

SHIELD A-XT

NEW!



Extinguishant Control Panel

Shield A-XT is a new generation extinguishant releasing panel which is UL,FM listed

The simple, programmable configuration options and easy to install construction make Shield A-XT panels the ideal choice for small to medium sized systems using all extinguishant agents.



Programmable Functions

Access Level 2

- Test Zones 1 to 3
- Disable Zones 1 to 3
- Disable 1st Stage Alarms
- Disable Pre-activated 1st Stage Relay
- Disable Pre-activated 2nd Stage Relay
- Disable Extract Fan Output
- Disable Manual Release Input
- Disable Extinguishant Sub System
- Activate Extract Fan Output
- Activate Alarm Delays

Access Level 3

- Sounder Delay
- Coincidence Detection
- Disable Panel Features
- Zone Alarm Delays (Detectors)
- Zone Alarm Delay (Call Points)
- Configure Zone for I.S Barrier Use
- Zone Short Circuit Alarm
- Zone Non Latching
- Zone Inputs Delay
- Extinguishant Release Time Delay
- Extinguishant Release Duration Timer
- Extinguishant Reset Delay Timer

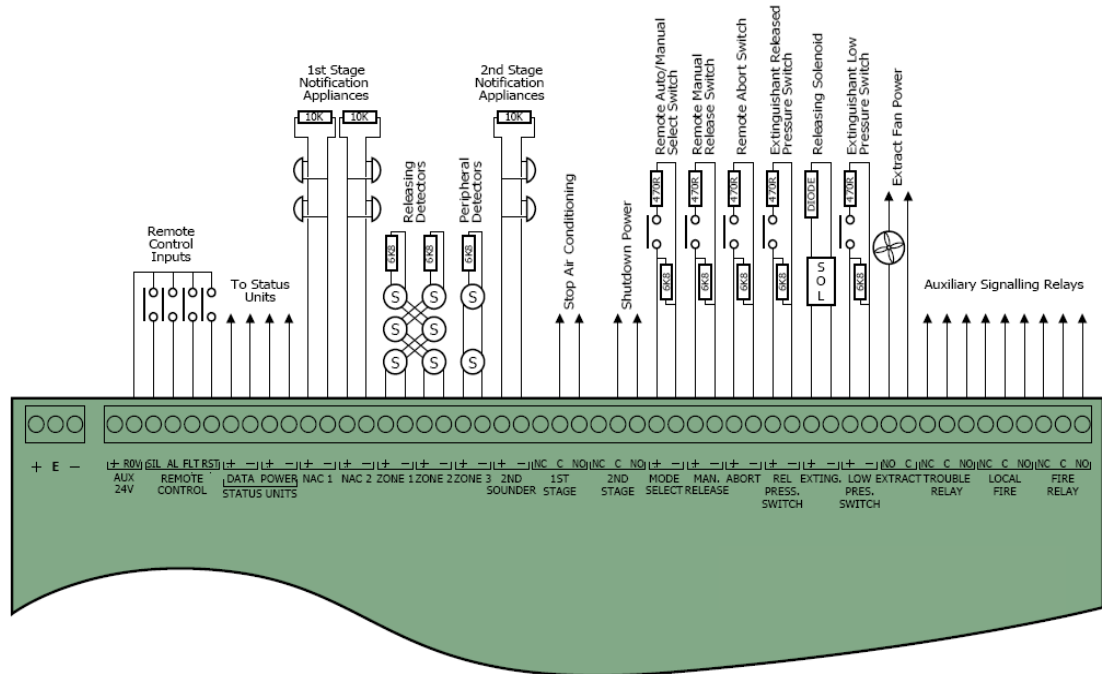
Features

- UL864 and FM listed
- 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 extinguishant delays up to 60 seconds in 5 second steps
- Configurable extinguishant 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

Product Overview

- Designed and manufactured to the highest standards in a quality controlled environment and with UL & FM approvals, the Shield A-XT releasing panel offers outstanding value and performance for all small to medium fixed firefighting installations
- With three detection zones as standard, extinguishant 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 ceiling void, room and floor void applications.
- The extensive configuration options of the Shield A-XT 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 extinguishant release for added user safety.
- The countdown timer is duplicated on up to seven remote status units to provide local indication of the system status.
- With all of the electronics mounted on a single, easily removable, steel plate Shield A-XT panels are both robust and easy to install.
- Shield A-XT is supplied in an enclosure that matches the design and colour of the elite RS range and is available in standard red or optional grey.

Specifications



Technical

- Construction**
- IP Rating**
- Finish**
- Colour - lid & box**
- Mains supply**
- Mains supply fuse**
- Power supply rating**
- Maximum ripple current**
- Battery type (Yuasa NP)**
- Battery charge voltage**
- Battery charge current**
- Battery fuse**
- Maximum current draw from batteries**
- Quiescent current of panel in mains fail**
- ROV output**
- Sounder outputs**
- Fault relay contact rating**
- Fire relay contact rating**
- Local fire relay contact rating**
- First stage contact rating**
- Second stage contact rating**
- Extract contact rating**
- Zone quiescent current**
- Terminal capacity**
- Number of detectors per zone**
- NAC rating**
- Detection circuit end of line**
- Monitored input end of line**
- Sounder circuit end of line**
- Extinguishant output EOL**
- No. of initiating circuits**
- No. of NAC circuits**
- Extinguishant release output**
- Extinguishant release delay**
- Extinguishant release duration**
- SIL, AL, FLT, RST inputs**
- Zone normal threshold**
- Detector alarm threshold**
- Call point alarm threshold**
- Short circuit threshold**
- Monitored inputs normal threshold**
- Monitored inputs alarm threshold**
- Monitored inputs Short circuit threshold**
- Status unit/Ancillary board connection**
- Status unit power output**

