Control and extinguishing by water mist

microaqua



aguilera extinción



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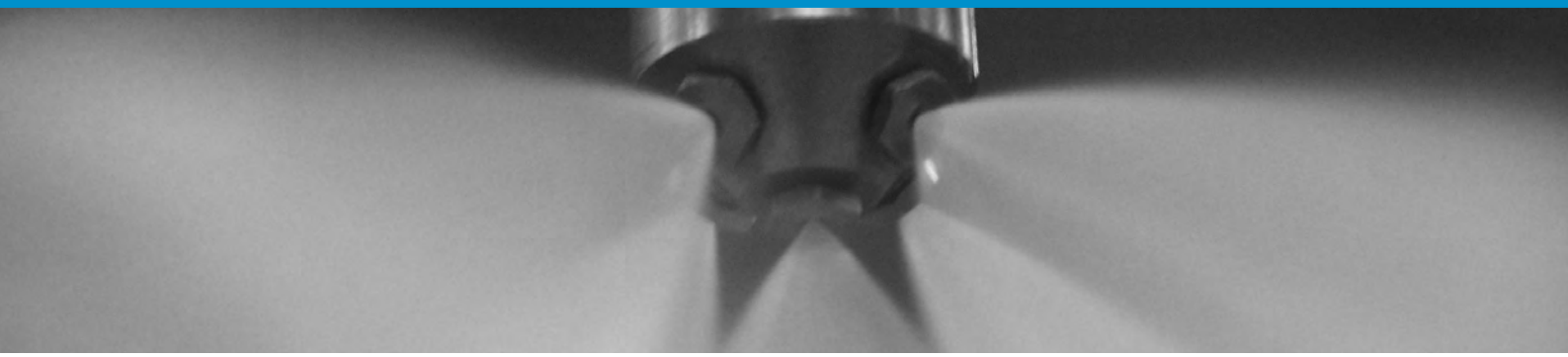


¿What is water mist ?

Mist water is a fire control and extinguishing system . It uses water divided into drops smaller in size than 1000 microns, in this way, fire cooling ,oxygen displacement because of generated vapour and attenuation of radiant heat are produced.

NFPA 750 and EN14972 rules state the minimum criteria for the use of mist water and its installation. Designs and installations should be performed in accordance with such rules,taking into account the manufacturers' guidelines and design, who should be provided with documents, trials and assembly, operation and placing manuals for the equipments according to tested risks.

Water efficiency is based on the joint action of 3 different actions:

Cooling by heat absorption, evaporation

Attenuation of heat transmission, radiation

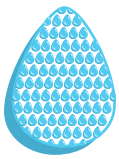
Oxygen displacement in the fire seat, dilution



CONVENTIONAL SPRINKLER DROP

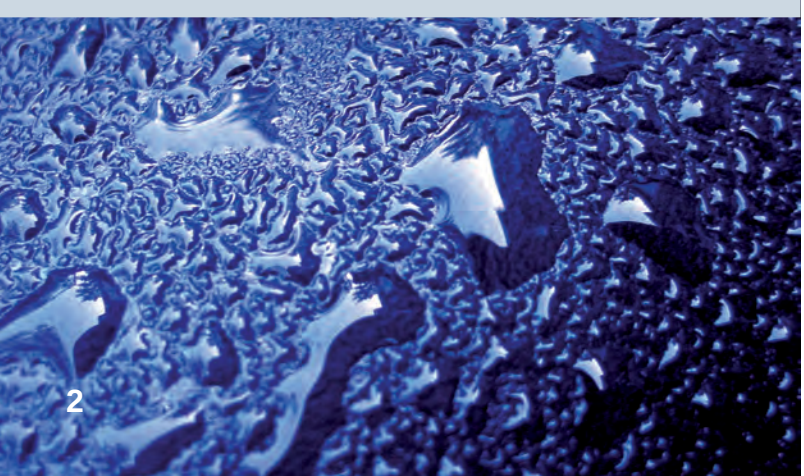


LOW PRESSURE MIST WATER DROP



HIGH PRESSURE MIST WATER MICRODROP microaqua

microaqua



Drop of water



Traditionally, sprinklers work soaking surfaces in combustion in low pressure systems.

Discharging a high quantity of water which puts out the fire gradually, soaking materials in combustion and the fire surroundings.

