Boal Systems

CHEMORI®

CHEMORI®5112 FIRE SUPPRESSION SYSTEM

www.boalsystem.com/chemori

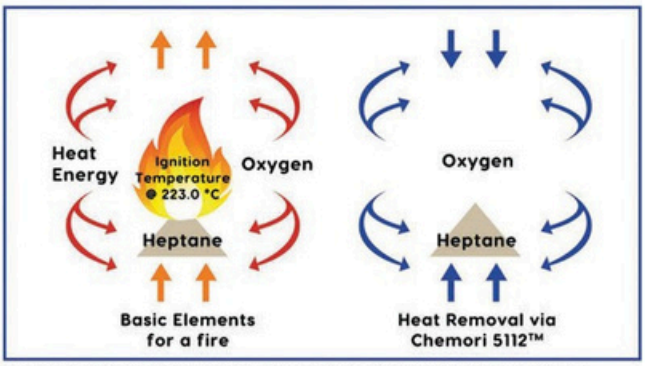
Boal Systems

FK-5-1-12

CLEAN AGENT

DESCRIPTION

Chemori®5112 is best used in fire hazard areas containing A, B, and C classes of fire. It has the shortest atmospheric lifetime of only 5 days. Chemori®5112 has been approved by US EPA and ISO for its safe characteristic and fire extinguishing effectiveness. It is liquid at room temperature but is dispersed as gas. Chemori®5112 can be used in Total Flooding Applications and Engineered Systems. Fire will be extinguished by removing the heat energy consequently interrupting the combustion process. Fire will cease to exist when heat is removed. It



*Ignition Temperature may differ depending on the combustible substance.

It is important to cool down to below ignition temperature as heat can be transferred in buildings by Conduction, Radiation or Convection. This process is done without having to reduce the oxygen supply, thus, presenting no threat to humans. Chemori®5112 is the perfect alternative for Halon 1301 Clean Agent replacement. Chemori®5112 meets the minimum NFPA 2001 Requirement as follows.

CLEAN AGENT CHARACTERISTICS	
IUPAC Name	1,1,1,2,2,4,5,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentanone
ASHRAE Designation	FK-5-1-12mmy2
Synonym	Dodecafluoro-2-methylpentan-3-one
CAS Registry Number	756-13-8
Chemical Formula	$CF_3CF_2C(O)CF(CF_3)_2$
Molecular Weight	316.04
Freezing Point	-162.4°F (-108°C)
Boiling Point at 760mmHg	120.2°F (49°C)
Critical Temperature	335.6°F (168.66°C)
Critical Density	39.91 lbm/ft³ (639.1 kg/m³)
Critical Pressure	270.44 psi (1,865 kPa)
Critical Volume	0.0251 ft³/lbm (494.5 cc/mole)
Viscosity, Liquid at 77°F (25°C)	1.27 lb/ft-hr (0.524 cP)
Water Solubility at 70°F (21.1)	<0.001% by weight

PROPERTY	REQUIREMENT
Purity	99.0% (minimum)
Water Content (by weight)	0.001%
Non-Volatile Residue (g/100 ml)	0.05

ENVIRONMENTAL IMPACT	
Ozone Depleting Potential (ODP)	0
Global Warming Potential (GWP)	≤1
Atmospheric Lifetime (ATL)	0.014 years
US EPA SNAP (Yes/No)	Yes

FK-5-1-12

250 KG STORAGE TANKS

DESCRIPTION

Chemori introduces the Chemori 550 lb (250 kg) Storage Tanks, specifically designed to streamline the storage and transfer of substantial quantities of FK-5-1-12 clean agent across various locations. These 250 kg Storage Tanks are engineered with precision to ensure seamless FK-5-1-12 transfer, featuring top-mounted transfer valves for optimal functionality and convenience. Crafted from high-quality, non-corrosive materials, these tanks provide exceptional durability and reliability, guaranteeing long-term performance.

In terms of shipping logistics, a standard 20-foot container can hold up to 40 units of the 250 kg Storage Tank, significantly optimizing ocean freight costs and enhancing operational efficiency.

Water Capacity	330 L
Medium	Non-toxic. non-flammable
Design Pressure (Int. Ext.) psi	Atmospheric Pressure
Design Temperature °C	Room Temperature
Operating Pressure (Int. Ext.) psi	Atmospheric Pressure
Operating Temperature C	50 °C
Main Material	S30408
Corrosion Allowance	0
Total Height	1143 mm
Outside Diameter	753 mm

Boal Systems

CHEMORI®5112 CLEAN AGENT

FK-5-1-12MMY2 500KG TANK

1,1,1,2,2,4,5,5,5-nonafluoro-4 (trifluoromethyl)-3-pentanone with the ASHRAE identifying number of FK-5-1-12mmy2 is a fire protection fluid. It is a replacement for Halon 1301, which deplete stratospheric ozone. The atmospheric lifetime of FK-5-1-12mmy2 is approximately a week. It does not contribute to stratospheric ozone depletion and has a negligible global warming potential. FK-5-1-12mmy2 is classified as a clean agent under NFPA 2001, used to extinguish Class A, B and C fires in a local application system or a total flooding system. It is an electrically non-conductive agent that extinguishes fires by interruption of the combustion chemical chain reactions and absorbing heat from the flame, significantly reducing the flame temperature below that is necessary to retain fire, without displacing O_2 and leaves no residues upon evaporation.

FEATURES

- Specially designed Stainless Steel Storage Tank
- Top Plug
- Strategic Lifting Point
- Valve Protection Cover
- Top Cap Inner Stiffener
- Drain Hole
- Stacking Holder Block
- UL Component Recognized, FM Approved and EPA SNAP Listed Clean Agent

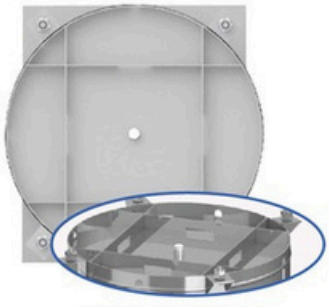
KEY BENEFITS

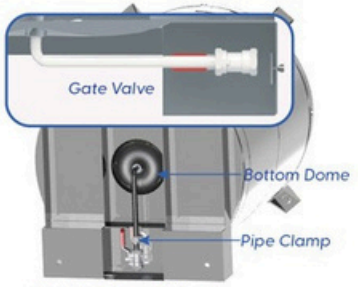
- Use of Stainless Steel Material for high corrosion resistance and long service life.
- Stackable Stainless Steel Storage Tank for ease of storage and transportation.
- Can load 21 Tons of Chemori 5112 (42 Stainless Steel Tanks) on a 20 foot container.
- Efficiency in lifting either through fork holes using forklift or pallet jack or through lifting holes for hoisting.
- Top Plug for easy refilling.

Special Storage Tank


Stackable Stainless Steel Storage Tank

(36 Stainless Steel Tanks) on a 20 foot container


Top Cap Inner Stiffener



Foot Base Inner Stiffener

500 PSI SYSTEM ENGINEERED

CLEAN AGENT CYLINDERS

DESCRIPTION

Chemori developed an extensive range of stainless steel cylinders from capacities 20lb to 1200lbthe improved design and construction provides reliability and increased lifetime of the products. All sizes are available in red and mirror surface. The Clean Agent cylinders are manufactured, tested and stamped in accordance with either UL Component Recognized Mark and TPED of EN ISO 13322-2 or EN 14208 and EAC (Russian Certifications). Stainless steel cylinders operate in corrosive and high temperature environments. Our stainless steel cylinders are capable of handling superior quality and sensitive substances in many years with zero leakages. Their ability to provide long-term performance with minimum downtime and cost associated with maintenance can be truly beneficial in the long term perspective.