- 1.2mm mild sheet steel
- IP30
- Epoxy powder coated
- Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
- 230V AC or 115V AC
- 1.6 Amp (F1.6A L250V)
- 3 Amps total including battery charge 28V +/- 2V
- 200 millivolts
- Two 12 Volt 7Ah sealed lead acid in series
- 27.6VDC nominal (temperature compensated)
- 0.7A maximum
- 20mm, 3.15A glass
- 3 Amps
- 0.095A
- Fused at 500mA with electronic fuse
- 24V Fused at 500mA with electronic fuse
- 30VDC 1A Amp maximum
- 30VDC 1A Amp maximum
- 30VDC 1A Amp maximum
- 30VDC 1A Amp maximum
- 30VDC 1A Amp maximum
- 30VDC 1A Amp maximum
- 2mA maximum
- 12 AWG
- Dependent on type (maximum 32)
- 0.5A per circuit
- 6K8 5% 1/2 Watt resistor
- 6K8 5% 1/2 Watt resistor
- 10K 5% 1/4 Watt resistor
- 1N4004 Diode
- 3
- 2 x 1st Stage, 1 x 2nd Stage
- Fused at 1 Amp
- Adjustable 0 to 60 seconds (in 5 second steps)
- Adjustable 60 to 300 seconds (in 5 second steps)
- Switched -ve, max resistance 100 Ohms
- 8K ohms to 1K ohm
- 999 ohms to 400 ohms
- 399 ohms to 100 ohms
- 99 ohms to 0 ohms
- 8K ohms to 1K ohm
- 999 ohms to 100 ohms
- 99 ohms to 0 ohms
- Two wire RS485 connection
- Fused at 500mA with electronic fuse

Panels

| Product Code | Description | Size (mm) |
|--------------|------------------------------------|----------------|
| S115R-EXT | Surface mounting panel - Red 115V | 368 x 310 x 90 |
| S230R-EXT | Surface mounting panel - Red 230V | 368 x 310 x 90 |
| S115G-EXT | Surface mounting panel - Grey 115V | 368 x 310 x 90 |
| S230G-EXT | Surface mounting panel - Grey 230V | 368 x 310 x 90 |

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INTRODUCTION

Competence and innovation driven by consistent market development and customer requirements have shaped the successful development of the SHIELD Brand. The extensive product range of the market leader in the field of fire protection technology contains single, individually integrable system performances. In this way, a customized overall fire protection concept can be planned and realized for every need with optimally synchronized products.

Performance is in international demand, SHIELD is among the highly accredited fire protection companies that meet rigorous British and American standards for all projects from small conventional system to multi-site networks.

Certifications such as UL and FM approvals have earned SHIELD a world-renowned reputation with quality products and powerful solutions.

A strong brand is generally known to be a secure basis for close and lasting customer relationships. In accordance with this, SHIELD uses available potential in order to keep on growing in a dynamic competitive environment. And at the same time, SHIELD stands for innovative and high quality fire protection systems.

We invite you to explore and visit our website www.shieldglobal.com. You can also send us your feedback and inquiry through our user-friendly online forms.

SYSTEM ASSEMBLIES

500 PSI [34.5 BAR]

Designed for use with 3M™ Novec™ 1230 Fire Protection Fluid

DESCRIPTION

Shield Novec 1230 Clean Agent Fire Suppression Systems are highly efficient when combined with a properly designed plumbing network using the Shield version of the VDS Flow Calculation Software.

COMPONENTS

- 1. Cylinders:** cylinders are manufactured in accordance with DOT 4BW500 and TC BWM34* standards. *490L cylinder assemblies are only DOT T4BW500 compliant
- 2. Valve Assembly:** All valves are of the pressure differential design, and will not operate without deliberate actuation. The actuation devices can be removed while under pressure to facilitate functionality testing of the system. It is also equipped with a monitoring Pressure Switch as well as a port to facilitate pneumatic actuation of secondary cylinder assemblies.
- 3. Cylinder Straps:** The cylinder body straps are designed to secure the system assembly during discharge. A single strap is included with all systems up to 103L, while larger systems are equipped with two straps. Systems 490L in size are shipped with two wall mount straps, floor mount straps are available upon request.



TECHNICAL SPECIFICATION

| Part Number | Cylinder Size | Maximum Fill | Minimum Fill | Empty Weight |
|-------------|-----------------|-------------------|-----------------|---------------------|
| SD000015 | 38 lb (15 L) | 38 lb (17 kg) | 10 lb (4.5 kg) | 37.6 lb (171 kg) |
| SD000029 | 75 lb (29 L) | 76 lb (34.5 kg) | 16 lb (7.5 kg) | 54 lb (24.5 kg) |
| SD000062 | 160 lb (62 L) | 164 lb (74 kg) | 33 lb (15 kg) | 106.2 lb (48.2 kg) |
| SD000103 | 270 lb (103 L) | 271 lb (132.5 kg) | 55 lb (25 kg) | 154.8 lb (70.3 kg) |
| SD000153 | 400 lb (153 L) | 406 lb (184 kg) | 82 lb (37.5 kg) | 250 lb (113.4 kg) |
| SD000227 | 600 lb (227 L) | 601 lb (272.5 kg) | 121 lb (55kg) | 340 lb (154.3 kg) |
| SD000368 | 950 lb (368 L) | 964 lb (437 kg) | 196 lb (88 kg) | 465.5 lb (211.2 kg) |
| SD000490 | 1300 lb (490 L) | 1297 lb (588 kg) | 260 lb (118 kg) | 762.5 lb (345.9 kg) |