Unfortunately, such systems may cause important collateral damages, even greater than damages resulted from the fire itself.

microaqua microdrop



microaqua mist water system produces microdrops which mean the most efficient way for fighting against the fire.

When the microaqua system is activated, it immediately attacks the fire with high pressure mist water seeping into the flame.

The place quickly cools down without damaging materials to protect.

With little water the fire is put out before spreading and causing more important damages.







What is microaqua?

High pressure microaqua system has been developed according to NFPA 750 standard.

It comprises a group of equipments providing complete solutions.

In order to meet the market needs.

microaqua system is made up of:

- Detection device and extinguishing control certified EN12094-1.
- Different open and closed diffusers providing solutions for different types of risk and fire.
- Nozzles mounted at the heads, with variety of flows and drop sizes.
- Pumping units, equipped for different flows .
- Reserve water tanks.
- High pressure bottles.
- Directional valves.
- Accessories.

Safety

Grupo Aguilera microaqua system provides safety in three fundamental aspects:

- **Safety for personnel:** If a chance discharge is produced, microaqua offers complete safety. Apart from being harmless, its capacity for decanting fumes eliminates drastically the possibility for intoxication in people and pollution in the equipments.
- **Safety for the equipments:** microaqua uses very little water so, no harm is produced in electronic equipments.
- **Safety for the environment:** microaqua system only uses water and nitrogen, two components which mean no risk for the environment.

Advantages

- Economy of the extinguishing agent.
- Minimum damages are produced in the protected risk.
- 100% ecological.
- Harmlessness for exposed people and for protected equipments.
- Temperature drastic reduction in the protected risk.
- Effective for liquid, flammable and deep fires.
- Fume and toxic gas control.
- No 100% sealing in the place is required.
- Easy maintenance and charging.



Automatic nozzles

Made in stainless steel AISI 304, they are provided with a fuse bulb, which breaks at a prefixed temperature and opens the diffuser automatically. This nozzle is suitable for humid or pre-action systems.

Nozzle flow is set according to the nozzle model and the number of them, being able to select the flow from 0.060 L/min up to 36 L/min with a pressure of 120 bars.



Open nozzles

Made in stainless steel AISI 304. They are installed in dry pipes, where the installation of a system for fire detection and starting the electro-pumps or the firing of bottles is required depending on the installed system.

In open diffusers a direct discharge is produced when the water reaches them.

Diffuser flow is set according to the nozzle model and the number of them, being able to Select the flow from 0,060 L/min up to 36 L/min with a pressure of 120 bars.



Cylinder System

Batteries consisting of cylinders manufactured in en stainless steel AISI 316 with welding. For a working pressure of 40 bars.

Composed of cylinders filled with atmospheric pressure water, equipped with valve for nitrogen inlet and water outlet and cylinders charged with nitrogen (N2) at 200 bars. The system is equipped with a main electric valve with solenoid for automatic opening, lever for automatic opening , manometer, transducer, hose and other complements.

Assembled in metal with double fitting for cylinders fixing, discharge collector with coupling thread to the installation and discharge hoses.

at a glance

Pumping units



Equipments design for meeting a wide range of possibilities, from a flow of 11 litres per minute up to any other one required by the risk to protect. Modularly assembled, with one or several pumps, in an universal bedplate they can be used in humid pipe installation as well as in dry pipe installations.

Consisting of: volumetric electro-pumps with pistons of 11, 25 or 40 litres/minute of flow, control and operation board, flow adjustment valve, safety valve, valve preventing reverse rotation, impulse cut valve , test valve, hoses, collector and instrumentation.



The control and operation board has a programmable automaton and pressure measure instruments allowing for the pump progressive start-up adjusting the demand for each risk. Preventing in this way non- necessary water and energy consumptions.The system feeding is by direct suction in groups up to 3 pumps and through an auxiliary overpressure pump mounted on the bedplate, for larger units.

Dry pipe units are complemented with a jockey pump of 2.6 L/min
Of flow, adjusted at 40 bar pressure.

Storage tanks



Water supply and storage tanks for pumping units consisting of: tank, mechanical float valve for the tank filling control, impurity filter, maximum level switch, ball valve with connector, drainage valve installed at the bottom of the tank for maintenance, closing cover with air vent and pump connection hose.



