EUSEBI IMPIANTI
AUTOMATIC FIRE FIGHTING SYSTEMS

VALVITALIA GROUP

AUTOMATIC FIRE FIGHTING SYSTEMS

YOUR FIRE PROTECTION SOLUTIONS

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ENVIRONMENT-FRIENDLY FIRE FIGHTING SYSTEMS

Forty years of experience in the fire fighting industry. Thousands of systems produced by the worldwide leading EUSEBI constantly focusing on safeguarding the environment.
Allow us to present the main automatic environment-friendly fire fighting systems produced by our group:

ARGOSYSTEM®

EI 1230®

EI MIST®

EXFIRE 360®

And, in addition, the traditional systems:

EI CO 200®

EI 200®

EI FOAM

We strive to protect people and property without harming the environment.

WATER MIST, A REVOLUTION IN FIRE FIGHTING SYSTEMS: ENVIRONMENT-FRIENDLY AND EFFICIENT

The EI MIST high pressure water mist system, designed and built by the EUSEBI, is equipped with special nozzles that spray the water in very fine droplets, which extinguish the fire through the combination of three main complementary effects, which each contribute in different measures in suppressing and in many cases putting out the fire:

- cooling
- inertization
- screening of the fire

The system works with a limited use of water at a pressure range between 100 and 120 bar. The water sprayed in minute droplets vaporizes in contact with the flame, subtracting heat and controlling the fire. The vaporized water droplets also absorb infrared radiations, thus creating a screen and preventing heat transmission.

Applications:

- engine rooms, turbines and generators

- tall buildings, skyscrapers, TV broadcasting towers

- paper filing rooms, libraries, hotels, depots, shops and offices

- computer and telephony rooms

- cruisers, ferries and other vessels

- cableways

Advantages:

- environment-friendly

- minimal water damage

- harmless for people

- no hermetically sealed rooms required

- low cost and elimination of large storage tanks

QUALITY AND OPERATING EFFICIENCY CERTIFIED BY INTERNATIONALLY ACKNOWLEDGED LABORATORIES

The EI MIST high pressure water mist system, designed and built by the EUSEBI, has been tested and certified by the Swedish Laboratory SP and the VNIIPO laboratory "All-Russian Scientific Research Institute for Fire Protection". The certificates obtained are indicated in the table.

These laboratories are ISO 17025 approved and are among those acknowledged for their experience and proficiency by the IMO, NFPA and GOST for real-scale tests on water mist systems.

The EI FOG AISI 316 stainless steel spray nozzle produced by the Eusebi group has been tested by UL and VNIIPO to approve its features and reliability, according to NFPA 750, Imo A 800 and UNI CEN/TS 14972:2008 and GOST.

EI MIST not only belongs to class 1 (minimum diameter of droplets below 100 micron), but it is also considered suitable to extinguish fires in both class A (solid combustibles such as paper and wood) and class B (fluid combustibles such as petrol and oil) according to international standards.

Application	Standard	Certifying body
Hotels - museums - archives - libraries - offices - hospitals - parkings	IMO A 800 (19) UNI EN/TS 14972 OH1-OH2-OH3-OH4 GOST	MED RINA BV RINA VNIPO
Computer rooms, telecom rooms, control rooms	IMO A 800 (19) UNI EN/TS 14972 OH1-OH2-OH3-OH4 GOST	MED RINA BV RINA VNIPO
Cable tunnels	UNI EN/TS 14972 GOST	RINA VNIPO
Accommodation areas Cabins - corridors - public spaces - storage	IMO. RES. A.800(19) IMO Res. MSC 284(86) IMO Res. MSC 98(73) Reg II-2/10 of Solas 74	MED RINA BV
Local application machinery spaces Machine rooms, gas turbines, diesel generators, industrial machinery,	IMO MSC.1/CIRC 1387 IMO MSC.1/CIRC 1267 IMO Res. MSC 36(63) IMO Res. MSC 97(73) Reg II-2/10 of Solas 74	MED RINA
Total flooding machinery spaces - bilge protection Machine rooms, gas turbines, diesel generators, industrial machinery	IMO MSC.1/CIRC 1165 IMO MSC.1/CIRC 1239 IMO MSC.1/CIRC 1276 IMO MSC.1/CIRC 1313 IMO Res. MSC 98(73) Reg II-2/10 of Solas 74 FM	MED RINA
Cabin balconies	IMO MSC.1/Circ 1268 Reg II-2/10 of Solas 74 IMO res. MSC 98(73) GOST	MED RINA

EI MIST PUMP UNIT SYSTEM, ENDLESS DISCHARGE

The EI MIST pump units work continuously and are reliable. They contribute decisively in the performance of the system. The type and size of the pump units are decided according to the type of risk involved as well as the area to be protected.