SUPPRESSION AGENT

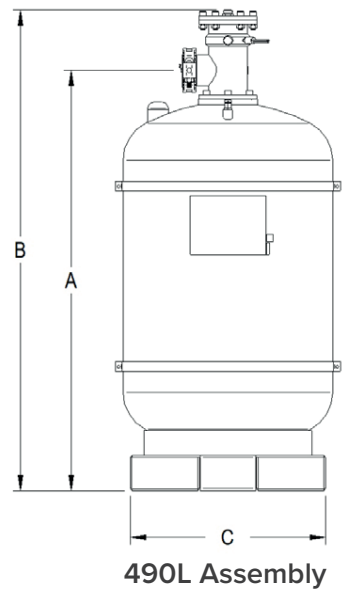
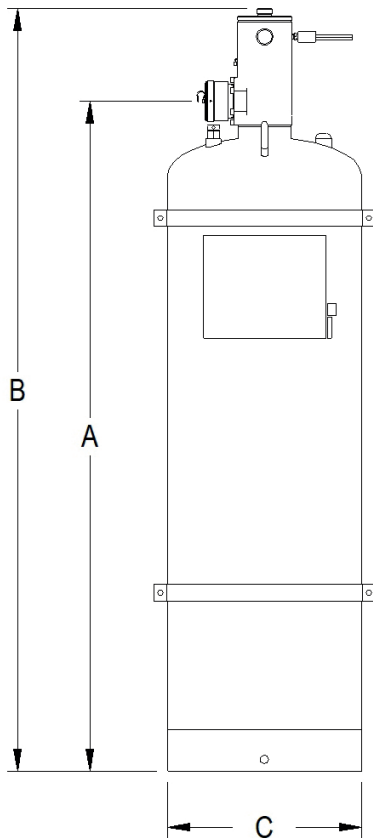
The suppression agent used in Shield Novec 1230 Engineered System Assembly is a Fluoroketone as indicated by the chemical formula $CF_3CF_2C(O)CF(CF_3)_2$, more commonly known as 3M™ Novec™ 1230 Fire Protection Fluid. Novec 1230 is a colorless low odor fluid, low in toxicity, electrically non-conductive, leaves no residue, and is an extremely effective fire suppression agent. Novec 1230 is included in NFPA-2001, under the ASHRAE designation of FK-5-1-12, and has been evaluated and approved for use in occupied areas as a Total Flooding agent when used in accordance with this standard.

ENVIRONMENT LIMITATIONS

- Operating Temperature: 32°F [0°C] to 130°F [54.4°C]
- System Operating Pressure: 500 psi at 70°F [34.5 bar at 21.1°C]

TECHNICAL SPECIFICATION

| System Assembly Part Number | Cylinder Size (Nominal) | Dimension "A" | | Dimension "B" | | Dimension "C" | |
|-----------------------------|-------------------------|---------------|------------|---------------|------------|---------------|------------|
| | | Inches | Millimeter | Inches | Millimeter | Inches | Millimeter |
| SD000015 | 38 lb (15L) | 16.7 | 426 | 27.7 | 705 | 10.0 | 254 |
| SD000029 | 75 lb (29L) | 28.7 | 730 | 33.9 | 861 | 10.0 | 254 |
| SD000062 | 160 lb (62L) | 37.7 | 958 | 43.6 | 1107 | 12.7 | 324 |
| SD000103 | 270 lb (103L) | 38.7 | 983 | 44.6 | 1133 | 16.0 | 406 |
| SD000153 | 400 lb (153L) | 55.3 | 1405 | 63.6 | 1615 | 16.0 | 406 |
| SD000227 | 600 lb (227L) | 54.0 | 1372 | 62.6 | 1590 | 20.0 | 508 |
| SD000368 | 950 lb (368L) | 58.5 | 1486 | 66.1 | 1679 | 24.0 | 610 |
| SD000490 | 1300 lb (490L) | 60 | 1582 | 68.9 | 1750 | 30.0 | 762 |

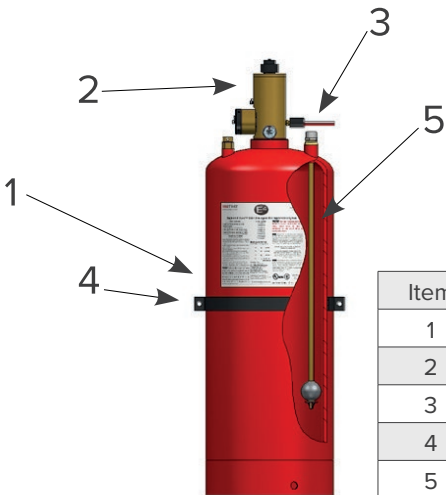


ENGINEERING CONSIDERATIONS

Proper System size and agent fill weight shall be determined using only genuine Shield Flow Calculation Software (P/N: SD901001).

Floor loading varies as a function of the quantity of extinguishing agent in each Cylinder Assembly and the values shown in the General Specifications Table. For further guidance on this topic contact Shield.