CYLINDER ASSY. PART NO.	VALVE SIZE IN	VALVE SIZE MM	CYLINDER CAPACITY FT³	CYLINDER CAPACITY L	MIN FILL AT 35 LB/FT³ LB	MIN FILL AT 560 KG/M³ KG	MAX FILL AT 75 LB/FT³ LB	MAX FILL AT 1201 KG/M³ KG
CR 70020-EH	1"	25mm	0.289	8.2	11	5.0	21	9.5
CR 70035-EH	1"	25mm	0.512	14.5	18	8.2	38	17.2
CR 70070-EH	1"	25mm	1.020	28.9	36	16.3	76	34.5
CR 700100-FH	1"	25mm	1.440	40.8	51	23.1	108	49.0
CR 700100-EH	1 ½"	40mm	1.440	40.8	51	23.1	108	49.0
CR 700150-EH	1 ½"	40mm	2.180	61.7	77	34.9	163	73.9
CR 700250-EH	1 ½"	40mm	3.620	102.5	127	57.6	271	122.9
CR 700375-EH	2 ½"	65mm	5.420	153.4	190	86.2	406	184.1
CR 700560-EH	2 ½"	65mm	8.020	227.0	281	127.4	601	272.6
CR 700650-FH	3"	80mm	9.500	268.9	333	151.0	712	322.9
CR 700800-EH	4"	100mm	12.000	339.7	420	190.5	900	408.2
CR 700800-FH	3"	80mm	12.000	339.7	420	190.5	900	408.2
CR 701000-EH	4"	100mm	14.830	419.8	520	235.8	1112	504.3
CR 701000-FH	3"	80mm	14.830	419.8	520	235.8	1112	504.3
CR 701200-EH	4"	100mm	17.300	489.8	606	274.8	1297	588.2

COLOR INFORMATION

All cylinder sizes may be available in Vibrant Red or Mirror Surface.

NOTE

For cylinder sizes 20lbs to 650lbs, add "-SS" on cylinder assembly part number for stainless steel valve selection.

SYSTEM INFORMATION

Temperature Range: *32°F (0°C) to 130°F (54.4°C)*
Operating Pressure: *500 psi at 70°F (21°C)*

FK-5-1-12

CLEAN AGENT CYLINDERS & BRACKETS

DESCRIPTION

By using Chemori's Flow Calculation Software Version CR 4.00, the two-phase and the two-component flow of agent and nitrogen through the distribution piping network in quasi-steady state from the initiation of the discharge to the final gas blow down can be estimated and predicted. The cylinder is equipped with the stainless steel valve that offers excellent flow characteristics for the liquefied gas, allowing for long pipe runs and has a greater coverage area.

CYLINDER ASSY.	CYLINDER DIMENSION A ±0.70 IN	A ±0.018 M	B ±0.54 IN	B ±0.014 M	C ±1% IN	C ±1% M
20lb with 1" Valve	10.750"	0.273m	13.505"	0.343m	18.290"	0.593m
35lb with 1" Valve	10.750"	0.273m	18.555"	0.471m	23.337"	0.834m
70lb with 1" Valve	10.750"	0.273m	28.045"	0.712m	32.830"	0.808m
100lb with 1" Valve	12.795"	0.325m	26.595"	0.676m	31.830"	0.830m
100lb with 1 ½" Valve	12.795"	0.325m	27.020"	0.686m	32.660"	1.086m
150lb with 1 ½" Valve	12.795"	0.325m	37.130"	0.943m	42.770"	1.163m
250lb with 1 ½" Valve	16.000"	0.406m	40.130"	1.019m	45.770"	1.656m
375lb with 2 ½" Valve	16.000"	0.406m	57.250"	1.454m	65.190"	1.612m
560lb with 2 ½" Valve	20.000"	0.508m	55.250"	1.403m	63.460"	1.804m
650lb with 2 ½" Valve	20.000"	0.508m	63.100"	1.602m	71.040"	1.843m
650lb with 3" Valve	20.000"	0.508m	63.810"	1.621m	72.570"	1.493m
800lb with 4" Valve	30.000"	0.762m	49.086"	1.247m	58.791"	1.408m
800lb with 3" Valve	30.000"	0.762m	46.678"	1.186m	55.438"	1.680m
1000lb with 4" Valve	30.000"	0.762m	56.448"	1.434m	66.153"	1.341m
1000lb with 3" Valve	30.000"	0.762m	54.040"	1.373m	52.800"	1.867m
1200lb with 4" Valve	30.000"	0.762m	63.818"	1.621m	73.523"	

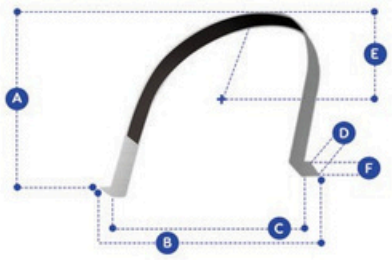
70lb

COLOR OPTIONS:

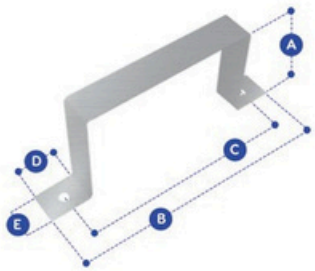
· Red · Mirror Surface

CYLINDER BRACKET

The cylinder bracket is manufactured from stainless steel band formed to the radius of the cylinder with flanges for bolting to the continuous slot metal framing channel of 12-gauge steel with corrosion resistant paint. The channel must be supplied by the installer. The cylinder bracket must be secured to a surface that the bracket will withstand a load up to 5 times of the cylinder weight. This precaution is to have the bracket safely supports the weight of the cylinder and the reaction force of the FK-5-1-12 Clean Agent when discharge.



CR 60790



CR 60792

PART NUMBER	DIAMETER	A	B	C	D	E	F
CR 60790	30.000"	30.225"	35.200"	33.200"	1.000"	15.225"	2.000"
CR 60792	30.000"	4.500"	11.500"	10.000"	1.500"	N/A	2.000"

Boal Systems

SYSTEM EQUIPMENT

STAINLESS STEEL 316L
CYLINDER VALVES

DESCRIPTION
Our cylinder valves are made out of Stainless Steel 316L. They are highly non-corrosive equipment even when exposed to environments where temperature levels are high.

CAUTION
All cylinder valves are factory equipped with anti-recoil device. The anti-recoil device must be attached to the valve outlet at all times, unless the outlet is connected to the discharge piping or recharge adapter.

FEATURES
- Non-corrosive
- User Friendly
- Economical
- Leakproof

PART NO.	SIZE	UL COMPONENT MARKING NO.	COMPATIBLE CYLINDERS
CR 06000-AX	1/2"	20001-SS++	3LB, 6LB, 12LB, 18LB
CR 90001-SS	1"	20001-SS++	20LB, 35LB, 70LB, 100 LB
CR 90002-SS	1-1/2"	20002-SS++	100LB, 150LB, 250 LB
CR 90003-SS	2-1/2"	20003-SS++	375LB, 560LB, 650LB
CR 30000-C	3"	20004-SS++	650LB, 800LB, 100LB
CR 90004	4"	20005-SS++	800LB, 1000LB, 1200LB

COMPATIBLE EQUIPMENT FOR EACH CYLINDER VALVE SIZES

1/2"	1"	1-1/2"	2-1/2"	3"	4"
Electric Solenoid	Electric Solenoid	Electric Solenoid	Electric Solenoid	Electric Solenoid	Electric Solenoid
Local Manual Control	Local Manual Control	Local Manual Control	Local Manual Control	Local Manual Control	Local Manual Control
-	Piston Actuator	Piston Actuator	Piston Actuator	Piston Actuator	Piston Actuator

1/2"
CR 06000-AX

1"
CR 90001-SS

1-1/2"
CR 90002-SS

2-1/2"
CR 90003-SS

3"
CR 30000-C

4"
CR 90004

CYLINDER VALVE
COMPONENTS

ANTI-RECOIL PLUG

The purpose of the anti-recoil cap is to prevent "thrust" from being developed in the event the valve gets damaged. Anti-recoil device safety plugs must always be in place before handling the cylinders. More specifically, this invention relates to a seal construction which will relieve excessive pressure which may be developed in a gas cartridge and permit the gas to escape without causing excessive recoil and propulsion of the cartridge which might cause damage or injury.

0.5" Anti-Recoil Plug
For 4.0 and 3.0" SS Cylinder Valve
CR 91219-A

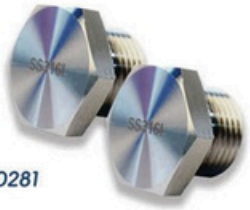
1.0" Anti-Recoil Plug
For 1.0" SS Cylinder Valve
CR 50021

1.5" Anti-Recoil Plug
For 1.5" SS Cylinder Valve
CR 60611

2.5" Anti-Recoil Cap
For 2.5" SS Cylinder Valve
CR 60071-SS

STAINLESS STEEL HEX PLUG

High Pressure safety plug attached on the spud when Liquid Level Indicator is not placed.



CR 70281

STAINLESS STEEL SCHRADER VALVE

This feature is for easy maintenance acces for either nitrogen top up or depressurization.

CR 50143-AS

STAINLESS STEEL REMOVABLE FITTING

This removable fitting can be utilized for connecting lever type local manual control or stackable latching solenoid.

