

WE PROTECT THE HEART OF YOUR COMPANY

The aerosol firefighting system for electrical cabinets

fire kloud

AEROSOL **REVOLUTION** TECHNOLOGY

WHY FIRE KLOUD

FIRE RISKS AND THE IMPORTANCE OF PROTECTION

Reducing the risk of fire in live electrical and electronic equipment has become a top priority in all risk management activities for the safety of people in their workplaces, and above all for the continuity of production procedures and service delivery.
Most electrical fires are caused by short circuits or malfunctions of electrical equipment and machines. The most common causes are problems with connections, overheating of electrical cables and components, and the formation of condensation. The resulting damages are multiple: production stops, technical problems in the delivery of services, high costs and long reactivation times for damaged production lines and machinery.

FIRE KLOUD IS THE SOLUTION

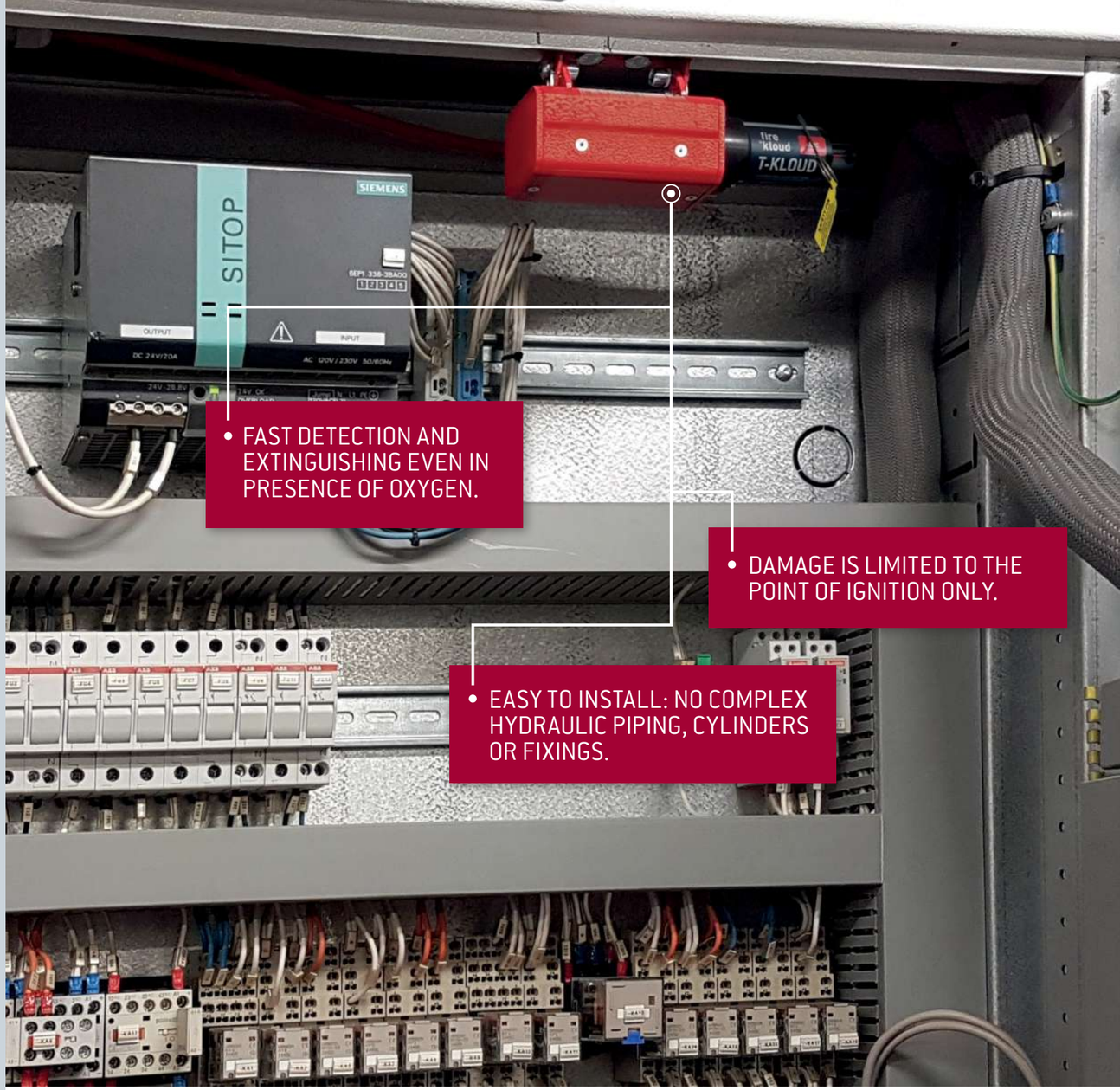
The Fire Kloud aerosol system, with its small and compact size and the use of an environmentally friendly extinguishing agent that does not damage electrical equipment, is the ideal choice for protecting electrical equipment acting directly on the sources of the possible risk. Fire Kloud provides 24-hour active protection. It detects, signals and extinguishes the start of a fire in a few seconds.
Fire Kloud is cost-effective, maintenance-free and has a 15 years certified lifetime. Fire Kloud is the ideal solution for the protection of company premises and assets. It is available in modular or stand-alone versions.

