

ARMORON[®]

TOTAL FIRE KNOCK-DOWN ABILITY *AT ANY SITE*

Condensed Aerosol Fire Suppression Systems



SALGROMATIC[®]
FIRE SYSTEMS

Your Key to Smart Protection.™

Condensed Aerosol Fire Suppression Systems

Salgromatic ARMORON has introduced and brought to the market the most advanced systems and solutions in high-security condensed aerosol fire suppression. Salgromatic AeroMAG and SalgroMAG series modular aerosol units and systems offers totally new possibilities for easy, contemporary and future-proof fire protection in several different applications. Salgromatic aerosol extinguishants allows to secure easily even the most difficult objects, areas and building premises, which are not appropriate or possible to protect with traditional fire-fighting techniques and systems.

Salgromatic ARMORON technologies and implementation model allow that they are more favorable at price level, require considerably less space and are easier to design, install and maintain than conventional gas extinguishing systems. Above all, the systems provide an excellent fire extinguishing ability, absolute operational reliability and enhanced user friendliness. Lower design, purchase and implementation costs, ease of maintenance and a long life cycle of Salgromatic significantly increases the cost-effectiveness and the overall economy compared to traditional fire protection systems.

Salgromatic ARMORON aerosol fire extinguishing systems detects a fire rapidly, transmits an fire alarm forward if required and carries out the fire suppression either **manually, semi-automatically or fully automatically** through suitable fire detection and control system. Systems can also be triggered with non-electric actuation devices, in which case they do not require any external power for operation.

Non-Pressurized System - Simple and Safe

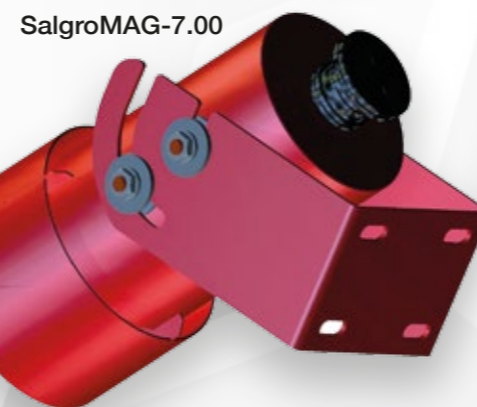
Salgromatic system is totally non-pressurized and stable in normal state and its operation is based on non-reactive and non-toxic special solid compound, which remains unchanged until it is activated. Electrical or thermal trigger initiates a reaction, where the solid chemical begins to form very quickly large amounts of gases and particles inside the unit. The particle-filled gas flow is forced through the cooling element and filter screen to the discharge nozzle outlet where it forms to a homogeneous and highly efficient fire-inhibiting extinguishing aerosol. The gas-like aerosol is rapidly distributed throughout the protected area and the three-dimensional particles reach even the most hidden locations in just a matter of seconds.

Salgromatic aerosol fire extinguishing systems differ significantly from the traditional systems in their structure as they do not require any water sources, pressurized gas cylinders, tank or central rooms, distribution pipe network or nozzles. The extinguishant is discharged directly from the individual and non-pressurized canisters thus system being considerably simpler.

WITH SALGROMATIC FIRE SUPPRESSION SYSTEM THE FIRE IS EXTINGUISHED WITHIN A SECONDS, WHICH MEANS LESS DAMAGE, LOWER REPAIR COSTS, MORE TIME TO RESCUE, AS WELL AS SHORTER PERIODS OF DOWNTIME AND OPERATION INTERRUPTIONS, WHILE SECURING YOUR BUSINESS IMAGE.



AeroMAG-4R8



SalgroMAG-7.00



SalgroMAG-10

SalgroMAG-35

SalgroMAG-14

SalgroMAG-28



SalgroMAG-2.25



AeroMAG-1R1



AeroMAG-5.00



AeroMAG-63



AeroMAG-02



Salgromatic aerosol extinguishants are non-pressurized, hermetically sealed and virtually maintenance free units, which are designed to withstand and operate in extreme conditions (-60...+80 °C) in all environments. AeroMAG and SalgroMAG units are available in many different sizes and designs depending on the application and selection also covers tossable and portable extinguishers and systems.

