and rated for continuous duty service. However, it is recommended that the actuating circuit incorporate a shut-down device (e.g. a pressure switch or time delay relay) to open the circuit when the cylinder is empty.

When the coil is energized for a long period of time, the solenoid enclosure becomes hot. This is a safe operating temperature and will not damage the solenoid. Any excessive heating will be indicated by smoke or burning coil insulation.

The solenoid valve connects directly to a special adapter on the cylinder valve. When energized, the solenoid actuates and opens the valve. The solenoid should be connected to a control panel that is powered through a separately fused circuit, and that also incorporates battery backup power.



### TECHNICAL DATA

<b>Make:</b>	SFFECO
<b>System Standard:</b>	UL 2127, NFPA 12
<b>Part Number:</b>	SFD-CDES-DC-04
<b>Material:</b>	Stainless Steel
<b>Neck Threads:</b>	Inlet : 25.4 mm

### DESIGN DATA

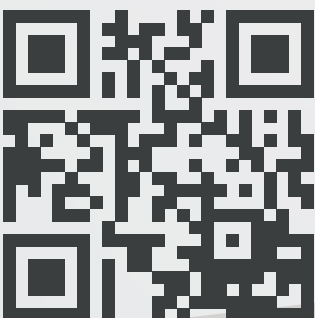
<b>Temperature Ratings:</b>	-20°C to + 55°C
<b>Test pressure:</b>	180 kg/cm <sup>2</sup>
<b>Approval:</b>	UL Listed

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