CYLINDER AG-INDx-xx-xBC

Pre-engineered fixed dry chemical extinguishing system for small-volume applications, designed for piping networks / 7.7 to 53 lbs (3,5 to 26 kg)
Attached pressure / Total flooding and local application

Data sheet 13225 Rev.00

Product description

The AG-INDx-xx-xBC dry chemical cylinders with attached pressure are designed for fixed pre-engineered fire suppression systems, which operate with a predefined piping network and a fixed quantity of extinguishing agent. In this case, the system uses between 3,5 and 26 kg of dry chemical.

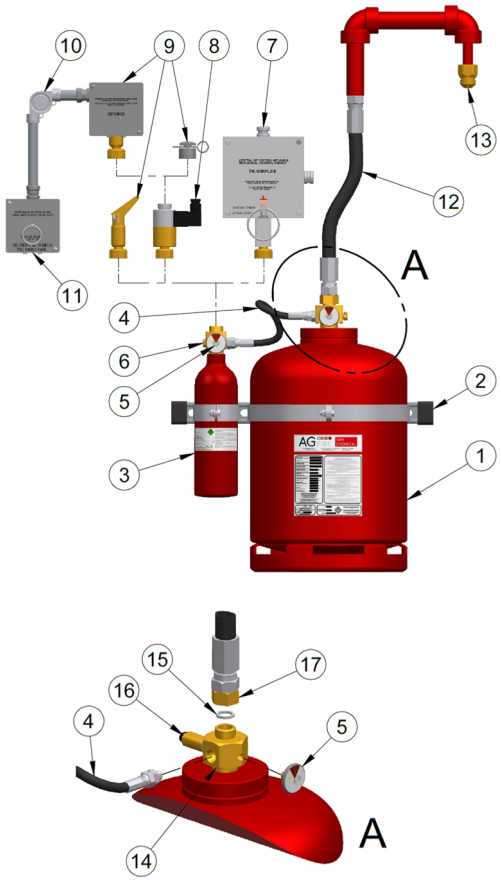
Dry chemical systems are suitable for the protection of Class A hazards (combustible solid materials), Class B hazards (flammable liquids and gases), and Class C hazards (energized electrical equipment).

The system consists of a cylinder filled with dry chemical connected to a piping network that distributes the agent through total flooding or local application nozzles. The dry chemical cylinder is pressurized by an attached cylinder containing the expellant gas (N_2), equipped with the RGS-MAM-0301 valve. Activation can be carried out by manual, electrical, thermal, mechanical, or thermal-mechanical methods. Optionally, the system can include a mechanical detection system.

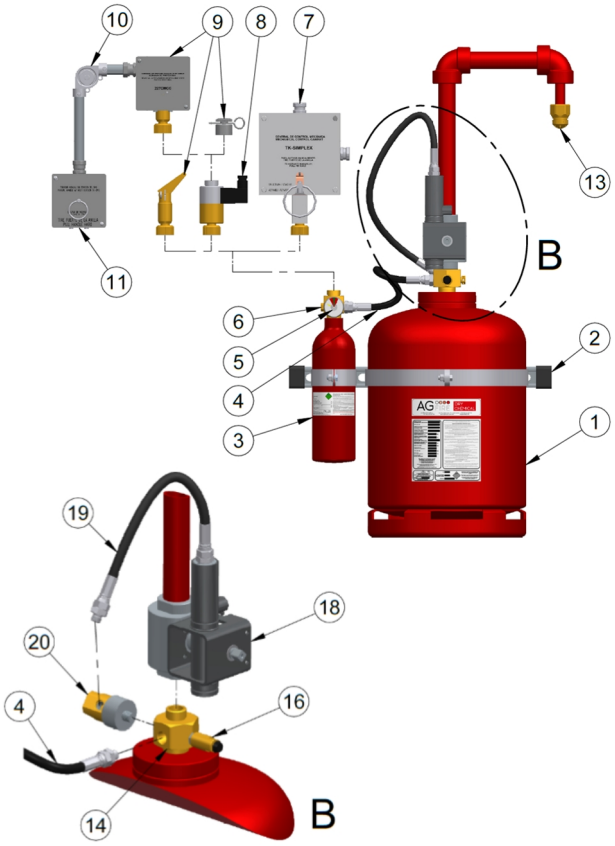
Upon activation, the dry chemical cylinder is pressurized and, once the specified operating pressure (15 or 25 bar) is reached, the dry chemical agent is released and distributed throughout the protected area through the nozzles. Discharge from the dry chemical cylinder can be controlled by either a rupture disc or a dry chemical control valve.

