CYLINDER AG-INDL-21-xBC / AG-INDT-27-ABC

Pre-engineered fixed dry chemical extinguishing system for piping networks / 21 to 27 kg

Stored pressure / Total flooding and local application

Data sheet 13108 Rev.00

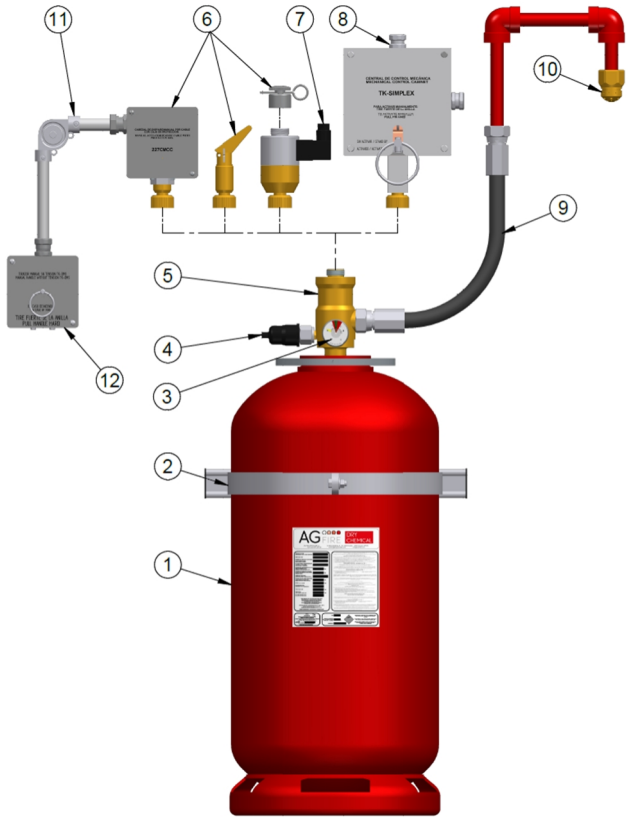
Product description

The AG-INDL-21-xBC and AG-INDT-27-ABC dry chemical cylinders are designed for pre-engineered fixed extinguishing systems, which operate with a predefined piping network and a fixed quantity of agent — in this case, between 21 and 27 kg of extinguishing agent.

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 powder connected to a piping network that distributes the agent to either total flooding or local application nozzles. The cylinder is pressurized with the propellant agent (N_2) at 25 bar and has multiple activation methods: manual, electrical, thermal, mechanical, and thermo-mechanical. Optionally, it can include a mechanical detection system. Once activated, the system discharges the extinguishing agent and distributes it over the protected area through the nozzles.

System components



Nº	Description	Type	Qty
1	Cylinder	INDT-27-ABC, INDL-21-ABC, INDL-21-BC	1
2	Fixing Brackets	POHCxxx	1
3	Pressure Gauge	5140-W40, 5140-W60, UF40I-P24	1
	Pressure Gauge with electrical contacts (optional)	5140-E40SP13, 5140-E60SP22, UF40I-P24	
4	Pressure switch (optional)	POPRENA50, POPRENC50, APRESA50, APRESC50	1
5	Container valve	RGS-MAM-20	1
6	Manual actuator	227DM, 227DMS, 227CMCC, 227CMC, 227CNTK, 227CN, 227CNM, KCTM, KCTM-C	1
7	Electrical actuator (optional)	227SOL, 227SOLC, 227SOLC125	
8	Mechanical detection and actuator (optional)	TK-SIMPLEX, TK-COMPLEX, TK-SIMPLEX-C, TK-COMPLEX-C, KCTM, KCTM-C	
9	Discharge hose 1”	FH-25HC	1
10	Nozzle	AG-TF-1, AG-O-2, AG-TK-1	3 or 4
11	Pulley elbow	TK-CPx	-
12	Remote manual pull station	TK-DMS, TK-DMS2	-

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.

