N_2 EXPELLANT CYLINDERS 101MxxxUFxx

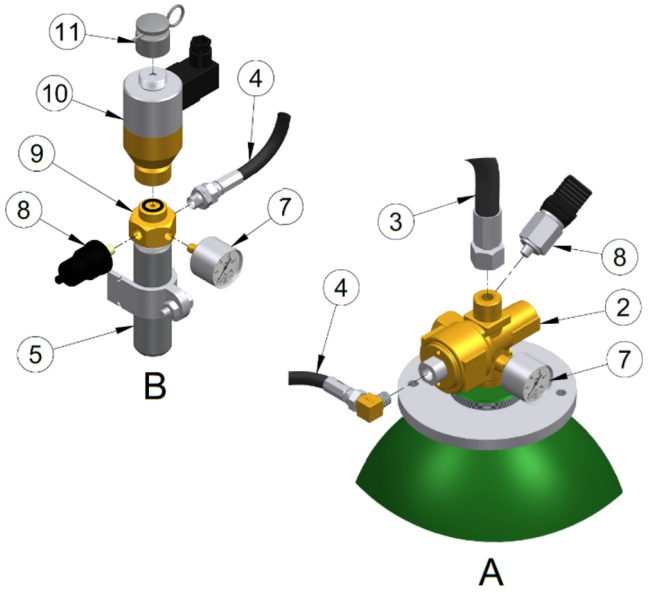
For dry chemical fire suppression systems /
Capacity from 2 to 140 L
Data sheet 13305 Rev.00

Product description

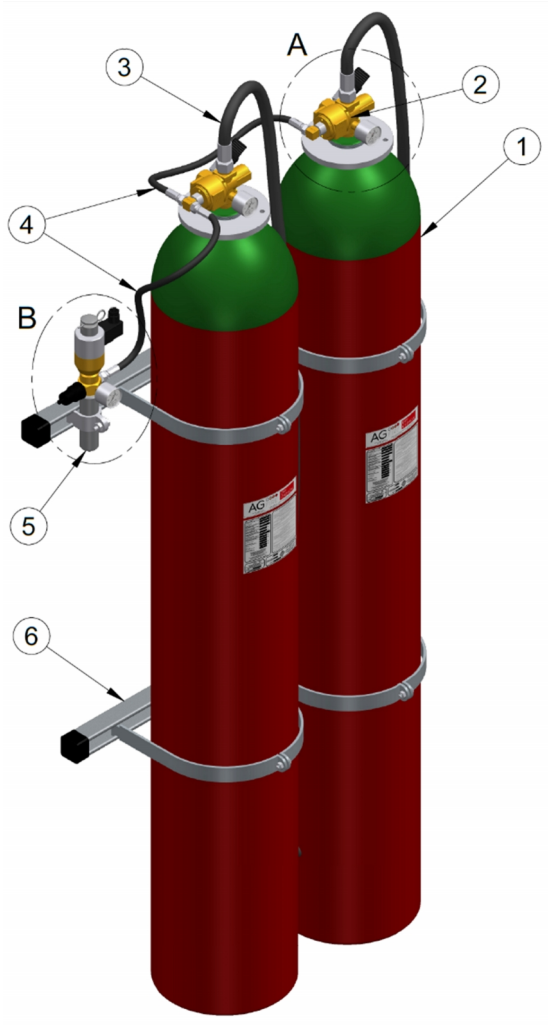
The expellant assembly has the function of pressurizing dry chemical agent cylinders or tanks, both in fixed pre-engineered and in stationary systems with hand hose lines systems.

It consists of one or more cylinders containing nitrogen (N_2), normally charged to 2900 or 4350 psi (200 or 300 bar). Each cylinder incorporates an RGS-MAM-RD11 valve, which functions as a pressure regulator or pressure reducer. This valve allows the outlet pressure to be controlled independently of the cylinder charging pressure, as the outlet pressure depends on the pneumatic pressure applied to its activation port.

The expellant cylinders are pneumatically activated by means of a pilot cartridge. Once activated, the nitrogen flows through flexible hoses to the lower inlets of the powder tank, allowing the chemical powder to be fluidized and maintaining a constant pressure during discharge.