CR 60590-A-SS

HYBRID DISC

The purpose of Hydbrid Disc is to allow the gas to escape in an event of a rapid expansion of the gas stored within a cylinder. Since it is unlikely that someone will be around in the event of a fire to open the valve to vent the gas, something needs to allow the gas to escape prior to the cylinder rupturing.

3/4" NPT Hybrid Disc
CR 60055-G-SS

1/2" NPT Hybrid Disc
CR 60055-SS

SCHRADER VALVE WITH CAP

CR 50134-AS

DESCRIPTION

Schrader valves are used in a wide variety of compressed gas and pressurized liquid applications such as fire extinguishing cylinders. Schrader valves are also viewed as more complex. Chemori's schrader valves are used on 20 LB to 1200 LB cylinders.

It consists of an externally threaded hollow cylindrical metal tube. In the center of the exterior end is a metal pin pointing along the axis of the valve stem; the pin's end is approximately flush with the end of the valve body. It is used for pressurising extinguishers.

NIPPLE CAP
CR 50194-5

A valve cap is important on a Schrader valve because if one is not fitted, dirt and water can enter the inside of the valve stem, potentially jamming it or contaminating the sealing surfaces and causing a leak. The cap helps prevent Nitrogen (N_2) from escaping from a leaking valve core.

CORE (SCHRADER VALVE)
CR 50009-3

The valve core has a seal which is attached to a pin. When you push the Nitrogen (N2) line hose on to the valve, it presses on the pin and it opens the valve to allow the Nitrogen (N2). The valve ensures that the Nitrogen (N2) already in the cylinder is retained.

1/8 NPT TO 7/16-20-UNEF FLARE NIPPLE
CR 50194-4A

Flare fittings are used in the construction of the schrader valve.

FEATURES:

- Precisely designed
- Rust proof
- Durable finish standards

PRESSURE GAUGE WITH GUARD

PRESSURE GAUGE

The Pressure Gauge accurately monitors the cylinder internal pressure constantly. It can be used for all kinds of extinguishing agents due to its excellent corrosion resistance.

PRESSURE GAUGE

PART NUMBER	CONNECTION THREAD	OPERATING PRESSURE
CR 70282-M2	M10	500 PSI
CR 70282-N	1/8" NPT	500 PSI

PRESSURE GAUGE GUARD

The Pressure Gauge Guard protects the pressure gauge from damage. It is made of Stainless Steel 316L material and protect the pressure gauge from impacts which may leak. The Pressure Gauge Guard is incorporated with a no loose connection which allows for the pressure gauge to be replaced easily and safely under pressure.

PRESSURE GAUGE GUARD

PART NUMBER	MATERIAL
CR 70198-B	Brass
CR 70198-SS	Stainless Steel 316L

LATCHING SOLENOID

CR 50026-A

DESCRIPTION

Latching Solenoid is used to open a Schrader valve on the top plug adaptor of the cylinder valve. The application provides a solution with a fast response and a high latching force to be used with the Chemori Clean Agent Fire Suppression System.

It was determined that a latching solenoid with an optional local manual control head is the best solution for the application. The actuator is held in the latched position without power until a signal from the agent release control panel cuts off the permanent magnet. When release, the latching solenoid opens the cylinder valve allowing the extinguishing medium to discharge from the cylinder into the system. The latching solenoid is designed with an emergency release local manual control to manually force the pin to depress the cylinder valve to release the extinguishing medium when needed. In order to reset the system, the solenoid is to be manually returned to the latched position.

SPECIFICATIONS	
· Manual actuation force:	12-40 lbf (5.44-18kgf) max
· Operating force:	20.25-14.6 lbf (90-65 N) min
· Power requirement:	24 VDC
· Current:	0.5A @ 24 VDC
· Electrical connection:	DIN 43 650-A/ISO 440 3pin
· Operating temperature range:	-4 to 131°F (-20°C to 55°C)
· Weight:	1.9 lbs (.86 kg)
· Dimensions:	
· Body Diameter:	1.61 in (41 mm)
· Length:	4.17 or 5.9 in (106 or 150 mm) with manual actuation cap

CR 61033-2

LATCHING SOLENOID LOCAL MANUAL CONTROL

The Latching Solenoid Local Manual Control features a local lever driven push rod that depresses a Schrader check valve thru the latching solenoid when fitted onto the top of the solenoid, thereby venting the pressure from the top of the piston in the cylinder valve, allowing the piston to slide upward and commence cylinder discharge. The Local Manual Control can be mounted directly to a top plug adapter, which is the top piece of the cylinder valve.

SUPERVISION FUNCTIONS

When connected into a System Release Control Panel:

1.) It has supervisory circuit to indicate if the latching solenoid has been removed physically from the valve.

2.) It has supervisory circuit to show fault if the connecting cables are compromised.

ELECTRIC SOLENOID

DESCRIPTION

The electric solenoid valve is a normally closed valve that requires electrical energy to open which is also used to vent the pressure from the top of the piston in the cylinder valve, allowing the piston to slide upward and commence cylinder discharge. The electric solenoid valves are available in 24 VDC. The source of the electrical energy will determine the number and rating of the electric solenoid used. The solenoid circuit must be supervised for a break in the wiring, a ground or a short circuit.

Figure 1. Electric Solenoid

The cylinder discharge valve that is equipped with a solenoid valve is to be connected to a control panel for releasing devices and is compatible with Chemori Fire Extinguishing equipment.

Connect solenoid pigtails to actuation circuit wires with wire nuts within a junction box or by means designated by the authority having jurisdiction.

Whenever an electric solenoid is used as the sole means of actuation, a top plug must be used to seal the top of the cylinder valve.

Electric Solenoid is added with a tamper indicator as shown in Figure 2 which uses a Zip-tie (CR 70253) around the valve coil and vent solenoid to secure it mechanically. Unless the zip tie is cut, solenoid coil cannot be removed.

The cylinder discharge valve that is equipped with a solenoid valve is to be connected to a control panel for releasing devices and is compatible with Chemori FIre Extinguishing equipment. Electric Solenoid is coupled to the Releasing Circuit Disable Switch (CR 88205).

PART NUMBER	DESCRIPTION	ELECTRICAL
CR 50025-2	Electric Solenoid	24 VDC, 11 Watts
CR 50025-2E	Electric Solenoid, Explosion-Proof	24 VDC, 11 Watts
CR 50025-6	Electric Solenoid	24 VDC, 15 Watts
CR 50025-6E	Electric Solenoid, Explosion-Proof	24 VDC, 15 Watts
CR 50025-7L	Electric Solenoid, with LMC	24 VDC, 15 Watts

Figure 2. Electric Solenoid Tamper Seal

NFPA 2001 (2015 Edition) requirements to avoid unwanted system operation or unwanted discharge of an electrical actuated extinguishing agent system are compulsory to follow.

1. A supervised disconnect switch shall be provided.
2. The disconnect switch shall interrupt the releasing circuit of the suppression system.
3. The disconnect switch shall cause a supervisory signal at the releasing control unit.
4. The disconnect switch shall be located inside a lockable fire alarm control panel or requires a key for activation of the switch.
5. When the disconnect switch requires a key for activation, the access key shall not be removable while disconnected so the suppression system can be quickly returned to the operational condition in the event of fire.

PISTON ACTUATOR CONTROL HEAD-SLAVE

FEATURES

- High quality brass construction
- Mounts directly on top of cylinder valves
- Self-venting

The Piston Actuator features a pneumatically driven piston that depresses a Schrader check valve, thereby venting the pressure from the top of the piston in the cylinder valve, allowing the piston to slide upward and commence cylinder discharge. The pneumatic pressure required to operate the Piston Actuator is obtained from the "M" port of a cylinder, which is designated as "Master" cylinder that is either mechanically and/or electrically actuated. Multiple cylinders equipped with Piston Actuators can be activated from one master cylinder using 1/4" copper tubing or 1/4" metal flex hose. The Piston Actuator mounts directly to a top plug adapter, which is located on top of the cylinder valve.

