AG-IND-VE LARGE VEHICLES SYSTEM

Pre-engineered fixed dry chemical fire suppression system for large industrial vehicles / 8.8 to 300 lbs (3.5 to 136 kg) / Total flooding and local application

Data sheet 13226 Rev.00

Product description

The AG-IND-VE dry chemical system is a fixed, pre-engineered fire suppression system specifically developed for the protection of industrial vehicles, particularly in compartments with high fire risk, such as engine compartments, hydraulic systems, transmissions, or hard-to-reach zones where fire may remain hidden. The combination of fuels, oils, hydraulic fluids, and high temperatures can create significant fire hazard.

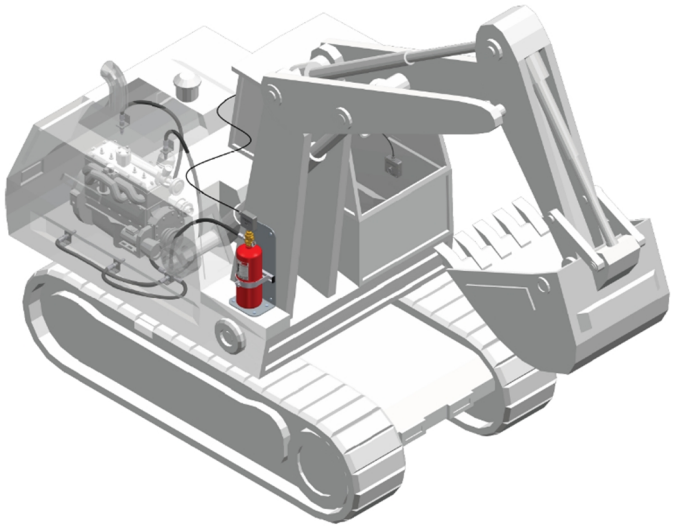
Dry chemical powder provides rapid and effective initial fire suppression, making it particularly suitable for equipment operating under demanding conditions. Its effectiveness is mainly due to the interruption of the chemical chain reaction of combustion, complemented by the effects of flame smothering and reduction of thermal radiation.

These systems are designed for a predetermined piping configuration and agent quantity, using between 7.7 and 300 lbs (3.5 and 136 kg) of dry chemical. AG Fire Sprinkler's wide range of dry chemical cylinder sizes makes it possible to design optimized installations tailored to the specific requirements of each vehicle.

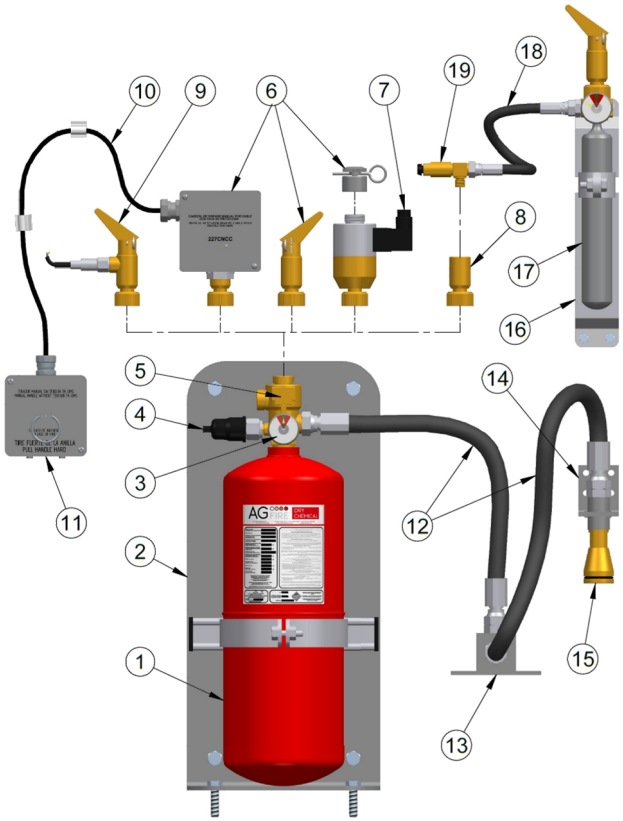
One or more stored-pressure cylinders may be installed, as well as attached-pressure cylinders, with operating pressures of 217 or 363 psi (15 or 25 bar). The system offers different activation methods, including manual, pneumatic, pyrotechnic, and electrical activation, and is connected to a piping and/or hose network that distributes the extinguishing agent throughout the protected area through the discharge nozzles.

