

Wind turbine fire protection

Fire damages of wind turbines cost millions of euros.



**DANFOSS SEMCO A/S
FIRE PROTECTION**

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THE POWER BEHIND OUR BUSINESS

Focused exclusively on high-technology fire fighting solutions for countless applications, Danfoss Semco A/S was formed from two world-wide industrial leaders: Danfoss A/S and Semco Maritime A/S. The fire fighting division of Semco Maritime has pioneered the use of high-pressure water mist systems for the last 15 years, and has over 50 years of experience in the design and delivery of fixed fire fighting systems. These include CO₂, foam and dry chemical powder and have been applied in demanding marine, offshore and land applications.

Over the same period, Danfoss has cemented its position as the world's leading developer and manufacturer of mechanical and electronic products and controls and has been Semco Maritime's preferred component supplier of high pressure pumps, nozzles and valves. The merger was a natural way to combine and develop the products, specialist skills and knowledge of the two companies.

PROTECTION OF WIND TURBINES.

It is very difficult to protect wind turbines against a fire. This is mainly because their height and remote locations make them difficult to reach, and the fire brigade often has to stay on the ground to secure the area. Gas protection is not suited for wind turbines because it requires closed rooms in order to be

efficient. Although some systems have been installed to cover switchboards, for example, other hazardous areas have not been covered. For this reason, Danfoss Semco has developed a high pressure water mist system to cover the entire wind turbine. Normally, the whole nacelle of the turbine will be covered with water mist. Depending on the type of turbine, the tower can also be protected against any combustible material that may have been placed in it. In both cases, the wind turbine will be safely and fully protected.

SEM-SAFE SYSTEM.

The water consumption of the Sem-Safe water mist system is very low, and requires only small pipe dimensions. This leads to a weight reduction and also allows installation in smaller places. The pump unit is compact, allowing the Sem-Safe system to be fully integrated in the nacelle.

Because the Sem-Safe water mist system is frost proof, it will work in any weather conditions. Also, it is not a 'one-shot' system: as long as water and electricity are available, the system will work. The protection system can also be delivered with battery back-up in case of power failure.

The system is specified in accordance with the FM standard for turbine enclosure and has been adapted for wind turbines.

PRODUCTS

- Water Mist High pressure systems
- CO₂ High pressure systems
- CO₂ Low pressure systems
- Fine Water spray systems
- Low pressure sprinkler systems
- Deck foam systems
- Dry chemical powder systems
- HVAC systems