System components

System with SIDRxx rupture disc



System with SVDNxxxxSH dry chemical control valve



Applications

Pre-engineered dry chemical cylinders are designed for a wide range of industrial applications, including paint booths and preparation areas, coating and finishing operations, machinery and equipment areas, boiler rooms, furnaces, and electrical and mechanical rooms, as well as facilities for the storage of flammable liquids, hazardous materials, and bulk products, spill containment dikes, and quench and dip tanks.

Technical data

DRY CHEMICAL CYLINDER WITH ATTACHED PRESSURE					
Model type	**Dry chemical filling lbs (kg)**	**Risk type ***	**Dry chemical type**	**Number of nozzles**	**Expellant cylinder gal / psi (L / bar)**
INDL-3-KBC	7.7 (3.5)	LA	KBC	1	0.13 / 2465 (0,5 / 170)
INDL-5-ABC	11.0 (5)	LA	ABC	1	
INDL-5-BC	11.0 (5)	LA	BC	1	
INDT-9-ABC	19.8 (9)	TF	ABC	1	0.13 / 2465 (0,5 / 170)
INDL-15-ABC	33.1 (15)	LA	ABC	3	
INDL-15-BC	33.1 (15)	LA	BC	3	
INDL-22-ABC	48.5 (22)	LA	ABC	4	0.26 / 2900 (1 / 200)
INDL-22-BC	48.5 (22)	LA	BC	4	
INDT-26-ABC	57.3 (26)	TF	ABC	3	

* LA=Local Application / TF=Total Flooding

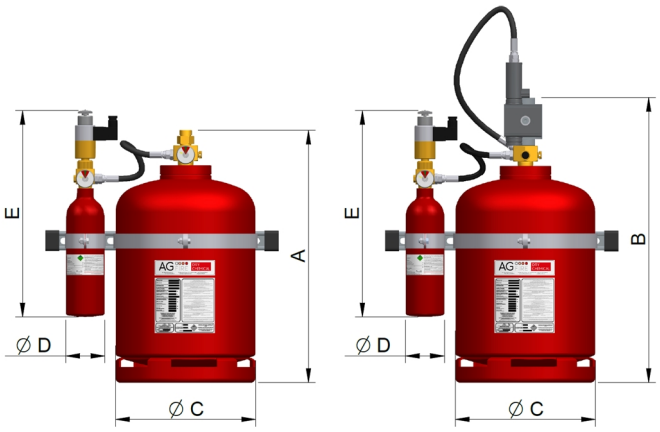
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NOTE: Class D and potassium bicarbonate Class BC dry chemical systems are also available. Contact AG Fire.