Tested and Approved for Multiple Different Fire Types

Salgromatic AeroMAG and SalgroMAG extinguishants produces aerosol, which is a gaseous mixture of nitrogen, carbon dioxide, water vapor and microscopic small potassium carbonate particles and it suppress the fire chemically by breaking the chain reaction and physically by cooling the fire. The aerosol has an excellent extinguishing ability for several different fire types and the effective quantity needed compared for example to gas agents (Halon 1301) is about 4 times less and up to 40 times less compared to inert gases. Salgromatic aerosol fire suppression does not deplete oxygen and the oxygen concentration remains at the level of 17-20%.



Conformity from Applicable Parts: 89/106/EEC | 2004/108/EC | 96/577/EC | CEN/TC 191 | FK (SBF) 128 | NFPA 2010 | GOST R 53284 | STANAG 4370 | ISO 15779 | UL 2775 | GOST R 53280-4 | GA 499.1 | CEN/TR 15276 | ISO 9001 | CE

FIRE TECHNICAL CLASSIFICATION AND SUITABILITY:			
	CLASS A Combustible Solid Materials Full Suitability (VdS, SP, Gost, FGU Vniipo)		CLASS B Flammable Liquids Full Suitability (VdS, SP, Gost, FGU Vniipo)
	CLASS C Flammable Gases Full Suitability (Gost, FGU Vniipo)		CLASS D Combustible and Reactive Metals Limited Suitability (Gost, FGU Vniipo)
	CLASS E Electrically Energized Fires Full Suitability (Gost, FGU Vniipo)		CLASS F Fats, Cooking Oils and Greases Full Suitability (Gost, FGU Vniipo)

TECHNICAL SPECIFICATION (General)	
Material:	Aluminum Mg5 / Steel Fe37 / Stainless Steel
Treatment:	Red / White Epoxy Powder Coating / RST
Unit Marking:	Heat Resistant Aluminum Polyester
Actuation Methods:	Manual, Semi-Automatic and Automatic
Actuation Mechanism:	Thermal Activation and Electrical Activation
Thermal Ignitor:	SRM-PC1 / SRM-TA1
Electrical Ignitor:	SRM-EID-05
Ignitor Parameters:	< 500mA / 6 - 48VDC / < 10mS
Response Time:	< 3 Seconds
Connector Type:	4-pin, Military Type MIL-C-5015 / "Flying leads"
Protection Classes:	IP 55 & IP 65 / IK 10
Atex (EX) Designation:	II 1G Exi de IIB T4 (from applicable parts)
Environment Classification:	Harmless (ODP=0, GWP=0, ALT=0)
Vibration Resistance:	5 g @ 50...250Hz
Shock Resistance:	10 g > 13000 Impacts
Temperature Range:	-50...+85°C (+110°C)
Humidity Range:	0 - 98%
Corrosion Resistance:	Exceeds > UL 1058
Extinguishing Mechanism:	Chemical and Physical
Transport Classification:	Approved to Transport with All Cargo Forms
Service Life:	10 - 20 Years (typical)

Efficient, Accurate and Reliable Fire Suppression...