Pressure Supplied by Port M of Master Cylinder Valve

CR 61041

SPECIFICATIONS	
Thread for Piston Actuator Control Head - Slave	Available in 1", 1-1/2", 2-1/2", 3", 4"
Thread for Pilot Connection	1/4" Copper Tubing 1/4" Metal Flex Hose
Minimum Pilot Pressure	3.45 Bar (50 PSI)
Maximum Pilot Pressure	34.5 Bar (500 PSI)
Material	Available in Brass

Note: 1/4" Metal Flex Hose are available as follows:

PART NUMBER	DESCRIPTION
CR 50192-4	6" Length
CR 50192-3	12" Length
CR 50192	20" Length
CR 50192-1	24" Length
CR 50192-2	36" Length

PRESSURE SUPERVISORY SWITCH
AND GUARD

DESCRIPTION

Pressure Supervisory Switch is operated by supervised fluid pressure applied within the cylinder. This switch offers a choice of pressure monitoring alarms when the set point pressure is detected, the switch works to open or close a circuit. This allows for enhanced alarm and control which in turn improves the dependability and safety of the workplace. Switch contacts can be Normally Open (N.O) or Normally Closed (N.C). An electric circuit can be a "closed" circuit, where the power flows, or an "open" circuit where the power is interrupted. In the Normally Closed circuit, power flows out until the relay is activated, which interrupts the power, and when the relay deactivates, the power is on again. Normally Open is the opposite, the power is off until the relay activates, which allows the power to flow through, and when the relay deactivates, power is again interrupted.

SPECIFICATION

1. Auto-Reset Pressure Switch (SPST)
2. Proof Pressure: 600 psig (41 bar)
3. Burst Pressure: 5000 psig (345 bar)
4. Electrical Ratings:
   120/240 VAC - 375 VA
   24 VAC - 125 VA
5. Cycle Life: 100,000 Minimum
6. Ambient Temperature: -30 to +70°C
7. Fluid Temperature: -54 to +135°C

PART NO.	DESCRIPTION
CR 50138-1	PRESSURE SUPERVISORY SWITCH 360 PSI (N/C) NPT THREAD
CR 50138-2	PRESSURE SUPERVISORY SWITCH 360 PSI (N/O) NPT THREAD
CR 50138-3	PRESSURE SUPERVISORY SWITCH 135 PSI (N/C) M10 THREAD
CR 50138-6	PRESSURE SUPERVISORY SWITCH 135 PSI (N/O) M10 THREAD
CR 50138-4	PRESSURE SUPERVISORY SWITCH 240 PSI (N/O) NPT THREAD
CR 50138-5	PRESSURE SUPERVISORY SWITCH 240 PSI (N/C) NPT THREAD
CR 50138-7	PRESSURE SUPERVISORY SWITCH 500 PSI (N/C) NPT THREAD
CR 50138-8	PRESSURE SUPERVISORY SWITCH 500 PSI (N/O) NPT THREAD
CR 50138-9	PRESSURE SUPERVISORY SWITCH 500 PSI (N/C) M10 THREAD
CR 50138-10	PRESSURE SUPERVISORY SWITCH 500 PSI (N/O) M10 THREAD

DESCRIPTION

The Pressure Supervisory Switch Guards ensure increased safety, serviceability and flexibility. It is made of stainless steel material and protect the pressure gauge and the pressure supervisory switch from impacts which may cause a leak. It also incorporates a no loose connection which allows for it to be replaced easily and safely without discharging the cylinder.

FEATURES

- Easy to install
- Keeps switch secure
- Rugged industrial design
- Made out of stainless steel

PRESSURE SUPERVISORY SWITCH GUARD
CR 70215-2

PRESSURE SWITCH

CR 50339

PRESSURE OPERATED SWITCH (N.C./N.O.) SPDT (MANUAL RESET)

The pressure switch is a critical component in fire suppression systems, designed to indicate when the fire suppression agent is being discharged. This switch serves multiple functions, including alerting personnel to a system discharge and enabling auxiliary actions, such as triggering alarms or shutting down equipment.

SPECIFICATIONS		
Electrical Rating:	15A 480 VAC;	
Switch:	SPDT Snap Action	
Contacts:	One :	Normally Open (N.O.)
	One :	Normally Closed (N.C.)

Features

1. Discharge Indication:
The switch activates immediately upon the release of the fire suppression agent, providing a clear and reliable indication of system discharge.

2. Form C Contacts:
Equipped with form C contacts rated at 15A 480 VAC, the switch can handle significant electrical loads, making it suitable for various alarm and auxiliary functions.

3. Manual Reset Button:
An external manual reset button is included on the pressure switch. After system activation, this button must be pressed to reset the device, ensuring that the system is not accidentally reactivated or left in an unresponsive state.

4. Versatile Installation Options:
The switch can be installed at any point on the discharge piping between the cylinder and the nozzle, allowing for flexible integration into different fire suppression system configurations.

5. Durable Construction:
Built to withstand high-pressure environments, the pressure switch is constructed from robust materials, ensuring long-term durability and reliable performance under challenging conditions.

6. Auxiliary Functions:
The switch can be connected to other systems to perform additional tasks during a discharge event, such as shutting down HVAC systems or alerting security personnel.

7. Easy Integration:
Compatible with a wide range of fire suppression systems and agents, the switch can be seamlessly integrated into existing setups, enhancing system safety and functionality.

EXPLOSION PROOF

PRESSURE SWITCH

CR 50138-7-EX

DESCRIPTION

Explosion Proof Pressure Switch comes with a SPDT limit switch. Ideal for applications with most extreme environmental conditions. its compact design allows for easy integration into custom equipment or systems.

FEATURES

- Safe to adjust during operation
- Dia-seal/piston sensor
- Hazardous location dual seal approved for Canada
- SPDT and DPDT switch
- IECEx & ATEX approved
- NEMA 4X, 7 & 9

SPECIFICATIONS	
Accuracy:	±2% of full scale
Typical Life:	2.5 milion cycles
Switch:	SPDT
Process Fitting:	316 Stainless Steel
Piston:	Stainless Steel
Enclosure:	Stainless Steel or Aluminum
Electrical Connection:	1/2" NPT Male Conduit Connection 18 AWG, 18" (300 mm) free leads
Electrical Rating:	11 amps @ 125/250VAC 5 amps @ 30 VDC (CC Class)
Enclosure Ratings:	NEMA 4X, 7 & 9 (SS) NEMA 4, 7, & 9 (AL)
Pressure Connection:	1/4" NPT Female (standard)
Ambient Temperature:	-4° to 104°F (-20° to 40°C)
EMI / RFI:	EN55011
Vibration:	10g's 10-500 Hz, MIL-STD-202F
Shock:	50g's 11 mS, MIL-S-901C
Adjustment:	Internal adjustment wheel with built in locking set-screws
Proof Pressure:	15000 PSIG
Pressure Range	100-750 PSIG

STAINLESS STEEL

DISCHARGE NOZZLES

DESCRIPTION

Chemori disharge nozzles is designed to control the flow of clean agent in a uniform, pre-determined pattern and concentration. The nozzles are intended to finish the release of Clean Agent in 10 seconds or less when introduced within the design limitations as stated in the Installation Instruction Manual.

Discharge Nozzles are available in sizes of 1/2", 3/4", 1", 1-1/4", 1-1/2" and 2". Each discharge nozzle comes in two configurations: 180 and 360 degree distribution patterns. Deflector plates are available as a choice where sensitive ceiling tiles must be protected.

Discharge Nozzles are made of aluminum with female pipe threads. The orifice size of the discharge nozzle is determined by the hydraulic flow calculations. All nozzles are rated for a maximum hazard height of 16 ft. If hazards exceed 16 ft. in height, a second tier of nozzles must be used.

Aluminum Material	CR 6070*

Brass Material	CR 7070*

Stainless Steel Material	CR 8070*

DISCHARGE NOZZLE SELECTION – SIDEWALL 180°

Typically to be installed adjacent to the center of the one wall of one enclosure. It's discharge path will be across the enclosure. At no time shall the area coverage be exceeded.

PART NO.	SIZE	
CR 80704-2-.xxxx	½"	Sidewall 180°
CR 80705-2-.xxxx	¾"	
CR 80706-2-.xxxx	1"	
CR 80707-2-.xxxx	1¼"	
CR 80708-2-.xxxx	1½"	
CR 80709-2-.xxxx	2"	

Note: ".xxxx" represents the orifice drill size.

DISCHARGE NOZZLE SELECTION – CENTRAL 360°

Typically to be installed at the center of the enclosure. It's discharge path will be across the enclosure. At no time shall the area coverage be exceeded.

PART NO.	SIZE	
CR 80704-3-.xxxx	½"	Central 360°
CR 80705-3-.xxxx	¾"	
CR 80706-3-.xxxx	1"	
CR 80707-3-.xxxx	1 ¼"	
CR 80708-3-.xxxx	1 ½"	
CR 80709-3-.xxxx	2"	

Note: ".xxxx" represents the orifice drill size.