The pump unit consists of one or more high pressure pumps, which are skid-mounted by experts of the EUSEBI. The pump unit has one solid structure incorporating all the components.

It is delivered to the customer already trialled, tested and ready to be connected to the distribution piping. The skid consists of hot galvanised steel profiles painted with red epoxy powder paint resistant to atmospheric agents.
The pressurising system is connected to a reserve tank made of metal sheet and AISI 304 stainless steel profiles. It is supplied by the factory water piping of the customer.

Advantages:

- They can operate continuously to ensure long-term protection thanks to the use of water tanks or an external water reserve.

- The system can be integrated with a diesel back-up engine

EI MIST SELF CONTAINED SYSTEM, THE MODULAR CYLINDER SYSTEM INDEPENDENT AND EFFICIENT

The EI MIST self-contained system is used for applications in small rooms. The modular and independent cylinder system is without any parts in motion. It can be wall-mounted, skid-mounted or installed in a cabinet or container.
The size of the cylinder skid depends on the specific requirements of what is to be protected.

The system consists of cylinders filled with nitrogen and cylinders filled with demineralised water.

The discharge pipes of the version with automatic nozzles are kept under pressure by an air compressor.

When the whole system is in stand-by, there is only water inside the cylinders to avoid leakages along the distribution piping. This means that the system can be installed even where there is rather delicate equipment, such as electrical switchboards and transformers and also in Data Centres.

Drops in pressure within the distribution piping will be immediately pointed out by the low pressure switch, which will start the electric actuators on the water/nitrogen storage system and will supply water through the piping and the nozzles.

Advantages:

- Economic

- Minimal electric power supply

- Harmless for people

- No hermetically sealed rooms required

EI MIST, A COMPLETE AND RELIABLE RANGE FOR EVERY CUSTOMER REQUIREMENT

- The EI FOG nozzles produced by the Eusebi group are designed for the specific application condition according to the fire charge and the type of room involved. These parameters are used to establish the spray angle, flow rate and number of micro nozzles that the system needs and they are written on the nozzle via its special code.

The EI FOG nozzle has been tested by UL and VNIIPO to approve its features and reliability, according to NFPA 750, Imo A 800 and UNI CEN/TS 14972:2008 and GOST.

- The diameter of the piping is much smaller than conventional sprinkler systems. The piping is made of AISI 316L stainless steel and is installed using high pressure unions tested for the EI MIST standard. The fact that the piping is smaller means it can be installed without too much intrusion and also in small spaces.

- The directional valves are used to divide the EI MIST system into sections and to make maintenance and supervision of the area protected much easier. The valves are therefore monitored and normally open for wet systems and closed, with electric activation, for deluge systems.

- The pressurisation unit is connected to a reserve tank, whose size is generally one cubic meter, made of metal sheet and AISI 304 stainless steel profiles. It is supplied by the in-house water supply of the customer.

EI MIST LOW PRESSURE, TURBINE PROTECTION STANDARD SOLUTION

The EI MIST LP system produced by the EUSEBI is a low pressure system with a very straightforward design. It consists of:

- Water mist nozzles

- Reserve tank

- Air or nitrogen cylinders

- Pressure regulator

- Distribution piping

- Zone valves

It is suitable for the following applications:

- Gas Turbines

- Engine rooms, including risks of turbine cabins (oil pumps, oil tanks, petrol filters, generators, gear boxes, engine shafts and lubricant skids) compressors and rooms with diesel engines.

- Special risks inside engine rooms including engine test chambers and rooms or depots with incidental or continuous use of flammable liquids.

