

Marine application | SEM-SAFE® high-pressure water mist system

Reliable fire fighting in engine rooms - total flooding

Danfoss Fire Safety A/S



As one of the world's few manufacturer, Danfoss can offer protection of your engine room with a true high-pressure water mist. The design is according to the requirements in IMO resolution MSC/circ. 1165.

It can replace Halon or can be used as a substitute for traditional CO₂ systems. Our total flooding system with high-pressure water mist is based on pure water without any additives at all. The advantage of the SEM-SAFE® system is that the very small quantities of water it uses are harmless to personnel and equipment.

Even electrical equipment is left undamaged, provided that protection is better than IP 23.

It is possible to integrate fire fighting of local application and accommodation from the same pump unit.



SEM-SAFE® high-pressure water mist system

High-pressure water mist is water that, at a high-pressure of 100 bar, creates a fine mist. The fine water mist evaporates very quickly and the resulting steam starves the fire of oxygen, suppressing it. At the same time, the water evaporation creates the most efficient form of cooling. In this way, the fire is extinguished both by oxygen suppression and cooling, providing the advantages of both water and gas-based fire fighting.

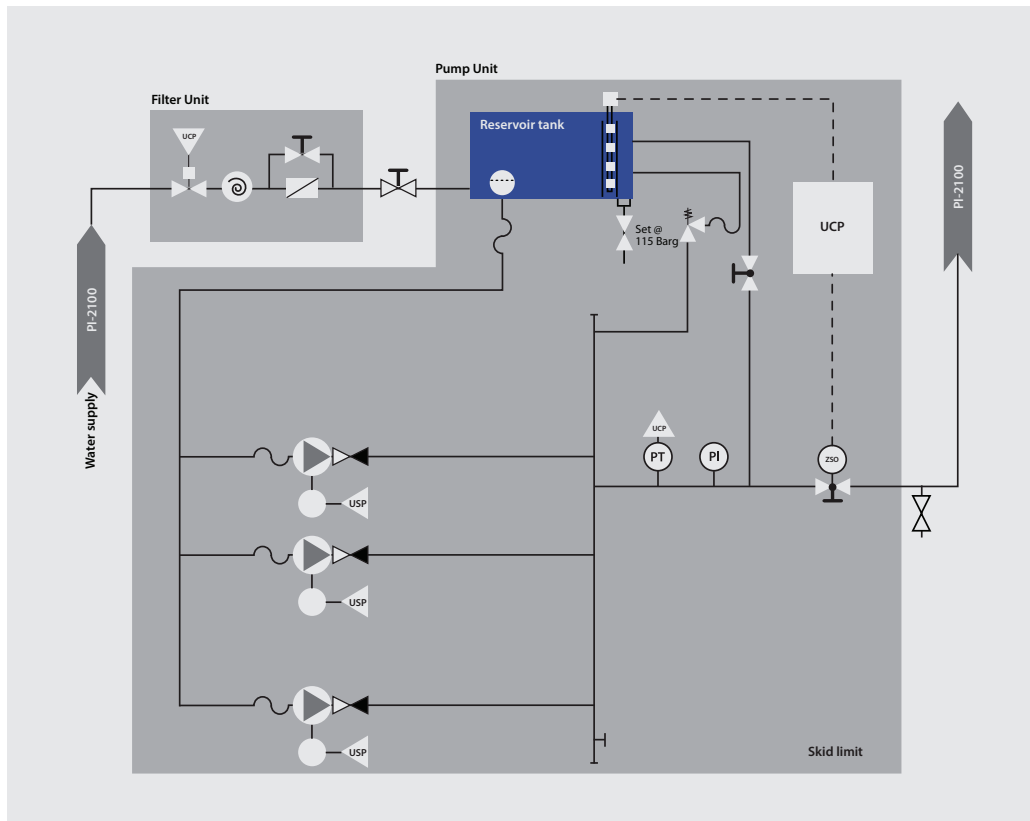
High-pressure systems only create a high pressure during extinguishing. High pressure water mist will cool the areas around hot metal surfaces and the water mist evaporates before it reaches the hot metal. In this way, shock cooling and changes in metal structures can be avoided.

Danfoss has been working with high-pressure water mist right from the start. This revolutionary new system is finding its way into more and more application areas, offering an efficient system that is environmentally friendly as well as harmless to users.

Approval levels and experience

We have already seen fires being almost instantly extinguished by the system after its release, thus saving repair costs and off-hire periods.

The SEM-SAFE® system is approved by all major classification societies.



Typical arrangement of section valves in an engine room.