Heat ...Brings Significant Benefits For You and Your Company

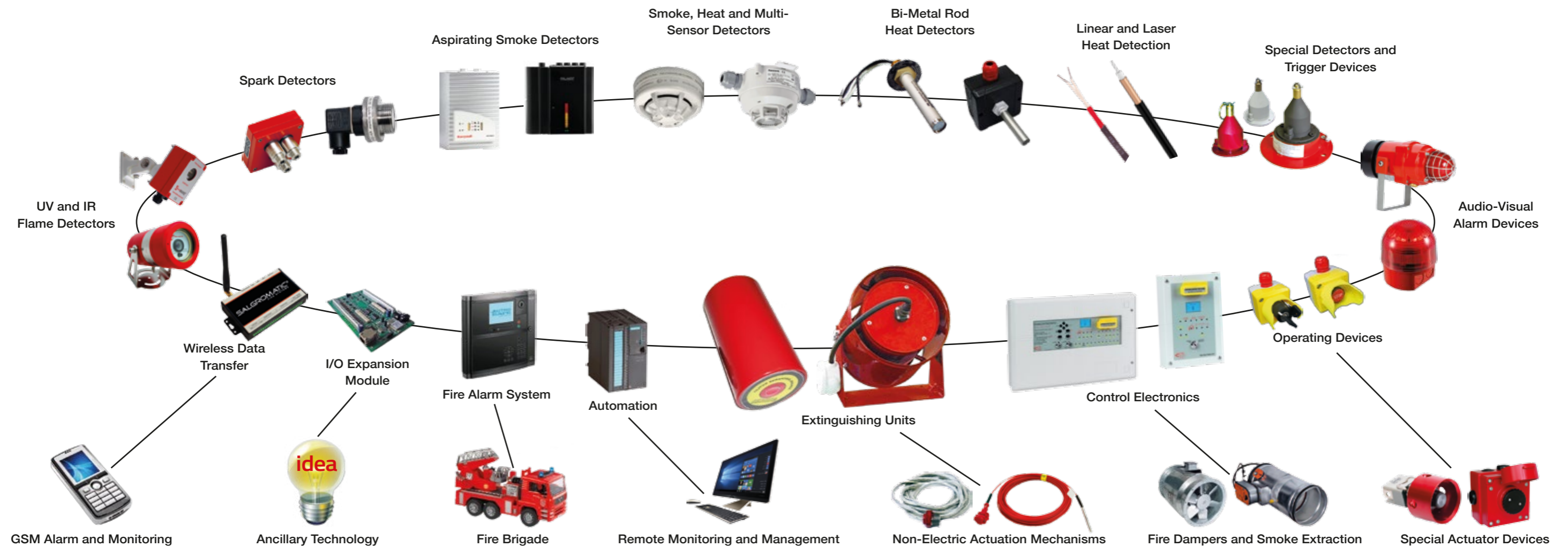
Chain Reaction

- **PROTECTS**
business continuity, reliability, company image, critical material and infra
- **SECURES**
production and services, machinery, equipment, facilities, people and assets
- **LIMITS**
damages, allows time and facilitates rescue operations in case of emergency
- **MINIMIZES**
operation interruptions, down-time and repair costs in case of fire hazard
- **IMPROVES**
safety technological lead, competitive advantage and operational reliability
- **FACILITATES**
risk management and lowers the likelihood of business interruption losses
- **SAVES**
in overall costs of fire safety while bringing added and extra value of security
- **LIBERATES**
resources when knowing that the fatal fire risks for business are managed

TECHNICAL SPECIFICATION (Product Specific)					
Model / Type	Agent Mass	Suppression Capacity	Model / Type	Agent Mass	Suppression Capacity
SMAG-0.80	80g.	< 1.8m3	SMAG-10	1000g.	< 22.0m3
SMAG-1.60	160g.	< 3.5m3	SMAG-14	1400g.	< 31.0m3
SMAG-2.25	225g.	< 5.0m3	SMAG-28	2800g.	< 62.0m3
SMAG-4.00	400g.	< 8.5m3	SMAG-35	3500g.	< 78.0m3
SMAG-7.00	700g.	< 15.5m3	AMAG-15	1500g.	< 25.0m3
AMAG-1R1	100g.	< 1.7m3	AMAG-15ex	1500g.	< 25.0m3
AMAG-2R1	100g.	< 1.7m3	AMAG-30	3000g.	< 50.0m3
AMAG-2R2	200g.	< 3.4m3	AMAG-30ex	3000g.	< 50.0m3
AMAG-2R4	400g.	< 6.5m3	AMAG-63	6300g.	< 105.0m3
AMAG-4R8	800g.	< 13.0m3	AMAG-63ex	6300g.	< 105.0m3
MG-5	500g.	< 20.0m3	AMAG-02	20g.	< 0.2m3
MG-5ss	500g.	< 20.0m3	SMAG-02	8g.	< 0.1m3
MG-17	1700g.	< 38.0m3	FC-4	160g.	< 1.3m3
MG-17ss	1700g.	< 38.0m3	FC-5	200g.	< 1.7m3
MG-28	2800g.	< 62.0m3	AMAG-1.60	160g.	< 2.6m3
MG-28ss	2800g.	< 62.0m3	AMAG-2.00	200g.	< 3.4m3
MG-35	3500g.	< 78.0m3	AMAG-5.00	500g.	< 8.0m3
MG-35ss	3500g.	< 78.0m3	AMAG-1.000	1000g.	< 16.0m3