Features:

- Low cost

- Low water consumption

- Low damage of property protected

- Low thermal shock

- Compliant with NFPA 750 and IMO standards

- Low pressure inside the piping

- Refilling simplicity of cylinders and tank

FIRE & GAS, FUNCTIONAL SAFETY REACHES NEW TARGETS AND IMPORTANT INNOVATIONS

Striving to guarantee fully automated and functionally efficient extinguishing systems, the EUSEBI offers customers the possibility to work with just one partner by completing its production range of extinguishing systems with an extensive variety of products for Fire & Gas detection applications:

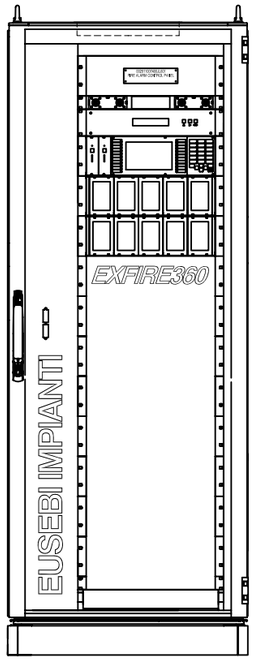
- Control panels
- Gas, Flame, Heat, Smoke Detectors
- Warning alarm systems

The peak product of the Fire & Gas product range is the modular programmable control unit “EX FIRE 360”.

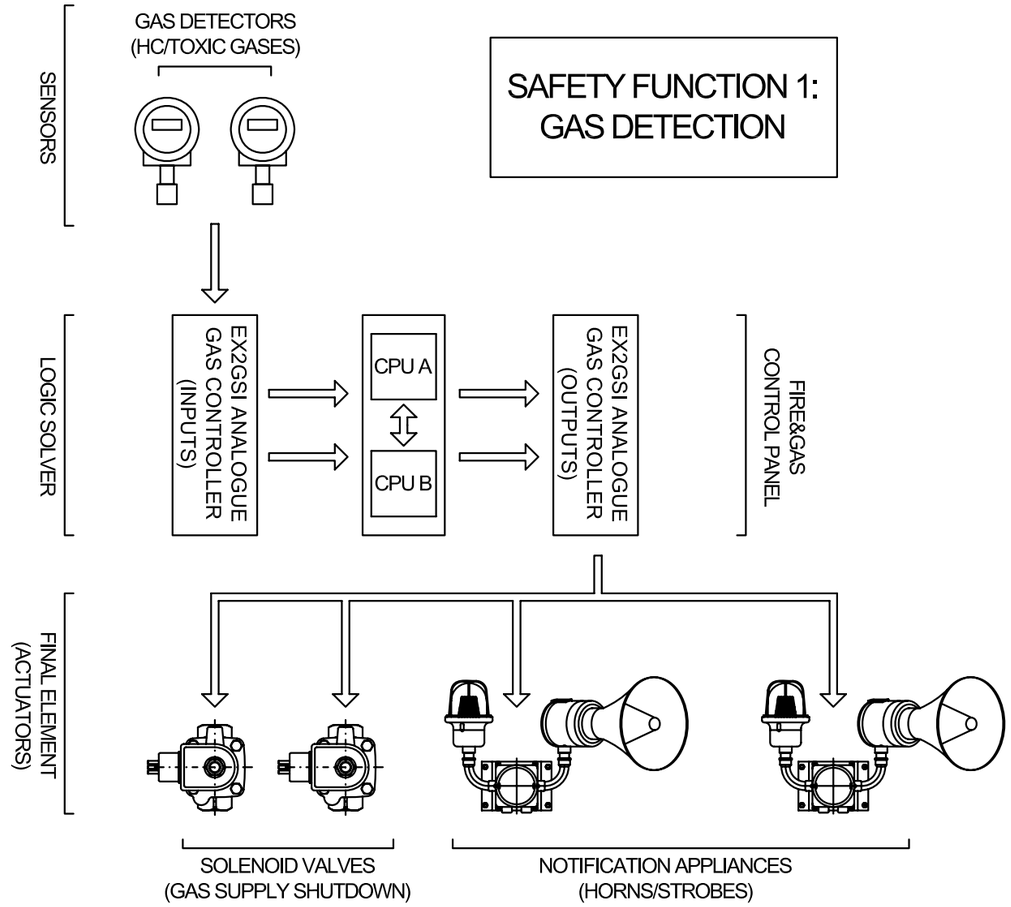
This cutting-edge control panel has been developed to perform integrated functions, from fire fighting to safety, with possible serial management of the various protocols.