LIQUID LEVEL INDICATOR

UL LISTED

DESCRIPTION

The Liquid Level Indicator is a simple and easy to operate where it provides a means to determine the Clean Agent liquid level in vertically mounted agent storage containers. Once the liquid level is determined, it can then be converted into the weight of Clean Agent present in the agent storage container.

FEATURES

· Reduced maintenance time

Weight in an agent storage container can be determined in a fraction of the time it would take to remove and weigh them.

· Continuous fire protection

Use of the liquid level indicator does not require taking out the cylinder from the system, thus providing uninterrupted fire protection.

· Field installation capability

The indicator can easily be installed in the field using a single wrench as long as the container is empty and is equipped with a mounting boss.

· Compact

When not in use, the unit requires no more space than that required by the container.

· Flexibility

The flexible tape design allows the unit to be used in tight spaces that would otherwise hinder the use of a rigid type indicator "stick".

· Availability

Units are available for all Chemori containers from sizes of 150 lbs. Thru 1200 lbs.

PART NUMBER	TO USE WITH CYLINDER
CR 60020	150LB and 250LB
CR 60020-1	375LB and 560LB
CR 60020-5	650LB
CR 60020-4	800LB
CR 60020-3	1000LB
CR 60020-2	1200LB

FLEXIBLE HOSES

DESCRIPTION

Flex hoses are used to connect the agent storage containers to the manifold in multi-cylinder arrangements. These flex hoses are constructed from high-pressure hydraulic rubber and feature a stainless steel corrugated inner core with stainless steel braiding in the 1", 1-1/2", and 2-1/2" sizes. All sizes are fitted with male NPT threads on both ends.

For the 650 lb, 800 lb and 1200 lb cylinders, the flex hose is 3" in diameter and 18" in length. The flex hose is manufactured from a stainless steel corrugated inner core with stainless steel braided. The flex hose has 3" Victaulic fittings on both ends.

For the 800 lb, 1000 lb and 1200 lb cylinders, the flex hose is 4" in diameter and 18" in length. The flex hose is manufactured from a stainless steel corrugated inner core with stainless steel braided. The flex hose has 4" Victaulic fittings on both ends.

PART	DIAMETER	DESCRIPTION	MATERIAL
CR 60255	1"	Flexible Hose	Stainless Steel Braided
CR 60256	1-1/2"	Flexible Hose	Stainless Steel Braided
CR 60257	2-1/2"	Flexible Hose	Stainless Steel Braided
CR 91230-C	3"	Flexible Hose	Stainless Steel Braided
CR 91230	4"	Flexible Hose	Stainless Steel Braided

STAINLESS STEEL "SS" CHECK VALVES

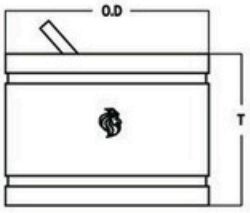
The Check Valves are used when two or more agent storage cylinders are combined together with one common discharge piping configuration. Their purpose is to prevent the loss of agent in the event that any of the agent storage cylinders are not connected to the manifold at time of system discharge and to prevent back flow of agent into other cylinders attached to the manifold.

All components of the check valves are constructed from stainless steel for durability and protection against corrosion. The metal to metal sealing area of the disc and seat is precision lapped, providing a very tight shut-off of both gas and liquid.

1"
CR 60261
SS Check Valve
THREADED TYPE

1-1/2"
CR 60262
SS Check Valve
THREADED TYPE

2-1/2"
CR 60263
SS Check Valve
THREADED TYPE



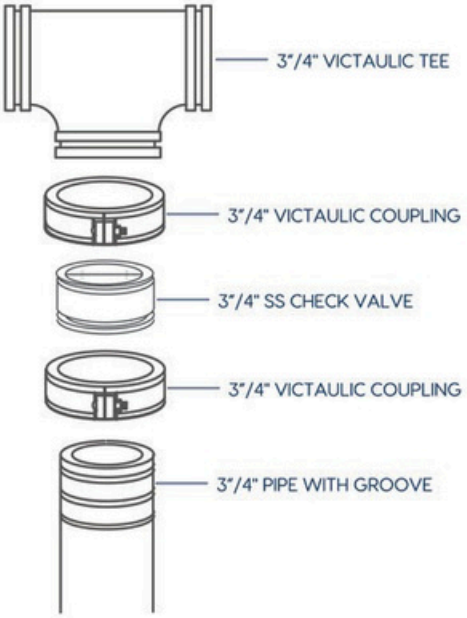
SIZE	OD	T
3"	3.5"	3"
4"	4.5"	4"

Notes: All units are in inches.

3"
CR 91231-3
SS Check Valve
VICTAULIC TYPE

4"
CR 91231-2
SS Check Valve
VICTAULIC TYPE

3" & 4" STAINLESS STEEL CHECK VALVE VICTAULIC TYPE



Note: 1. 3"and 4" Check Valves connections are with Victaulic type connections respectively.
2. Victaulic Couplings with bolts and nuts are NOT included in the supply of the check valve.

MECHANICAL CONTROLS

LOCAL MANUAL CONTROL

- Used for manual actuation of cylinder
- Self-venting
- Solid brass construction
- Stainless steel operation lock-pin
- Equipped with safety pull-pin to prevent accidental manual discharge of Clean Agent

CR 61033

The Local Manual Control features a local lever driven push rod that depresses a check valve, thereby venting the pressure from the top of the piston in the cylinder valve, allowing the piston to slide upward and commence cylinder discharge. The Local Manual Control mounts directly to a top plug adapter, which is located on top of the cylinder valve.

PISTON ACTUATOR CONTROL HEAD-SLAVE

- High quality brass construction
- Mounts directly on top of cylinder valves
- Self-venting

Pressure Supplied by
Port M of Master Cylinder Valve

CR 61041

The Piston Actuator features a pneumatically driven piston that depresses a Schrader check valve, thereby venting the pressure from the top of the piston in the cylinder valve, allowing the piston to slide upward and commence cylinder discharge. The pneumatic pressure required to operate the Piston Actuator is obtained from the "M" port of a cylinder, which is designated as "Master" cylinder that is either mechanically and/or electrically actuated. Multiple cylinders equipped with Piston Actuators can be activated from one master cylinder using 1/4" copper tubing or 1/4" metal flex hose. The Piston Actuator mounts directly to a top plug adapter, which is located on top of the cylinder valve.

SPECIFICATIONS	
Thread for Piston Actuator Control Head - Slave	Available in 1", 1-1/2", 2-1/2", 3", 4"
Thread for Pilot Connection	1/4" Copper Tubing 1/4" Metal Flex Hose
Minimum Pilot Pressure	3.45 Bar (50 PSI)
Maximum Pilot Pressure	34.5 Bar (500 PSI)
Material	Available in Brass

Note: 1/4" Metal Flex Hose are available as follows:

PART NUMBER	DESCRIPTION
CR 50192-4	6" Length
CR 50192-3	12" Length
CR 50192	20" Length
CR 50192-1	24" Length
CR 50192-2	36" Length

PNEUMATIC ACTUATOR

THREADED SELECTOR VALVE

DESCRIPTION

Chemori's Pneumatic Actuator Valve Assembly contains Pneumatic Actuator, Limit Switch Box and a Selector Valve. The Pneumatic Actuator is a compact rack and pinion actuator that is available in double acting and spring return. The body is a hard-anodized aluminium extrusion alloy. The pneumatic actuators are manufactured in a wide range of output torques to fit the characteristics of the selector valve applications, and the systems feature an ISO standard mounting design, assuring long-term industry acceptance.

It has a Limit Switch Box that is designed using aluminium die casting housing and powder coated. It is equipped with bolt on visual position indicator spring, loaded cam, captive cover bolts, dual cable entries, and Namur standard stainless steel shaft and bracket.

The Limit Switch provides electrical contact points for use on Chemori Selector Valve to indicate "Open" or "Closed" position. Below the Pneumatic Actuator is the Selector Valve that is designed to operate together with the Pneumatic Actuator and it has an ISO direct mounting pad which is designed for all of the Schedule 40 or 80 fire suppression system pipings. Chemori's bare stem type selector valve is well designed for mounting the actuator directly with very low torque value.

