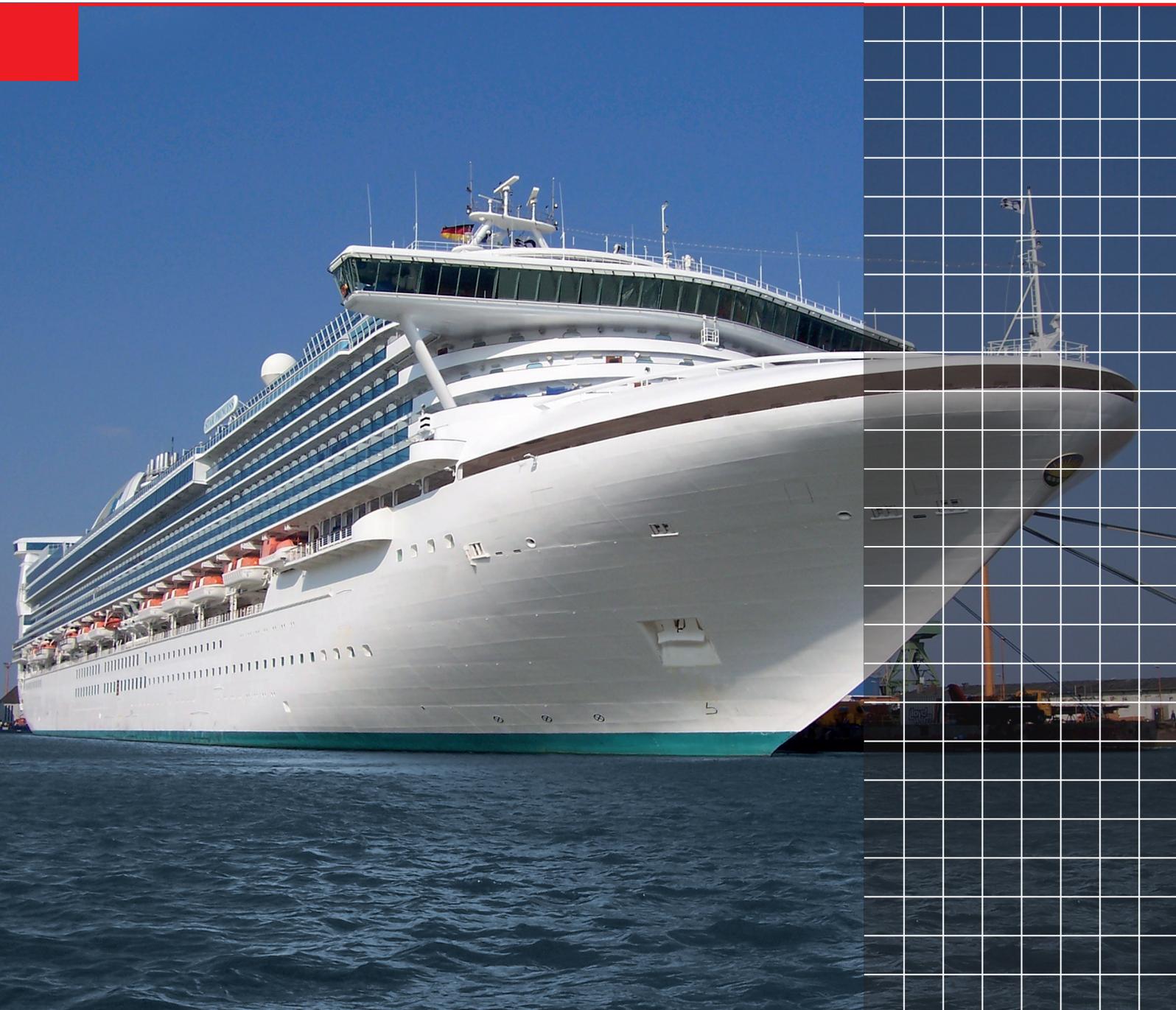


Experts in fire protection

**MINIMAX**

## Fire protection solutions for ships and offshore facilities



BRANCH SOLUTION

MARINE OVERVIEW

## Top level of safety on board

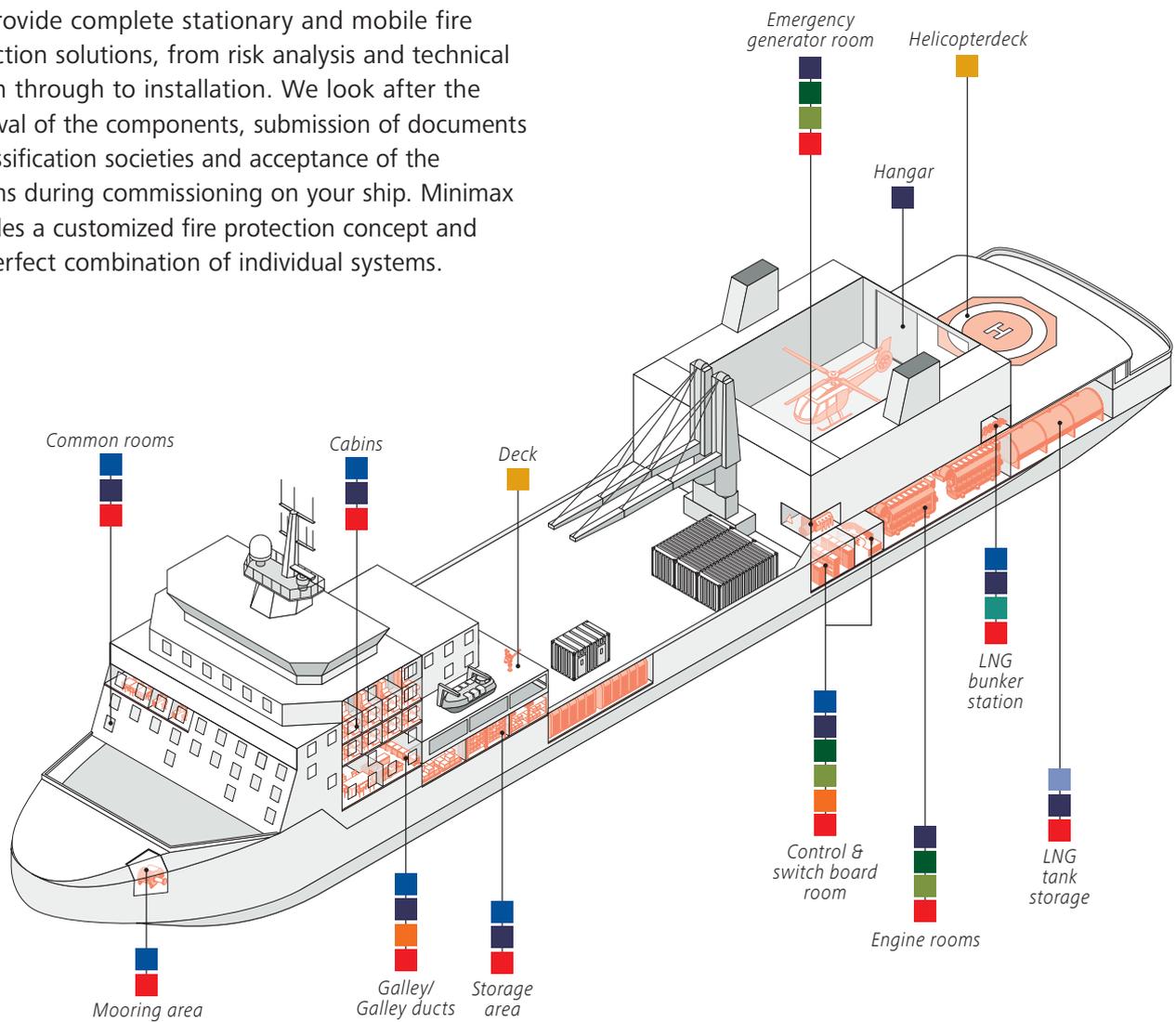
Minimax has been one of the leading fire protection brands for more than 110 years. On ships, and in the automobile industry, power plants and logistics centres, offices, administration buildings and data centres – wherever the risk of fire threatens – personalized Minimax solutions protect human life, buildings, machines and the environment.