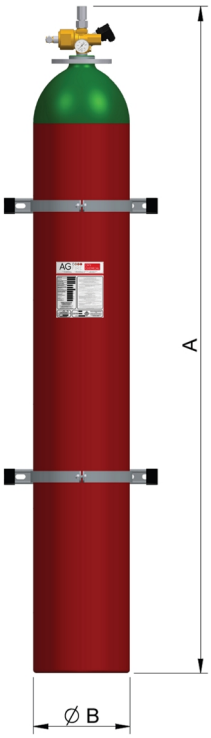
System components



Nº	Description	Type	Qty
1	Expellant cylinders N_2 (200 o 300 bar)	101MxxxUFxx	≥1
2	Expellant cylinder valve	RGS-MAM-RD11	≥1
3	Impulsion hose	DH15, DH15CO, DH15I, DH16, DH16I	≥1
4	Activation flexible hose ¼"	DH10, DH10I, DH11, DH11I	-
5	N_2 Pilot cartridge	100M008UFxx, 100M018UFxx, 100M1UFxx, 100M2UFxx	1
6	Fixing Brackets	POHCxxx	-
7	Pressure Gauge	5140-W250, 5140-W400, UF40I-P150, UF40I-P200, UF40I-P300	≥2
	Pressure Gauge with electrical contacts (optional)	5140-E250SP144, 5140-E250SP180, 5140-E400SP270, UF40I-E150, UF40I-E200, UF40I-E300	
8	Pressure switch (optional)	POPRENA150, PROPENC150, APRESA150, APRESC150, POPRENA200, PROPENC200, APRESA200, APRESC200, POPRENA300, PROPENC300, APRESA300, APRESC300	-
	ATEX pressure switch (opcional)	POPRECO-AD PSP	
9	Pilot cartridge	RGS-MAM-03	1
10	Electrical actuator (optional)	227SOLR, 227SOLCR, 227SOLCR125	1
11	Manual actuator	227DMR, 227DMS, 227CMCC, 227CMC, 227CN, 227CNM, KCTM, KCTM-C	1
	Mechanical detection and actuator (optional)	TK-SIMPLEX, TK-COMPLEX, TK-SIMPLEX-C, TK-COMPLEX-C, KCTM, KCTM-C	

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Dimensions



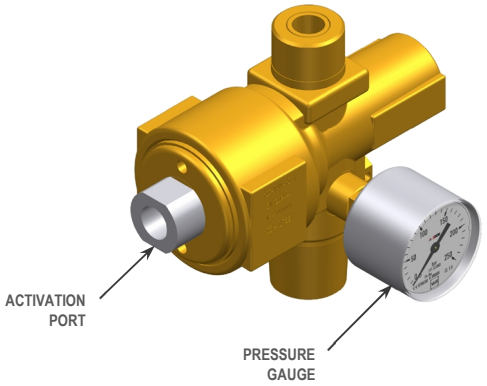
DIMENSIONS OF N_2 ESPELLANT CYLINDERS					
Model	Capacity ft3 (L)	A inch (mm)	Ø B inch (mm)	Filling pressure psi (bar)	
				2900 (200)	4350 (300)
101M2UFx-x	0.45 (2)	17.91 (455)	3.94 (100)	X	
	0.61 (2.7)	21.65 (550)	3.94 (100)	X	
101M4UFx-x	1.07 (4.7)	31.10 (790)	4.25 (108)	X	
		21.45 (545)	5.51 (140)		
101M6UFx-x	1.52 (6.7)	26.57 (675)	5.51 (140)	X	
101M13UFx-x	3.04 (13.4)	45.87 (1165)	5.51 (140)	X	
		26.38 (670)	8.03 (204)		
101M26UFx-x	6.08 (26.8)	44.29 (1125)	9.02 (229)	X	X
101M40UFx-x	9.13 (40.2)	62.00 (1575)	9.02 (229)	X	X
101M67UFx-x	15.32 (67.5)	64.07 (1626)	10.51 (267)	X	X
101M80UFx-x	18.16 (80)	74.02 (1880)	10.51 (267)	X	X
101M100UFx-x	22.7 (100)	52.75 (1340)	14.14 (360)	X	
101M120UFx-x	27.24 (120)	61.41 (1560)	14.14 (360)	X	
101M140UFx-x	31.78 (140)	75.51 (1918)	14.14 (360)	X	X
101M150UFx-x	34.05 (150)	74.41 (1890)	14.14 (360)	X	

*Worst-case dimensions (General tolerances ±1%)

RGS-MAM-RD11 pressure regulating valve

The RGS-MAM-RD valve for the expellant cylinders not only opens or closes the nitrogen flow but also regulates the outlet pressure, functioning as a pressure-reducing valve. The expellant cylinder fitted with this valve is always charged to 2900 or 4350 psi (200 or 300 bar); however, the outlet pressure depends on the pneumatic piloting pressure. When no pilot pressure is applied, the valve remains closed. When 261 psi (18 bar) is applied to the pilot port, the outlet pressure is regulated to 261 psi (18 bar).