15-YEAR PRODUCT LIFE CERTIFICATE.

24-HOUR ACTIVE PROTECTION.

FIRE KLOUD IS EQUIPMENT FRIENDLY.

MINIMAL MACHINE DOWNTIME AND RAPID RECOVERY IN THE EVENT OF A FIRE.



- FAST DETECTION AND EXTINGUISHING EVEN IN PRESENCE OF OXYGEN.
- DAMAGE IS LIMITED TO THE POINT OF IGNITION ONLY.
- EASY TO INSTALL: NO COMPLEX HYDRAULIC PIPING, CYLINDERS OR FIXINGS.

FIRE KLOUD PROTECTS THE EQUIPMENT FROM THE INSIDE

The Fire Kloud technology has been developed to protect the equipment from the inside and therefore guarantees the fastest and most effective extinguishment. The system has a double function: fire detection and extinguishing with aerosol generators.
The system detects a temperature rise and activates the discharge of the extinguishing agent, which immediately extinguishes the fire. Its rapid action prevents the spreading of the flames and limits the damage to the point of ignition. The Fire Kloud system is available both as a modular solution, consisting of several aerosol generators integrated with a fire detection system, and as a completely stand-alone solution equipped with the innovative **T-Kloud**, a thermal device that detects the rise in temperature and automatically activates the release of the extinguishing agent to suppress the fire.

AEROSOL EXTINGUISHER

THE WINNING SOLUTION FOR FIREFIGHTING IS FIRE KLOUD

Aerosol extinguishers provide a revolutionary method of extinguishing fires with an ultra-fine dispersion of condensed potassium carbonate particles and inert gases.

Fire Kloud aerosol technology provides protection of electrical cabinets by flame inhibition at the molecular level, without any reduction in oxygen, while the potassium carbonate particles uniformly saturate the device and act on possible sources of risk.
The chain reaction is interrupted as soon as the suspended microparticles come into contact with the flame.