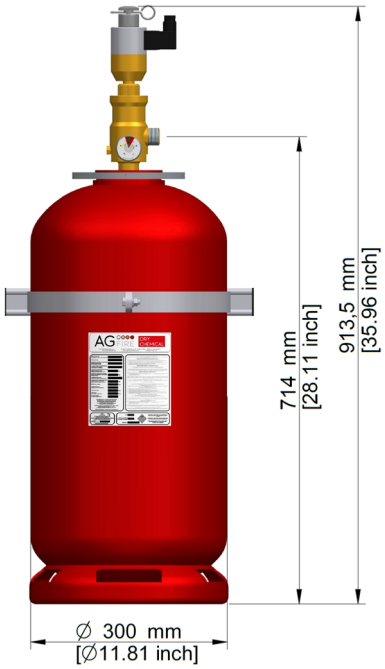
Technical data

STORED PRESSURE DRY CHEMICAL CYLINDER					
Model type	**Dry chemical filling lbs (kg)**	**Cylinder pressure psi (bar)**	**Risk type**	**Dry chemical type**	**Number of nozzles**
INDT-27-ABC	59.5 (27)	363 (25)	Total Flooding	ABC	3
INDL-21-ABC	46.3 (21)	363 (25)	Local Application	ABC	4
INDL-21-BC	46.3 (21)	363 (25)	Local Application	BC	4

NOTE: Class D and potassium bicarbonate Class BC dry chemical systems are also available. For further technical information, please contact AG Fire.

C/Alfoz de Bricia nº4 | P.I. Villalonquéjar | 09001 Burgos (Spain) | Tlfno: +34 947 28 11 08 | www.agfiresprinkler.com

Dimensions

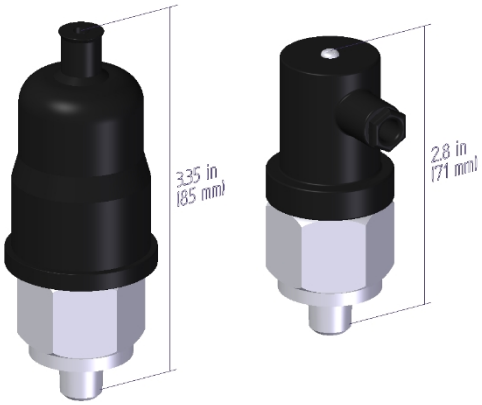


APPROXIMATE DIMENSIONS

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

Electrical activation (optional)

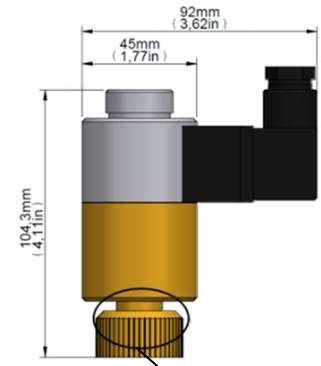
227SOL resettable electric actuator head (24VDC)

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.

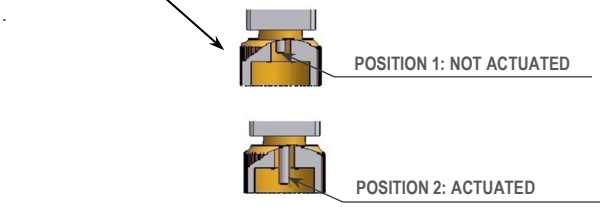
The mechanism used to connect it to the container valve includes a revolving nut, allowing it to be properly oriented in the desired direction.

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



Electrical characteristics:

Nominal voltage: 24V (DC)
Nominal current: 0,58 A
Protection rating: IP65

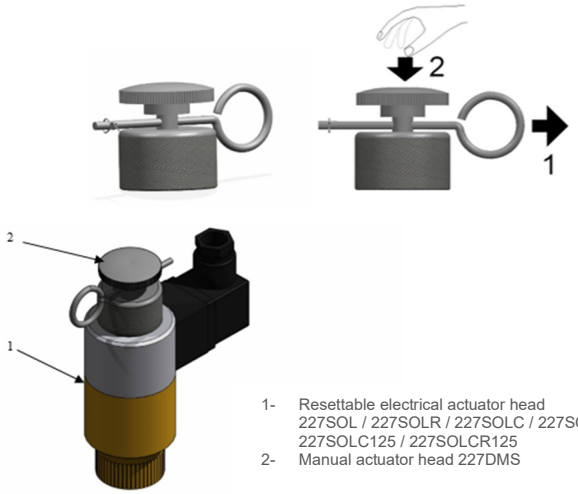


Manual activation

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 227SOL, 227SOLC, and 227SOLC125 electric actuators, by means of a revolving nut that allows its proper orientation.