The operating efficiency of the line of Fire & Gas products is not only guaranteed by its quality and its international certificates, but also by the following services:

- Engineering
- Testing
- Commissioning and Start Up



SIL 3 CAPABLE FOR
- FIRE DETECTION
- GAS DETECTION
- FIRE SUPPRESSION



EXFIRE 360, THE EVOLUTION OF CERTIFIED CONTROL PANELS FOR FIRE EXTINGUISHING AND DETECTION

The EX FIRE 360 control unit is modular. It can be configured according to the specific functions requested by the system. EXFIRE is certified for the following:

- Fire detection
- Gas detection
- Automatic extinguishing in the widest variety of combinations.

EXFIRE360 offers a dedicated touch screen display for each board. It displays the status of each channel and related electric parameters, as well as the internal temperature and humidity and installed firmware releases.
Combining the internal diagnosis system of the boards and the redundancy of some critical components (CPU, feeders) makes EXFIRE360 the perfect solution for applications requiring a high level of safety (SIL 3).

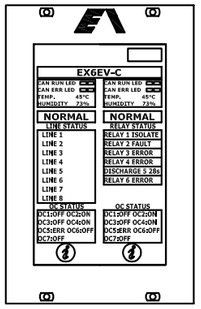
EXFIRE360 is an intelligent control unit! The input/output boards have automatic addressing functions, spare drivers on the inputs, hot swap and remote control of the racks, which make EXFIRE360 an absoltely unique product.

EXFIRE360 is able to communicate in networking (hierarchical network or otherwise), to offer supervision via a dedicated graphic interface and to communicate with third party systems (ESD, DCS, etc.). In addition to this, EXFIRE allows you to control the racks remotely by exploiting the powerful Canbus communication line between the racks and the CPUs. In this way, it is possible to design even rather complex distributed or networking systems utilising the most modern of transmission technologies (i.e. optic fibre).

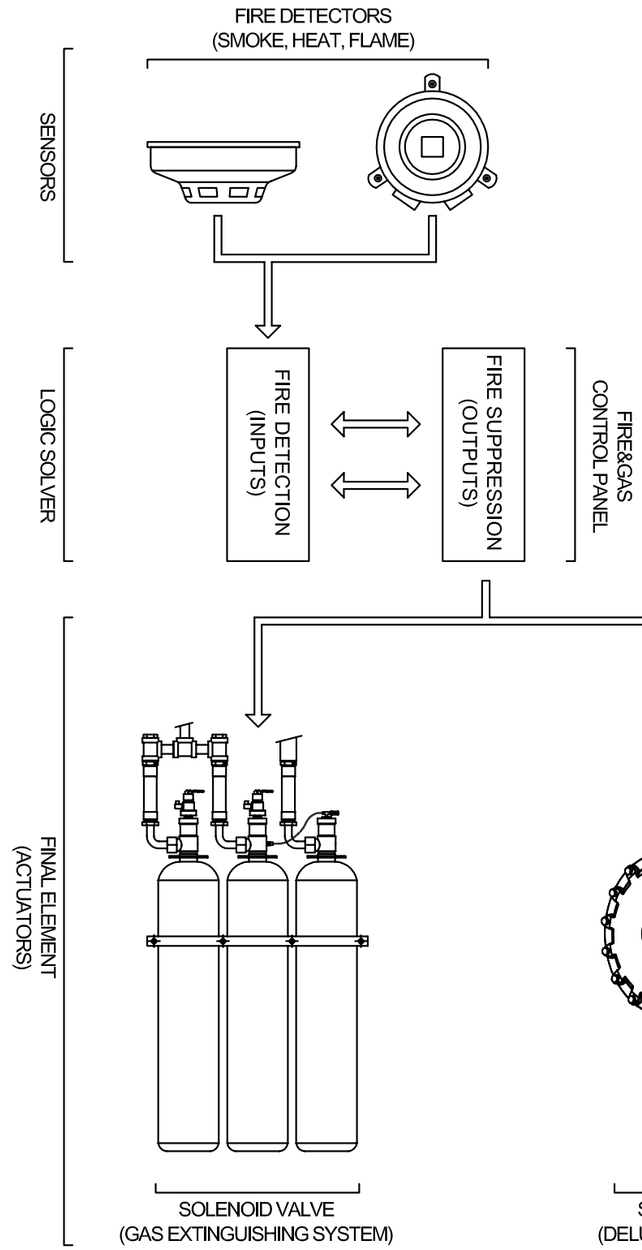
EXFIRE 360, A CERTIFICATE FOR EACH APPLICATION

EXFIRE360 has been tested by approved organisations for the complete control and operation of fire detection and extinguishing systems.
Certificates and type-approvals:

Fire detection and warning systems	**Standard**	**Certifying body**
Supervision and warning control unit	EN 54-2	IMQ
Power supply equipment	EN 54-4	IMQ
Fire techniques. Means of fire automatics. General technical requirements. Test methods	GOST R 53325-2009	GOST
Components of gas extinguishing systems	Standard	Certifying body
Requirements and test methods for electric automatic fire extinguishing control and delay devices.	EN 12094-1	IMQ
Flammable gas detection	Standard	Certifying body
Electric equipment for explosive atmospheres due to the presence of gas - Part 0: general rules	EN 60079-0	IMQ
Explosive atmospheres - Part 29-1: Detectors of flammable gas – General and performance requirements.	EN 60079-29-1	IMQ
Functional safety	Standard	Certifying body
Functional safety of electrical/electronic/programmable electronic safety-related systems Certification SIL 3 for the detection and automatic extinguishing function.	IEC 61508 ed2.0 (1~7)	TUV
Pending Certifications	Standard	Certifying body
Control Units and Accessories for Fire Alarm Systems	UL 864 9th edition	UL
General-Purpose Signaling Devices and Systems	UL 2017	UL



EN 12904-1 APPROVED FIRE EXTINGUISHANT MODULAR CONTROLLER



SAFETY FUNCTION 2: FIRE DETECTION AND SUPPRESSION

EI CO200, THE EVOLUTION OF STANDARD SOLUTIONS

The CO200 system produced by the EUSEBI exploits revolutionary 200-litre cylinders, which ensure:

- Space saving
- Lower costs
- Fewer risks of pressure loss.

Technical specifications often oblige suppliers to mount cylinders on skids and inside cabinets or containers and this could lead to handling problems when the cylinders need refilling.

This is why the Eusebi offers its customers the possibility to purchase a special cylinder handling unit for the CO200 system.

The obligation to use mechanical load-handling equipment stated in the technical standard ISO 11228 applies to loads heavier than 25 kg; consequently, there is no difference between the handling methods of 67-litre cylinders and 200-litre cylinders.

Eusebi high pressure CO2 system certifications:
- Components compliant with EC standards

- Russia (GOST), China, Croatia,Ukraine, Kazakhstan

EI CO2 LOW PRESSURE, LASTING RELIABILITY

The CO2 low pressure systems are assembled and tested 100% by the EUSEBI. They are the best solution for protecting large spaces with carbon dioxide. The tank, cooling systems, selector valves and control panel are all installed on skids with open or closed structure.

Compared with conventional high pressure systems, they have the following benefits:

- Space saving. There is just one tank instead of several cylinders. The low pressure systems can also be kept outdoors without protection or any other special solutions.

- Lighter. For large systems, the overall storage weight is about 60% lighter than that of the high pressure systems.

- Low maintenance. The container contents can be easily checked via the simple level indicator. Nothing has to be disconnected or moved around, nor does the container have to be weighed. The container does not even have to be tested hydrostatically.

- Simplified filling. The tank is filled, where it is, by a tanker truck: there is no need to disconnect or move the container from its place of installation. No factory labour involved. The system is not shutdown. The refilling cost is about one third less than the refilling cost of a cylinder.

EUSEBI CO2 low pressure system certifications:

- Components compliant with EC standards

- Russia (GOST) , Ukraine and Kazakhstan

CLEAN AGENTS CLEAN AND SAFE FOR PEOPLE

ARGOSYSTEM®

The ARGOSYSTEM® range comprises extinguishing systems that exploit gas normally found in air, Argon, Nitrogen and a mix of these (IG 01, IG 100, IG 55, IG 541). They do not harm the environment and are safe for the people in the room/area.

The fire is extinguished by means of a physical action, which reduces the percentage of oxygen.