Designed and manufactured for inert gas cylinders, the valve is the result of extensive research and development. It is equipped with a pressure gauge and a rupture disc. Optionally, it can also be fitted with a pressure switch.



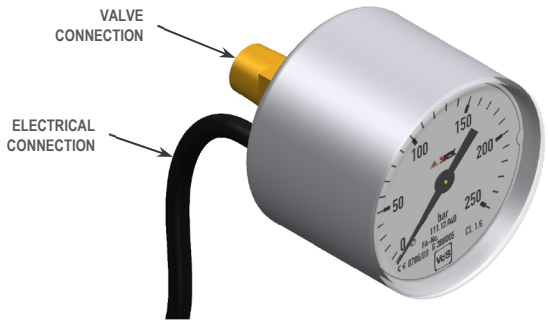
Pressure gauge

The pressure gauge is a measuring instrument designed to provide a continuous indication of the pressure inside the cylinder charged with the expellant gas (N_2). It is factory-installed on the RGS-MAM-RD11 expellant cylinder valve, allowing the cylinder pressure to be always verified to ensure it remains within the specified operating range.



Pressure gauge with electrical contacts

This version incorporates electrical contacts that send an electrical signal to the control panel when the pressure drops below the predefined value (set point).

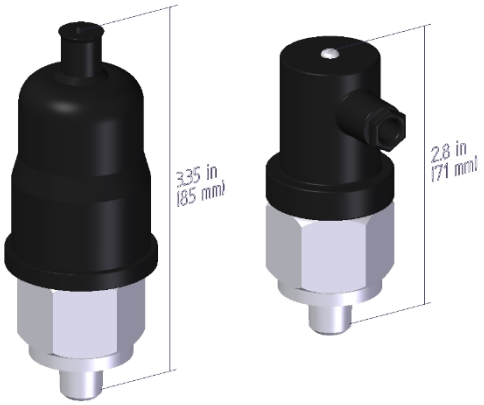


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Pressure switch (optional)

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

Activation pilot cartridge

Its function is to pneumatically activate the valves of the expellant cylinders. The cartridge incorporates an RGS-MAM-03 valve, which can be activated electrically, manually, or mechanically to allow the flow of N_2 from the cartridge to the RGS-MAM-RD11 valves of the expellant cylinders.

The combined use of a 227SOLR electrical actuator together with a 227DMS manual actuator is very common.

ALL ACTUATORS AVAILABLE FOR THE PILOT ACTIVATION CARTRIDGE ARE SHOWN ON PAGE 3.

Electrical activation (optional)

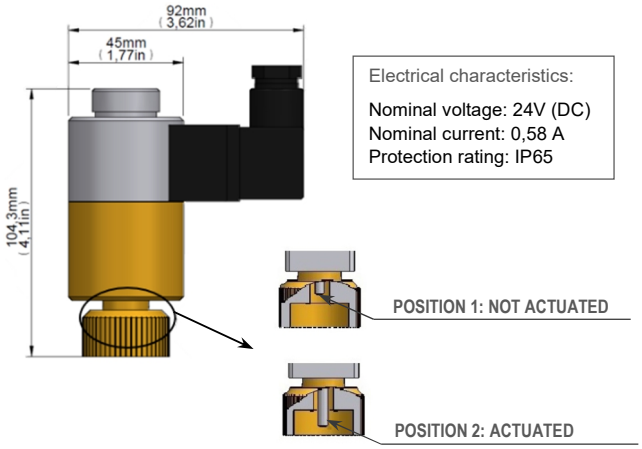
227SOLR resettable electric actuator head (24VDC)

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.

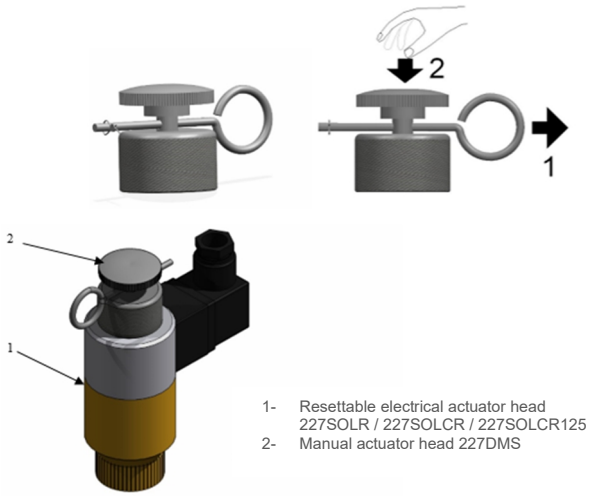


Manual activation

DMS manual actuator head

This actuator allows manual activation of the container valves where it is installed. Once the safety pin is removed from the actuator, the push button can be pressed to activate the container valve and initiate discharge.

