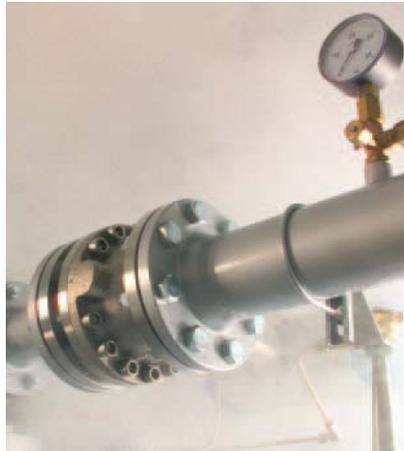




With Minimax technologies, the environment and material assets are safer. 100 years experience made us the leading full service provider of the fire protection branch in Europe. With us you will receive everything from one supplier - from fire extinguishers to complete extinguishing systems, from research to service. And we are close to you. Safe for certain.



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Fire Protection by*

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## Sprinkler systems

Sprinkler systems are self-acting fire extinguishing systems having an uncomplicated as well a safe functioning principle.

A network of piping and sprinkler heads is installed throughout the areas of the building requiring protection and is constantly under pressure. Under normal conditions the sprinkler head is closed off by a liquidfilled bulb. If due to the effects of a fire, the ambient temperature in the immediate vicinity rises by approximately 30 °C above the maximum temperature expected under normal conditions, the glass bulb bursts. The pressurized

extinguishing water then flows through the piping into the sprinkler head and the resulting water jet hits the spray plate which diverts the spray to the areas to be covered. At the same

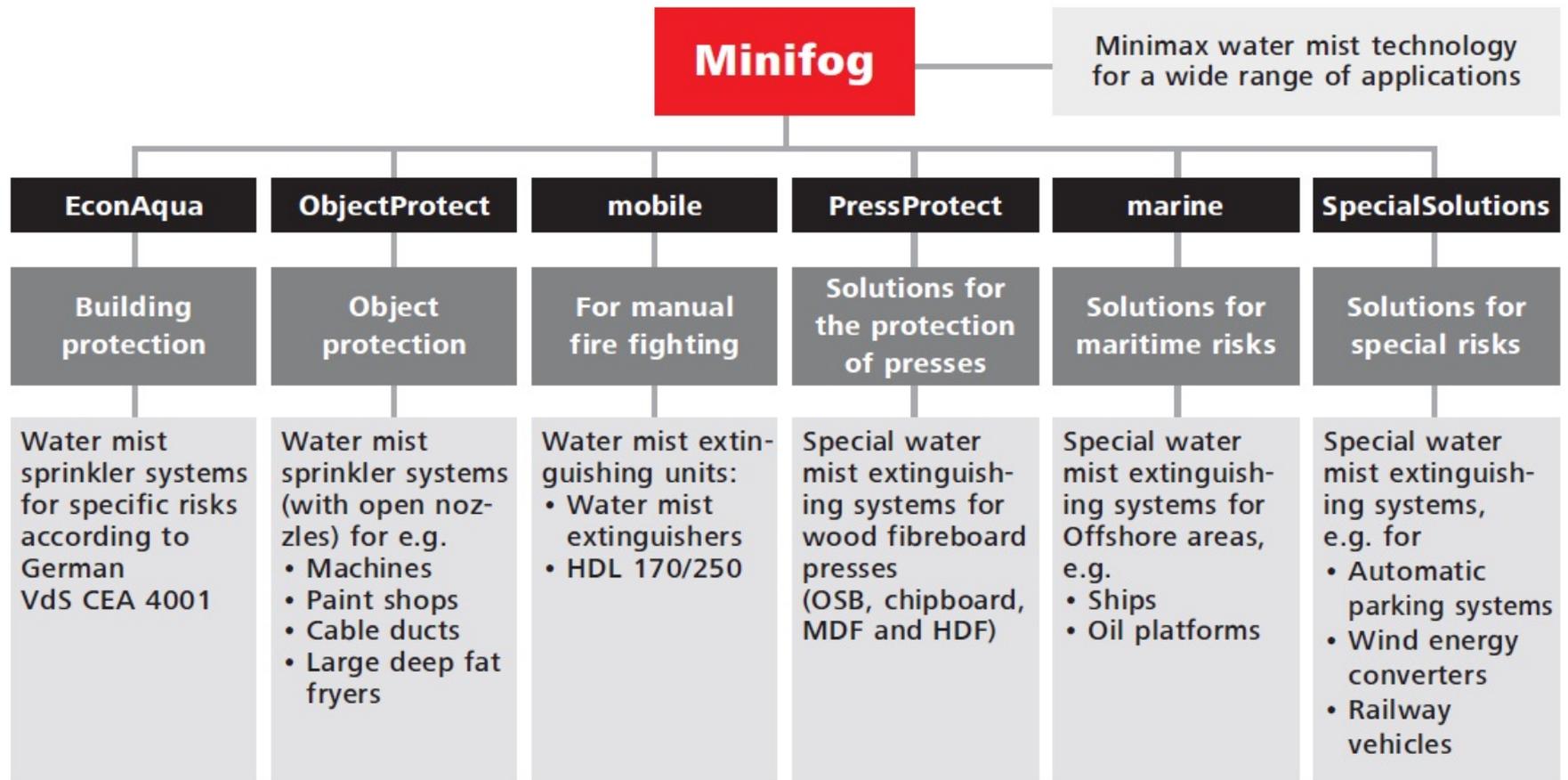
time the water flow in the piping network trips the alarm systems. When the fire is extinguished you replace the sprinkler that was activated and the system is ready for operation again.