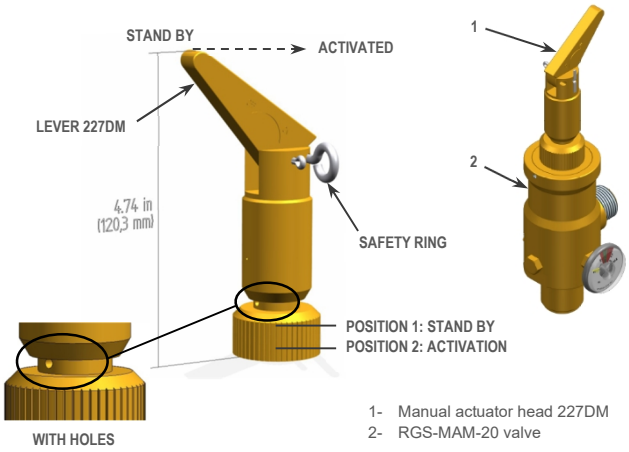
1- Resettable electrical actuator head 227SOL / 227SOLR / 227SOLC / 227SOLCR / 227SOLC125 / 227SOLCR125
2- Manual actuator head 227DMS

C/Alfoz de Bricia nº4 | P.I. Villalonquéjar | 09001 Burgos (Spain) | Tlfno: +34 947 28 11 08 | www.agfiresprinkler.com

227DM 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-20 valve, or mounted on top of the electric actuator installed on that valve, using a revolving nut that allows proper orientation.



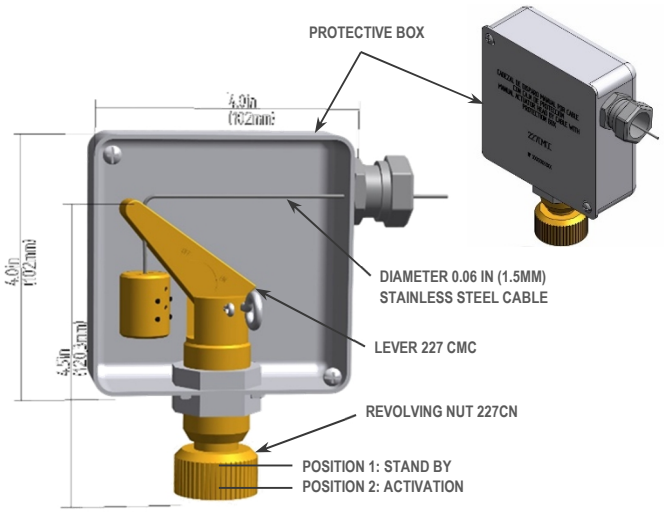
1- Manual actuator head 227DM
2- RGS-MAM-20 valve

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

It is used to remotely actuate the extinguishing system. This manual cable-operated actuator head actuator can be installed on the upper actuation port of the RGS-MAM-20 valve, or mounted on top of the electric actuator installed on that 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.



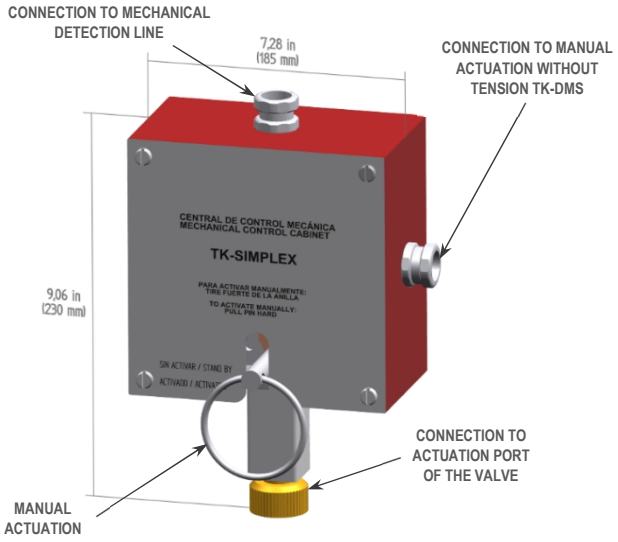
Mechanical detection and activation

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

The mechanical control unit, model TK-SIMPLEX / 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 is not compatible with RGS-MAM-03/03A valves).