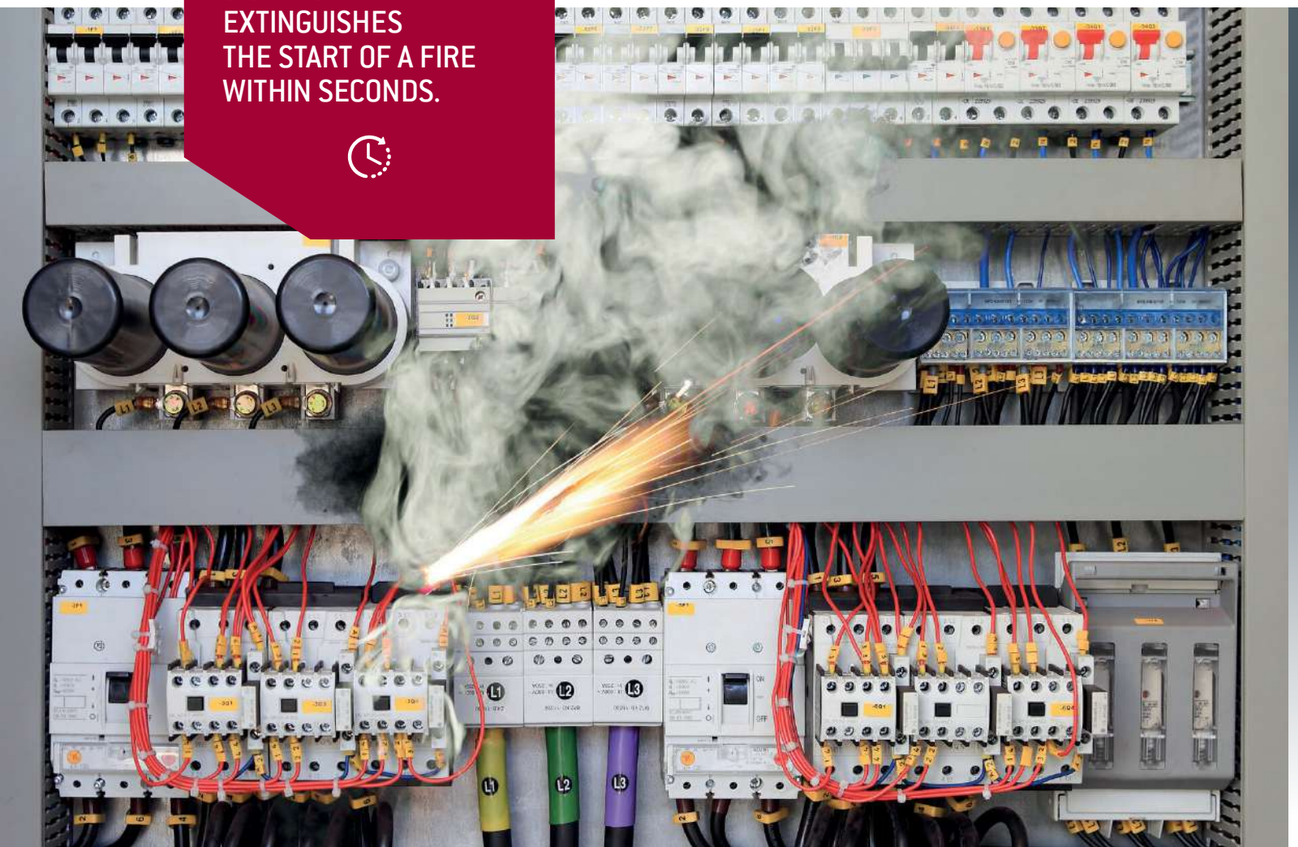
Fire Kloud is environmentally friendly and non-toxic for persons. Fire Kloud is a dielectric, non-acidic, non-corrosive fume that doesn't damage live electronic devices and equipment.

ENVIRONMENT FRIENDLY TECHNOLOGY

SUITABLE FOR LIVE ELECTRICAL EQUIPMENT

DOESN'T DAMAGE OBJECTS AND ENVIRONMENTS

FIRE KLOUD DETECTS, SIGNALS AND EXTINGUISHES THE START OF A FIRE WITHIN SECONDS.



WHERE TO USE FIRE KLOUD

THE RIGHT CHOICE FOR ALL ELECTRICAL AND ELECTRONIC EQUIPMENT

Fire Kloud has a compact design and is capable of operating in confined spaces where intervention is difficult.