Applications

Dry chemical systems provide a high fire suppression capability against Class A fires (ordinary combustible materials), Class B fires (flammable or combustible liquids), and Class C fires (energized electrical equipment). Its most common applications include industrial vehicles such as mining equipment, front-end loaders, excavators, haul trucks, and buses, as well as industrial facilities and fuel storage areas.



System components



No.	Description	Type	Qty
1	Cylinder	** See "**Technical Data**" section*	1
2	Modular cylinder brackets	POHCxxx	1
3	Pressure gauge	5140-W25, 5140-W40, UF40I-P16, UF40I-P24	1
	Pressure gauge with electrical contacts (optional)	5140-E40SP13, UF40I-E16, UF40I-P24	
4	Pressure switch (optional)	POPRENA20, POPRENC20, POPRENA50, POPRENC50, APRESA20, APRESC20, APRESA50, APRESC50	1
5	Container valve	RGS-MAM-12-4, RGS-MAM-11-4, RGS-MAM-20, RGS-MAM-40	1
6	Manual actuator	227DM, 227DMS, 227CMCC, 227CMCC-I, 227CMC, 227CNTK, 227CN, 227CNM, KCTM, KCTM-C	≥ 1
7	Electrical actuator	227SOL, 227SOLC, 227SOLC125	
8	Pneumatic actuator	227CN, 227CNM, 227CNTK	
9	Pyrotechnic actuator	227DEEM	
10	Actuation cable	SHCS Flex Drive	-

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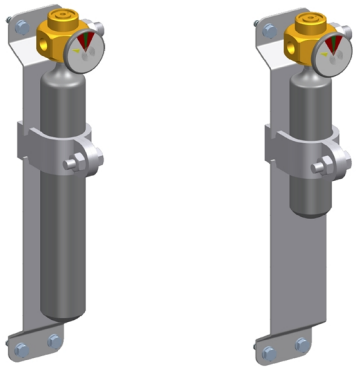
No.	Description	Type	Qty
11	Remote manual pull station without tension	TK-DMS, TK-DMS2	-
12	Discharge hose	FH-15CO, DH-15, DH-15 I, DH-16, DH-16 I, FH-20HC, DH-21, DH-21 I	1
13	Distribution block	DCB20154, DCB20156, DCB20204, DCB32203, DCB32204	-
14	Nozzle bracket	DCNB	≥ 1
15	Nozzle	AG-O-2, AG-TK-1	≥ 1
16	Modular brackets for pilot cartridge	DCCAB	1
17	N_2 pilot cartridge	100M008UFxx, 100M018UFxx	1
18	Activation flexible hose ¼"	FH-6PO, FH-7PO, DH10, DH10I, DH11, DH11I	1
19	Bleed valve	POVV8	1

POHCxxx modular cylinder brackets

The mounting brackets for the extinguishing agent cylinders are designed to provide secure and reliable support in the demanding environments where these systems typically operate, preventing unexpected movement or damage during agent discharge and throughout the system's service life. The brackets can be installed and securely fastened to either the floor or walls.

DCCAB modular brackets for pilot cartridge

This support is designed to securely mount the pilot cartridge to a rigid surface of the vehicle using bolted fasteners. The clamp, consisting of two halves, features a geometry that allows the two parts to fit securely into the support, ensuring reliable retention while facilitating installation and maintenance operations.

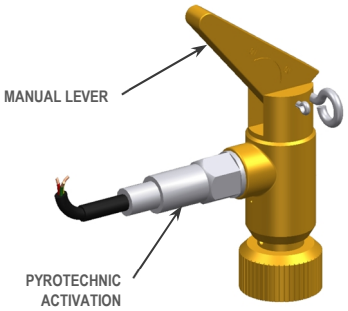


Pyrotechnic activation (optional)

227DEEM electric pyrotechnic-manual actuator head

The pyrotechnic-manual actuator is a device designed to activate the RGS-MAM-11-4/12-4/20/40 cylinder valve through either of its two activation mechanisms: pyrotechnic or manual. Pyrotechnic activation uses the energy generated by a pyrotechnic charge to actuate the valve quickly, reliably, and safely. Alternatively, the actuator incorporates an eccentric lever for manual activation.