System components

No.	Description	Type	Qty
1	Cylinder	INDL-3-KBC, INDL-5-ABC, INDL-5-BC, INDT-9-ABC, INDL-15-ABC, INDL-15-BC, INDL-22-ABC, INDL-22-BC, INDT-26-ABC	1
2	Fixing brackets	POHCxxx	1
3	N_2 expellant cylinder	100M05UA-5,100M1UCH-5	1
4	Impulsion hose	FH-6PO, FH-7PO, DH10, DH10I, DH11, DH11I	1
5	Pressure gauge	5140-W25, 5140-W40, 5140-W60, 5140-W250, UF40I-P16, UF40I-P24, UF40I-P150, UF40I-P200	2
	Pressure gauge with electrical contacts (optional)	5140-E40SP13, 5140-E60SP22, 5140-E250SP144, 5140-E250SP180, UF40I-E16, UF40I-E24, UF40I-E150, UF40I-E200	
6	Expellant cylinder valve	RGS-MAM-0301	1
7	Mechanical detection and actuator (optional)	TK-SIMPLEX-B, TK-COMPLEX-B, TK-SIMPLEX-C, TK-COMPLEX-C, KCTM-R, KCTM-C	1
8	Electrical actuator (optional)	227SOLR, 227SOLCR, 227SOLCR125	
9	Manual actuator	227DMR, 227DMS, 227CMCC, 227CMC, 227CN, 227CNM, KCTM-R, KCTM-C	
10	Pulley elbow	TK-CPx	-
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, DH-20, DH-20 I, DH-21, DH-21 I, FH-20HC	1
13	Nozzle	AG-TF-1, AG-O-2, AG-TK-1	-
14	Container valve	RGS-MAM-10, RGS-MAM-10P,	1
15	Bursting disc	SIDR15, SIDR20	1
16	Bleed valve	POVV8	1
17	Bursting disc cap		1
18	Dry chemical control valve	SVDNxx15SH, SVDNxx20SH	1
19	Activation flexible hose ¼”	FH-6PO, FH-7PO, DH10, DH10I, DH11, DH11I	1
20	Pilot valve	FTSV-6	1

Dimensions



EXTINGUISHING AGENT CYLINDER DIMENSIONS			
Model	A inch (mm)	B inch (mm)	Ø C inch (mm)
INDL-3-KBC	20.2 (512)	23.0 (584)	Ø 6.0 (153)
INDL-5-ABC			
INDL-5-BC			
INDT-9-ABC	17.9 (455)	20.7 (525)	Ø 9.7 (245)
INDL-15-ABC			
INDL-15-BC			
INDL-22-ABC	21.3 (541)	24.1 (611)	Ø 11.8 (300)
INDL-22-BC			
INDT-26-ABC			

*General tolerances ±1%

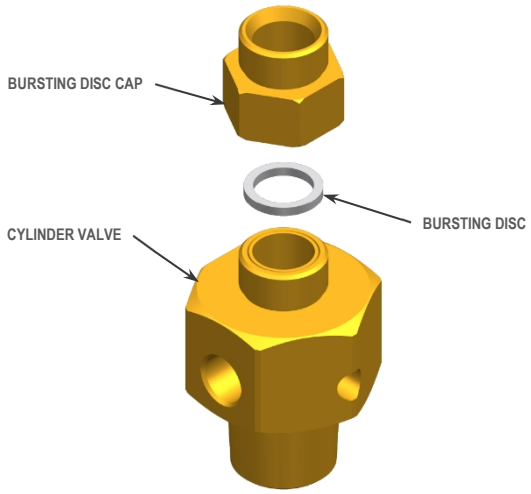
N_2 EXPELLANT CYLINDER DIMENSIONS				
Model	Capacity ft^3 (L)	Pressure psi (bar)	Ø D inch (mm)	E inch (mm)
100M05UA-5	0.018 (0,5)	2465 (170)	Ø 2.0 (51)	21.0 (533)
100M1UCH-5	0.035 (1)	2900 (200)	Ø 3.3 (83)	17.4 (443)

*General tolerances ±1%

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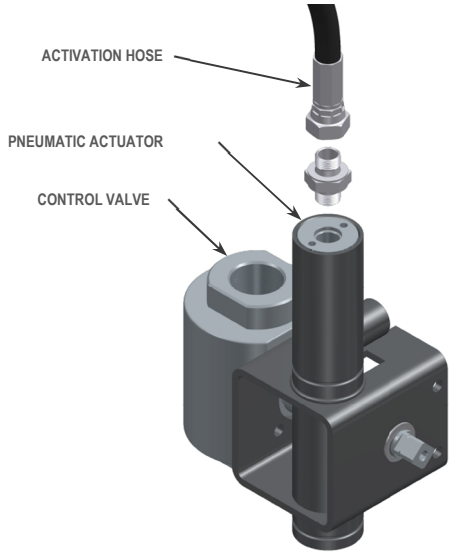
SIDRxx bursting disc

This rupture disc allows the contents of the dry chemical cylinder to be discharged once the working pressure is reached. The disc is installed at the cylinder outlet, between the cylinder valve and its cap. When the required pressure is reached, the disc bursts and the extinguishing agent flows into the discharge piping, from where it is distributed to the nozzles.