The compact size of the dispensers allows them to be positioned inside the equipment, providing immediate intervention as soon as a fire starts. Fire Kloud generators are designed to offer **maximum safety and durability, with low maintenance costs**.

FIRE KLOUD IS THE IDEAL SOLUTION FOR:

- ☐ AUTOMATION PANELS
- ☐ ELECTRICAL PANELS
- ☐ POWER CENTER
- ☐ UPS
- ☐ MOTOR CONTROL CENTER
- ☐ INVERTER
- ☐ BATTERY CABINETS
- ☐ CONTROL PANELS

COMPACT AND SUITABLE FOR TIGHT SPACES

ROBUST AND RELIABLE

SIMPLE AND FAST INSTALLATION

FIRE KLOUD IS DURABLE AND PERFORMS EVEN AT HIGH TEMPERATURES.



FIRE KLOUD PENETRATES AND SPREADS EVENLY IN THE PROTECTED AREA.

THE FIRE KLOUD RANGE

PRODUCT INFORMATION stand-alone version

	FKa 20 RT	FKa 50 RT	FKa 100 RT	FKa 200 RT
EXTINGUISHING MASS	20 g	50 g	100 g	200 g
GROSS WEIGHT	650 ±50 g	910 ±50 g	1240 ±50 g	2100 ±100 g
DIMENSIONS	45 x 45 x 205 mm	45 x 45 x 266 mm	45 x 45 x 367 mm	85 x 85 x 287 mm
ACTIVATION	57°C, 68°C, 79°C, 93°C, 141°C	57°C, 68°C, 79°C, 93°C, 141°C	57°C, 68°C, 79°C, 93°C, 141°C	57°C, 68°C, 79°C, 93°C, 141°C
TYPE OF DIFFUSION	lamellar directional	lamellar directional	lamellar directional	lamellar directional
OPERATING TEMPERATURE	57°C -30 °C +35 °C 68°C -30 °C +46 °C 79°C -30 °C +57 °C 93°C -30 °C +67 °C 141°C -30 °C +95 °C	57°C -30 °C +35 °C 68°C -30 °C +46 °C 79°C -30 °C +57 °C 93°C -30 °C +67 °C 141°C -30 °C +95 °C	57°C -30 °C +35 °C 68°C -30 °C +46 °C 79°C -30 °C +57 °C 93°C -30 °C +67 °C 141°C -30 °C +95 °C	57°C -30 °C +35 °C 68°C -30 °C +46 °C 79°C -30 °C +57 °C 93°C -30 °C +67 °C 141°C -30 °C +95 °C
PROTECTED AREA	max 0,34 m^3	max 0,84 m^3	max 1,7 m^3	max 3,4 m^3