EI 1230®

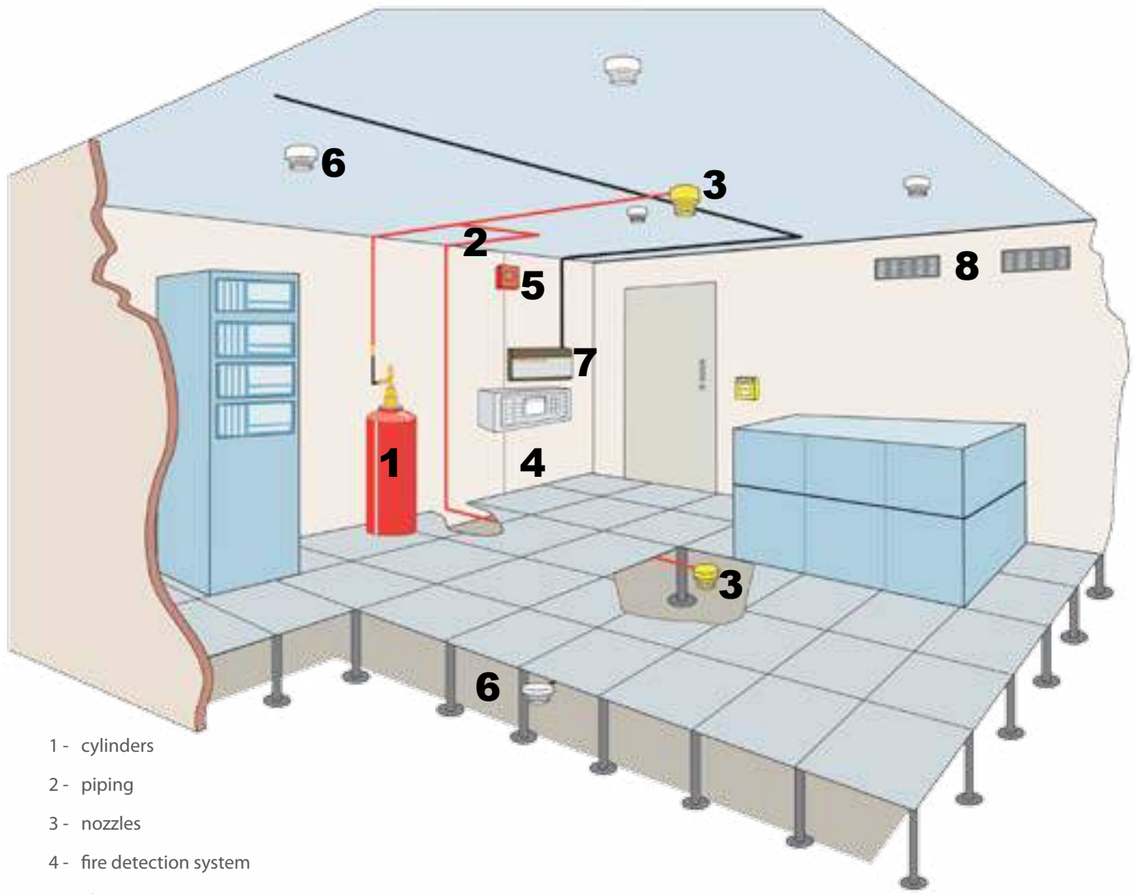
The EI 1230® gas extinguishing system exploits the revolutionary extinguishing fluid Novec 1230™ produced by 3M™. This hi-tech solution guarantees quick and risk-free protection for people without collateral damages to electrical equipment and without harming the environment.

Novec 1230™ acts both physically and chemically by interrupting the combustion reaction process.

EI 200®

The EI 200® gas extinguishing system exploits the gas extinguishing agent "HFC 227", which is an excellent substitute for Halon, in view of its physical/chemical properties, its high extinguishing power and its low cost.

HFC 227 acts both physically and chemically by interrupting the combustion reaction process.



1 - cylinders
2 - piping
3 - nozzles
4 - fire detection system
5 - alarm units
6 - smoke detectors
7 - aspirating system
8 - pressure venting

AN EXTENSIVE RANGE OF APPLICATIONS

The automatic fire fighting gas extinguishing systems produced by the EUSEBI represent a benchmark for protection against:

- Industrial risks

- Marine risks

- Civil risks

They are especially suitable for protecting:

- Data centres

- Control rooms

- Turbines

- Electrical cabinet rooms

- Book shops and historical record facilities

- Engine rooms

- Filing facilities and depots

- Electronic equipment

- Hospital operating theatres

INERT GASES FOR “GREEN” PROTECTION AGAINST FIRE, SAFE FOR PEOPLE AND FOR THE PROPERTY PROTECTED

The ARGOSYSTEM® range comprises extinguishing systems that exploit gas normally found in air, Argon, Nitrogen and a mix of these (IG 01, IG 100, IG 55, IG 541).