To prevent accidental activation, the actuator is fitted with a safety ring that must be removed before manual activation is possible. Its mounting mechanism allows the actuation head to be oriented in the required direction. This is a single-use activation device and must be replaced after activation.



Electrical activation (optional)

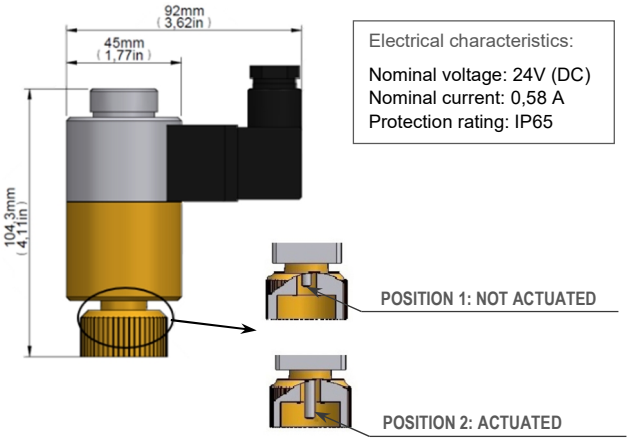
227SOL / 227SOLCR resettable electric actuator head (24VDC)

The purpose of this actuator is to electromagnetically actuate the container valves where it is installed. It is activated when the coil is energized, causing the solenoid to operate and actuate the valve.

This actuator is resettable — the pin returns to the standby position by threading a reset screw into its revolving nut.

The mechanism used to connect it to the container valve includes a revolving nut, allowing it to be properly oriented in the desired direction.

If installation conditions require special protection, please contact AG-IND to inquire about the availability of appropriately rated enclosures.



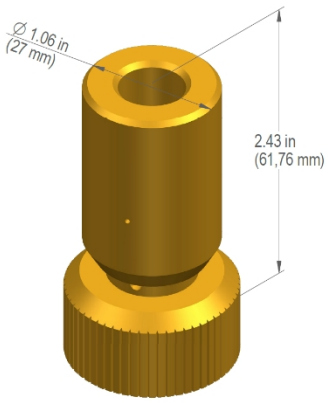
Pneumatic activation

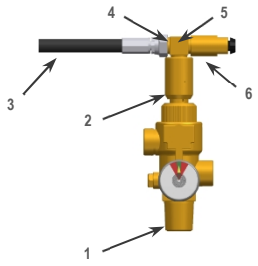
227CN pneumatic actuator head

This actuator head allows the container valve to be pneumatically actuated. When the system is activated, the gas pressure from the cartridge or pilot cylinder reaches the actuator head, activating the valve to discharge the extinguishing agent.

The actuator head is normally connected to the upper actuation port of the cylinder valve, although it can also be connected to the side port on models that incorporate one.

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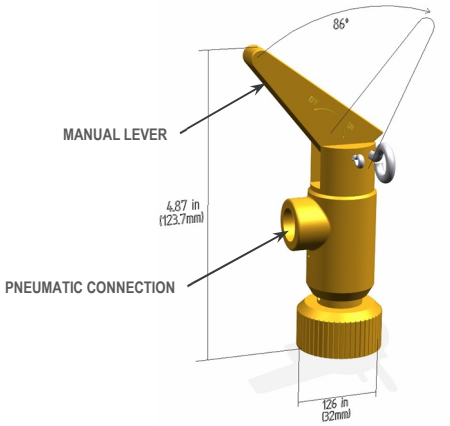




1- RGS-MAM-03/11-4/12-4/20/40 valve
2- 227CN pneumatic actuator head
3- Activation flexible hose ¼"
4- O-ring or metal-plastic joint
5- 227TE tee connection
6- POVV8 bleed valve

227CNM / 227CNMR pneumatic-manual actuator head

This actuator head consists of a combination of a manual actuator and a pneumatic actuator. Its purpose is to operate the valves on which it is installed using either of the two available activation methods.