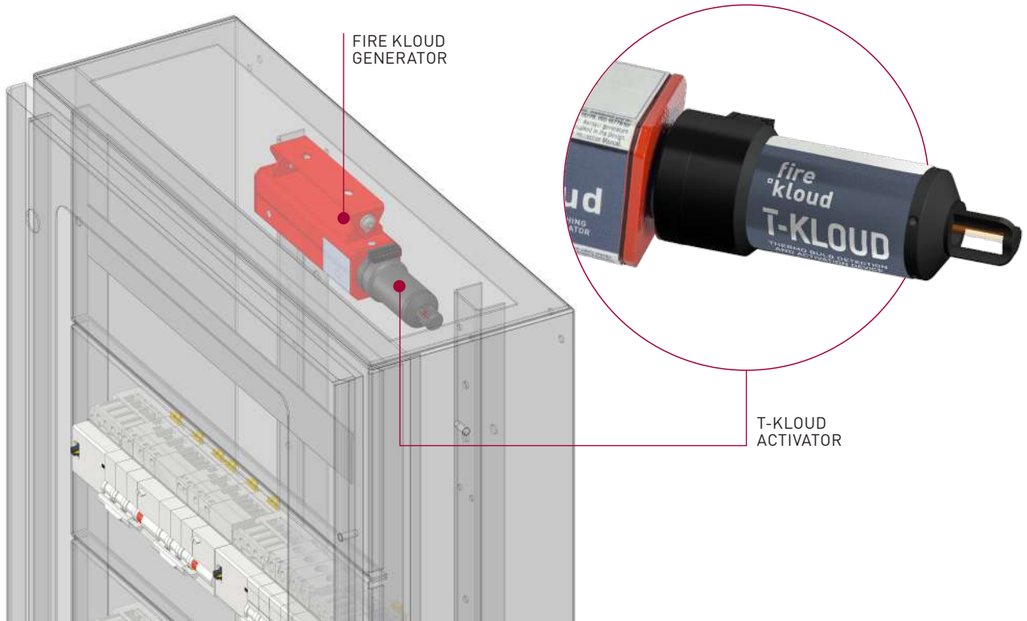
STAND-ALONE VERSION

In its stand-alone version, the Fire Kloud system consists of a small generator and a thermal detection and activation device, the **T-Kloud**.

This solution is ideal for protecting small single-column electrical panels that can be protected by a single generator.

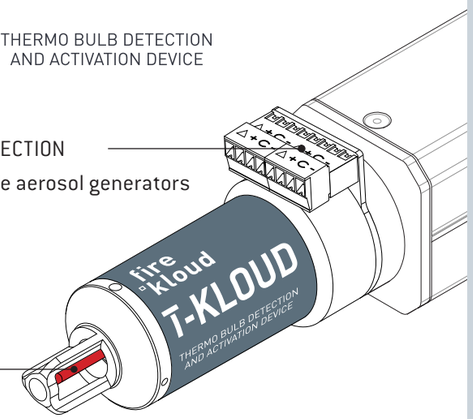
INSTALLATION

The installation is fast and easy.
All that is required is to fix the generator in a high part of the electrical panel without the need of any electrical connection.
Fire Kloud is non-intrusive. The installation of the generator doesn't modify the constructional and certification aspects of the protected equipment.



T-KLOUD

THERMO BULB DETECTION AND ACTIVATION DEVICE



It is secured directly onto Fire Kloud aerosol generators.

It is possible to choose different activation temperatures.

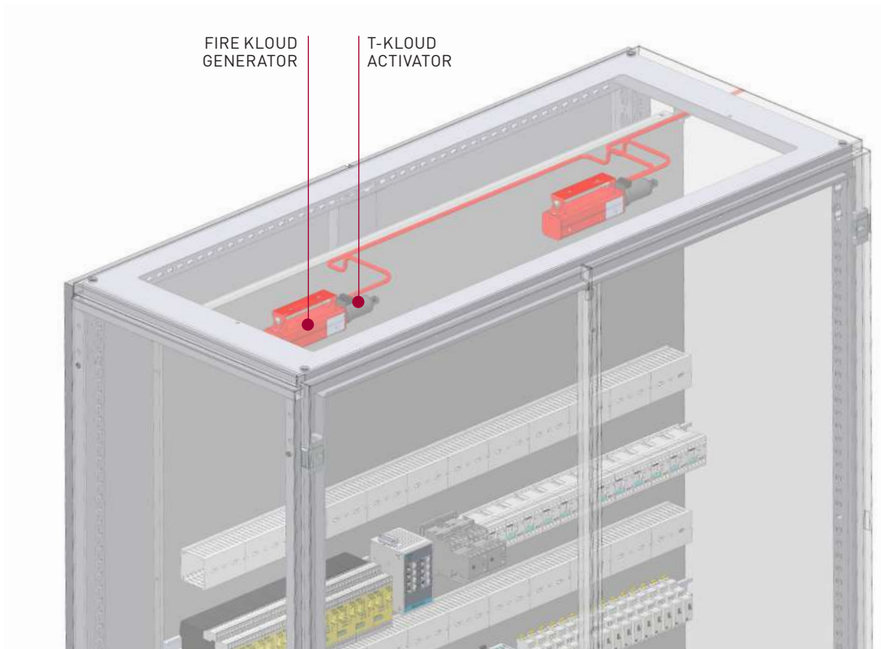
No power supply, batteries, or complex cabling required.