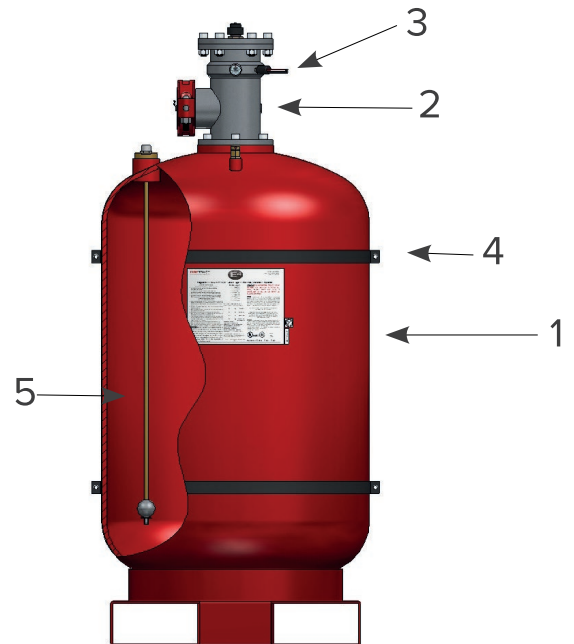
SHOWN AT ATMOSPHERE



| Item | Description |
|------|---------------------------------|
| 1 | Cylinder |
| 2 | Valve |
| 3 | Pressure Supervising Switch |
| 4 | Cylinder Strap |
| 5 | Liquid Level Indicator Optional |

PRESSURE SUPERVISORY SWITCH

| | |
|--------------------------|------------------------------------------------|
| Electrical Rating | 240 VAC - 3 A, 24 VDS - 3 A |
| Switch | SPDT snap action |
| Contacts | NO, NC, and Common |
| Set Points | 486 ± 14 psi [33.5 ± 1.0 bar] Actuation |
| | 414 ± 14 psi [28.5 ± 1.0 bar] Release Pressure |
| Operational Temperatures | -5 °F to +175 °F [-21 °C to +65 °C] |
| | -40 °F to +260 °F [-40°C to +135°C] |



LIQUID LEVEL INDICATORS: (Optional) System

Assemblies above 62L in volume can be outfitted with a Liquid Level indicator. These can be used to provide an accurate estimate of the agent weight contained within the assembly without weighing the system assembly. These components are optional and must be requested upon ordering.

LISTINGS AND APPROVALS:

- Complies with UL requirements when used with UL, & ULC listed cylinder assemblies.
- Complies with FM requirements when used with FM listed system assemblies.



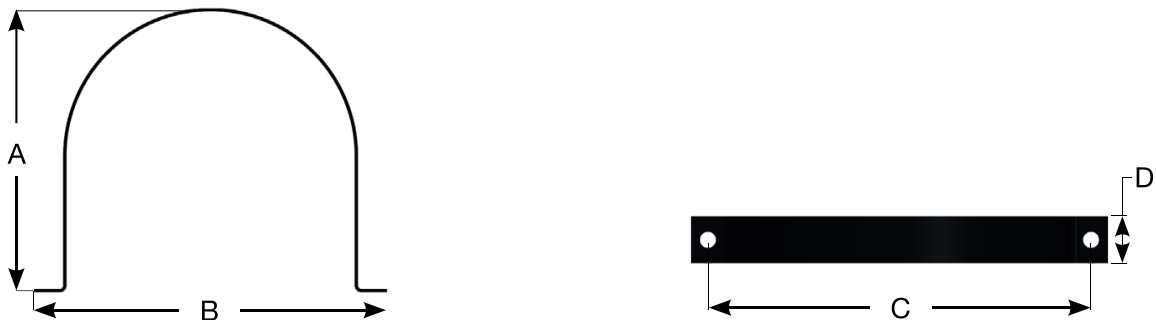
| PART NUMBER | DESCRIPTION |
|-------------|------------------------------------------------------------------|
| SD720150 | Liquid Level Indicator for 160 lb. [62 L] & 270 lb. [103 L] |
| SD720375 | Liquid Level Indicator for 400 lb. [153 L] through 950lb. (368L) |
| SD721200 | Liquid Level Indicator for 1300 lb. [490 L] |

CYLINDER STRAPS DIMENSIONS

| Cylinder Size | Quantity per Cylinder | Anchor Point | Dimension "A" | | Dimension "B" | | Dimension "C" | | Dimension "D" | |
|------------------|-----------------------|--------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|
| | | | Inches | Millimeter | Inches | Millimeter | Inches | Millimeter | Inches | Millimeter |
| 38 lb (15 L) | 1 | Wall | 9.8 | 248 | 12.3 | 311 | 11.3 | 286 | 1.4 | 35 |
| 75 lb (29 L) | 1 | Wall | 9.8 | 248 | 12.3 | 311 | 11.3 | 286 | 1.4 | 35 |
| 160 lb (62 L) | 1 | Wall | 12.5 | 318 | 15.0 | 381 | 14.0 | 356 | 1.4 | 35 |
| 270 lb (103 L) | 1 | Wall | 15.8 | 400 | 18.3 | 464 | 17.3 | 438 | 1.4 | 35 |
| 400 lb (153 L) | 2 | Wall | 15.8 | 400 | 18.3 | 464 | 17.3 | 438 | 1.4 | 35 |
| 600 lb (227 L) | 2 | Wall | 19.8 | 502 | 22.3 | 565 | 21.3 | 540 | 1.4 | 35 |
| 950 lb (368 L) | 2 | Wall | 23.8 | 603 | 26.3 | 667 | 25.3 | 643 | 1.4 | 35 |
| 1,300 lb (490 L) | 2 | Wall | 29.0 | 737 | 32.3 | 819 | 31.3 | 794 | 1.4 | 35 |
| 1,300 lb (490 L) | 2 | Floor | 4.5 | 114 | 10.5 | 267 | 9.5 | 241 | 1.4 | |

*Wall mount straps included in 1300LB assembly. If floor mount is desired, floor mounts straps (SD401201) must be ordered separately.

CYLINDER WALL STRAP



CYLINDER FLOOR STRAP



Service Note: Cylinders Assemblies shall be designed, filled, pressurized and maintained by trained personnel in accordance with Shield Design, Installation, Operation and Maintenance Manuals (SD000003).