2.5" Threaded Selector Valve
CR 603301-P

PART NUMBER	SELECTOR VALVE SIZES
CR 603300-P	2"
CR 603301-P	2-1/2"
CR 603302-P	3"
CR 603303-P	4"

Available Sizes of Pneumatic Actuator with Threaded Selector Valve

PNEUMATIC ACTUATOR SPECIFICATION	
Operating Pressure Range	40 psig to 120 psig
Maximum Allowable Working Pressure	150 psig
Pressure Regulator Device Range	80 psig to 400 psig
Operating Temperature	-40°F (-40°C) to +200°F (90°C)
Double Acting	10 Nm (88 in-lb) to 1,243 Nm (11,000 in-lb)
Spring Return	7.6 Nm (68 in-lb) to 484 Nm (4,290 in-lb)
Direct connection	ISO 5211 standard and DIN 3337 stem standard
LIMIT SWITCH BOX SPECIFICATION	
Enclosure Protection	Weatherproof IP67 / NEMA 4 & 4X
Ingress Protection	IP67
Coating	Polyester powder coated, hard-anodized surface against
Ambient Temperature	corrosion
Cable Entry	-4°F (-20°C) to +176°F (+80°C)
Terminal Strip	Dual cable entries (2 x 1/2" NPT)
Position Monitoring Indicator	8 points (6 for switches, 2 for solenoid connections)
	Yellow - Open (0° to 90°)
Switches	Red - Close
Mounting Bracket	2 SPDT Mechanical Switches
	Standard NAMUR
2.5" THREADED SELECTOR VALVE	
Body & end caps quality investment casting	
With ISO 5211 direct mounting pad	
Adjustable stem packing	
Available in stainless steel or carbon steel	
Blowout proof stem design	
100% air tested under water at 80 psi to 100 psi	
Working Pressure: 1000 psi / 800 psi	
Temperature Range: -20°F to 450°F	
End Type: Threaded	

PNEUMATIC ACTUATOR
WITH 6" SELECTOR VALVE

DESCRIPTION

The Limit Switch Box that is using aluminium die-casting housing and power coated. It is equipped with bolt on visual position indicator spring, loaded cam, captive cover bolts, dual cable entries, and Namur standard stainless steel shaft and bracket.

The Pneumatic Actuator is a compact rack and pinion actuator that is available in double acting and spring return. The body is a hard-anodized aluminium extrusion alloy. The pneumatic actuators are manufactured in a wide range of output torques to fit the characteristics of the selector valve applications, and the systems feature an ISO standard mounting design, assuring long-term industry acceptance.

The 6 Inches Selector Valve is a flanged connection to the fire suppression pipe lines. The Selector Valve is designed with ISO direct mounting pad, it's convenient for mounting Pneumatic Actuator directly on the valve's ISO pad. The 6 Inches Selector Valve offers flange connection in ASME/DIN/JIS standard. This is for 6" size (Dn150), and Fire Safe API607 - 4th Edition Certification can be provided as an option.

Together, these equipment is called Pneumatic Actuator with 6" Selector Valve.

Limit Switch Box
CR 603403

Pneumatic Actuator
CR 603402

6" Selector Valve
CR 603304-P

LIMIT SWITCH BOX SPECIFICATION	
Enclosure Protection	Weatherproof IP67 / NEMA 4 & 4X
Ingress Protection	IP67
Coating	Polyester powder coated, hard-anodized surface against corrosion
Ambient Temperature	-4°F (-20°C) to +176°F (+80°C)
Cable Entry	Dual cable entries (2 x 1/2" NPT)
Terminal Strip	8 points (6 for switches, 2 for solenoid connections)
Position Monitoring Indicator	Yellow - Open (0° to 90°) Red - Close
Switches	2 SPDT Mechanical Switches
Mounting Bracket	Standard NAMUR
PNEUMATIC ACTUATOR SPECIFICATION	
Operating Pressure Range	40 psig to 120 psig
Maximum Allowable Working Pressure	150 psig
Pressure Regulator Device Range	80 psig to 400 psig
Operating Temperature	-40°F (-40°C) to +200°F (90°C)
Double Acting	10 Nm (88 in-lb) to 1,243 Nm (11,000 in-lb)
Spring Return	7.6 Nm (68 in-lb) to 484 Nm (4,290 in-lb)
Direct connection	ISO 5211 standard and DIN 3337 stem standard
6" FLANGED SELECTOR VALVE	
Available in stainless steel or carbon steel	
Body & end are investment cast	
Self adjusting stem packing	
Blowout proof stem design	
100% air tested under water at 80 psi to 100 psi	
Temperature Range: -20°F to 450°F	
ISO 5211 mounting pad	

PRESSURE SWITCHES

CR 50339

PRESSURE OPERATED SWITCH (N.C./N.O.) SPDT (MANUAL RESET)

Indicates that the Fire Suppression Agent is being discharged. The switch is provided to alert a system discharge and provides electrical contacts for alarm and auxiliary functions. The switch will have form C contacts rated at 15A 480 VAC. An external manual reset button shall be provided on the pressure switch. After system actuation, the reset button must be depressed in order to reset the device. The switch may also be connected to any points of the discharge piping between the cylinder and nozzle.

SPECIFICATIONS		
Electrical Rating:	15A 480 VAC;	
Switch:	SPDT Snap Action	
Contacts:	One :	Normally Open (N.O.)
	One :	Normally Closed (N.C.)

CR 50339-A

PRESSURE OPERATED SWITCH (N.C./N.O.) SPDT (AUTOMATIC RESET)

Indicates that the Fire Suppression Agent is being discharged. The switch is provided to alert a system discharge and provides electrical contacts for alarm and auxiliary functions. The switch is best used with an Agent Release Control panel to perform various auxiliary functions. The switch may be connected to "M" port of the Chemori's cylinder valve or at any points of the discharge piping between the cylinder and nozzle.

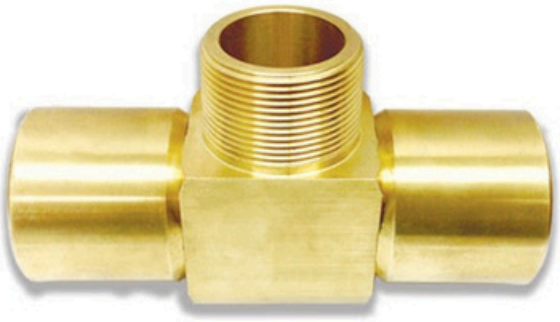
SPECIFICATIONS	
Materials	Port - Stainless steel
	Diaphragm - Stainles Steel
	Seals - Buna-N or Viton
	Housing - Aluminum
Temperature	-65°F to 280°F
Electrical Rating	5 Amps. Resistive 110 V/250 VAC, 3 Amps.
	Inductive 28 VDC. SPDT Snap - Action
Electrical Connection	8" Pigtails
Pressure Connection	1/8" NPT-Male
Dielectric Strength	10 V RMS
Reset	Automatic

SHUTTLE VALVE

SHUTTLE VALVE

The brass Shuttle Valve is used to connect two cylinders to a common discharge pipe and nozzle(s). All threads are available with 1" or 1-1/2" NPT. The purpose of having a reserve supply is that after the first cylinder (main) is discharged, the second cylinder (reserve) can be manually transferred via main/reserve switch to restore fire-fighting readiness.

The shuttle valve contains a shuttle check that closes off the piping to the first cylinder (main) when empty. When the second cylinder is discharged, the shuttle check prevents the charge of the second cylinder into the first empty cylinder (main) connected on the same manifold, thus reducing the unnecessary Liquid Agent loss.



PART NUMBER	DESCRIPTION
CR 50123	1" Shuttle Valve
CR 60619	1-1/2" Shuttle Valve

PRESSURE GAUGE WITH GUARD

PRESSURE GAUGE

The Pressure Gauge accurately monitors the cylinder internal pressure constantly. It can be used for all kinds of extinguishing agents due to its excellent corrosion resistance.

240 PSI Pressure Gauge
For HFC-227ea Systems
M10 THREAD: *CR 60284-M2*
1/8" NPT THREAD: *CR 60284-N*

360 PSI Pressure Gauge
For HFC-227ea Systems
M10 THREAD: *CR 60282-M2*
1/8" NPT THREAD: *CR 60282-N*

500 PSI Pressure Gauge
For HFC-227ea Systems
M10 THREAD: *CR 60283-M2*
1/8" NPT THREAD: *CR 60283-N*

PRESSURE GAUGE GUARD

The Pressure Gauge Guard protects the pressure gauge from damage. It is made of Stainless Steel 316L material and protect the pressure gauge from impacts which may leak. The Pressure Gauge Guard is incorporated with a no loose connection which allows for the pressure gauge to be replaced easily and safely under pressure.