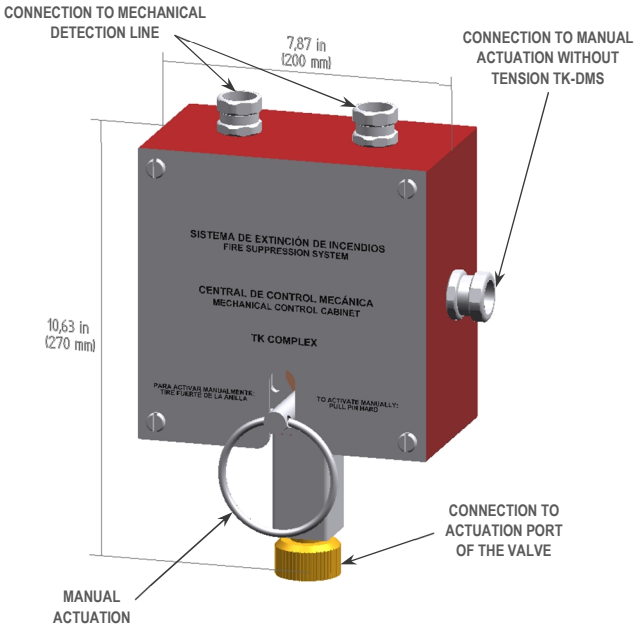


TK-COMPLEX / TK-COMPLEX-C mechanical control unit

The mechanical control unit, model TK-COMPLEX / 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 and TK-COMPLEX-C models lies in the valve they are mounted on (the TK-COMPLEX is not compatible with RGS-MAM-03/03A valves).

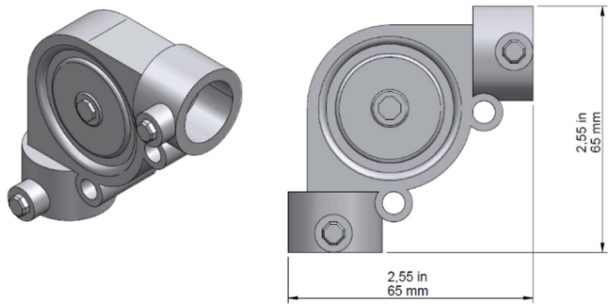


C/Alfoz de Bricia nº4 | P.I. Villalonquéjar | 09001 Burgos (Spain) | Tlfno: +34 947 28 11 08 | www.agfiresprinkler.com

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.

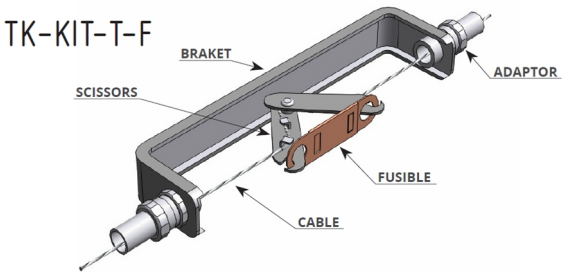
In addition, it connects the detection kits with the mechanical control unit and with all components that operate using detection cable. It contains a small internal bearing to guide the cable and completely eliminate friction.



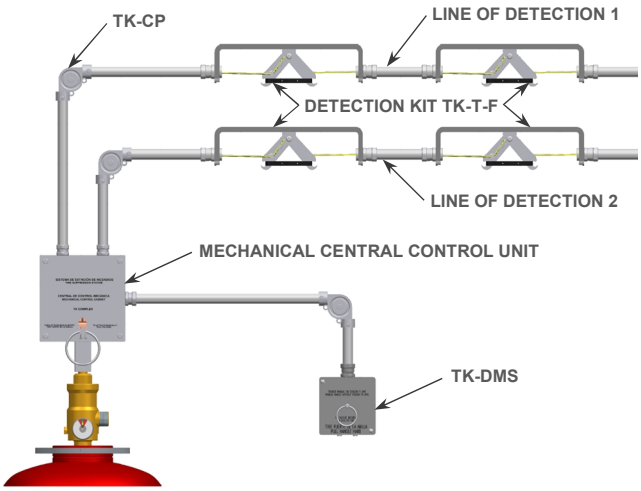
TK-KIT-x-x mechanical detection kits

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, TK-SIMPLEX-C, TK-COMPLEX, 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 / TK-SIMPLEX-C**	**TK-COMPLEX / 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)
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-20 CONTAINER VALVES ARE SHOWN ON PAGE 5.