Ships and offshore facilities such as oil platforms require an above-average level of safety due to the special conditions that prevail at sea. In most cases people cannot quickly escape in the event of a fire to receive immediate help from the outside to fight a blaze. Apart from many fire risks, panic and compromised maneuverability are further typical sources of danger after a fire and must be taken into consideration when choosing an extinguishing system.

The variety of fire risks on ships calls for a partner who provides fire protection from planning through to realization and who takes special requirements into consideration. Minimax is Europe's leading full-service provider for fire protection and one of the top companies in this area worldwide.



We provide complete stationary and mobile fire protection solutions, from risk analysis and technical design through to installation. We look after the approval of the components, submission of documents to classification societies and acceptance of the systems during commissioning on your ship. Minimax provides a customized fire protection concept and the perfect combination of individual systems.



	Sprinkler systems		Powder extinguishing systems		CO <sub>2</sub> extinguishing systems
	Deluge systems		Fire detection systems		MX 1230 Marine clean agent fire suppression systems (Novec™ 1230)
	Minifog marine water mist extinguishing systems		Compact suppression systems		Deck foam systems

# Technologies

Minimax has the perfect combination of fire extinguishing systems for every type of vessel, allowing you to source complete solutions for your ship from just a single supplier.

## Fire detection systems

Our fire detection systems detect fire risks quickly and reliably 24 hours a day. They warn persons at risk, inform the people responsible and provide all the relevant information to initiate the correct emergency measures without delay. Minimax provides fire detection and extinguishing control in a single system. This feature is used mainly for the activation of water-based local application firefighting systems in engine rooms.

## Sprinkler systems

Leading shipyards and ship owners rely on Minimax: our sprinkler systems are used in passenger areas worldwide, including in cabins and restaurants. Minimax sprinkler systems automatically identify, detect and extinguish fires and thus unfailingly provide reliable protection.

## Deluge systems

Deluge systems should be used for car decks on ferries and on the tank decks of gas and chemical tankers. They facilitate extensive fire fighting and cool down the burning substance. The heat impact on objects in the vicinity is also reduced and the fire is thus prevented from spreading. The system can be activated automatically or manually, according to requirements.

## Water-based local application systems

Here we have our low-pressure Minifog fine water spray system and our high-pressure Minifog marine XP system. These are generally used in combination with our Minifog marine XP sprinkler system in accommodation areas and the Minifog marine XP total-flooding system in engine rooms.



## Minifog marine XP – high pressure technology for maritime risks

### Minifog marine XP sprinkler systems

An alternative to conventional sprinkler systems, water mist technology represents an extremely safe and economic solution. In the case of a fire, our Minifog marine water mist systems will react very fast and effectively because of their optimal adaptation to the equipment to be protected and how the fire is expected to spread. They spray the tiniest droplets of extinguishing water. Thus, the cooling and suffocation effects are very effective.

Environmental protection and its impact on people is reduced by binding smoke and harmful substances in the extinguishing water. Using water mist technology reduces pipework dimensions and weights, the amount of extinguishing water required, special requirements, contaminated extinguishing water residue and extinguishing water damage.

### Minifog marine XP total-flooding system

Our Minifog marine XP system is tested for use in machinery spaces of category A of up to 8,235 m<sup>3</sup>.

#### Advantages

- Uses 90 % less extinguishing water
- Just one sprinkler can cover up to 32 m<sup>2</sup>
- Protects engine rooms of up to 8,235 m<sup>3</sup>
- Pipe diameters of between 10 and 42 mm save valuable space
- No separate engine room fire protection system necessary
- Sprinklers can be spaced up to 6 m apart in corridors
- Just a single nozzle type can be deployed throughout the entire engine room
- Stainless steel sprinklers and nozzles
- Engine rooms can be protected without use of a foaming agent