PRESSURE GAUGE GUARD

PART NUMBER	MATERIAL
CR 70198-B	Brass
CR 70198-SS	Stainless Steel 316L

DISCHARGE NOZZLE

UL LISTED

DESCRIPTION

Chemori disharge nozzles is designed to control the flow of clean agent in a uniform, pre-determined pattern and concentration. The nozzles are intended to finish the release of Clean Agent in 10 seconds or less when introduced within the design limitations as stated in the Installation Instruction Manual.

Discharge Nozzles are available in sizes of 1/2", 3/4", 1", 1-1/4", 1-1/2" and 2". Each discharge nozzle comes in two configurations: 180 and 360 degree distribution patterns. Deflector plates are available as a choice where sensitive ceiling tiles must be protected.

Discharge Nozzles are made of aluminum with female pipe threads. The orifice size of the discharge nozzle is determined by the hydraulic flow calculations. All nozzles are rated for a maximum hazard height of 16 ft. If hazards exceed 16 ft. in height, a second tier of nozzles must be used.

Aluminum Material	CR 6070*

Brass Material	CR 7070*

Stainless Steel Material	CR 8070*

DISCHARGE NOZZLE SELECTION – SIDEWALL 180°

Typically to be installed adjacent to the center of the one wall of one enclosure. It's discharge path will be across the enclosure. At no time shall the area coverage be exceeded.

PART NO.	SIZE	
CR 70704-2-.xxxx	½"	Sidewall 180°
CR 70705-2-.xxxx	¾"	
CR 70706-2-.xxxx	1"	
CR 70707-2-.xxxx	1¼"	
CR 70708-2-.xxxx	1½"	
CR 70709-2-.xxxx	2"	

Note: ".xxxx" represents the orifice drill size.

DISCHARGE NOZZLE SELECTION – CENTRAL 360°

Typically to be installed at the center of the enclosure. It's discharge path will be across the enclosure. At no time shall the area coverage be exceeded.

PART NO.	SIZE	
CR 70704-3-.xxxx	½"	Central 360°
CR 70705-3-.xxxx	¾"	
CR 70706-3-.xxxx	1"	
CR 70707-3-.xxxx	1¼"	
CR 70708-3-.xxxx	1½"	
CR 70709-3-.xxxx	2"	

Note: ".xxxx" represents the orifice drill size.

Boal Systems

AUDIBLE & VISUAL ALARMS

SERIES 65A

PHOTO-ELECTRIC SMOKE DETECTOR

CR 60046

DESCRIPTION

Photoelectric smoke detectors incorporate a pulsing LED located in a chamber within the housing of the detector. The chamber is designed to exclude light from any external source. At an angle to the LED is a photo-diode which normally does not register the column of light emitted by the LED. In the event of smoke from a fire entering the chamber, the light pulse from the LED will be scattered and hence registered by the photo-diode. If the photodiode "sees" smoke on the two following pulses, the detector changes in the alarm state and the indicator LED lights up. The detector housing is identical to that of the ionization detector, but has an indicator LED which is clear in stand-by state but produces red light in alarm.

CHEMORI SERIES 65A COMMON DETECTOR BASE
CR 60049

FEATURES
Contacts material is highly acid-resistant and rust-resistant.
Twin-color LED display enables viewer to easily identify the current status of detector.
The detector is made of high endurance, solid and colorfast Fire-proof plastic.
Simple and easy module placement enable wider application and flexible stock

SPECIFICATION	
Voltage Range	12 ~ 30V DC
Alarm Current	40mA @ 24V DC 470Ω
Standby Current	140μA
Sensitivity Setting	Comply to UL 268
Ambient Temperature	0°C ~ +37.8°C
Material	Fire-proof plastic
Dimensions	102mm(Dia.) x 48mm(H)
Weight	130g

SERIES 65A

THERMAL DETECTOR

CR 60047

CHEMORI SERIES 65A COMMON DETECTOR BASE
CR 60049

DESCRIPTION

Thermal detectors operate by using a matched pair of thermistors to sense heat. One thermistor is exposed to the ambient temperature, the other is sealed. In normal conditions the two thermistors register similar temperatures, but, on the development of a fire, the temperature recorded by the exposed thermistor will increase rapidly, resulting in an imbalance, causing the detector to change into the alarm state. Rate-of-rise detectors are designed to detect a fire as the temperature increases, but they also have a fixed upper limit at which the detector will go into alarm if the rate of temperature increase has been too slow to trigger the detector earlier.

Externally, the thermal detectors are distinguishable from the smoke detectors by having wide openings to the surrounding atmosphere to allow good movement of air around the external thermistor.

FEATURES
Flashing LED
Alarm Indication: Red LED
Supply voltage: 9 to 33 V
Standby current: 55 µA at 24V, 50 µA at 9V
Alarm current: 52 mA at 24V, 17 mA at 9V
Ambient temperature: 32°F to 100°F (0°C to 37.8°C)
Compliant to the EMC Directive 98/336/EEC and the Construction Products Directive 89/106/EEC
Wide operating voltage
Advanced electronic technology
Can be used on security systems
Proven detection performance

KRCP3 EXTINGUISHANT CONTROL PANEL

DESCRIPTION

Chemori KRCP3 offers outstanding value and performance for all small to medium fixed firefighting installations which is designed and manufactured to the highest standards in a quality controlled environment and with UL and FM approvals. Provided with three initiation circuits as standard, release can be configured to activate from any combination of detection zone inputs to allow (among other combinations) any two from three type activations such as would be required for detection in the ceiling void, room and floor void applications.

The extensive configuration options of the Chemori KRCP3 allow the functionality of the system to be extensively modified. The panel contains a large LED display to enable easy configuration and control which also displays the time remaining until release for added user safety. The countdown timer is duplicated on up to seven remote status units to provide a local indication of the system status. With all of the electronics mounted on a single, easily removable, steel plate panels are both robust and easy to install.

CR 7181013

FEATURES
Three initiation circuits as standard
Any single zone or any combinations of zones can be configured to release
Configurable first stage NAC delays
Configurable detection delays
Zero time delay upon manual release option
Compatible with I.S. barriers
Non-latching zone input option to receive signals from other systems such as aspirating equipment
Configurable releasing delays up to 60 seconds in 5 second steps
Configurable releasing duration up to 5 minutes in 5 second steps
Countdown timer shows time remaining until release
Supports up to seven, four wire status indicators
Built in Extract Fan control

PROGRAMMABLE FUNCTIONS	
ACCESS LEVEL 2	ACCESS LEVEL 3
Test Zones 1 to 3	Sounder Delay
Disable Zones 1 to 3	Coincidence Detection
Disable 1st Stage Alarms	Disable Panel Features
Disable Pre-activated 1st Stage Relay	Zone Alarm Delays (Detectors)
Disable Pre-activated 2nd Stage Relay	Zone Alarm Delay (Call stations)
Disable Extract Fan Output	Configure Zone for I.S Barrier Use
Disable Manual Release Input	Zone Short Circuit Alarm
Disable Releasing Sub System	Zone Non Latching
Activate Extract Fan Output	Zone Inputs Delay
Activate Alarm Delays	Extinguishant Release Time Delay
	Extinguishant Release Duration Timer
	Extinguishant Reset Delay Timer

FIRE
ALARM BELL

SIGNALING UL LISTED

California State Fire Marshal 7135-0410:0209

DESCRIPTION

- UL Listed
- Available in 6" or 10" version
- High dbA output
- Mounts to a standard 4" square electrical box
- 18AWGwireleads
- Meets ANSI/UL 464 requirements
- Red metal finish
- ANSI/UL Listed for outdoor use when used with the BB-WP weatherproof back box

CR-B6-24

INSTALLATION NOTE

1. Remove the gong.
2. Wire the bell in the circuit.
3. Mount bell mechanism on 4" square standard outlet box with the striker facing down.
4. The bell must be mounted a minimum of 8ft., above the floor, or, as close to the ceiling as possible.
5. Polarized bell provides Red(-) and Black(-) lead wires. During installation, polarity of the base must be observed.