MONITORED SYSTEM ACTUATORS

ELECTRIC LINEAR ACTUATOR

The Electric Linear Actuator (SD500125) is a removable device with an internal monitoring switch. The internal monitoring switch complies with NFPA requirements for actuation apparatus monitoring.

The Electric Linear Actuator mounts to the threads on the actuation adapter, located on the top of the cylinder valve. It is permanently installed while the system is in service, but the threaded attachment allows for ease of removal for inspection and maintenance purposes.

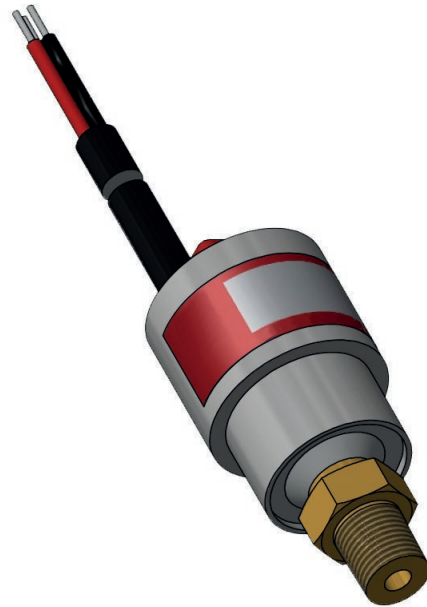
The Electric Linear Actuator houses a pin magnetically held in place while the systems remain in an idle state. Once powered, the pin moves downward, depressing the actuation adapter valve core and releasing pressure from the cylinder valve.

Cylinder valves equipped with the Electric Linear Actuator must be actuated from a listed control panel for releasing device service that is compatible with Shield equipment.

Prior to the installation of the Electric Linear Actuator to the actuation circuit, confirm that the electrical ratings of the solenoid are compatible with the electrical ratings of the actuation circuit.

NOTE: The actuation circuit is rated at 24 VDC, 0.5 Amps. The maximum supervisory current should not exceed 30 mA.

Wiring of the Electric Linear Actuator to the actuation circuit shall comply with wiring methods in accordance with NFPA requirements and the installation instructions provided with the listed control panel for releasing device service. A diagram for proper wiring has been provided below. For more information, refer to the wiring methods found in NFPA 72, Chapter 17.

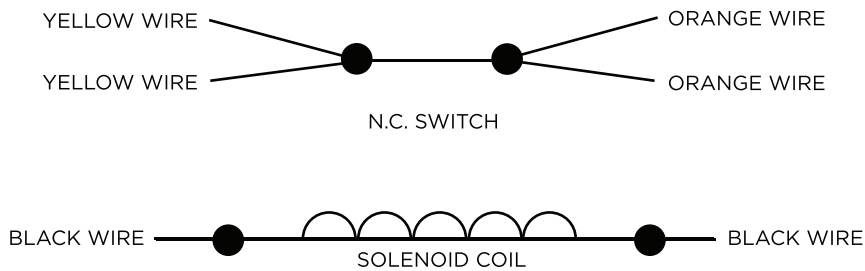


MONITORED SYSTEM ACTUATORS

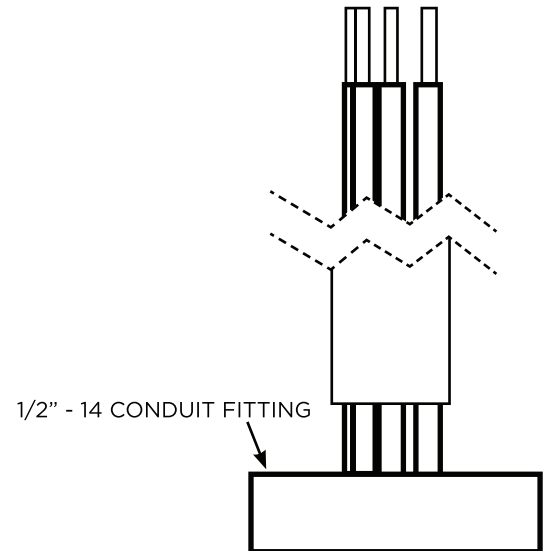
The Electric Linear Actuator shall be installed with listed conduit connectors.

By utilizing flexible metal conduit connectors or liquid-tight conduit connectors, the solenoid coil wires and dual leads for the internal monitoring switch are mechanically protected from damage.

WIRE DIAGRAM



ELECTRIC LINEAR ACTUATOR WIRING DIAGRAM



MANUAL OVERRIDE

The Manual Override (SD500126) features a push button that moves the internal pin downward and manually actuates the Electric Linear Actuator.

The Manual Override mounts to the threads located on the top of the Electric Linear Actuator. The threaded attachment allows for ease of removal for inspection and maintenance purposes.

LISTINGS AND APPROVALS

- Complies with UL requirements when used with UL, & ULC listed cylinder assemblies.
- Complies with FM requirements when used with FM listed system assemblies.



Service Note: Cylinders Assemblies shall be designed, filled, pressurized and maintained by trained personnel in accordance with Shield Design, Installation, Operation and Maintenance Manuals (SD000003).