100% Modular Design – Versatility and Possibilities

Salgromatic offers the simplest as well as the most extensive range of system entities and configurations, where you can find the right options for your fire safety needs in the exact scope you want. As its simplest, our extinguishing solution consists of a single automatic fire extinguisher or multiple units, which are controlled with the desired actuation technique. Salgromatic system entities are designed to adapt the user's needs and desires, and all systems can be implemented with central control electronics when the system has virtually unlimited possibilities for management and it can be integrated to all monitoring, alarm and control systems as well as building and plant automation and management.



- Salgromatic systems can utilize of all known fire detection technologies and they can be equipped to work with intelligent smoke, heat and combination detectors, linear and laser heat sensing, mechanical sensors, as well as with special detectors such as aspirating smoke detection systems, line thermal detection, flame, spark and ATEX detectors, and any high-tech detection intended for special risk protection in demanding sites.
- Salgromatic system entities only utilizes the condition stressed components from the industry leading manufacturers, tested and certified by recognized neutral organizations. The individual wishes of the customer are always taken into consider in all technology selections. Salgromatic range covers technical fire-fighting related and the highest reliability and functionality demands meeting fire detection and system technologies, which are compliant with the applicable directives, regulations and fire safety standards.

Salgromatic Adapts and Offers Extensive Advantages

We have combined our innovative design solutions to advanced technologies, which eliminates the problems associated with conventional fire protection systems and same time bringing the most diverse advantages and the widest applicability on the market. This ensures that future requirements for extinguishing equipment are already combined today in all Salgromatic extinguishing systems and fire protection solutions.

EXPEDIENT AND FUTURE PROOF

SALGROMATIC extinguishing systems are designed precisely to meet the requirements of protected space, industry standards and customer's wishes. Various operational and environmental conditions and factors as well as the type of fire and fire load are always taken into account in extinguishing agent dimensioning and in component selections. This will ensure accurate suitability, efficiency, reliability and safety of your fire protection system in all fire situations. Future-proof and without compromise.

ENVIRONMENTAL FRIENDLY AND SAFE

SALGROMATIC systems are 100% environmentally friendly and compliant to sustainable development principles. (ODP=0, GWP=0, ALT=0). Salgromatic systems do not pollute the environment and do not cause any additional damage when operating. Salgromatic systems increases personnel safety as they do not present significant risk to humans. Salgromatic is medically examined and fire tested by the industry's leading authorities and research institutes around the world. The safety level is also increased due to non-pressurization and stability of the systems.

ALWAYS ONLINE AND READY FOR OPERATION

SALGROMATIC fire system supervises 24/7 and if necessary, notifies forward immediately about possible hazardous situation. Thereby time is obtained to intervene the situation, in which case the actual fire may not have time to ignite. However, if the fire breaks, the system is always first at the site and ready to carry out the extinguishing immediately. If desired, Salgromatic fire system also enables a possibility for twin and multi-stage fire extinguishing in case of fire re-ignition is a likely risk.

EASY CUSTOMIZATION AND EXTENSIBILITY

SALGROMATIC modular design and simple system structure enable that fire system is easy to upgrade and expand in the future according to your needs. The fire suppression capacity of the system can be easily increased or decreased to correspond the possible changes in protected facility and, if necessary, the whole system can be removed, re-installed and re-configured to completely another location or application. Salgromatic extinguishing system is never tied to a place or circumstances and it can always be easily altered or updated in the future.