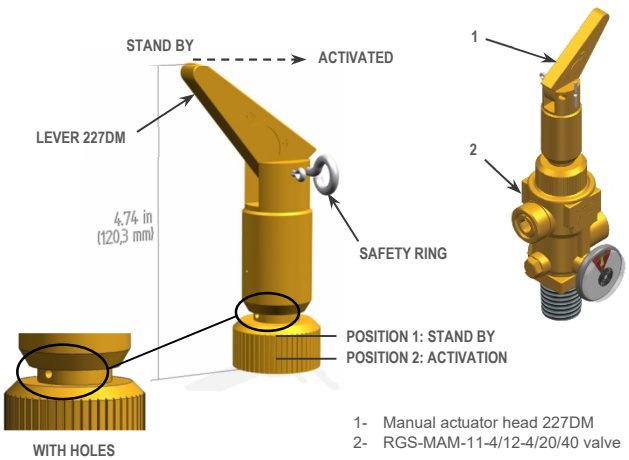


Manual activation

227DM / 227DMR manual actuator head

The function of this actuator is to manually activate the container valves where it is installed. Once the safety ring is removed from the actuator, the manual lever can be turned in the opposite direction.

The 227DM manual actuator can be installed on the upper actuation port of the RGS-MAM-11-4/12-4/20/40 valve, or mounted on top of the electric actuator installed on any RGS-MAM valve. The DMR is installed with the RGS-MAM-03 valve. A swivel nut allows the actuator to be properly orientated.

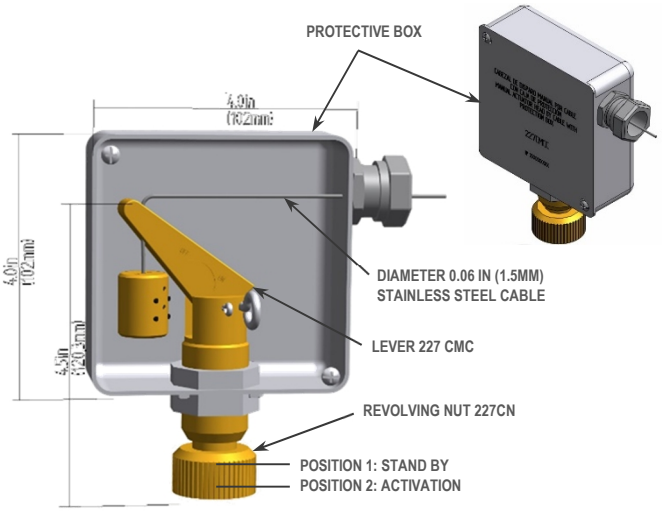


1- Manual actuator head 227DM
2- RGS-MAM-11-4/12-4/20/40 valve

227CMC manual cable-operated actuator head and 227CMCC with protective box

It is used to remotely actuate the extinguishing system. The cable-operated manual actuator head can be installed on the upper actuation port of the RGS-MAM-11-4/12-4/20/40 valve, or on the electric actuator mounted on the RGS-MAM-03/11-4/12-4/20/40. It is connected by cable to the remote manual activation station. The lever end includes a hole to tie the cable. The only difference between the 227CMC and 227CMCC models is that the latter (227CMCC) is housed inside a protective enclosure.

The steel cable features a flexible protective coating that allows it to adapt to changes in direction along its routing up to the cable-operated manual actuator head, while ensuring continuous protection throughout its entire length. This design simplifies installation and helps reduce assembly time.

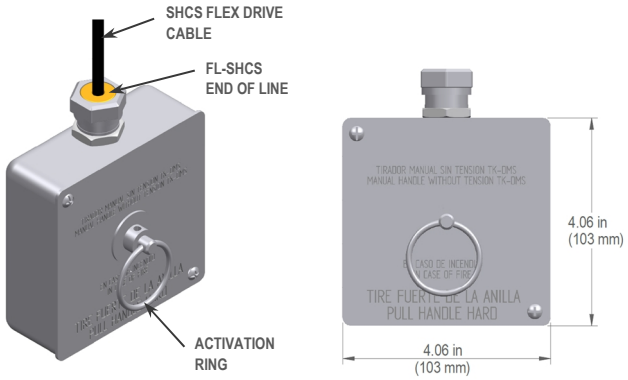


TK-DMS remote manual pull station without tension

This device is used together with the 227CMC or 227CMCC actuators to enable remote activation of the fire suppression system.

The remote manual activation station is installed in an accessible area, allowing the system to be manually activated when required. The ring must be pulled to tension the cable that will actuate the 227CMC or 227CMCC container valve actuators, thereby activating the fire suppression system.