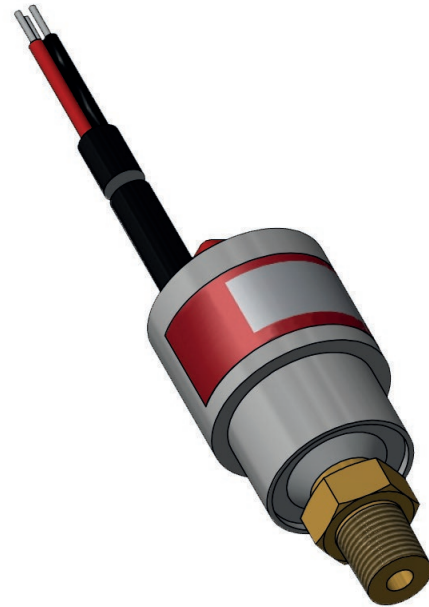


PRESSURE OPERATED SWITCH

DESCRIPTION

The Pressure Operated Switch (SD503013) is used as a discharge confirmation. If the pressure operated switch detects pressure above the activation set point, the switch contacts will close, providing a signal to the control panel indicating that the system assembly has been activated.

| | |
|------------------------|-------------------------------------------|
| Electrical Rating | 240 VAC- 3 A, 24 VDC - 3 A, |
| Switch | SPDT snap action |
| Contacts | NO, NC and Common |
| Set Points | Activation: 20 + 5 psig [1.4 + 0.3 bar] |
| | Manual Reset: 10 + 6 psig [0.7 + 0.4 bar] |
| Operation Temperatures | -5 °F to +175 °F [-29 °C to +66 °C] |
| | -40 °F to +260 °F [-54 °C to +127 °C] |

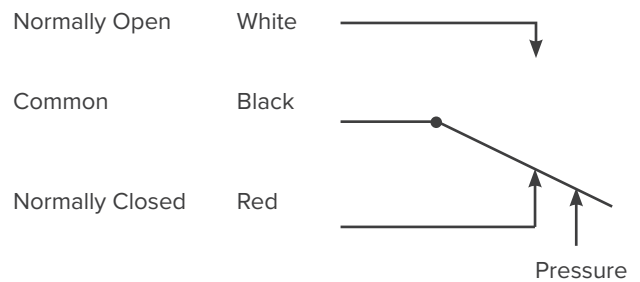


LISTINGS AND APPROVALS:

- Complies with UL requirements when used with UL, & ULC listed cylinder assemblies.
- Complies with FM requirements when used with FM listed system assemblies.



SHOWN AT ATMOSPHERE



PNEUMATIC COMPONENTS FOR MULTIPLE CYLINDER SYSTEM DESIGNS

PRODUCT OVERVIEW

Shield offers pneumatic elbow, tees and flex hoses to insure that proper connections are made between master and slave cylinders. The SD700021 elbow attaches to the “M” port of the master cylinder valve. The SD700033 elbow is used on the slave cylinder pneumatic actuator, located at the end of a cylinder in a bank. The pneumatic tee, SD700032, is used to attach multiple pneumatic activators to one master cylinder. Refer to the Shield Design, Installation, Operation & Maintenance Manual (SD000003) for more information on the proper design of master and slave cylinder banks.

PNEUMATIC ACTUATOR

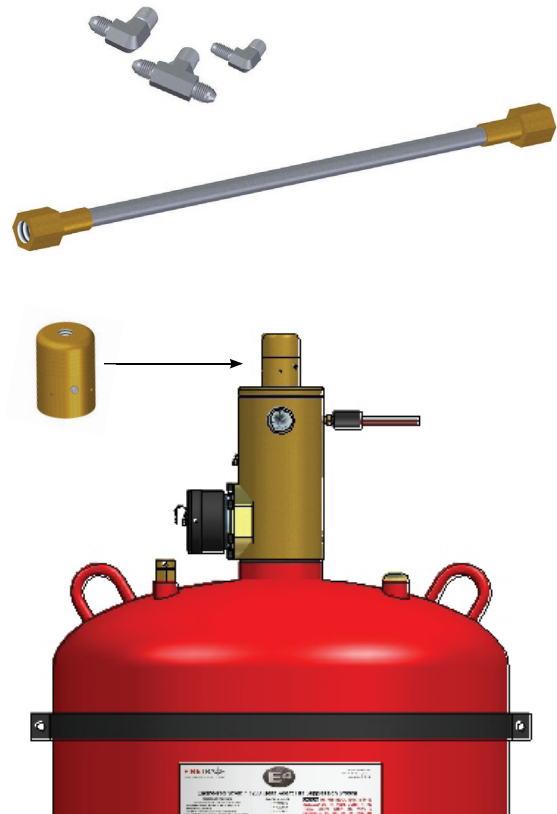
A pneumatic actuator is used in a multiple cylinder configuration. It features a pneumatically driven piston that slides downward, depressing the actuation adapter valve core allowing the cylinder valve to activate.

Multiple cylinders equipped with a Pneumatic Actuator can be activated from one master cylinder using the ex hoses.

The Pneumatic Actuator mounts on the top of the cylinder valve.

LISTINGS AND APPROVALS:

- Complies with UL requirements when used with UL, & ULC listed cylinder assemblies.
- Complies with FM requirements when used with FM listed system assemblies.



| Part Number | Description |
|-------------|------------------------------------|
| SD700021 | Pneumatic Elbow (Used at Valve) |
| SD700033 | Pneumatic Elbow (Used at Actuator) |
| SD700032 | Pneumatic Tee |
| SD700024 | Flex Hose-Actuation (24" Length) |
| SD700025 | Flex Hose-Actuation (36" Length) |
| SD700004 | Flex Hose-Actuation (48" Length) |
| SD700041 | Pneumatic Actuator |

DISCHARGE NOZZLES

500 PSI [34.5 BAR]

Designed for use with 3M™ Novec™ 1230 Fire Protection Fluid

DESCRIPTION

The function of the Discharge Nozzle is to distribute the Clean Agent in a uniform, pre-determined pattern and concentration. The nozzles are designed to complete the discharge in 10 seconds, or less, when installed within the design limitations of the Shield Design, Installation, Operation, & Maintenance Manual (SD000003).