FULL COMPATIBILITY AND CONNECTIVITY

SALGROMATIC fire extinguishing systems and fire protection solutions can be connected to virtually all building and factory management systems, and they can control and manage, if necessary, other external equipment such as machine controls, emergency stops of various equipment, fire dampers and air ventilation. Salgromatic systems can be set to transmit a fire alarm and system fault signals as well as status information to building and process automation, fire alarm center or other monitoring facility. The systems can also be equipped with a wireless data transfer and may be added with variety of operating devices as well as control and alarm equipment according to the needs and requirements.

NO FALSE ALARMS OR ADDITIONAL COSTS

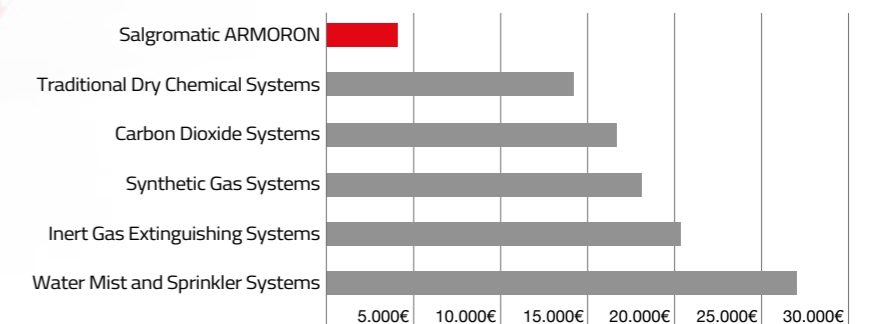
SALGROMATIC fire system will never cause accidental discharge of the extinguishing agent in case of an error, false alarm or fault condition, neither the possible fault in the system prevent the fire suppression activation in case of a fire situation. Our systems minimizes false alarms and also unwanted releases of the extinguishing agent, and the expenses and costs arising of these events. You also do not have to worry about any unexpected expenses in the future because operating and maintenance costs for the fire systems whole lifecycle can be precisely calculated in advance. If the system has operated, the re-activation can be done even in a few hours and the fire extinguishing system is back in working order quickly.

Compact, Durable and Overall Economic

Salgromatic is the most compact extinguishing system on the market and it allows to achieve significant space and cost savings, because it does not necessarily require any floor space and does not require structural changes to the protected spaces, objects nor areas. Salgromatic is a perfect solution for most retrofit applications, since it does not necessarily have to be taken into consider in the building or plant designs and it can be installed without that company's activities and operations are disturbed at all.

LIFECYCLE AND MAINTENANCE COSTS FOR THE PERIOD OF 10 YEARS

The table shows average operation and maintenance costs for a 10-year period with several different extinguishing techniques. The default is a medium-sized room protection system.



Simplicity of the system brings savings in installation and maintenance and since they are not subject to the pressure equipment regulations they do not require any related inspections. Salgromatic is cost-effective and convenient solution from the design and implementation all the way through ownership and maintenance.

■ HIGH TECHNICAL PERFORMANCE AND RELIABILITY

Salgromatic equipment performs reliably in all conditions and operating environments

■ ABSOLUTE OPERATIONAL FUNCTIONALITY

Salgromatic fire systems will not lose their functionality under any circumstances

■ EASY TO DESIGN, INSTALL, USE AND MAINTAIN

Salgromatic is the most easiest and carefree automatic fire suppression solution available

■ NON-PRESSURIZED AND SAFE SYSTEM

Salgromatic is stable and non-pressurized and it does not leak, crack or deteriorate

■ LOW MAINTENANCE AND LOW SERVICE

Salgromatic equipment requires less maintenance and service than any other traditional system

■ NO RISKS OF MANUAL FIRE-FIGHTING

Salgromatic automatic fire suppression eliminates the risks and dangers related to manual fire-fighting

