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Fire Protection Products

I wish I Could Choose a Machinery Space Fire Protection System from an Approved Product Range

AquaMist

"I wish I could have a water-based fire suppression solution that minimises impact on critical power supply equipment and reduces downtime."

Power Plant Supervisor

"I wish I could have a stand-alone Water Mist solution to protect my installations"

Health and Safety Officer

"I wish my policyholders could have an FM Approved Water Mist solution to protect their machinery spaces"

Insurance Company Manager

Wish Granted!

Machinery Space

Machinery spaces are facilities providing process critical services, such as water, electricity, heating and power.

Machinery Protection

FM APPROVED

The fire risk within machinery spaces is complex and varied. Machinery spaces can generally be classified as process spaces containing mechanical plant, which utilise hydrocarbon fuels and lubricants.

The presence of flammable or combustible liquids, often under pressure, and the close proximity of hot surfaces creates a potentially dangerous combination for spray and pool fires.

The resulting category B fuel fires are fast growing, with high heat release, which has the potential to cause significant material damage and business interruption.

This type of fire is ideally suited to AquaMist water-based fire protection systems. The water droplets produced by all three AquaMist technologies, provide rapid heat extraction for extinguishing fires and cooling latent heat risks.

AquaMist offers machinery space solutions across three product technologies in both local application and total flood configurations. All solutions are proven through full-scale fire testing to third party test protocols to extinguish fires.

AquaMist systems are FM Approved according to their applicable protocols and are compliant with international design standards, including BS, CEN, CNPP and NFPA for dependable, quality systems. Our Water Mist technologies help minimise water damage to property and business assets and help to maintain business continuity.

AquaMist ULF

Low / Intermediate Pressure Solution

The AquaMist Ultra Low Flow (ULF) system operates at working pressures of 7 to 16 bar (101.5 - 232.0 psi), producing droplets of water through an engineered discharge nozzle, with different nozzle types for specific hazards.

A Mist Control Centre (MCC) consists of:

- Economical electrical driven Mist Control Centre (MCC)
- Red-E Mist Skid cylinder standalone solution
- Land-based Local Application Solution available
- Total Flood and Local Application
- G-PRESS piping system

100-200 µm
ULF

AquaMist FOG

High Pressure Solution

The system operates at working pressures of 50 to 200 bar (1015 - 2900 psi) to produce droplets of small diameters at high speed. Optimized nozzles have been developed and tested for each different protected hazard.

A typical FOG system for machinery space consists of:

- Electrical or diesel driven pump skid solutions
- Bank of cylinders standalone solution
- Total Flood and Local Application

50 µm
FOG

AquaMist SONIC

Hybrid Solution

The system operates at less than 9.4 bar (136.0 psi) to produce the smallest droplet sizes of any water mist system, proving that high pressure isn't always needed! The AquaMist SONIC hybrid (water-nitrogen) technology also has sidewall atomisers available for highly obstructed turbine enclosures.
The system is safe for people and the environment, and is cost effective to recharge.

A typical SONIC system for machinery space consists of:

- Cylinder Skid standalone solution
- Engineered solution available
- Total flood configurations

10 µm
SONIC

Advantages of the AquaMist Machinery protection solutions:

- Three different technologies to suit customer needs and requirements
- Third party tested
- Provides protection even for non-tight machinery spaces
- Total Flood and Local Application solutions
- Technical services provide value-added project support

Applications

UPS Generators

UPS generators provide emergency power to ensure mission critical processes can continue in power outages.

- Primarily a FOG application
- Compact and easy to install. Ideal for retrofit (small pipework- typically 12mm)
- Compact water supply; typically 3 water and 2 nitrogen cylinders
- Flexible solution; enclosure integrity is not a critical design factor in comparison with gas suppression
- Available in pre-engineered configurations for FOG and SONIC
- Sidewall atomisers are optional with AquaMist SONIC for an even more efficient solution

Turbines

Gas, steam and wind turbines provide power generation for the electricity industry. The primary fire risk arises from overheating and the associated thermal run-away. Fire suppression is further complicated by the high temperature and close operational tolerances of the turbine casing. Sudden and significant temperature changes can cause thermal shock, permanently damaging the turbine.

AquaMist solutions for turbines have undergone third party turbine thermal shock tests to help ensure that fire is extinguished, whilst protecting the function of the turbine.

Applications

Engine Test Cells

Engine test cells are used to test the development and production of combustion engines. They are enclosed spaces, often exposed to challenging climatic conditions, where fires occur frequently due to the close proximity of fuel and extreme heat.

Applicable systems:

- AquaMist FOG
- AquaMist ULF
- AquaMist SONIC
- Modular or centralised configuration
- Cylinder and pump water supply configuration

Generator Halls

Generator halls present a significant number of independent fire risks within close proximity to each other. One fire event has the potential to quickly migrate to adjacent assets. AquaMist offers solutions in both local application and total flood configurations with ULF or FOG. Local application provides the facility to extinguish a fire before it has the opportunity to migrate, allowing adjacent processes to remain operational.