Discharge Nozzles are available in sizes ranging from ½” to 2½”. Each nozzle is available in two configurations: 180 and 360 degree distribution patterns, and is made of aluminum, brass, or stainless steel with female pipe threads. Orifice sizes are determined by hydraulic flow calculations. All nozzles are rated for a maximum hazard height of 14 feet. If hazards exceed 14 feet in height, a second tier of nozzles must be used.



DISCHARGE NOZZLE SELECTION SIDE-WALL 180°

Typically installed adjacent to the center of the wall in the enclosure. Its discharge path will be across the enclosure.

DISCHARGE NOZZLE SELECTION CENTRAL 360°

Typically installed at the center of the ceiling in an enclosure. Its discharge path will be across the enclosure.

*ALUMINUM NOZZLES

| Part Number | Description | Part Number | Description |
|-------------|------------------------------|-------------|-------------------------------|
| SD661100 | ½” [13 mm] (360°) Central | SD661200 | ½” [13 mm] (180°) Sidewall |
| SD662100 | 1” [25 mm] (360°) Central | SD662200 | 1” [25 mm] (180°) Sidewall |
| SD663100 | 1½” [38 mm] (360°) Central | SD663200 | 1½” [38 mm] (180°) Sidewall |
| SD664100 | 2” [50 mm] (360°) Central | SD664200 | 2” [50 mm] (180°) Sidewall |
| SD665100 | 2½” [63.5 mm] (360°) Central | SD665200 | 2½” [63.5 mm] (180°) Sidewall |

*Aluminum nozzles are not FM approved

BRASS NOZZLE

| Part Number | Description | Part Number | Description |
|-------------|------------------------------|-------------|-------------------------------|
| SD661300 | ½” [13 mm] (360°) Central | SD661400 | ½” [13 mm] (180°) Sidewall |
| SD662300 | 1” [25 mm] (360°) Central | SD662400 | 1” [25 mm] (180°) Sidewall |
| SD663300 | 1½” [38 mm] (360°) Central | SD663400 | 1½” [38 mm] (180°) Sidewall |
| SD664300 | 2” [50 mm] (360°) Central | SD664400 | 2” [50 mm] (180°) Sidewall |
| SD665300 | 2½” [63.5 mm] (360°) Central | SD665400 | 2½” [63.5 mm] (180°) Sidewall |

STAINLESS STEEL NOZZLES

| Part Number | Description | Part Number | Description |
|-------------|------------------------------|-------------|-------------------------------|
| SD661500 | ½” [13 mm] (360°) Central | SD661600 | ½” [13 mm] (180°) Sidewall |
| SD662500 | 1” [25 mm] (360°) Central | SD662600 | 1” [25 mm] (180°) Sidewall |
| SD663500 | 1½” [38 mm] (360°) Central | SD663600 | 1½” [38 mm] (180°) Sidewall |
| SD664500 | 2” [50 mm] (360°) Central | SD664600 | 2” [50 mm] (180°) Sidewall |
| SD665500 | 2½” [63.5 mm] (360°) Central | SD665600 | 2½” [63.5 mm] (180°) Sidewall |

LISTINGS AND APPROVALS:

- Complies with UL requirements when used with UL, & ULC listed cylinder assemblies.
- Complies with FM requirements when used with FM listed system assemblies.



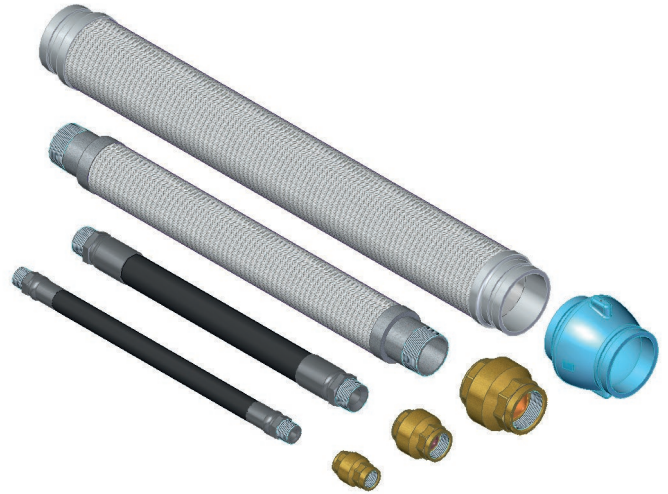
DISCHARGE COMPONENTS

Designed for use with 3M™ Novec™ 1230 Fire Protection Fluid

DESCRIPTION

Flexible discharge hoses are used to connect the cylinders to discharge piping network in either a single or the multiple cylinder installation.

A Check Valve is required for a manifold system to enable two or more agent storage cylinders to share one common discharge piping network. The Check Valve is spring assisted to ensure the valve closes to prevent flow reversal, and may be installed in the vertical or horizontal position.



DISCHARGE HOSES

| Part Number | Size | Length | Material | End Connection |
|-------------|-------------|---------------|--------------|----------------|
| SD701005 | 1" [25 mm] | 24" [610 mm] | Rubber | 1" MNPT |
| SD701505 1 | 1½" [40 mm] | 24" [610 mm] | Rubber | 1½" MNPT |
| SD702504 | 2½" [65 mm] | 32" [813 mm] | S.S. Braided | 2½" MNPT |
| SD704005 | 4" [100 mm] | 40" [1016 mm] | S.S. Braided | 4" Grooved |

CHECK VALVES

| Part Number | Body Number | Fitting Style |
|-------------|--------------|---------------|
| SD701001 | Brass | 1" FNPT |
| SD701501 | Brass | 1½" FNPT |
| SD702501 | Brass | 2½" FNPT |
| SD704003 | Ductile Iron | 4" Grooved |

LISTINGS AND APPROVALS:

- Complies with UL requirements when used with UL, & ULC listed cylinder assemblies.
- Complies with FM requirements when used with FM listed system assemblies.