The TK-DMS2 model has the cable outlet at the rear, allowing it to be recessed into the wall.



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Cable-operated system accessories

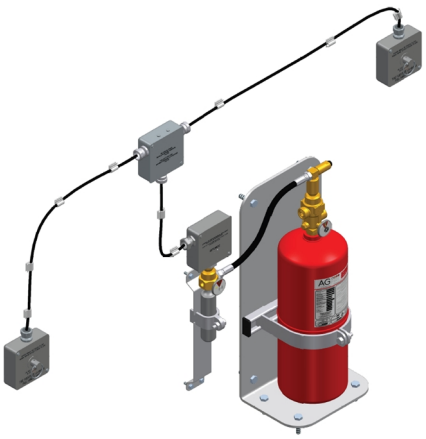
SHCS Flex Drive conduit

Steel cable with flexible protective conduit, designed to guarantee safety and durability in mechanical installations, avoiding the use of metal protective pipes or pulley systems for cable routing.

Thanks to its design, the cable can adapt to direction changes while maintaining protection, allowing simpler installation and significantly reducing assembly times.

Suitable for use in remote manual actuation lines, providing a flexible, resistant and efficient solution.

Note: Not suitable for applications with continuous exposure to high temperatures; alternative guiding systems must be used in such cases.

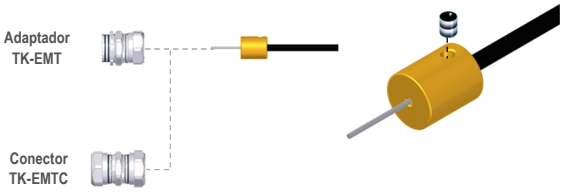


FL-SHCS End of line for cable with flexible protective conduit

Compact, reliable and easy to install solution that ensures continuity and functionality of cable lines.

Accessory designed for the termination of SHCS Flex Drive cable lines, allowing connection to standard 1/2” EMT connectors or pulley elbows. It guarantees correct integration of the internal stainless-steel cable with the rest of the system components, including mechanical control units, manual actuation devices and gas shut-off valves.

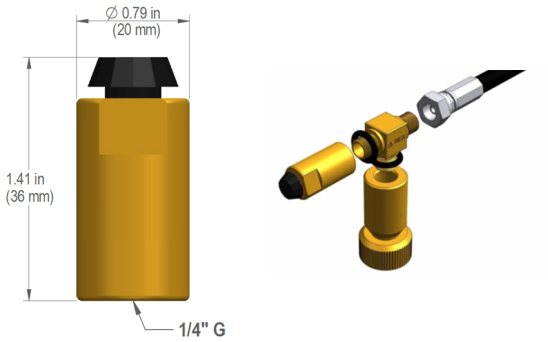
It allows configuring the installation using protected SHCS Flex Drive cable continuously or in combination with sections of stainless-steel cable in protective conduit, adapting to the specific needs of each project.



ALL ACTUATORS AVAILABLE FOR RGS-MAM CONTAINER VALVES ARE SHOWN ON PAGE 8.

POVV8 bleed valve

The bleed valve is designed to depressurize the discharge line once the pneumatic actuation heads have been activated. It enables quick and safe depressurization by simply pressing the push button. It also acts as a safety device in the event of minor leaks in the discharge line, preventing gas from accumulating and potentially increasing the pressure enough to inadvertently activate the discharge heads. The valve is installed on the pneumatic actuator head using a T-fitting.



Flexible discharge hose

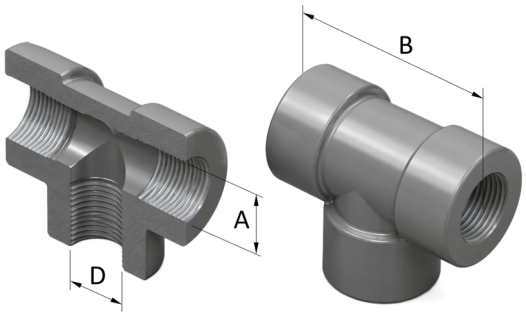
Designed to deliver the extinguishing agent from the container valve outlet to the discharge point. Its flexibility and swivel-nut connections at both ends allow for quick and convenient installation. It connects to the valve outlet, intermediate distributors, and ultimately to the nozzle brackets. It is designed to withstand high pressure, abrasion, and demanding operating conditions.



