## General

The Cylinder Valve Assembly (CV SERIES) is used to store NOVEC™1230. The purpose of CV series is used to discharge pressurized chemical fire suppression material to protect Class A, B & C fire hazards.

## Application

The CV Series is a pressure differential valve capable of rapid discharge times in accordance with ISO and NFPA 2001 standards. The Cylinder Valve Assemblies are designed to hold clean agent that is super pressurized with nitrogen at a normal operating pressure of 360 PSI (24.8 Bar) or 500 PSI (34.5Bar) at 70°F (21.1°C).

## Features

Pressure Gauge
Release Valve
Component materials: Steel, Brass, Synthetic Rubber
Operating Temp Range: 0° -130°F (-17.8° – 54.4°C)
Available Cylinder Capacities: 40 lb. 76 lb. 164 lb. 322 lb. 601lb. & 910 lb.
Safety Device Burst Pressure: 864 - 950 PSI (59.5 – 65.5 Bar)

## Optional Components

Liquid Level Indicator, Pneumatic Actuator, Manual Actuator, Operational Pressure Switch, Low Pressure Switch

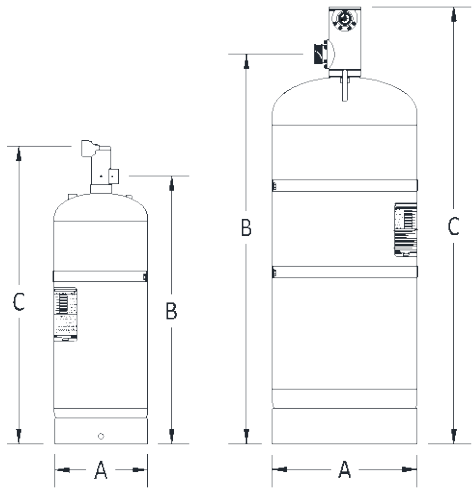
## Standards/Listings/Approvals

DOT 4BW500, DOT 4BA500 Welded type
UL Listed
ULC Listed
FM Approved
Other approvals may be available upon request

## Installation

When properly installed the Cylinder Valve Assemblies are connected to a pipe network to deliver clean agent fire suppression material to a Class A, B, or C designated hazard area. Installation and maintenance are in accordance with SEVO Systems manuals, as well as applicable ISO and NFPA standards.

| Cylinder Sizes | Allowable Fill | Part Number | A | B | C |
|---|---|---|---|---|---|
| 40 Lb. 15 L | 16-40 Lb. (7-18 Kg.) | CV140069 | 10 1/16" (255.59mm) | 17 1/4" (438.15mm) | 21 3/8" (543mm) |
| 76 Lb. 29 L | 31-76 Lb. (30-74.5 Kg.) | CV140079 | 10 1/16" (255.59mm) | 28 1/2" (723.90mm) | 32 3/4" (831.90mm) |
| 164 Lb. 62 L | 66-164 Lb. (30-74.5 Kg.) | CV14817 | 21 7/8" (327mm) | 37 1/2" (842mm) | 42 1/4" (1073.20mm) |
| 322 Lb. 122 L | 129-322 Lb. (5805-146 Kg.) | CV140057 | 20" (508mm) | 33 1/2" (850mm) | 39 3/4" (1009mm) |
| 601 Lb. 277 L | 241-601 Lb. (109-272.5 Kg.) | CV14813 | 20 (508mm) | 54 1/4" (1378mm) | 61" (1457.33mm) |
| 910 Lb. 368 L | 390-910 Lb. (177-413 Kg.) | CV140107 | 24 1/2" (622.30mm) | 60 7/8" (1546.20mm) | 67 3/4" (1720.90mm) |

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**General**
The Electric Actuator with Supervisory Switch (SOL-EA45S) is used to activate a clean agent fire suppression system. The purpose of the SOL-EA45S is as a magnetic latch. Additionally, the SOL-EA45S provides supervision of system impairment.