Válvula de control de polvo SVDNxx15SH / SVDNxx20SH

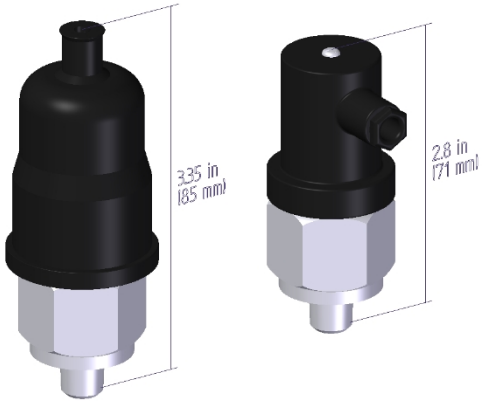
The control valve releases the dry chemical from the cylinder once the operating pressure is reached. The control valve actuator is connected to the dry chemical cylinder via the activation hose. When the required pressure is reached, the actuator opens the valve, allowing the extinguishing agent to flow into the discharge piping and be distributed through the nozzles.



Pressure switch (opcional)

The pressure switch is an optional 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

Electrical activation (optional)

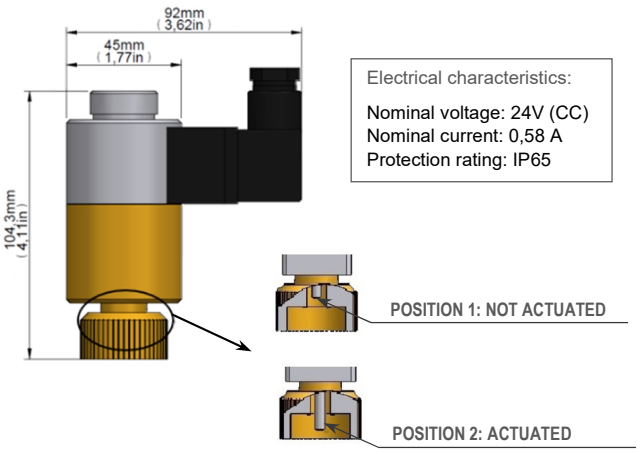
227SOLR resettable electric actuator head (24VDC)

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 Fire to inquire about the availability of appropriately rated enclosures.



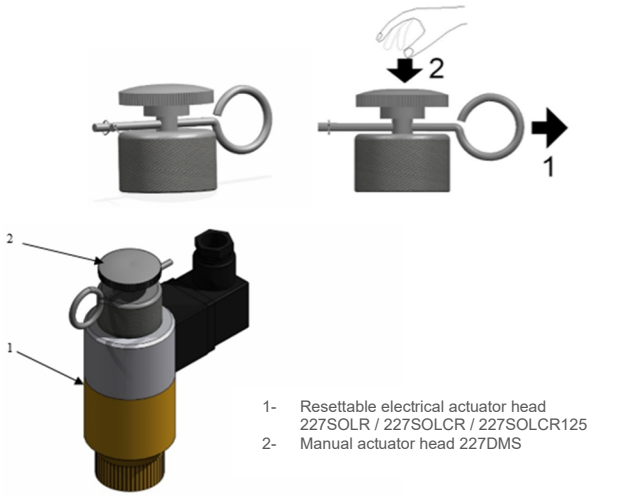
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Manual activation

227DMS 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.

