

ENGINEERING
TOMORROW

Danfoss

Large Engine Rooms

SEM-SAFE® Low-Pressure CO₂ Fire Fighting System

Danfoss Fire Safety A/S



www.semsafe.danfoss.com

SEM-SAFE®

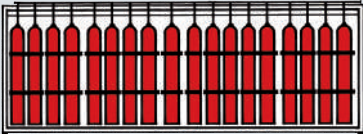











Low-pressure CO₂ vs high-pressure CO₂

Comparison low-pressure CO₂ – high-pressure CO₂ for an engine room of 35,000 m³

Kg of CO₂ = 25,000

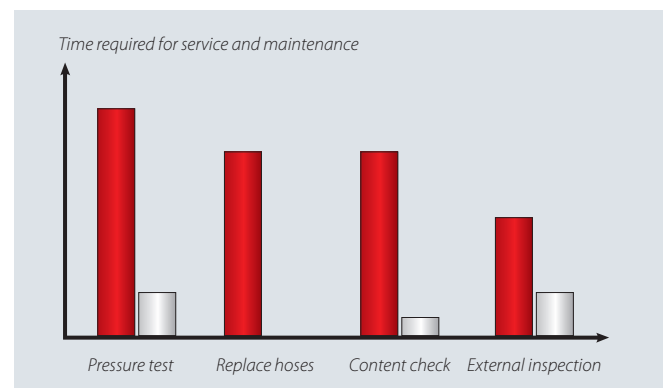
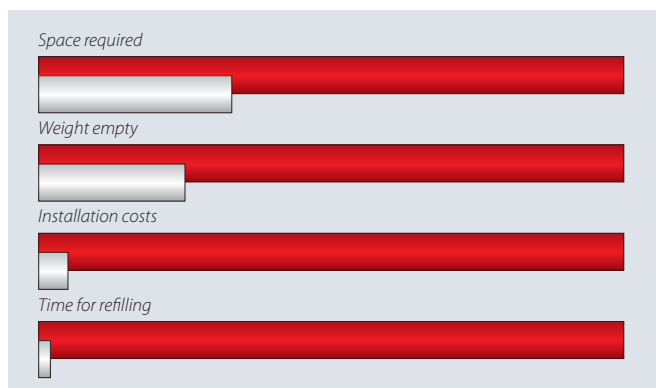
High-pressure CO₂

Low-pressure CO₂

REQUIRED	
 556 cylinders	 1 tank
SIZE OF CO ₂ ROOM	
 120 m ²	 40 m ²
WEIGHT (EMPTY)	
 55,500 kg (with racks)	 13,500 kg
WEIGHT (FILLED)	
 80,500 kg	 38,500 kg
INSTALLATION TIME	
 Approx. 1,200 man hours	 60-80 man hours
TIME REQUIRED FOR REFILLING	
 More than 500 man hours	 Approx. 12 hours

High-pressure CO₂ 

Low-pressure CO₂ 



SEM-SAFE® low-pressure CO₂ fire fighting system – the optimal solution for fire protection of large engine rooms

The SEM-SAFE® low-pressure CO₂ systems from Danfoss are specially made for use where large machinery spaces above 25,000 m³ require protection with CO₂. SEM-SAFE® low-pressure CO₂ systems are the optimal solutions with one tank replacing a large number of CO₂ cylinders. The tank, the valves, compressors, and associated controls are supplied prewired and ready assembled on a common steel frame.

Advantages of SEM-SAFE® low-pressure CO₂ for large engine rooms above 25,000 m³

- One single tank replaces a large number of CO₂ cylinders
- More than 50% reduction in weight and space required
- Significantly reduced time for refilling
- Operation and service advantage for the ship-owner
- Installation advantage for the shipyard



Total Solution Provider of Certified Fixed Fire Fighting Systems

Danfoss Fire Safety A/S, an integral member of the Danfoss Group, is a global leader in the sale, development, production and service/commissioning of certified fixed fire fighting systems under the brand name SEM-SAFE®.

We offer you unparalleled competitive edge through quality and reliable products, uncompromising performance and cost-effective fire fighting systems.

Innovation is our approach

We have been engineering and pioneering SEM-SAFE® fire fighting systems for decades. This gives us the experience and technological knowledge to provide a complete range of SEM-SAFE® fire fighting systems based on two key technologies: high-pressure water mist and low-pressure CO₂.

Engineering a safer tomorrow

From a modern high-rise building to a state-of-the-art university, from a wood church to a super hospital and busy international airport, SEM-SAFE® high-pressure water mist is the optimum fire fighting solution for any building type. The breakthrough that high-pressure water mist represents is to use the same method as traditional sprinklers, but to add the effect of converting the water into steam.

This means that the cooling effect is up to seven times higher than for traditional sprinklers. Combined with the oxygen displacement effect, this can reduce water consumption significantly compared to traditional sprinkler.

Besides a proven track record in buildings, we install SEM-SAFE® fire fighting systems in a wide range of vessels. Safety on board ships is critical, and this places great demands on fire fighting systems. No matter if the journey means transporting goods across oceans on a mega container ship, or a vacation trip to a beautiful island on a luxurious cruise, SEM-SAFE® fire fighting is the perfect choice to protect the vessel and passengers against fire, with reliability and cost-effectiveness in mind. For the demanding marine segment we offer

two fire fighting technologies: SEM-SAFE® high-pressure water mist and SEM-SAFE® low-pressure CO₂.

Reaching even higher

Simplicity in design, obtained by using the most advanced technologies, results in the highest operation reliability. All our products are made of first-class materials and in a comprehensively tested design.

Danfoss is close by

Danfoss and its associates, regional offices and agents constitute a worldwide network that provides comprehensive technical support, installation, commissioning and repair services.

This network ensures that our reputation for fire fighting excellence is maintained and enhanced.

**>50
years**

of pioneering
research & testing
in fire fighting

SEM-SAFE®

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