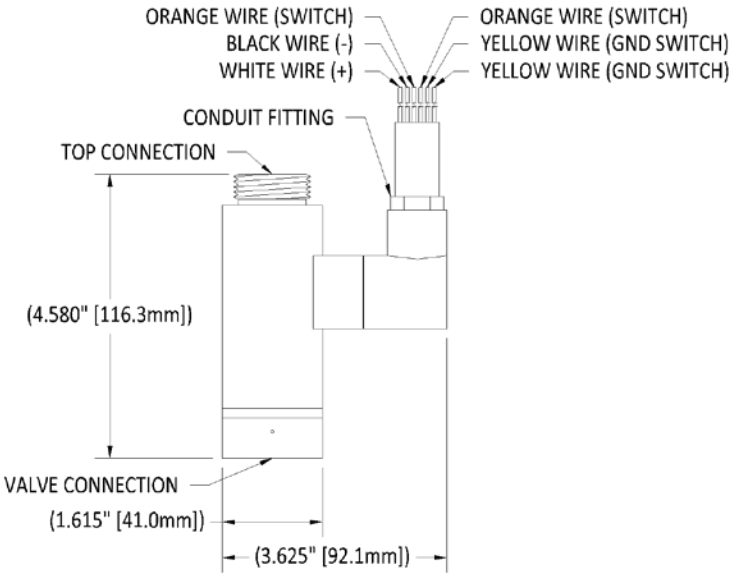
**Application**
An electrical current operates the SOL-EA45S extending the actuation pin into the vent valve releasing the pressure commencing cylinder discharge. The SOL-EA45S is available in 24 VDC. The SOL-EA45S must be compatible with the signal from the control unit.

**Supervisory**
Per NFPA 2001 (2015 edition) requirements, a supervisory switch (normally open when installed) is provided. The switch contacts close when the SOL EA-45S is removed.

**Features**
Firing Current: 0.6 A Maximum
Maximum Monitoring Current: 30 mA
Threaded connection for conduit: 1/2-NPT
Material: Stainless Steel & Brass
Ambient Temperature Range: 0˚F – 130˚F (-17.8˚C – 54.4˚C)
Power: 12.0 W
Current: 0.5 A
Lead wire: 18 AWG

**Standards/Listings/Approvals**
ANSI/ASME B1.20.1
UL listed component

**Installation**
The SOL-EA45S must be installed with proper flex metal or liquid tight conduit per applicable building codes with a UL approved conduit fitting. Thread the SOL-EA45S onto the Cylinder Valve Top Plug. Thread the Reset Cap (SC-EA45) or Manual Actuator (MA-3033) onto the Top Connection. Proper installation and maintenance must be in accordance with SEVO Systems Manuals, as well as applicable ISO and NFPA standards.

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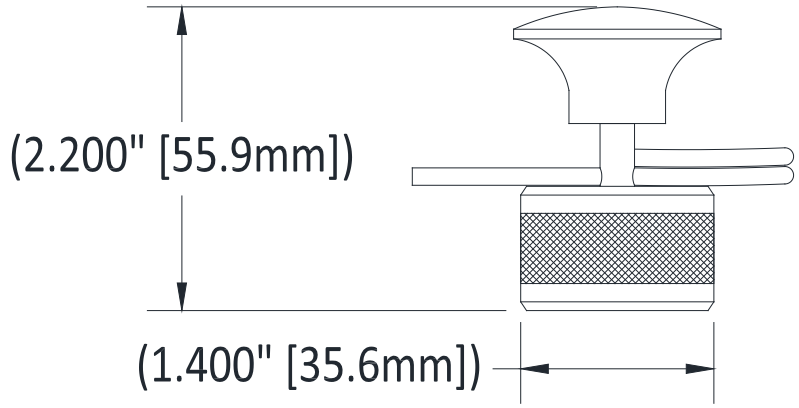
**General**
The Manual Actuator (MA3033T) is used to actuate clean agent fire suppression systems. The purpose of the MA3033T is to extend its pin into the electric actuator on the cylinder valve.

**Application**
The MA3033T plunger is pressed which actuates the electric valve pin. This allows the cylinder valve to open and discharge NOVEC™ 1230 through the cylinder valve outlet into the pipe network and out of the nozzle into the protected space.