Fire extinguishing system of the ARGOSYSTEM range:

- 100% environment-friendly

- Safe for use in occupied areas

- It does not leave extinguishing agent residues, nor is it corrosive or electrically conductive

- Very long piping can be installed

- Easy to design centralised systems

- The ARGOMATIC™ valve, which allows system refilling on-site, has an international patent

- Optimised system design thanks to VDS-approved software

- VDS-Approved system

- GOST-approved system (Russia)

- The system is approved for use in China, Croatia, Ukraine and Kazakhstan

- Components compliant with EC standards

- The whole design, manufacture, testing and assistance project of ARGOSYSTEM® is performed according to ISO 9001 and ISO 14001 procedures

NOVEC 1230™ , EXTINGUISHING FIRES QUICKLY AND WITHOUT RISKS FOR PEOPLE

The EI 1230® gas extinguishing system exploits the revolutionary extinguishing fluid Novec 1230™ produced by 3M™.

Fire extinguishing system EI 1230®:

- Quick extinguishing effect. It discharges within 10 seconds

- Absolutely safe for use in occupied areas

- Absolutely environment-friendly

- It does not leave extinguishing agent residues, nor is it corrosive or electrically conductive

- Compact and space-saving thanks to the 180-litre cylinders produced by the EUSEBI

- Higher working pressures than comparable systems can be used; up to 50 bar

- Longer piping can be installed

- Possibility to design centralised systems

- Optimised design of the systems thanks to the professional VDS-approved computing software

- VDS-approved system (Germany)

- GOST-approved system (Russia)

- UL-FM (USA) configuration available on request

- Components compliant with EC standards

EI 200® CERTIFIED GAS EXTINGUISHING STANDARD SOLUTION

The EI 200® gas extinguishing system exploits HFC 227 gas extinguishing agent, which is an excellent substitute for Halon, in view of its physical/chemical properties, its high extinguishing power and its low cost.

EI 200® fire extinguishing system:

- Quick extinguishing effect. It discharges within 10 seconds

- Safe for use in occupied areas

- Working pressures up to 50 bar can be used

- Extinguishing agent approved and acknowledged worldwide

- Ease of provisioning and refilling worldwide

- Longer piping can be installed

- Possibility to design centralised systems

- Compact and space-saving thanks to the 180-litre cylinders produced by the EUSEBI

- VDS-approved system (Germany)

- GOST-approved system (Russia)

- UL-FM (USA) configuration available on request

- Components compliant with EC standards

- HFC 227ea has been accepted by EPA (U.S. Environmental Protection Agency)

- It does not leave extinguishing agent residues, nor is it corrosive or electrically conductive

EI FOAM, PROTECTION AGAINST LARGE RISKS

The foam systems of the EUSEBI are implemented internationally on oil rigs and in refineries and power plants.

The EI FOAM systems meet the requirements of EC standards concerning the protection of flammable liquids in high, medium and low expansion applications:

Bladder tanks

Wide-range proportioning units

Manual Monitors

Hydraulic Monitors

Electric Monitors

Control consoles

High expansion generators

Foam water nozzles

Foam chambers

Foam nozzles

The EI FOAM systems have been certified in:

- Russia (GOST)

- Ukraine

- Kazakhstan

CUSTOMISED SKIDS AND CABINETS

One of the main services offered by the EUSEBI is that of assembling systems on skids and cabinets to be able to provide customers with tested and compact systems of straightforward assembly:

- Water mist cylinder system skids
- Sprinkler valves skids
- Foam/water system skids
- Gas extinguishing system skids
- Gas extinguishing system cabinets
- Sprinkler valves cabinets

CONTAINERS – GUARANTEED EFFICIENCY

The EUSEBI assembles systems in containers to ensure perfect operating efficiency of all the equipment under the harshest of climatic conditions:

- Gas extinguishing system containers
- Water mist extinguishing system containers
- Foam extinguishing system containers
- Containers with fire protection pressurisation units

Advantages of the EI PACKAGES

All systems are supplied already pretested hydraulically and electrically.

Systems up and running very quickly once installed on site.

Guaranteed operating efficiency of the whole system.

Fine-tuning is made on site.

Compact and modular design.

Straightforward installation.

Made of stainless steel, aluminium bronze and special alloys.

Skid-mounted electrical cabinet.

YOUR FIRE PROTECTION SOLUTIONS

PROMOPUBBLICITA' LEONARDO (AN) - tel. 071.2866654 - (03/2016)

Branch office / Distributor

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