Model	Nominal size	Length	Connection material
FH-15CO	½”	15.75 to 25.59 in (400 to 650 mm)	Hardened steel with protective coating
DH-16		9.84 to 78.74 in (250 to 2000 mm)	
DH-16 I			AISI 316
FH-20HC	¾”	15.75 to 25.59 in (400 to 650 mm)	Hardened steel with protective coating
DH 21		9.84 to 39.37 in (250 to 1000 mm)	
DH 21 I			AISI 316

T-Fittings

To supply two or four nozzles from a single cylinder, a T-fitting is used to properly distribute the extinguishing agent from the supply line to two branch lines.

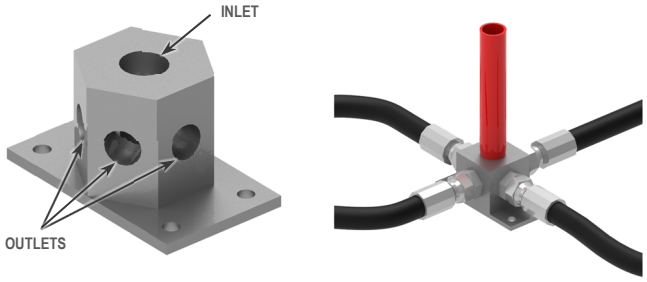


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Model	A	B inch (mm)	D
DCT6	1/8"	1.34 (34)	1/8"
DCT8	1/4"	1.73 (44)	1/4"
DCT10	3/8"	2.05 (52)	3/8"
DCT15	1/2"	2.44 (62)	1/2"
DCT20	3/4"	2.76 (70)	3/4"
DCT25	1"	3.46 (88)	1"
DCT32	1 1/4"	3.94 (100)	1 1/4"
DCT2015	1/2" NPT	2.44 (62)	3/4" NPT
DCT20MH	3/4" NPT M	3.78 (96)	3/4" NPT H

Distribution blocks

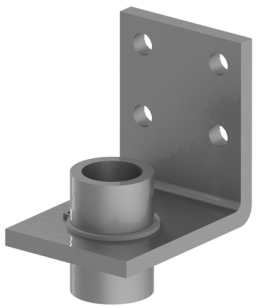
The distribution blocks form part of the extinguishing agent distribution network and are designed to distribute the flow to the different discharge lines or nozzles within the system. The flexible discharge hoses are connected to these blocks, which are available in various inlet and outlet configurations to meet the requirements of each installation and ensure uniform distribution of the extinguishing agent.



Model	Inlet connection	Outlet connections	Number of outlets
DCB20154	NPT 3/4"	NPT 1/2"	4
DCB20156			6
DCB20204		NPT 3/4"	4
DCB32203	NPT 1 1/4"	NPT 3/4"	3
DCB32204			4

DCNB nozzle bracket

The nozzle brackets are designed to connect the extinguishing agent distribution network to the nozzles and to securely mount the nozzles once their installation locations have been determined. The brackets are installed so that they are positioned at a 90° angle to the nozzle discharge direction.



Flexible activation hose

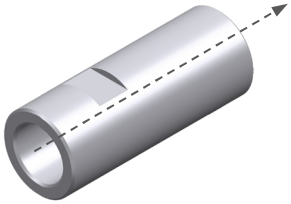
The activation hose is used to connect the pilot cartridge to the valve of the cylinder containing the extinguishing agent. When the system is activated, the pressure contained in the cartridge is transmitted through the hose to the pneumatic actuation head, which in turn actuates the container valve and initiates the system discharge. These hoses have a nominal diameter of ¼".



Model	Length	Connection material	Hose material
FH-6CO	19.69 to 39.37 in (500 to 1000 mm)	Hardened steel with protective coating	Stainless steel braid
DH-10	19.69 to 39.37 in (500 to 1500 mm)		Synthetic rubber
DH-10 I		AISI 316	
FH-7CO	15.75 to 25.59 in (400 to 650 mm)	Hardened steel with protective coating	
DH 11	9.84 to 39.37 in (250 to 1000 mm)		
DH 11 I		AISI 316	

VALAN-WFR8 in-line check valve

These valves are used in certain pneumatic activation systems. They are typically installed between the actuation hoses in the pilot line, ensuring the correct direction of pressure flow. The correct installation position is shown in the image below.