**Features**
Material: Brass, Stainless Steel
Connection: Mounts on Electric Actuator ONLY
Ambient Temperature Range: 0°F – 130°F (-17.8°C-54.4°C)

**Standards/ Listings/ Approvals**
UL Listed

**Installation**
Before installing the MA3033T, verify the safety pin is locked into place. Proper installation and maintenance must be in accordance with SEVO systems Manuals, as well as applicable ISO and NFPA standards.

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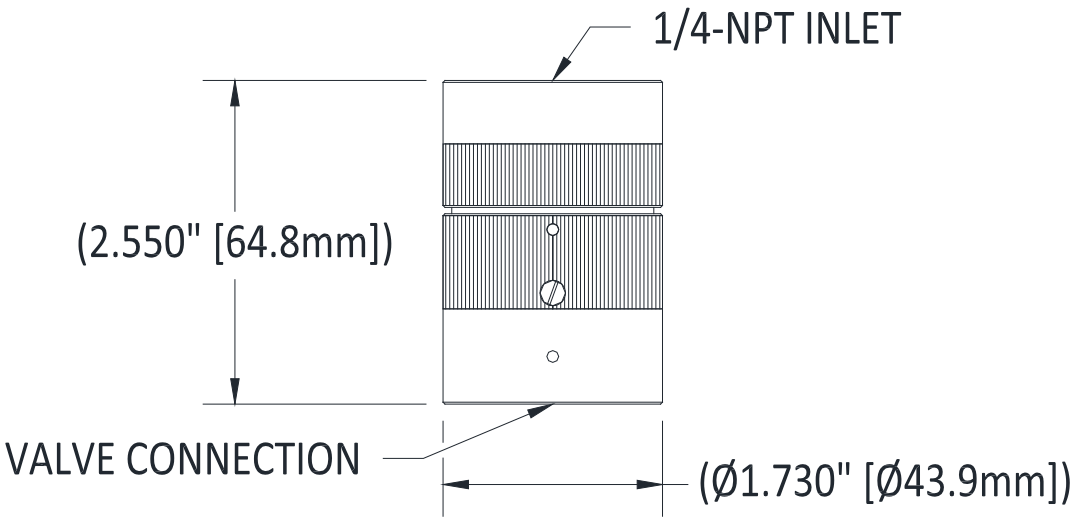
**General**
The Pneumatic Actuator (PA3000) is used to activate a clean agent fire suppression system. The purpose of the PA3000 is to pneumatically operate the cylinder valve.

**Application**
A pneumatic charge operates the PA3000 piston extending the actuation pin into the vent valve releasing the pressure commencing cylinder discharge.

**Features**
Material: Brass, Stainless Steel
Connection: Mounts on Top Plug of Cylinder Valve; Electric or Manual Actuator
Ambient Temperature Range: 0°F – 130°F (-17.8°C-54.4°C)

**Standards/Listings/Approvals**
ANSI / ASME B1.20.1
UL Listed
FM Approved

**Installation**
Before installing the PA3000, verify the pin is not extended. The PA3000 threads onto the cylinder valve top plug. The PA3000 also has the option to mount onto the Electric Actuator, allowing for electrical or pneumatic operation. Proper installation and maintenance must be in accordance with SEVO Systems Manuals, as well as applicable ISO and NFPA standards.

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## General

The Nozzles (N-180 Series and N-360 Series) are used to discharge Novec™ 1230. The purpose of the N-180 Series and N-360 Series is to control the flow and distribution of clean agent fire suppression material either a 180° or a 360° pattern in the protected area.

## Application

The N-180 Series is used as a sidewall nozzle. The N-360 Series is used in the center of the room. The two configurations and discharge patterns allow nozzles to distribute Novec™ 1230 throughout the hazard.