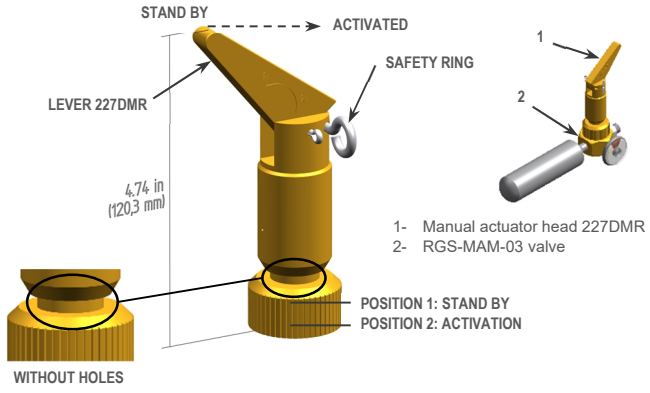


1- Resettable electrical actuator head 227SOLR / 227SOLCR / 227SOLCR125
2- Manual actuator head 227DMS

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 227DMR manual actuator can be installed on the upper actuation port of the RGS-MAM-03 valve, or mounted on top of the electric actuator installed on that valve, using a revolving nut that allows proper orientation.



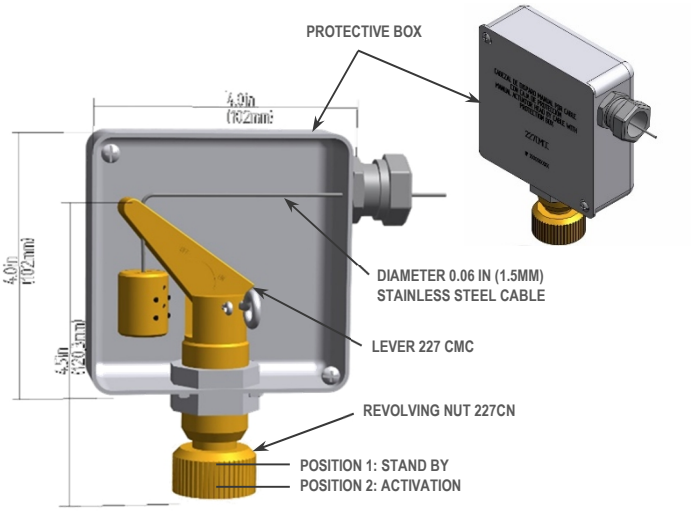
1- Manual actuator head 227DMR
2- RGS-MAM-03 valve

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

It is used to remotely actuate the extinguishing system. This cable-operated manual actuator head can be installed on top of the electric actuator mounted on the RGS-MAM-03 valve, and is connected by cable inside a conduit (protective pipe) to the remote manual pull 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 cable is installed inside a steel pipe, using pulley elbows (TK-CPx) that allow for the directional changes required by obstacles and the elevation variations needed to reach the 227CMC or 227CMCC manual cable-operated actuator head.



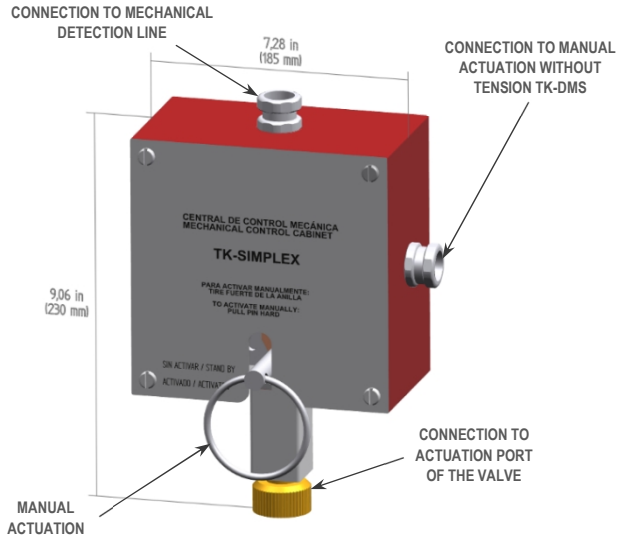
Mechanical detection and activation

TK-SIMPLEX-B / TK-SIMPLEX-C mechanical control unit

The mechanical control unit, model TK-SIMPLEX-B / TK-SIMPLEX-C, includes a mechanical detection line that releases the system when a fusible link or a thermo bulb is activated due to the temperature rise caused by a fire.