The T-Kloud device is integrated into our generators for small and medium volumes in the RT range in both stand-alone and modular versions.

A version of the T-Kloud is also available that is not directly connected to the aerosol generator when the extinguishing unit cannot be positioned in the hot zone of the apparatus or when limited space makes installation difficult.

MODULAR STAND-ALONE VERSION

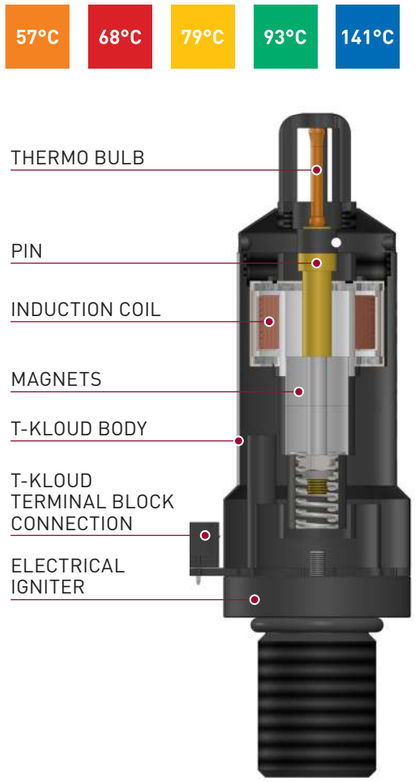
In the modular stand-alone version, the Fire Kloud system consists of several generators equipped with a **T-Kloud** thermal detection and activation device. This solution is ideal for protecting complex equipment, such as multi-column electrical panels, cable risers or segregations. In these applications, T-Kloud manages the simultaneous activation of multiple aerosol generators, ensuring total coverage. Thanks to an integrated connection terminal block, it can **activate up to 8 aerosol generators** with a single, simple cable, supplied for the cabling of each component.



T-KLOUD DEVICE TECHNOLOGY AND INNOVATION

After rigorous testing and an in-depth design phase, **T-Kloud** was born, our thermal device for detecting and activating Fire Kloud condensed aerosol extinguishing systems. The device is equipped with a **Thermo Bulb**, available in five different activation temperatures: **57°C, 68°C, 79°C, 93°C and 141°C**. When the temperature inside the glass bulb rises, a liquid sealed inside it expands. This expansion causes an increase of the internal pressure in the bulb. Once a predefined trigger temperature is reached, the bulb explodes into tiny fragments, activating the discharge of the extinguishing agent.

It consists of a single unit containing: the **thermo bulb** for thermal detection, the current pulse generation mechanism and, in the version where the T-Kloud is incorporated into the aerosol generator, an electric activator that triggers the discharge of the extinguishing agent. The mechanical operation is as follows: a spring-loaded pin is released when the thermo bulb reaches its defined trigger temperature. The spring moves a cylindrical magnet, mounted on the pin, through an induction coil. The induction coil generates an electrical pulse that is transmitted to the electrical terminals and then to the activator, which triggers the discharge of the aerosol generator.



NO SEPARATE FIRE DETECTION SYSTEM.

No smoke or heat detectors connected to a control panel are required.

RAPID DETECTION AND ACTIVATION FOR IMMEDIATE RESPONSE.

Remarkably faster reaction times.

LESS COMPLEXITY, FAST INSTALLATION.

Reduces the number of components to be installed, allowing for faster commissioning.