## Features

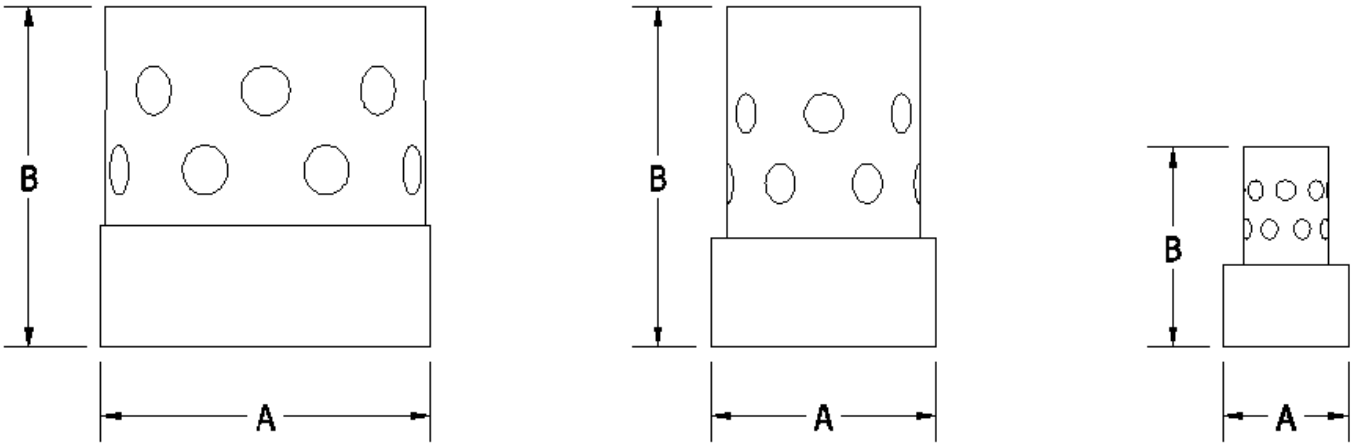
Engineered with orifice plate
Material: Aluminum
Connection: 1/2 -NPT, 1-NPT, 1-1/2 NPT, 2-NPT, 2-1/2-NPT
Ambient Temperature Range: 0°F – 130°F (-17.8°C-54.4°C)

## Standards/ Listings/ Approvals

ANSI/ASME B 1.20.1
UL Listed
ULC Listed
FM Approved
Other approvals may be available upon request

## Installation

The N-180 Series and N-360 Series are threaded into pipe networks according to the locations provided by the hydraulic flow calculation. The N-180 Series and N-360 Series are marked with an identification number. Installation and maintenance is in accordance with SEVO System Manuals, as well as applicable ISO and NFPA standards.




| Thread Type NPT | Type | DIM. A | DIM. B |
|---|---|---|---|
| 1/2" | N-180/360 | 1.29” | 2.05” |
| 1" | N-180/360 | 2.32” | 3.5” |
| 1-1/2" | N-180/360 | 3.875” | 3.5250” |
| 2" | N-180/360 | 3.875” | 3.5250” |
| 2-1/2" | N-180/360 | 4.0415” | 3.875” |

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## General

The SEVO 1230 LL-30020 Series Liquid Level Indicator(LLI)is used to determine agent quantity in the cylinder. The LLI is a manually operated instrument which provides a way to measure the fluid level in a vertically mounted cylinder without removing it from the discharge piping or cylinder straps.

## Application

The LLI uses a magnetic float that interlocks to the flexible tape measure. The weight of the agent in the cylinder is determined by converting the LLI measurement into a weight using the conversion tables provided in the SEVO Systems design, installation and maintenance manual.