Available in several models: polyethylene from 500 to 1000 L, fibreglass reinforced polyester. From 300 to 15000 L and stainless steel from de 200 to 2000 L.

Directional valves



High pressure directional valves ,usually closed, formed by: ball valve in Stainless steel PN400, pneumatic piston, manual opening lever, Electric break solenoid for automatic opening.

microaqua

Applications

Possibilities of mist water applications in the control and extinguishing of fire are very wide, its use is recommended almost in all possible risks.

The system design and calculation involves a detailed study of the risk and all its variables: type of risk, fire charge, compartmentation, ventilation, fuel placing, total application, local application, etc.

The study result will determine the type and placing of diffusers, flow for each diffuser, total flow, water reserve, etc.



Museums safeguard, preserve and spread the cultural heritage. When a loss or destruction of any object inside a museum happens, it is not only a loss for the museum but also for the community.

microaqua mist water system is the safest option for the protection against fire in museums.

microaqua does not damage exhibited materials or personnel inside the place.



Hotels have many particular characteristics, no not only for the quantity of persons in the same place for 24 hours (guests, personnel, guests in conferences and symposiums, etc.) but also for the quantity of rooms, staircases, corridors, parking lots, kitchens and warehouses.

microaqua is the best option for controlling and extinguishing fire inside a hotel as personnel, guests or goods there will not be in danger.



The first minutes of a fire inside a tunnel are critical Controlling and extinguishing the fire is fundamental but the top priority for the emergency teams is to have access to save people in danger..

Thanks to microaqua, system, fire in a tunnel can be controlled, temperature decreases and emergency teams are able to carry out their job and therefore preventing greater disasters.

the real safety



DPC

Currently, Cloud Computing is the trend to follow, Data Processing Centres are of vital importance so that companies and organizations may achieve their business goals. Data safety is important but safety for the place such data is kept is even more important.

microaqua mist water system does not cause any damage on the hardware where valuable data is stored so it is the best option for fire protection.



Archives

Files are a very important risk to protect as if stored documents are affected by the fire, consequences are extremely important at short, medium or long term. For example, hospital file loss means cancellation or delay in operations, medical test repetition, (some of them really expensive), loss of information, etc.

microaqua system prevents from document loss as micro-drops do not wet.



Kitchens

Industrial cookers are highly risky in fire production. The presence of oils and flammable greases with fire and heat make them to be the perfect place for fires to happen.

microaqua system leaves no waste when fire extinguishing so the cooker can continue working as usual.



Hospitals

Hospitals are a kind of risk where the most attention should be paid to. Its made component is made up of human beings who most of them are difficult to be moved or evacuated as fast as needed to keep them away from the fire.

The use of extinguishing elements difficult to be handled by ill people or extinguishing through gas agents, most of them harmful for our health, make microaqua to be the best option for the fire control due to its innocuousness and fast extinguishing.

for goods and persons



Our commitment: services and guarantees

Projects

Grupo Aguilera offers engineering companies its support in the detection, control and extinguishing of fires advising on systems and covering for each building. The project department develops

The system design and dimensioning, hydraulic calculations, diffusers calibration and installation isometric advising on the effectiveness of the units in each risk and setting out the operating capacity .

Trainig

Aware of the need to know and control what we are doing, apart from the technical support provided to the installations where our products are used, Grupo Aguilera offers training courses on our equipment performance, installation and programming.

Customer service

At Grupo Aguilera each customer is important, we are aware of the different needs for each customer, this is the reason why our team of experts offers customized service meeting your requirements.

Mantenance

Grupo Aguilera commits itself to offering services on repair, reprogramming and original spare part supply after the guarantee period.

Technical support

With the aim of guaranteeing the correct operation of the installations, Grupo Aguilera Technical department carries out the operation and start-up test of the units, apart from collaborating with the installer in all the steps. Once the system is installed with the suitable power and water supply, and the hydraulic test has been previously carried out, Grupo Aguilera technical staff carries out the operation test and the start-up of the units.

Equipment guarantee

Grupo Aguilera guarantees the correct performance of the equipments for 2 years since the delivery date: we are responsible for the replacement and repair of the equipments where anomalies or manufacturing faults are observed and are delivered from our factory in Madrid.



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