



# DESMI FineFog™

Fixed Water-Based Fire-Fighting Systems

PROVEN TECHNOLOGY

**DESMI**

# Fixed Water-Based Fire-Fighting System

## High Efficiency and Reliability

DESMI has supplied more than 120 water-based fire-fighting solutions to all kinds of vessels around the globe, which is a living proof that DESMI customers are satisfied with the performance of our products. Be it for the general cargo ships, passenger ships or offshore vessels, we know the owners' demands based on the many years of trouble-free operation.

## Systems Available:

- Fixed water-based local application system for machinery space
- Water sprinkler system for accommodation
- Deck foam system for oil/chemical tanker deck protection
- Helideck foam system for helicopter landing area
- Water spray/deluge/drencher system for special category space



# Fire-Fighting System for Machinery Space

The DESMI local application Fire-Fighting System is a low pressure FineFog™ fixed water-based system using fresh water, approved for use as a local fire protection system for high risk objects such as:

- Top of combustion machinery
- Boiler fronts (for oil fired boilers)
- Other oil fired burners (inert gas, etc.)
- Incinerators
- Purifiers for heated fuel oil

The system can effectively control and extinguish fire within the protected area at the earliest stage before the total flooding system (e.g. CO<sub>2</sub>, high expansion foam, etc.) is activated.



As a fire-fighting agent, water is non-toxic, safe for the ship's crew, environmentally friendly and has good cooling capabilities which effectively reduce the level of damage during the fire.

DESMI FineFog™ fire-fighting system ensures continuously operating vessel systems and generators.

Regulation:

- SOLAS Ch.II - 2/Reg.10.5.6
- SOLAS Ch.II - 2/Reg.3.31
- IMO MSC/Circ.913
- MSC/Circ.1082
- MSC.1/Circ.1276
- MSC.1/Circ.1387
- Other regulations from classification and flag authorities

# Water Sprinkler System for Accommodation

DESMI Water Sprinkler System is a conventional sprinkler system designed as a so-called wet pipe system. A wet pipe sprinkler system is fixed fire protection using piping filled with pressurized water supplied from a dependable source.

The sprinkler system is an automatic wet pipe fire extinguishing system. The system is installed in accommodation space and other service areas on the vessels such as passenger ships, car ferries, accommodation barges, offshore support vessels, large boats or yachts.

## Brief Function Description:

Closed heat-sensitive automatic sprinklers spaced and located in accordance with recognized installation standards are used to detect a fire.

During operation, the sprinklers distribute the water over a specific area to control or extinguish the fire. As the water flows through the system, an alarm is activated to

indicate that the system is operating. Only those sprinklers directly above or adjacent to the fire are activated, thus minimizing the water damage.

The sprinkler system is most effective in extinguishing fire at its early stage. Statistics show that around 70% of all fires have been extinguished by less than three sprinklers in action.

## Regulation:

- SOLAS guidelines chapter II-2.12.
- FSS Code chapter 8 as amended by MSC 339 (91).
- Resolution A.800 (19) amended by MSC.265 (84).
- IMO MSC/Circ.1165 as well as the design parameters established pursuant to other regulations from classification and flag authorities.
- MSC.1/Circ.1369 (for safe return to port)



# Low Expansion Foam Fire-Fighting System

## Deck Foam System/Helideck Foam System

The DESMI fixed low expansion foam fire-fighting system is developed to protect the oil and chemical tanker deck areas, helidecks or other open deck areas (e.g. bow/stern loading areas) as well as closed horizontal spaces (e.g. streamer reel, purifier room).

The system is designed for safe, easy and reliable operation. The system is manually or remotely (e.g. electrically or hydraulically) operated.

Pressurized foam concentrate is delivered by a foam pump or from a tank to a mixing device, where a foam solution is created by adding the required amount of foam concentrate to fresh or sea water in a mixing device. The aeration takes place in a foam application device (monitor, applicator or nozzle), and foam is sprayed directly on to the areas of fire.



Low-expansion foam creates a foam substance of air-filled bubbles from an aqueous solution, forming a floating 'blanket' that effectively fights fire. The blanket's density is lower than that of flammable and combustible liquids, suppressing or extinguishing fires by cutting off the supply of oxygen to the fire. At the same time, water-containing bubbles burst, cooling down the fire. Additionally, low-expansion foam adheres to surfaces, providing a degree of exposure protection from adjacent fires.

Rules and Regulations:

Deck foam system:

- SOLAS chapter II-2, Part C, Reg. 10
- FSS Code, chapter 14 & chapter 6 (2.3)
- IBC Code, chapter 11
- Resolution MSC.339 (91)

Helideck Foam System:

- MODU Code
- ICAP CAP437
- MSC.1/Circ.1431

Additional Fire Protection Notation:

- DNVGL-F-AMC

# Water Spray / Deluge / Drencher System

Water is an ideal extinguishing medium for many shipboard applications. It is conveniently accessible, has great heat absorbing capabilities and can be used on a variety of fires.

There are several mechanisms involved in extinguishing fire with water.

- The cooling of the flame temperature when water passes through the combustion zone and absorbs heat through evaporation.
- The cooling effect of the fuel surface by the direct impingement of water droplets on the surface.
- Reducing the amount of combustible gases released.

Application:

- Chemical tanker
- Gas carrier (like LPG, LEG, LNG)
- RO-RO/RO-PAX vessel
- Container vessel
- Self unloading cargo vessel
- Other special category space

Regulation:

- IBC Code chapter 15.8.29 for PO tank deck
- IGC Code chapter 11.3 as amended by MSC.370 (93) for GAS carrier
- SOLAS II - 2/19.3.1
- IMO MSC.1/Circ.1430 chapter 3 and 4
- ABS/RINA approved F500 additive to improve the fire extinguishing capability and impair the re-ignition (especially for fire in tires), as recommended by MSC.1/Circ.1430 -3.13



# Why Choose DESMI Fire-Fighting System?

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## DESMI FineFog™ Fixed Water-Based Fire-Fighting System Offers many Features and Benefits

- ✓ Up-to-date development ensures rule compliance and system reliability
- ✓ High-efficient fire extinguishing or suppression
- ✓ Quality components used through system design
- ✓ Easy service, maintenance and trouble shooting due to modular design
- ✓ Compact design, small pumps, pipes, tanks and etc.
- ✓ Low water flow rates/water consumption
- ✓ Low installation, operation and maintenance costs
- ✓ World-wide service and technical solution support





Need more information or specifications? Contact us at [desmi@desmi.com](mailto:desmi@desmi.com) or read more about DESMI and DESMI's other products and solutions at [www.desmi.com](http://www.desmi.com)

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