## Features

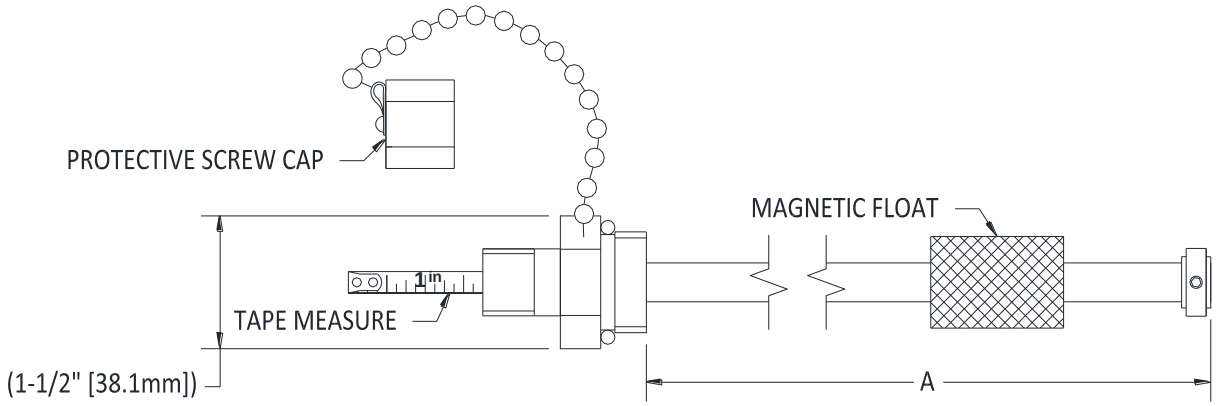
Materials: Steel, Stainless Steel and Brass
Operating Temp range: 0° – 130° F (-18° – 54° C)

## Standards/Listings/Approvals

ANSI/ASME
UL Listing
ULC Listing
FM Approval

## Installation

The LLI is an optional factory installed component. The LLI can be field installed by a SEVO Systems certified professional. Installation and maintenance must be in accordance with SEVO Systems design, installation and maintenance manual, as well as applicable ISO and NFPA standards.




| Part Number | Cylinder Size (Lb.) | Cylinder Size (L) | A |
|---|---|---|---|
| LL30020-1 | 322 | 122 | 21- 5/8” (549.2mm) |
| LL30020-2 | 601 & 910 | 277 & 368 | 41- 1/2” (1054.1mm) |

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Technical Data Sheet
SEVO 1230 DISCHARGE PRESSURE SWITCH
PS 37

## General

The PS 37 is used by a Fire Control Panel (FCP) for a point of monitoring of system discharge. The purpose of the PS 37 is to provide a means of detecting system activation.

## Application

Upon activation of the cylinder valve, the operation pressure switches contacts transfer to indicate discharge or to perform disconnect/activation required during system operation.

## Features

Material: Stainless Steel & Plastic

0.125 – 27 NPT m a l e threads

58+ psig actuation pressure

40+ psig release pressure temperature -65˚F

250 proof pressure

5,000 burst pressure

Contacts – silver – 20 amps 120VAC / 240 VAC PS37

Normally open/Normally closed – Normally Open: Red Normally Closed: Black Common: White

## Standards/ Listings/ Approvals

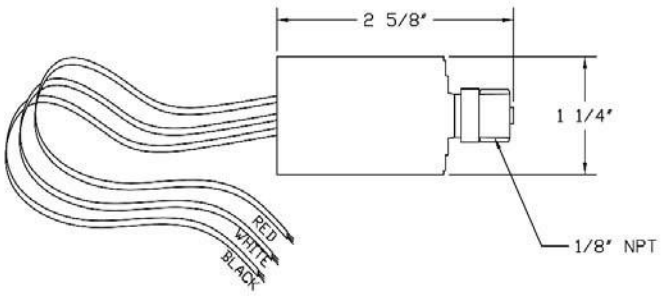
UL Listed

ULC Listed

FM Approved

## Installation

The PS 37 is factory installed option. The PS 37 can only be field installed by a SEVO certified professional. Proper installation and maintenance must be in accordance with SEVO Systems Manuals, as well as applicable ISO and NFPA standards. The PS 37 must be wired into a compatible Fire Control Panel.

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## General

The PS 10-500 is used by a Fire Control Panel (FCP) for a point of monitoring of low pressure. The purpose of the PS 10-500 is to provide a means of detecting nitrogen loss in the Cylinder/ Valve assembly.

## Application

Upon low pressure of the system. The contacts transfer sending a signal to the FCP giving a trouble alarm.