REMOTE MONITORING OF FAULT CONDITIONS AND FIRE ALARMS VIA TERMINAL BLOCK.

No external components such as thermostats are required.



ELECTRICAL VERSION

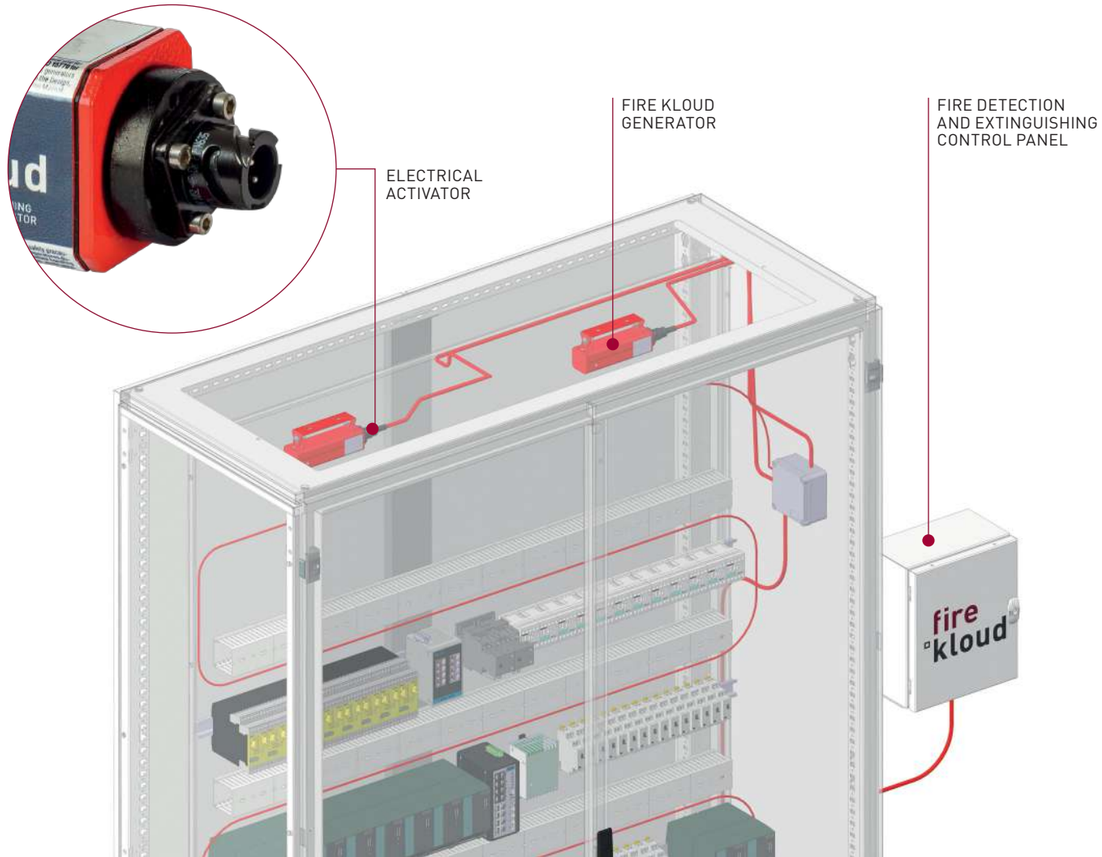
In its electrical version, the Fire Kloud system consists of a detection and extinguishing control panel, heat-sensitive cables to signal the fire alarm, and aerosol generators to extinguish the fire. The system provides automatic, fast and accurate protection in detecting the start of a fire. Fire Kloud is flexible and modular.
It can protect one or more columns and can be activated on one or more devices simultaneously.