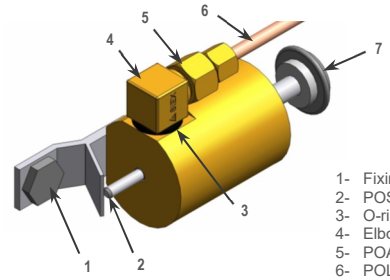


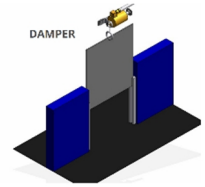
Model	Material	Connections
VALAN-WFR-8	Stainless steel AISI 303 and brass	¼" BSP
VALAN-WFR-8-316	Stainless steel AISI 303 and brass	

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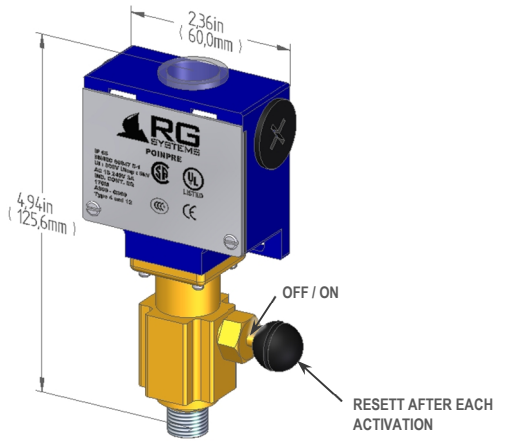
POSX-NAU pneumatic trip

The POSX-NAU pneumatic release device is designed to close doors, duct dampers, swing doors, gas shut-off valves, and similar equipment when the fixed extinguishing system is activated. The actuator is operated pneumatically by means of a pilot bottle or manually using the operating handle or pull knob. For increased protection and durability, the release device can be installed inside a metal enclosure (POSX-NAUC model).





1- Fixing screw
2- POSX-NAU pneumatic actuator
3- O-ring or metal-plastic joint
4- Elbow or T fitting
5- POA8CU copper tube adapter
6- POLATCU copper tube
7- Actuation knob

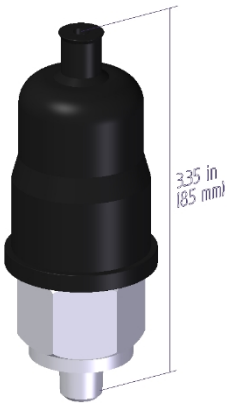


ACTUATORS AND SENSORS SUITABLE FOR USE IN EXPLOSIVE ATMOSPHERES ARE AVAILABLE. CONTACT AG FIRE SPRINKLER FOR FURTHER INFORMATION.

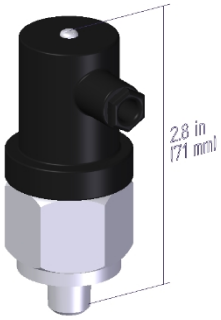
Pressure switch (optional)

The pressure switch is a monitoring device that sends an electrical signal to the fire control panel when the pressure in the cylinder drops.

It is factory-supplied preassembled on the cylinder valve, in the corresponding port. Inside the device, there is a dry contact that opens or closes an electrical circuit depending on the pressure condition. There are two variants available: NC (normally closed, opens under pressure) and NO (normally open, closes under pressure).



POPRENxxx



APRESxxx

POINPRE pressure switch (optional)

This device detects the discharge of the extinguishing agent as it occurs and generates an electrical signal that allows the fire detection and suppression control panel to identify system activation. It features one NC (normally closed) contact and one NO (normally open) contact, which change state when activated and can be used according to the requirements of the installation.

It also incorporates an interlock mechanism that requires manual resetting after each discharge. Resetting is performed by pulling the ball outward.

Nozzles

Its function is to discharge the extinguishing agent over the protected area as homogeneously as possible to achieve effective suppression.

The AG-IND-VE system can incorporate between 1 and 8 nozzles, depending on the characteristics of the installation and the selected cylinder model. The nozzle model depends on the application.

AG-O-2 local application nozzle

Designed for local application fire protection systems, this nozzle generates a circular discharge pattern oriented in the direction in which it is screwed into the nozzle bracket.