CR-B10-24

PART NUMBER	CR-B6-24	CR-B10-24
Model Number	CR-24	CR-10-24
Gong Size	6 inch	10 inch
Voltage	24VDC	24VDC
Current	20mA	100mA
Sound Level	96dB at 1M	96dB at 1M
Driving Way	Motor	Coil
Weight	1 kg	1.5 kg
Operating Temperature (Indoor Application)	32° to 120°F (0°C to 48°C)	32° to 120°F (0°C to 48°C)
Operating Temperature (Outdoor Application)	-32° to 150°F (-35°C to 65°C)	-32° to 150°F (-35°C to 65°C)
Color / Material	Red / Metal	Red / Metal
BB-WP Dimension	4.25" W x 4.25" H x 1.5"D	

CR-BB-WP

WEATHERPROOF BACKBOX (CR-BB-WP)

SPECIFICATIONS		DIAMETER OF HOLE
American Sized	One Hole	20 mm
	Two Holes	20 mm
European Sized	One Hole	20 mm
	Two Holes	20 mm

OUTDOOR
EVACUATION SIGNAL

DESCRIPTION

Outdoor Evacuation Signal is a high quality audible and/or visible signaling appliance. It generates a high-intensity flash that is visible from all angles. It is intended to provide a visible and audible notification signal for the purpose of life safety and property protection.

CR 44211

24VDC CLEAR & AMBER LENS OUTDOOR STROBE CURRENT RATINGS		
CANDELA	REGULATED 24VDC MAX. OPERATING CURRENT (mA)	REGULATED 24VFWR MAX. OPERATING CURRENT (mA)
75cd	170	263
STROBE CURRENT RATINGS		
CANDELA	24 VDC	UL MAX[1]
75cd	112mA	180mA

MOUNTING BRACKET

Allows the installer to pre-wire the system, test for system supervision, remove the signal head until occupancy, switch out Chemori signals without changing mounting brackets and has locking edge connector for snap-in-place installation. It was designed to conveniently slide into the bracket for easy installation.

STROBE
LIGHT BOXES

CR 88114 | 24-LED

EVACUATE STROBE LIGHT BOX

The Evacuate Strobe Light Box is functioning as the first alarm (1st) warning prior to the discharge of the fire suppression system. The signage casing is made of electro-galvanized steel sheet and is epoxy powder coated (Black) to last. It has a dimension of size 265mm(L) x 105mm(W) x 110mm(H).

CR 88115 | 24-LED

GAS DISCHARGE STROBE LIGHT BOX

The Gas Discharged Strobe Light Box is function as the second alarm (2nd) and discharge warning of a fire suppression system that has been discharged. The signage casing is made of electro galvanized steel sheet and is epoxy powder coated (Black) to last. It has a dimension of size 265mm(L) x 105mm(W) x 110mm(H).

CHEMORI®5112

INSTRUCTIONAL SIGNS

DESCRIPTION

Instructional signs should be supplied in order to provide for a system in which the function of all devices is easy to understand. Chemori offers several different "Instructional Signs" to comply with NFPA and any authorities having jurisdictions. All signs are made of durable Plexiglas (acrylic sheet) and backed with a strong adhesive for easy installation. Signs are typically installed at all entrances [e.g. CAUTION – Room Protected by FK-5-1-12] and near any devices for which the additional explanation is helpful. Custom made instructional signs are available upon request.

CR 60233

CR 60234

CR 60235

MANUAL DISCHARGE STATION SIGN (CR 60233)

The purpose of the Manual Discharge Station Sign is to identify the manual pull station as the place where the FK-5-1-12 can be manually discharged. It also minimizes the possibility of the manual pull station being mistaken for a fire alarm device. The sign has a dimension of 4" x 4" x 1/16" (100 x 100 x 1.5 mm) and is made of plastic with white lettering on a red background. The Manual Discharge Station Sign should be located in the proximity of the manual pull station for quick positive identification.

FLASHING LIGHT SIGN (CR 60234)

The purpose of the Flashing Light Sign is to to attract public notice/attention in the event of a FK-5-1-12 discharge. The sign has a dimesion of 7" x 4 ¼" x 1/16" (178 x 108 x 1.5 mm) and is made of plastic with white lettering on a red background. This will alert personnel when FK-5-1-12 has been discharged and allow them to take appropriate actions.

YELLOW CAUTION SIGN (CR 60235)

The purpose of the Caution Sign is to alert personnel that the room is protected by FK-5-1-12 and that all doors should be kept closed in the event of fire. The sign has a dimension of 14" x 10" x 1/16" (356 x 254 x 1.5 mm) and constructed of plastic with a yellow background. The Caution Sign should be conspicuously located in any rooms where FK-5-1-12 protection is being provided.

CR 50230

CR 50231

CR 50232

CAUTION (When Alarm Sound ...) (CR 50230)

The purpose of this caution sign is to alert personnel to evacuate the protected area. The sign should be conspicuously located near alarm devices.

CAUTION (Do Not Enter Room ...) (CR 50231)

The purpose of this caution sign is to prevent personnel from entering a protected area. The sign should be conspicuously located outside the entrance door to the protected area.

CAUTION (Operation of Manual Station Will ...) (CR 50232)

The purpose of this caution sign is to instruct personnel as to use of the Agent Release Manual Pull Station. This sign should be installed adjacent to all Agent Release Manual Pull Stations.

CRS-DAK-WP WEATHERPROOF
MANUAL PULL STATIONS

DESCRIPTION

The Chemori CRS-DAK-WP Weatherproof Manual Pull Station is a fire alarm initiating device which is recommended for applications that requires outdoor mounting of the fire alarm manual pull station. The CRS-DAK-WP is suitable for applications where the manual pull station may be subject to wet conditions.

The CRS-DAK-WP consists of a die-cast aluminum back box, Neoprene sealing gasket and a special manual fire alarm box. The unit is a high quality pull station made entirely of nontoxic materials with a low profile and rounded edges to suit most design requirements. All components are pre-painted, or have plated surfaces to inhibit corrosion.

The latching pull-down lever on the CRS-DAK-WP requires a key to reset it. This allows only authorized personnel to reset the manual pull station so that the origin of the alarm can be determined easily.

The CRS-DAK-WP has one set of Normally Open contacts rated for 10A @ 120 VAC, making the device suitable for installations involving large current loads.

The CRS-DAK-WP conforms with the Americans with Disabilities Act (ADA).

CR 61051-WP

STANDARD FEATURES

- Weatherproof Manual Pull Station
- 10 A, 120 VAC contacts
- Key reset
- Lift and Latching pull-down lever
- Enclosed switch with glass rod (Included)
- Rugged die-cast aluminum housing and backbox
- Neoprene sealing gasket
- Corrosion-resistant construction
- Screw terminal connections

INDOOR SURFACE BACKBOX

CR HPS-BB

- High Quality Steel
- Known for its strength and rigidity
- Available in red textured finish

SPECIFICATIONS	
Model Number	CRS-DAK-WP
Contact	(1) Form A
Contact Rating	10A @ 120 VAC
Operating Temperature	-30°F (-35°C) ~ 150°F (66°C)

CONTROL SWITCHES

ABORT STATION

The Abort Station is designed to be wired to the abort terminals of the Agent Release Control Panel which consists of a Zinc Alloy faceplate and a modular switch assembly. It is functioned to mount on a standard single gang electrical enclosure.

ABORT STATION
CR 88105

RELEASING CIRCUIT DISABLE SWITCH

The device consists of a Zinc Alloy faceplate, green LED, amber LED and a switch assembly which is designed to mount on a standard single gang electrical enclosure.

APPLICATION

The RCDS complies with the requirements of NFPA 72:

- Creating a supervisory condition on the associated release panel.
- Specifying a physical switch to disconnect the release circuit in place of a software controlled disconnect.

RELEASING CIRCUIT DISABLE SWITCH
CR 88205

INSTALLATION

1. Connect the red and black leads to the 24 VDC auxiliary power terminals on the release panel. Be certain to observe polarity.
2. Connect the yellow wires to the supervisory zone on the panel.

MAIN-RESERVE SWITCH

The "Main" to "Reserve" Switch is used with systems that incorporate main and reserve (bank up) agent storage. The switch has two kinds of dry contact (COM./N.C. and COM./N.O.) switch separately to avoid any disturbances by different system.

Following a system discharge, reset any field devices. Once all devices are in a standby status, the Main Reserve Switch may be moved to the "Reserve" position. The Control Panel may then be reset to a normal mode for uninterrupted Chemori protection. The empty "Main" containers can be removed for recharge. After the containers in the "Main" system have been recharged, the switch may be returned to the "Main" position.

MAIN-RESERVE SWITCH
CR 60911

SPECIFICATIONS	
Size	70mm W x 115mm H x 25mm D
Weight	125g ± 5%
Material	Zinc Alloy
Operating Temperature	0°C ~ 55°C
Power	DC 24V 1A
LED	DC 12V 15mA

Chemori® - Americas Division

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