The 227DMS is connected ONLY to the upper actuation port of the 227SOLR, 227SOLCR and 227SOLCR125 electric actuators, by means of a revolving nut that allows its proper orientation.

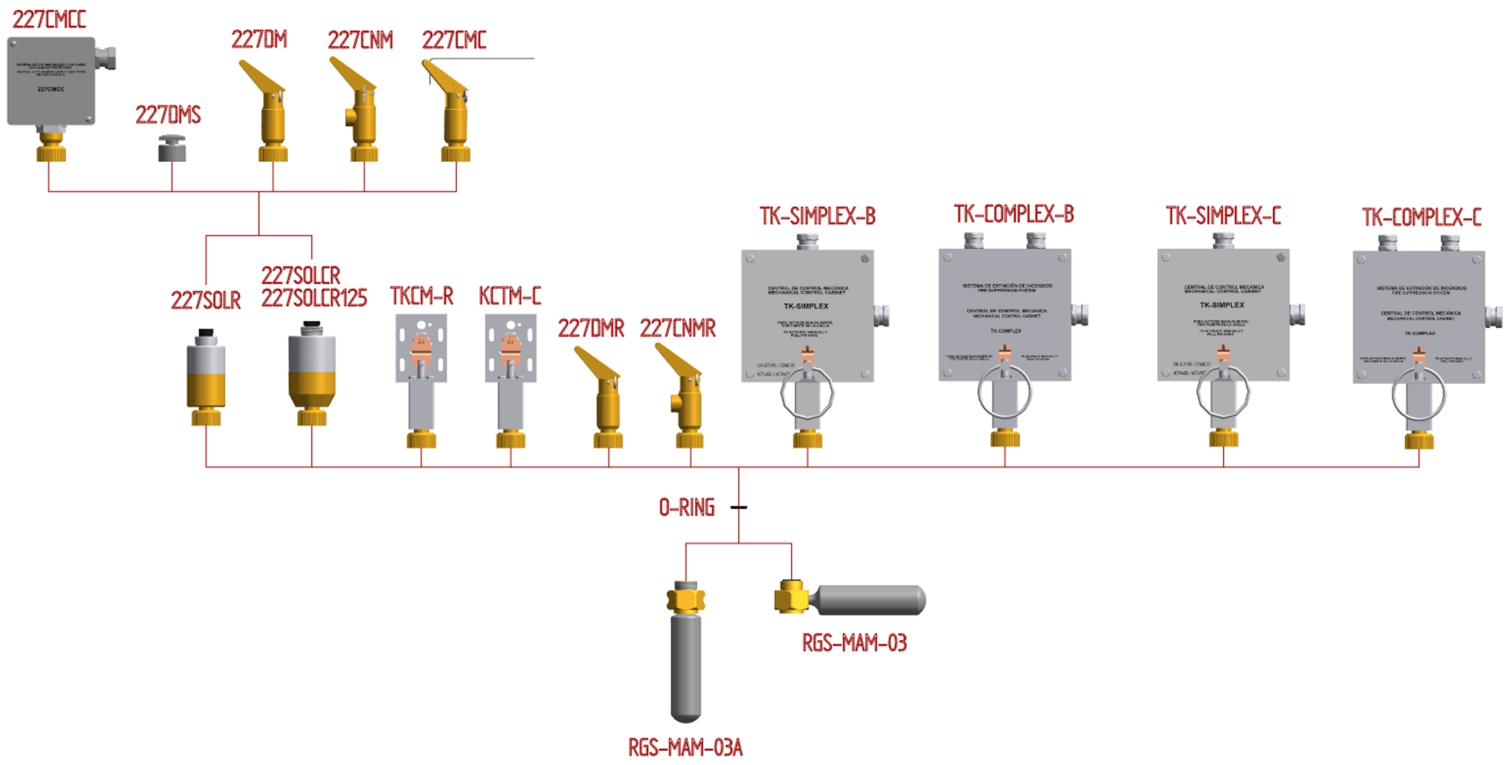


1- Resettable electrical actuator head 227SOLR / 227SOLCR / 227SOLCR125
2- Manual actuator head 227DMS

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Actuator configuration

There is a wide range of actuators available depending on the requirements. All have the same function: to activate the dry chemical system through the pilot cartridge. The system is usually equipped with a 227SOLR actuator head and a 227DMS manual actuator head.



WARNING: This type of system is manufactured and approved for use in 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.

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