The mechanical control unit has an internal mechanical device capable of actuating the valve core of the container valve where it is installed. It also allows manual activation to release the system in case of emergency.

The difference between the TK-SIMPLEX and TK-SIMPLEX-C models lies in the valve they are mounted on (the TK-SIMPLEX-B is only compatible with RGS-MAM-03/03A valves).



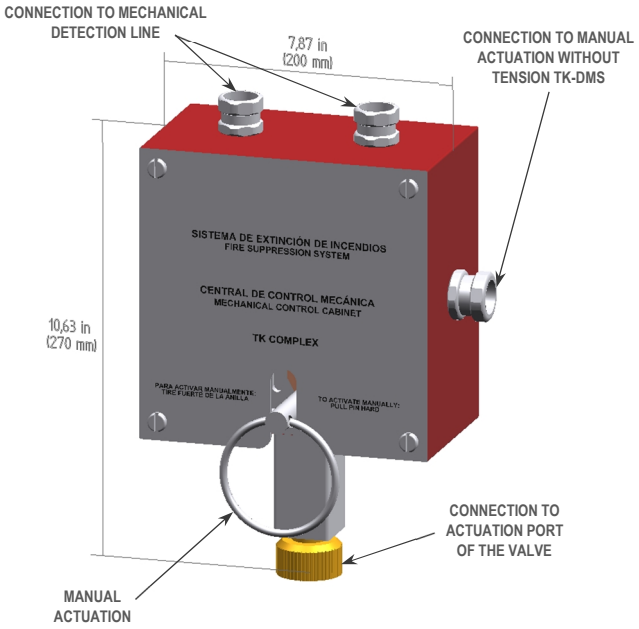
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TK-COMPLEX-B / TK-COMPLEX-C mechanical control unit

The mechanical control unit, model TK-COMPLEX-B / TK-COMPLEX-C, has two versions: regular detection or cross detection. Both versions include two detection lines. In the regular detection system, the mechanical control unit releases the system when a fusible link or a thermo bulb in either of the two detection lines is activated due to a temperature rise caused by a fire. In the cross detection system, the mechanical control unit releases the system when at least one fusible link or thermal bulb in both detection lines is activated due to the heat increase caused by a fire.

The mechanical control unit has an internal mechanical device capable of actuating the valve core of the container valve where it is installed. It also allows manual activation to release the system in case of emergency.

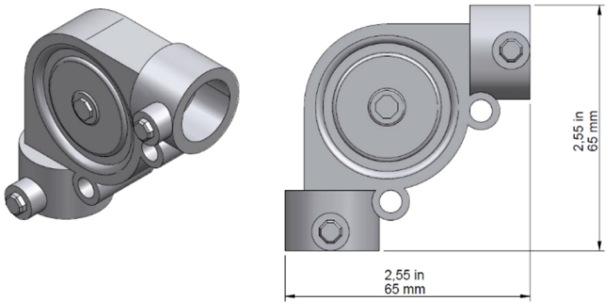
The difference between the TK-COMPLEX-B and TK-COMPLEX-C models lies in the valve they are mounted on (the TK-COMPLEX-B is only compatible with RGS-MAM-03/03A valves).



TK-CPx pulley elbow

The pulley elbow is installed as part of the manual cable-operated actuator head and provides a change of direction with minimal force loss due to friction. Its function is to drive the stainless steel cable to avoid obstacles through the necessary directional changes to connect the remote manual pull station without tension (TK-DMS) with the 227CMC or 227CMCC manual cable actuator.

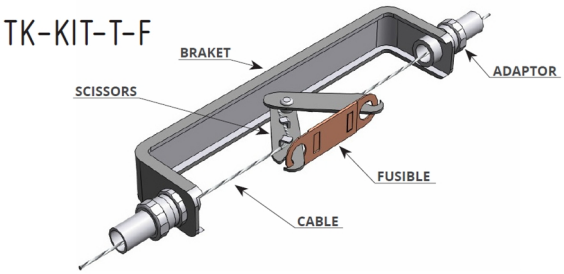
In addition, it connects the detection kits with the mechanical control unit and with all components that operate using detection cable. It contains a small internal bearing to guide the cable and completely eliminate friction.