Nozzles

Its function is to discharge the extinguishing agent into the protected area as homogeneously as possible to achieve effective suppression. With the AG-INDL-21-xBC model dry chemical cylinders, up to 4 nozzles can be installed, while the AG-INDT-27-ABC model can be installed with up to 3 nozzles, which model depends on the application:

AG-TF-1 total flooding nozzle

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

AG-O-2 local application nozzle

Designed for local application fire protection systems, it is threaded onto the discharge 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 90º angle to the piping, creating a flat semicircular chemical blanket over the surface of the flammable liquid.



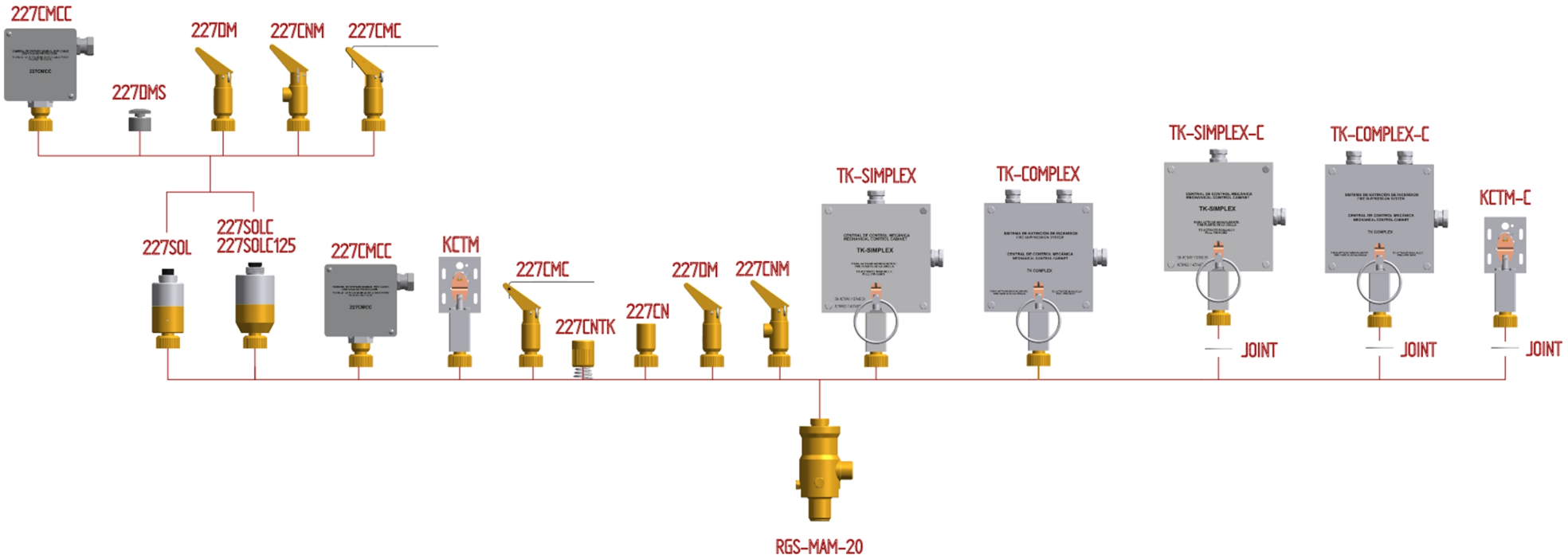
AG-TF1 AG-O-2 AG-TK-1

ⓘ **This document provides a simplified overview of the most common system components. For further information, please contact AG FIRE SPRINKLER.**

C/Alfoz de Bricia nº4 | P.I. Villalonquéjar | 09001 Burgos (Spain) | Tlfno: +34 947 28 11 08 | www.agfiresprinkler.com

Actuator configuration

There is a wide range of actuators available depending on the requirements. All have the same function: to activate the dry chemical stored-pressure cylinder. The system is usually equipped with a 227SOL 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.

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

C/Alfoz de Bricia nº4 | P.I. Villalonquéjar | 09001 Burgos (Spain) | Tlfno: +34 947 28 11 08 | www.agfiresprinkler.com