## Systematic specific

### Deck foam systems

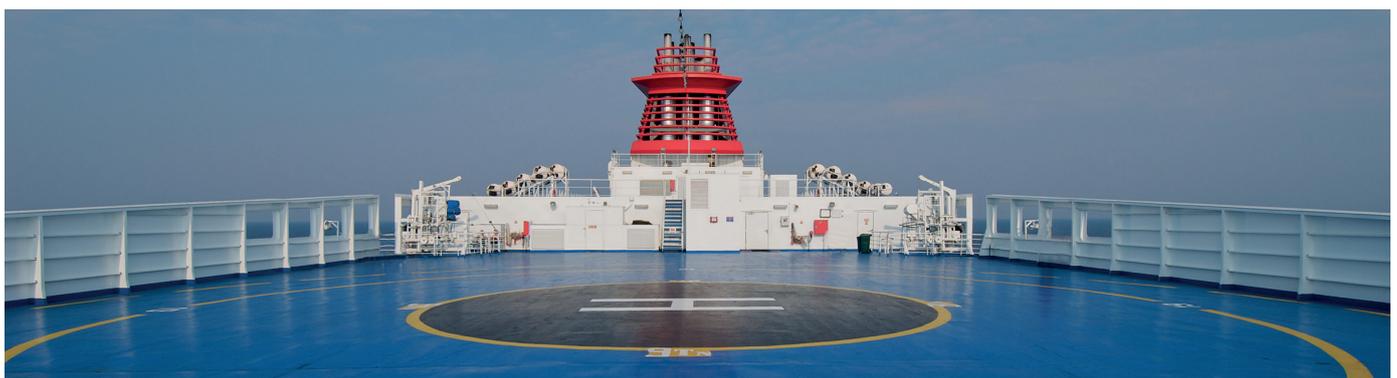
Low-expansion foam distributed with monitors is a very effective extinguishant for large open areas like tankers, freight carriers and helicopter decks.

### Powder extinguishing systems

Powder extinguishing systems are ideal where rapid fire "knock-down" is necessary and extinguishing damage is irrelevant, such as on the cargo decks of LPG or LNG tankers. The systems are available with different supplies and capacities.

### Gas extinguishing systems

Minimax has a range of gas extinguishing systems for the protection of engine rooms, pump rooms, etc. Foremost among these are our high-pressure CO<sub>2</sub>, high-pressure MX 1230, nitrogen and argon gas systems.



## Extinguishing highly effective

**OneU fire protection systems for 19" Racks**

The OneU fire protection system offers sensitive fire detection and residue-free extinguishing with the Novec™ 1230 extinguishant by 3M™. The OneU fire protection system is specifically designed for installation in enclosed 19" IT racks, and only requires the space of one height unit in the rack. In addition, it can be expanded modularly, ensuring high availability of technical facilities at a low time and material expenditure.

**Galley protection**

Manually or automatically activated Minimax galley protection systems extinguish fat fires in a matter of seconds. The special extinguishant is highly effective, leaves only a small amount of residue, which can be removed quickly, and is generally recognized as hygienically safe. Devastating consequential damage and operating interruptions will not occur.

**Mobile fire protection**

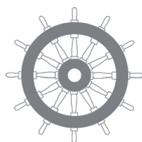
Mobile fire protection: foam/water hydrants, fire extinguishers and fire extinguishing devices are part of the basic equipment of every ship and offshore unit and round off the Minimax range.



## We have the full range

- Minifog marine XP high-pressure water mist extinguishing system
- Sprinkler and sprinkler equivalent fire extinguishing systems
- Foam extinguishing systems for helidecks and tankdecks
- Deluge systems:  
Water spray systems for cargo holds, stores and mooring decks  
Drencher systems for car decks and gas tankers
- Powder extinguishing system, modular or multi-zone systems and for bunker stations
- Compact extinguishing systems:  
KS2000-8 marine compact extinguishing systems for deep fat cooking equipment  
OneU fire protection systems for 19" racks
- CO<sub>2</sub> extinguishing systems
- MX 1230 clean agent systems with Novec™ 1230 by 3M™, modular or multi-zone systems

Minimax's expert teams know the special requirements of each individual protective area and are standing by to help.



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