SYSTEM ACCESSORIES

Designed for use with 3M™ Novec™ 1230 Fire Protection Fluid

DESCRIPTION

Shield offers three different hazard signs which are placed near the doors of a hazard to inform the occupants of the installed Shield Clean Agent Fire Suppression System. The signs are red with white lettering and measure 7.5" W x 3.5" H x 0.25" T.

The Shield Main/Reserve Switch allows the user to quickly switch the electrical panel (connection) between a main and reserve system in the event of system maintenance or a discharge. The switch allows for easy and worry free servicing and shorter downtimes in the event of a discharge.



DISCHARGE HOSES

| Part Number | Description |
|-------------|-------------------------------------------------------------------------------------------------------------------|
| SD 710001 | Hazard Sign: "Caution: When Alarm Sounds Vacate Room, Fire Suppression System Being Discharged" |
| SD 710002 | Hazard Sign: "Caution: Do Not Enter Room When Alarm Sounds, Fire Suppression System Being Discharged" |
| SD 710003 | Hazard Sign: "Caution: Operation of Manual Station Will Result in Immediate Discharge of Fire Suppression System" |
| SD 502001 | Main/Reserve Switch |

LISTINGS AND APPROVALS:

- Complies with UL requirements when used with UL, & ULC listed cylinder assemblies.
- Complies with FM requirements when used with FM listed system assemblies.



VDS FLOW CALCULATION SOFTWARE

Designed for use with 3M™ Novec™ 1230 Fire Protection Fluid

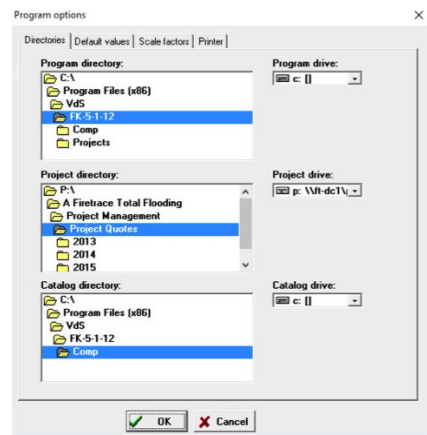
DESCRIPTION

Shield Novec™ systems use a customized version of VDS's FK-5-1-12 Flow Calculation Software. This software has been designed to accurately represent Shield Systems and Components during the flow calculation. Licenses and software can be purchased directly through Shield to enable distributors to perform flow calculations.

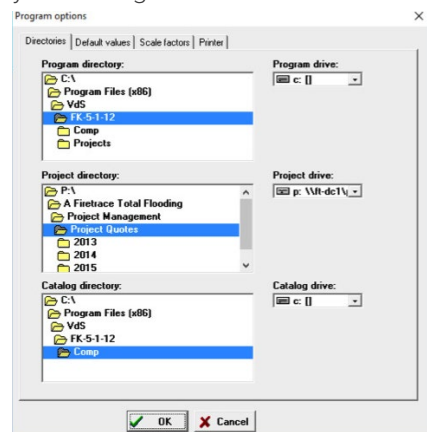
VDS SOFTWARE INSTALLATION:

Installing the VDS Software is a multiple step procedure that includes copying the program files to your desktop, installing the VDS and Codemeter programs, and then establishing your default settings. To accomplish these tasks you must:

1. Copy the *VDS.zip* File onto the installation computer's desktop.
2. Right Click on the *VDS.zip* file and choose "Extract All" from the drop down menu.
3. You will now see a regular folder titled "VDS", open it.
4. Contained within this file you will now see an additional folder titled "FK-5-1-12Normal", open this folder.
5. You should now see will see a file entitled "Setup_FK-5-1-12_7.5.exe", click on this file and follow the instructions on the screen.
6. Now that the VDS program is installed you will need to upload the Shield Licensing information to the program files. To do this you will need to:
 - A.) Copy the *Ist_.chk* file
 - Go to the VDS folder on your desktop and open it
 - Click on the *FK-5-1-12 Normal* folder and open it
 - Highlight the *Ist_.chk* file and copy it
 7. Next, to copy component files into your program directory you will need to:
 - A.) Open the *VDS* folder on your desktop
 - B.) Copy the following Shield Component files:
 - *FT Components 1.0.0.arm*
 - *FT Nozzles - 1.0.2.nox*
 - *FT Pipe - Schedule 40 - 1.0.0.rkl*
 - C.) Paste them into the program files in the catalogue folder by:
 - Go to your C drive
 - Click on *Program Files (x86)*
 - Click on *VDS*
 - Click on *FK-5-1-12*
 - Open the *Comp* folder, and paste the three files here
8. Once these steps have been performed it is now time to install the *Codemeter* runtime software. To install this you will need to:
 - A.) Open the VDS folder on your desktop
 - B.) Find the *Codemeter* folder and open it
 - C.) Select the file named "CodeMeterRunt - ime_5.0.exe"
 - D.) Follow the prompts on the screen.
9. Now to verify that everything set up properly plug in the silver VdS USB dongle and open the program.
10. Once the program is open Select the "Files" Option at the top of the screen
11. From the drop down menu choose the "Options" selection.
12. A window will open up with several tabs, choose the "Directories" tab.
13. At the bottom of this window you will see a dialogue box, verify that the settings are all as shown in the illustration below:



14. Now click on the "Default Values" tab and ensure your settings are as follows:



15. Once this final step is complete you are now ready to begin operating the program.