## Features

Material: Stainless Steel & Plastic

0.125 – 27 NPT m a l e threads 430 + 10 psig actuation pressure Temperature

-65˚F to 275˚F 600 psig proof pressure 5,000 burst pressure Contacts – Silver

2AMP28VDC 375 VA – 120 VAC Pilot Duty

Normally closed: Black

Normally open: Blue

Common: Violet

## Standards/ Listings/ Approvals

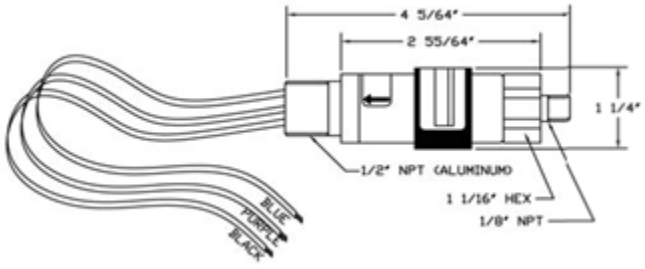
UL Listed

ULC Listed

FM Approved

## Installation

The PS 10-500 is factory installed option. The PS 10-500 can only be field installed by a SEVO certified professional. Proper installation and maintenance must be in accordance with SEVO Systems Manuals, as well as applicable ISO and NFPA standards. The PS 10-500 must be wired into a compatible Fire Control Panel.

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Technical Data Sheet
Check Valves
78FP1.0,78FP1.25,78FP2.5,78FP3.0

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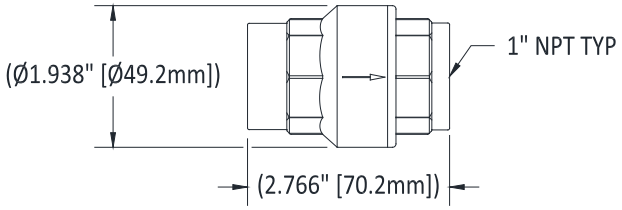
**General**
The Check Valves (78FP Series) are used when two or more agent storage cylinders are manifolded together with common discharge piping configuration. The 78FP series purpose is to prevent loss of agent in the event that the agent storage cylinders are not connected to the manifold at time of discharge.

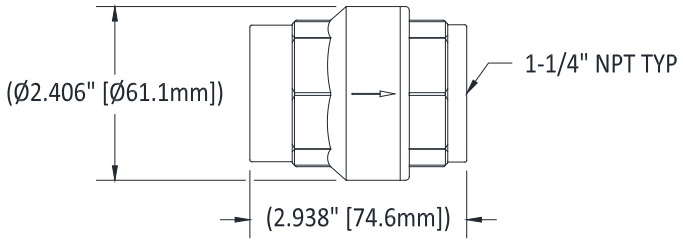
**Application**
The 78FP series check valves are normally closed to flow stream, they provide maximum flow area upon flow pressure.

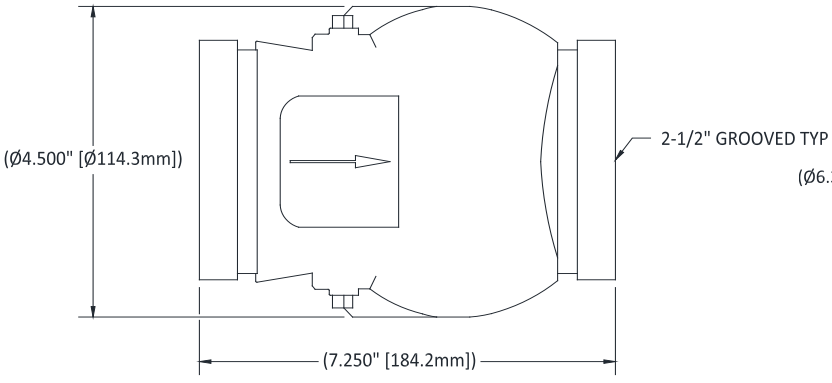
**Features**
Material: Ductile iron, Stainless steel, Brass
Ambient Temperature Range: 0°F – 130°F (-17.8°C-54.4°C)