■ COMPLIANT, APPROVED AND FIRE TESTED

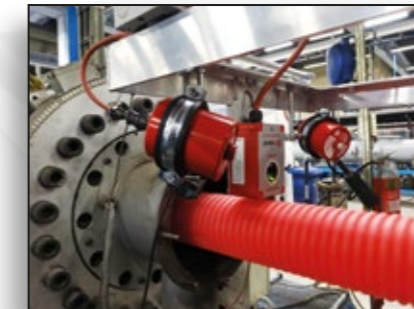
Salgromatic is tested and approved by numerous recognized authorities and test institutions

■ DURABLE DESIGN AND LONG LIFECYCLE

Salgromatic is designed for harsh environments and system lifespan can be up to 25-30 years

Virtually Unlimited Range of Uses

Salgromatic ARMORON aerosol fire systems can be configured to suit direct to source, local application and total flooding protections as well as to individual special fire protections in almost any imaginable applications.



Salgromatic fire suppression systems enables high-quality, reliable as well as cost-effective and future-proof technical fire protection that can be easily adapted to suit for the individual and specific requirements of desired application regardless the nature of the operating environment.

Ask more, we will help you find the most suitable fire extinguishing solution for your needs.

Typical Application Areas

- Technical Rooms and Premises of Buildings
- Paint, Explosive, Chemical and ATEX Facilities
- Storages, Libraries, Terminals and Hangars
- Material Conveyors and Filtering Systems
- Galleries, Museums, Archives and Churches
- Substations, Base Stations and Masts
- Power, Equipment and Material Containers
- Heating Plants and Pumping Stations
- Generators, Transformers and Switchgear
- Electrical, Control, Data and Telecom Cabinets
- Industrial Processes, Machines and Equipment
- Electrical, Automation and Monitoring Rooms
- Cable Cellars, Cable Ducts, Gaps and Channels
- Industrial Compressors and Milling Machines
- Escalators and Elevator Machine Rooms
- Airport, Military and Port Equipment
- Wind Turbines, Oil Platforms and Refineries
- Buses, Cars, Trucks and Heavy Machinery
- Water Vehicles, Boats, Ships and Vessels
- Trains, Subways and Traffic Control Systems



High-quality, modern and sustainable development compliant automatic fire extinguishing system is worth investing for your company, now and well into the future.

Salgromatic is a Finnish fire system manufacturer and a forerunning company specializing in contemporary and modular fire suppression technologies. We develop and produce fire protection solutions and related expert, installation and life-cycle services globally for corporations and organizations from all size classes on variety of markets. Our client base consists of many industry leading companies, public institutions and well-known brands, however, we serve equally to small and medium-size enterprises, entrepreneurs and private clients as well. We are flexible and trustworthy partner to our every customer.

EXPLORE MORE ABOUT OUR AUTOMATIC FIRE EXTINGUISHING SOLUTIONS AND REFERENCES AT www.salgromatic.com



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DID YOU KNOW THIS ?

Salgromatic fire extinguishing solutions represents the industry's forerunning environmental and climate thinking enabling the individual and responsible optimization of corporate business security according to the principles of 100% green and sustainable development, since they have totally Zero impact on the environment, climate and nature.

Salgrom Technologies ja Salgromatic Fire Systems are engaged to Society's Commitment to Sustainable Development "The Finland We Want by 2050" and are building a carbon-neutral corporate fire safety and global society in association with UN's the 2030 Agenda for Sustainable Development. The idea is simple - concrete actions and measurable results.

Follow our progress!

www.commitment2050.fi

Salgromatic, -MAG, -AeroMAG, -SalgroMAG, -DPS, ArmorOn, StormEx, 'Your Key to Smart Protection', '100% Green Fire Extinguishing Technology', 'It Saves Businesses - It Saves Jobs - It Saves Lives', 'Fire Protection Reinvented', 'Total Fire Knock-Down Ability at Any Site', and their logotypes as well as possible translations are registered or unregistered trademarks, slogans and product/trade names of Salgromatic Fire Systems and Salgrom Technologies Inc. or their affiliates and associate companies, whether they are used in connection with the ™ or ® markings.

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