In order to provide effective solutions for the diverse variety of fire risks, Minimax sprinklers are offered in a range of versions with special spraying characteristics. All sprinkler system

components are also available as part of the Minimax product portfolio.

## Minifog water mist systems

Minifog is suitable for various applications, whether for protection of rooms or of objects. Minifog extinguishing technology features extremely efficient exploitation of the physical properties of water. The extinguishing water is applied through special nozzles or sprinklers as a water mist system so that the total surface area of the extinguishing water is multiplied many times by fine droplet formation.



## Water spray systems / Extinguishing water technology

If conditions are such that extremely rapid spreading of a fire can be expected, then Minimax water-spray extinguishing systems can provide maximum safety. Water-spray extinguishing systems operate with open extinguisher nozzles which, in the event of fire, distribute the extinguishing water over the entire protected area, the quantity of extinguishant needed being minimal. Water-spray extinguishing systems are designed for space or equipment protection. In the case of space protection the extinguishing water is distributed evenly across the whole area of the fire hazard. The extinguishing nozzles are therefore arranged evenly spaced at ceiling level. The extinguishing nozzles are therefore arranged to be specifically aimed at the object. For tall objects they may also be installed at several levels. In the event of a fire, the smoke/gasentraining, cooling and radiant heat-reflecting effect of a water-spray extinguishing system also provides excellent protection for personnel. Distribution of the extinguishing water is determined by the number, size and spray-characteristics of the nozzles and arranged to suit the objects and areas to be protected.

Extinguishing water technology is an indispensable part of preventive fire protection. Water is the no. 1 extinguishant and as drinking water it is also an important resource for our world. Therefore the specific requirements imposed on planning and design of systems, which are directly connected to the drinking water supply, are very high. Minimax extinguishing water systems correspond to valid standards as well as the statutory provisions and guarantee high est possible safety.

Minimax also offers a lot of different components of extinguishing water systems, for example fire extinguishing hose connecting equipment (wall hydrants), above-ground and underfloor hydrants and more.

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# Foam and Powder extinguishing system

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Storage facilities, incineration plants, refineries or plastics/tyre depots have one thing in common:

they pose a special risk. When flammable liquids or plastics catch fire, the fire spreads very quickly and toxic combustion gases are emitted. This results in damages that cost millions as well as environmental pollution. Foam extinguishing systems are the most effective fire protection for this risk area.

With a versatile foaming agent range, Minimax offers safe and flexible application. As an exclusive manufacturer, Minimax supplies sprinklers for the production of low expansion foam. Minimax also specialises in stainless steel nozzles for low expansion foam extinguishing systems. Perfectly aligned components are supplied in line with the individual needs of clients and according to respective fire protection requirements.

Powder extinguishing systems are permanently installed fire extinguishing systems. Extinguishing powders are highly efficient and fast-acting extinguishing agents. The sudden three dimension extinguishing effect of the powder clouds is due to the smothering effect and the anticatalytic effect, a chemical intervention in the combustion process. Extinguishing powders consist essentially of non-toxic inorganic salts, which are mixed with impregnation and pouring agents. The extinguishing powders are used for fires involving solid, liquid and gaseous materials and for metal fires.



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## Gas fire protection system

Sensitive technologies, objects and areas need a special protection scheme. Minimax has the right solution. Our gaseous extinguishing agents are environmentally safe and provide fast, reliable protection of human life and material assets. Specially adapted to the individual application, they fight fires with no side effects or negative impact on the protected objects. Argotec fire extinguishing systems are the right solution for protecting high-end systems, sensitive equipment or valuables that could be damaged by the use of other extinguishing agents. These versatile systems use argon (Ar), nitrogen (N<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) as extinguishants.

The 300 bar technology has further increased the cost-effectiveness of the extinguishing gases argon and nitrogen used in the Argotec system. The higher filling pressure means that fewer cylinders are required. This also reduces the installation space by 30 percent.

Due to its fast and even distribution of extinguishing agent, the Minimax MX 1230 extinguishing system with the extinguishing agent Novec™ 1230 from 3M™ is an ideal fire protection solution with many benefits for protecting electric and electronic risks. The extinguishing agent Novec™ 1230 is unique in that it is stored at room temperature in a form as compact as water, but extinguishes as a gas with no residue and even distribution throughout the entire extinguishing area. Each MX 1230 fire extinguishing system is configured individually. The MX 1230 compact extinguishing system combines all components in one unit.