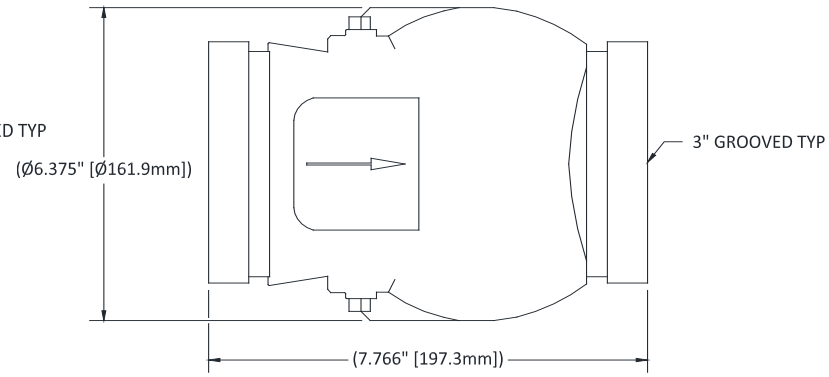
**Standards/Listings/Approvals**
ANSI / ASME B1.20.1
UL Listed

**Installation**
The 78FP series check valves may be installed vertically or horizontally. For the vertical direction, the flow direction must be upwards. In a horizontal installation the arrow shall point to the manifold, hinge pin is to be located on top. Proper installation and maintenance must be in accordance with SEVO Systems Manuals, as well as applicable ISO and NFPA standards.

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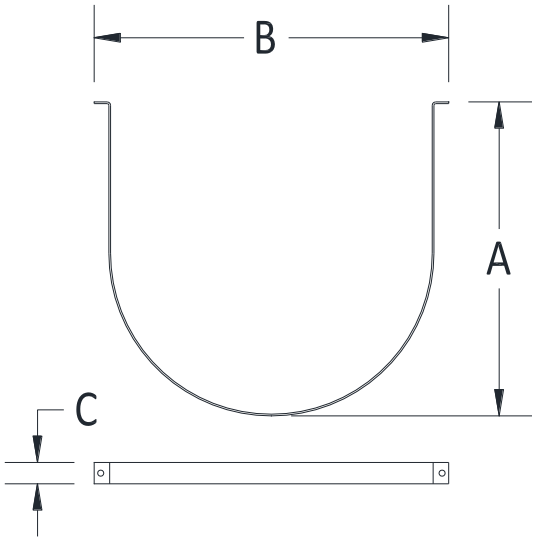
## General
The Cylinder Straps (ST-Series Straps) are used to secure clean agent fire suppression cylinders.

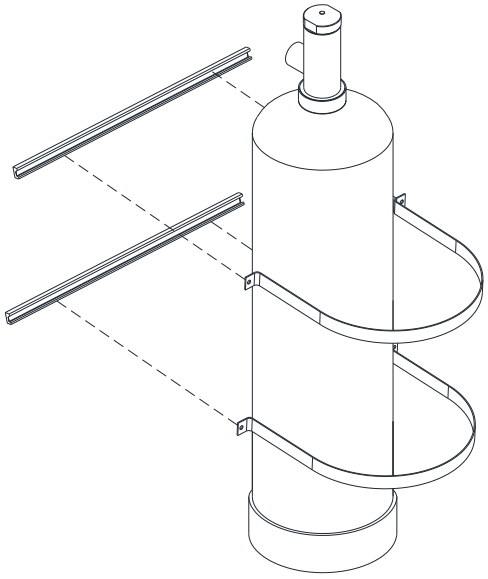
## Application
The ST-Series Straps safely support the weight of the floor mounted vertical cylinders and the discharge forces.

## Features
Component Material: Stainless Steel

## Standards/ Listings/ Approvals
UL Listed
FM Approved

## Installation
The ST-Series Straps are installed around the clean agent fire suppression cylinders and fastened to structural walls and/or strut channel. Proper installation and maintenance must be in accordance with SEVO Systems Manuals, as well as applicable ISO and NFPA standards.



| Part Number | Strap Required | Cylinder Size | A | B | C |
|---|---|---|---|---|---|
| ST 10100 | 1 | 40 &76 Lb. (15 & 29 L) | 9.9" (251.5mm) | 12.3" (312.4mm) | 1.4" (35.6mm) |
| ST 10200 | 1 | 164 Lb. (62 L) | 12.7" (322.6mm) | 15" (381mm) | 1.4" (35.6mm) |
| ST 10600 | 1 | 322 Lb. (122 L) | 22.3" (566.4mm) | 19.9" (505.5mm) | 1.4" (35.6mm) |
| ST 10600 | 2 | 601 Lb. (277 L) | 22.3" (566.4mm) | 19.9" (505.5mm) | 1.4" (35.6mm) |
| ST 10900 | 2 | 910 Lb. (368 L) | 24" (609.6mm) | 27" (685.8mm) | 1.6" (41.4mm) |