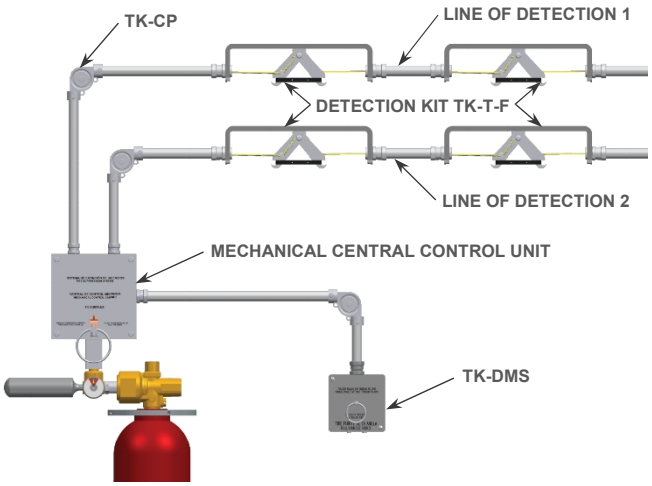
TK-KIT-x-x mechanical detection kits

The purpose of the mechanical detection kit is to detect a fire through temperature by means of a fusible link or a thermo bulb rated for different temperature ranges, all connected by a steel cable.

When the fusible link or thermo bulb breaks at a specific temperature, the cable loosens and activates the mechanical control unit (TK-SIMPLEX-B, TK-SIMPLEX-C, TK-COMPLEX-B, TK-COMPLEX-C) to operate the extinguishing system.



Limitations of the mechanical detection line



LIMITATIONS OF THE MECHANICAL DETECTION LINE		
Mechanical control unit	**TK-SIMPLEX-B / TK-SIMPLEX-C**	**TK-COMPLEX-B / TK-COMPLEX-C**
Maximum cable length in detection line 1	205.9 ft (62,77 m)	205.9 ft (62,77 m)
Maximum cable length in detection line 2	-	205.9 ft (62,77 m)
Maximum number of detection kits in detection line 1	41 units (15 units type TK-KIT-T-B / TK-KIT-T-F + 26 units type TK-KIT-C-B / TK-KIT-C-F / TK-KIT-A-B / TK-KIT-A-F)	41 units (15 units type TK-KIT-T-B / TK-KIT-T-F + 26 units type TK-KIT-C-B / TK-KIT-C-F / TK-KIT-A-B / TK-KIT-A-F)
Maximum number of detection kits in detection line 2	-	41 units (15 units type TK-KIT-T-B / TK-KIT-T-F + 26 units type TK-KIT-C-B / TK-KIT-C-F / TK-KIT-A-B / TK-KIT-A-F)

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LIMITATIONS OF THE MECHANICAL DETECTION LINE		
Mechanical control unit	**TK-SIMPLEX-B / TK-SIMPLEX-C**	**TK-COMPLEX-B / TK-COMPLEX-C**
Maximum number of TK-CP elbow pulleys in detection line 1	42 units	42 units
Maximum number of TK-CP elbow pulleys in detection line 2	-	42 units

ALL ACTUATORS AVAILABLE FOR RGS-MAM-0301 CONTAINER VALVES ARE SHOWN ON PAGE 7.

ⓘ **This document provides a simplified overview of the most common system components. A wide range of detection, activation and control devices is available to meet the specific requirements of each installation.**

For further information, please contact AG FIRE SPRINKLER.

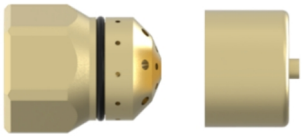
Nozzles

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

With the AG-INDx-xx-xBC dry chemical cylinders, between 1 and 4 nozzles can be installed, depending on the cylinder size. The nozzle model depends on the application:

AG-TF1 total flooding nozzle

This nozzle is intended for the application of dry chemical by total flooding, and it is threaded onto the discharge piping in a vertical position.