INSTALLATION

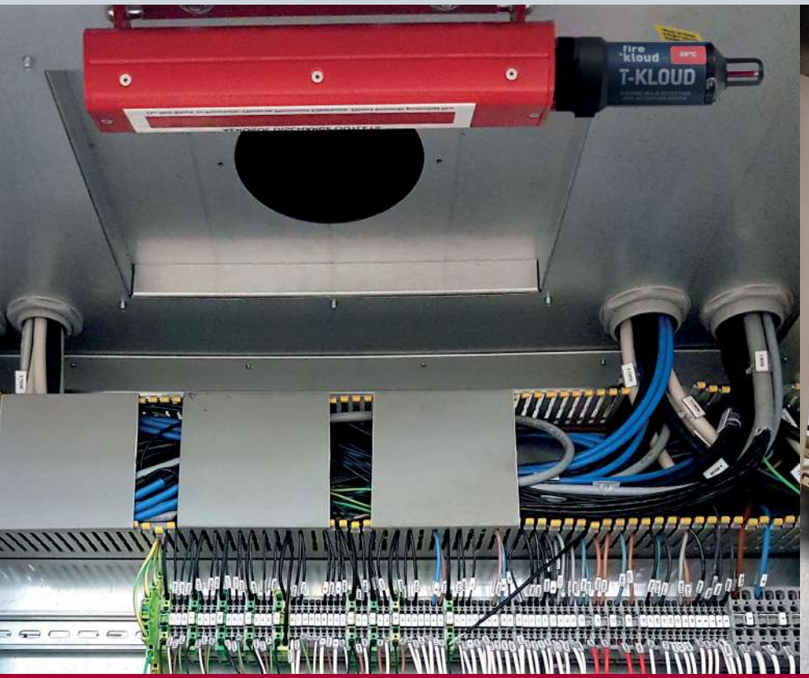
The installation is simple and can be adjusted to different needs.
The small aerosol generators can be placed in multiple positions within the electrical panel. Fire Kloud doesn't need complex plumbing, cylinders or fastening, just a simple electrical connection using plug-in connectors.

PRODUCT INFORMATION electrical version

	FKa 20 RQ	FKa 50 RQ	FKa 100 RQ	FKa 200 RQ
EXTINGUISHING MASS	20 g	50 g	100 g	200 g
GROSS WEIGHT	520 ±50 g	780 ±50 g	1110 ±50 g	1970 ±100 g
DIMENSIONS	45 x 45 x 129 mm	45 x 45 x 190 mm	45 x 45 x 291 mm	85 x 85 x 211 mm
ACTIVATION	electrical, absorption 0,7 A	electrical, absorption 0,7 A	electrical, absorption 0,7 A	electrical, absorption 0,7 A
TYPE OF DIFFUSION	lamellar directional	lamellar directional	lamellar directional	lamellar directional
OPERATING TEMPERATURE	-50 °C +95 °C	-50 °C +95 °C	-50 °C +95 °C	-50 °C +95 °C
PROTECTED AREA	max 0,34 m^3	max 0,84 m^3	max 1,7 m^3	max 3,4 m^3



FIRE KLOUD, VISIBLE RESULTS









EXAMPLES OF SYSTEMS BUILT FOR OUR CLIENTS

CERTIFIED SAFETY

Fire Kloud generators have been designed to be up to date with the most important international standards in the fire-fighting technology sector.

Fire Kloud is the first and only Italian aerosol system to have obtained the product certification from RINA Services in accordance with **UNI EN 15276** and **ISO 5779** standards.

The entire range has been tested by qualified laboratories and is certified for a life span of fifteen years, it has passed the required technological and performance tests under the most severe conditions.

In addition, Fire Kloud's system technology has obtained the **SIL** certification from TÜV Austria.

Fire Kloud generators have successfully passed all extinguishing tests in accordance with the strictest international standards.

RINA P0019412/1

UNI EN 15276 ISO 15779

SIL 3 IEC 61508

15 YEARS Certified product life

fire kloud

AEROSOL
REVOLUTION
TECHNOLOGY

DIGITAL
BROCHURE

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