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Technical Data Sheet
Flexible Discharge Hose
FH30898, FH30899, FH30900, FH30901

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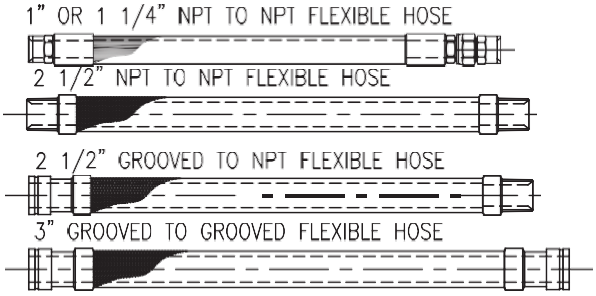
**General**
The Flexible Discharge Hose (FH series) is used to connect agent storage container to discharge piping network. The FH series purpose is to aid in installation and removal of agent storage container

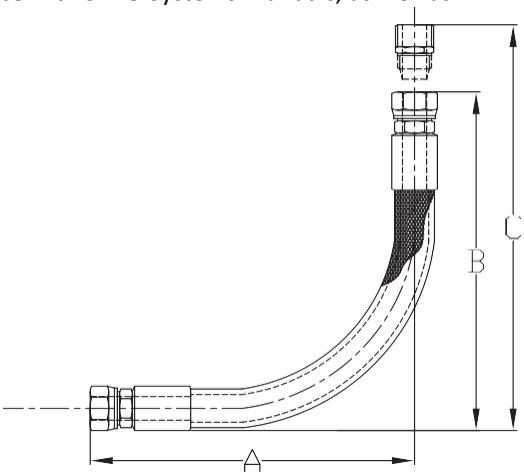
**Application**
The recommended assembly configuration is to install a flex hose to the cylinder valve discharge outlet, then install to the check valve and/or discharge piping network.

**Features**
Material: Neoprene, Stainless Steel
Ambient Temperature Range: 0°F – 130°F (-17.8°C-54.4°C)

**Standards/Listings/Approvals**
ANSI / ASME B1.20.1
UL Listed
FM Approved

**Installation**
The FH series need to be installed in the discharge outlet then to the discharge network. The FH series is to be installed forming a 90° bend. Proper installation and maintenance must be in accordance with SEVO Systems Manuals, as well as applicable ISO and NFPA standards.




| Cylinder Size | | Hose Diameter | Hose Length | | Working Pressure |
|---|---|---|---|---|---|
| 40 LB | 15 L | 1" | 28" | 711 mm | 625 psi<br>43 bar |
| 76 LB | 29 L | 1" | 28" | 711 mm | 625 psi<br>43 bar |
| 164 LB | 62 L | 1.25" | 28" | 711 mm | 625 psi<br>43 bar |
| 322 LB | 122 L | 2.5" | 29" | 736 mm | 619 psi<br>42.7 bar |
| 601 LB | 227 L | 2.5" | 29" | 736 mm | 619 psi<br>42.7 bar |
| 910 LB | 368 L | 3" | 30" | 762 mm | 820 psi<br>56.5 bar |

| | | Hose Diameter | | | |
|---|---|---|---|---|---|
| | | 1" | 1.25" | 2.5" | 3" |
| A | in. | 16.5 | 16.75 | 16.75 | 16.75 |
| | mm | 419 | 425.5 | 425.5 | 425.5 |
| B | in. | 17.5 | 18 | 18.75 | 19 |
| | mm | 444.5 | 457.2 | 476.3 | 482.6 |
| C | in. | 18.63 | 19.13 | 21.75 | 22 |
| | mm | 478 | 486.8 | 552.5 | 558.8 |

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