AG-O-2 local application nozzle

Designed for local application protection systems, this nozzle allows the extinguishing agent to be directed directly onto a critical point or specific piece of equipment from an elevated position. It is screwed onto the pipe in a vertical position.



AG-TK-1 local application nozzle

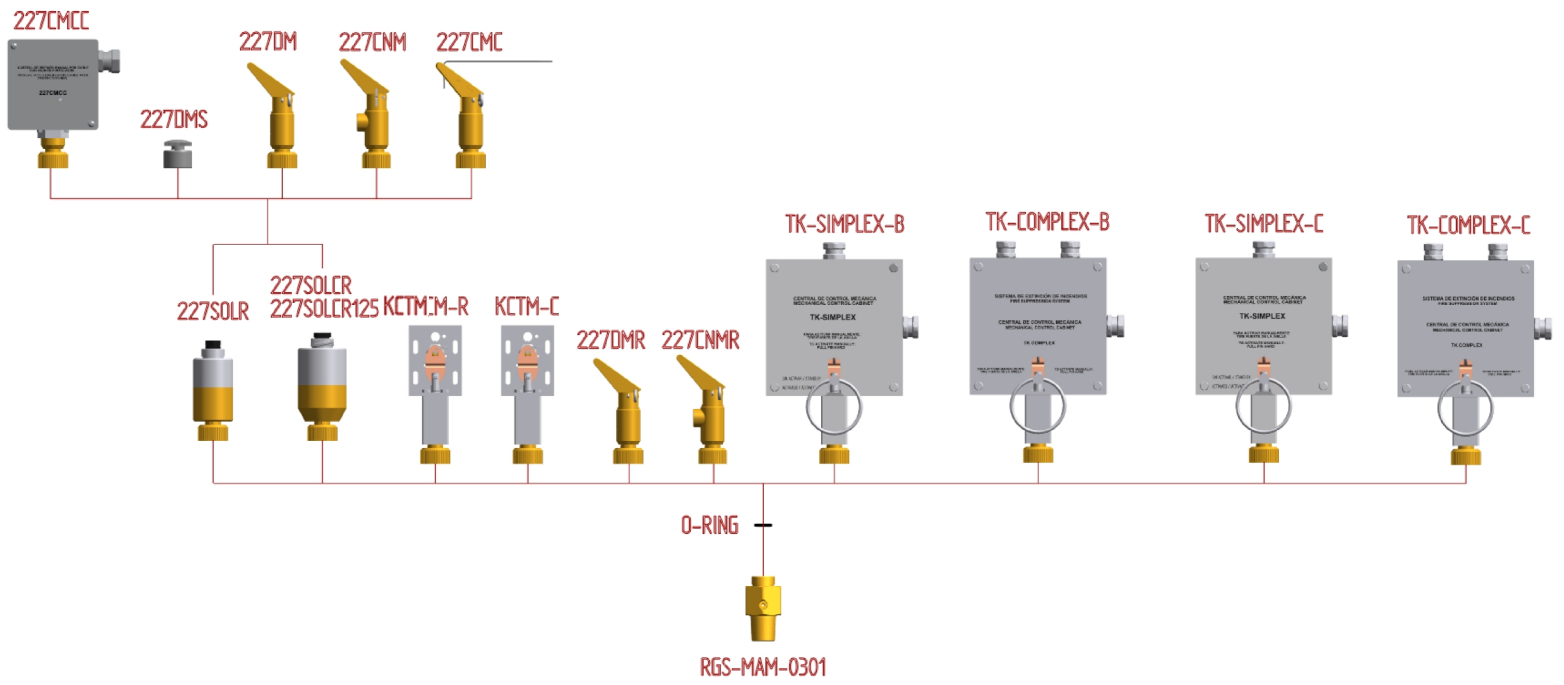
Developed for the protection of flammable liquid storage tanks, or to cover by immersion areas prone to flammable liquid spills. It is installed next to the tank and discharges at a 90° angle to the pipe, creating a flat, semicircular chemical blanket over the surface of the flammable liquid.



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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 expellant cylinder to discharge the dry chemical cylinder. 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 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.

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