AG-TK-1 local application nozzle

Developed for the protection of flammable liquid tanks or to cover by immersion areas prone to flammable liquid spills. The nozzle discharges at a 90° angle to the nozzle bracket, generating a flat, semicircular chemical blanket over the surface of the flammable liquid.



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Technical data

DRY CHEMICAL CYLINDERS				
Stored-pressure cylinders				
Model type	**Dry chemical filling lbs (kg)**	**Dry chemical type**	**Number of nozzles**	**Risk type**
INDL-4-KBC	8.82 (4)	KBC	1	Local Application
INDLs-10-ABC	22.1 (10)	ABC	2	
INDLs-10-BC	22.1 (10)	BC		
INDTs-9-ABC	19.8 (9)	ABC	1	Total Flooding
INDL-10-ABC	22.1 (10)	ABC	2	Local Application
INDL-10-BC	22.1 (10)	BC		
INDT-9-ABC	19.8 (9)	ABC	1	Total Flooding
INDL-16-ABC	35.3 (16)	ABC	3	Local Application
INDL-16-BC	35.3 (16)	BC		
INDT-18-ABC	39.7 (18)	ABC	2	Total Flooding
INDL-21-ABC	46.3 (21)	ABC	4	Local Application
INDL-21-BC	46.3 (21)	BC		
INDT-27-ABC	59.5 (27)	ABC	3	Total Flooding
INDTL-36-ABC	79.4 (36)	ABC	4	Total Flooding
			6	Local Application
INDL-36-BC	79.4 (36)	BC		
INDL-42-ABC	92.6 (42)	ABC	8	Local Application
INDL-42-BC	92.6 (42)	BC		
Attached-pressure cylinders				
Model type	**Dry chemical filling lbs (kg)**	**Dry chemical type**	**Number of nozzles**	**Risk type**
INDL-3-KBC	7.7 (3.5)	KBC	1	Local Application
INDL-5-ABC	11.0 (5)	ABC	1	
INDL-5-BC		BC		
INDT-9-ABC	19.8 (9)	ABC	1	Total Flooding
INDL-15-ABC	33.1 (15)	ABC	3	Local Application
INDL-15-BC		BC		
INDL-22-ABC	48.5 (22)	ABC	4	Local Application
INDL-22-BC		BC		
INDT-26-ABC	57.3 (26)	ABC	3	Total Flooding
Attached regulated pressure cylinders				
Model type	**Dry chemical filling lbs (kg)**	**Dry chemical type**	**Number of nozzles**	**Risk type**
INDL-3-KBC	7.7 (3.5)	KBC	1	Local Application
INDL-5-ABC	11.0 (5)	ABC	1	
INDL-5-BC		BC		
INDT-9-ABC	19.8 (9)	ABC	1	Total Flooding
INDL-15-ABC	33.1 (15)	ABC	3	Local Application
INDL-15-BC		BC		
INDL-22-ABC	48.5 (22)	ABC	4	Local Application
INDL-22-BC		BC		
INDT-26-ABC	57.3 (26)	ABC	3	Total Flooding
INDTL-35-ABC	77.2 (35)	ABC	4	
		ABC	6	Local Application
INDL-35-BC		BC	6	Total Flooding
INDLC-48-ABC	105.8 (48)	ABC	8	Local Application
INDLC-48-BC		BC		
INDTC-54-ABC	119.1 (54)	ABC	6	Total Flooding
INDTC-68-ABC	149.9 (68)	ABC	8	Total Flooding
INDLC-72-ABC	158.7 (72)	ABC	12	Local Application
INDLC-72-BC		BC		
INDLC-96-ABC	211.6 (96)	ABC	16	Local Application
INDLC-96-BC		BC		
INDTC-108-ABC	238.1 (108)	ABC	12	Total Flooding
INDTC-136-ABC	299.8 (136)	ABC	16	

WARNING: This type of system is manufactured and approved for use in fixed dry chemical extinguishing installations. These products are not designed for any other use or purpose. If the product user has any questions regarding the application or use of the product, please contact +34 947 28 11 08. Any unauthorized use or application and/or any other unauthorized modification of the product or its function may cause serious accidents and/or personal injury. AG Fire is not responsible for any unauthorized use of the application.

IMPORTANT: This document is not binding. AG Fire Sprinkler reserves the right to make any changes to the document without prior notice.

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