Applicable systems:

- AquaMist ULF
- AquaMist FOG
- Cylinder and pump water supply configuration

SONIC
Sidewall and Pendent Atomiser
(Stainless steel construction)

Nitrogen gas discharges from the atomiser at high Velocity, generating a zone of low pressure that draws water in to the atomising region. A conical supersonic wave then creates a zone of extreme acceleration and breaks the water into tiny droplets.

*This item comes shipped as assembled

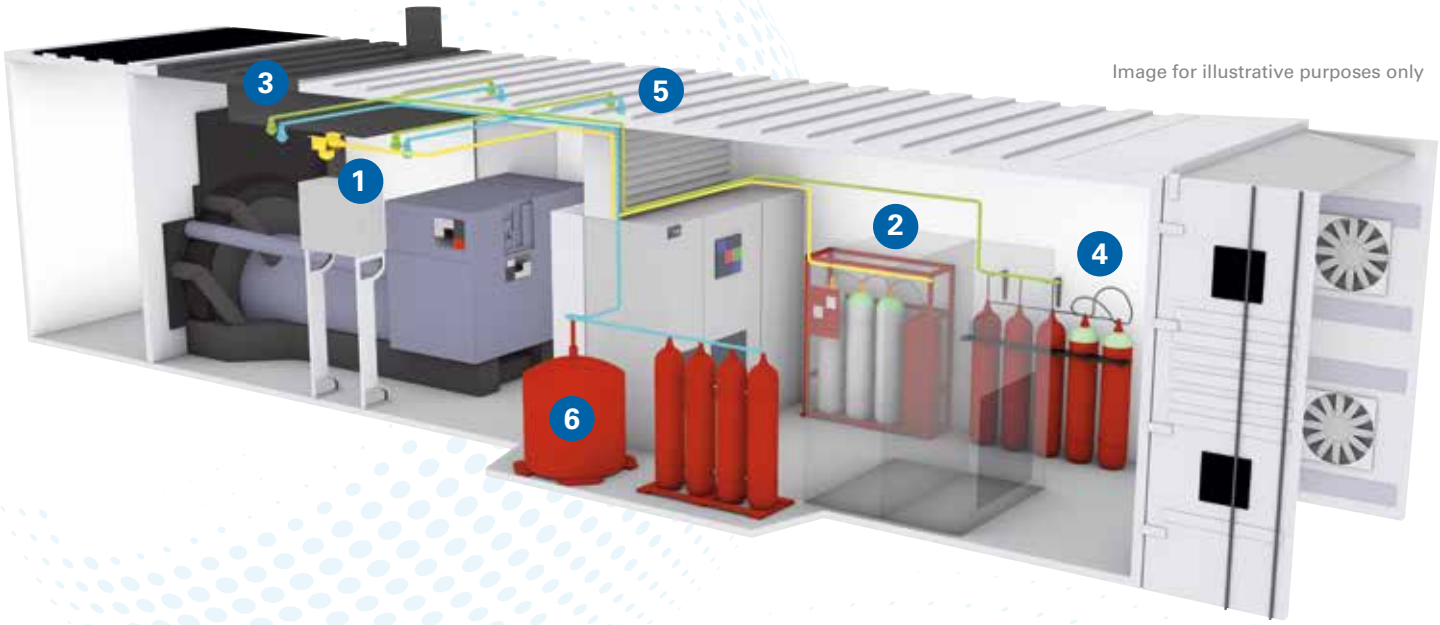
SONIC
Stand-Alone Pre-Packaged Cylinder Skid
(Pre-Engineered)

- Stand-alone system
- Self-contained
- Choice of actuation mechanisms
- FM Approved
- Engineered solution available for larger hazards

FOG
Pendent Multi-Orifice Discharge Nozzle
(High pressure 316 stainless steel)

FOG nozzles utilise a single fluid jet through carefully machined orifices to produce a fine range of water droplets which reduce heat and penetrate the fire zone.

- FM Approved



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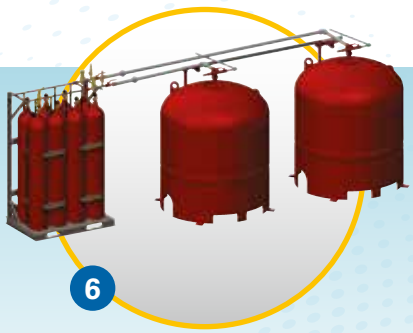
FOG
Bank Cylinders

- Stand-alone system
- Self-contained
- Specially lined cylinders
- Choice of actuation mechanisms
- FM Approved

ULF
AM4 Nozzle Pendent

- FM approved
- High flame cooling containment capabilities
- Nozzle pressure 12.8 bar - 17.2 bar
- Stainless Steel



ULF
Red-E Mist Supply Skid

- Tank-based nitrogen-propelled water supply unit
- Available in two sizes (600 and 1200 Gallon)
- FM approved
- Electrical actuation

Global Strength. Local Expertise.
At your service.

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