


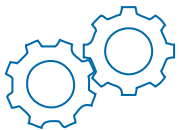
Machinery Space
Fire Protection System
from an Approved
Product Portfolio

The image is a composite of two photographs. The top photograph shows the interior of a large industrial building with a complex steel truss roof and several bright spotlights. The bottom photograph shows a large, circular industrial tank with a metal walkway and railings around its top. Inside the tank, there are several large, dark, curved blades or baffles. The floor of the facility is wet and reflective.

Johnson Controls is a global leader in fire suppression systems. Count on us to help keep people, property and the environment safer with our high-performance AquaMist water mist solution.

Machinery Space

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



**Machinery
Protection**



APPROVED

The fire risk within machinery spaces is complex and varied. Machinery spaces can generally be classified as process spaces containing mechanical equipment, which utilize 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 Class 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 both AquaMist technologies, provide rapid heat extraction for extinguishing fires and cooling latent heat risks.

AquaMist offers machinery space solutions across two 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, UL, uLC, IMO and NFPA for dependable, quality systems. Our Water Mist technologies help minimize 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 175 - 250 psi (12 to 17.2 bar), producing droplets of water through an engineered discharge nozzle, with different nozzle types for specific hazards.

AquaMist SONIC



Hybrid Solution

The system operates at less than 125 psi (8.6 bar) 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 atomizers available for highly obstructed turbine enclosures. The system is safe for people and the environment, and is cost effective to recharge.

ULF AquaMist system may consist of:

- Economical electrical driven Mist Control Center (MCC)
- Red-E Mist Skid cylinder standalone solution
- Land-based Local Application solution
- Total Flood and Local Application



100-200 μ m
ULF

A typical SONIC system for machinery space may consist of:

- Cylinder Skid standalone solution
- Engineered solution
- Total flood configuration



10 μ m
SONIC

Advantages of the AquaMist Machinery protection solutions:

- Two different technologies to suit customer needs and requirements
- Third party tested
- Provides protection even for non-sealed 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.

- Applicable for both ULF and Sonic
- Available as pre-engineered or engineered systems
- Multiple cells protected with single water source
- Flexible solution, enclosure integrity less critical compared to gaseous suppression
- Sidewall atomizers optional with AquaMist SONIC for even more flexibility

Turbines

Gas and steam turbines provide power generation for the electrical 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, while protecting the function of the turbine.





Applications

Test Cells

Test cells are used to test the development and production of engines and equipment. 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 ULF
- AquaMist SONIC
- Modular or centralized configuration
- Cylinder and pump water supply configuration

Industrial Hazards

Risk involving enclosures that contain class B flammable fuels, may be protected with our AquaMist solutions. Challenges including a lack of adequate water, infrastructure power, or water run-off collection systems are addressed using AquaMist system offerings. AquaMist systems provide firefighting performance while requiring less infrastructure, room integrity, and water collection requirements than other fire protection systems. An AquaMist self-contained water/propellant skid unit requires even less infrastructure than traditional water firefighting systems.

Applicable systems:

- AquaMist ULF
- AquaMist SONIC





SONIC
Sidewall and Pendent Atomizer
(Stainless steel construction)

Nitrogen gas discharges from the atomizer at high velocity, generating a zone of low pressure that draws water in to the atomizing 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

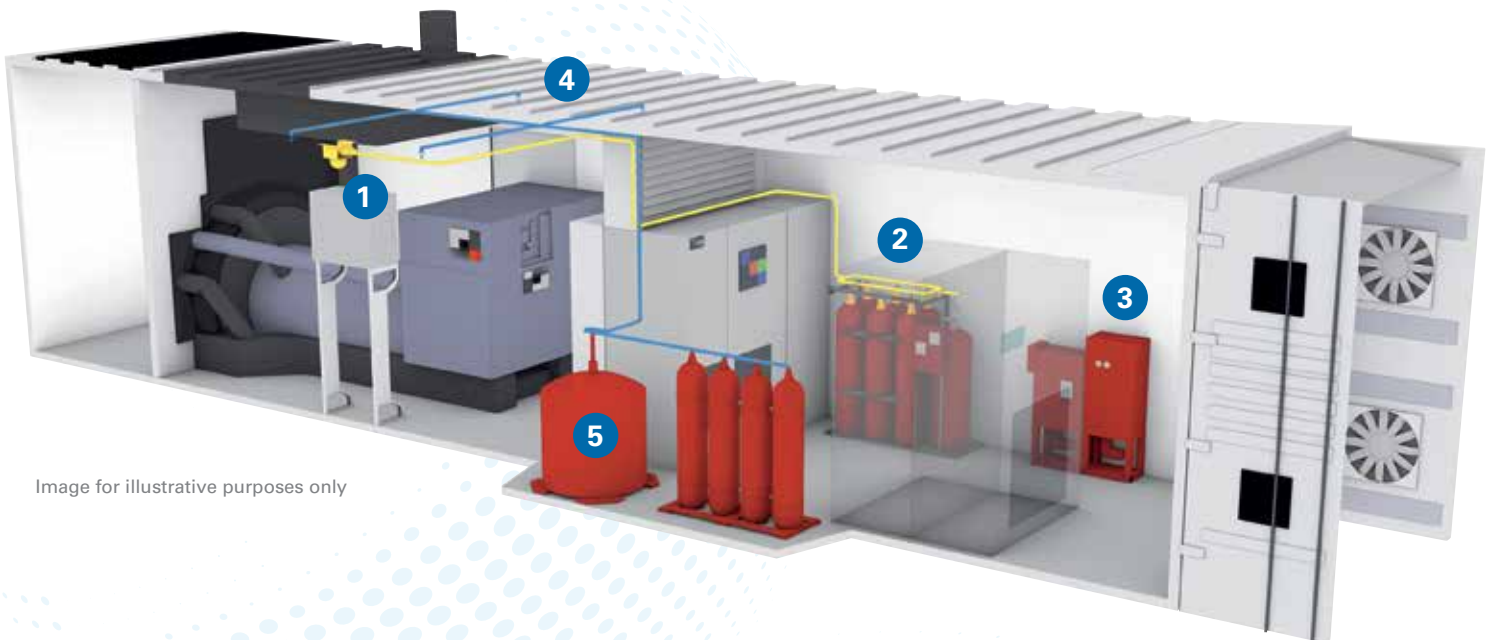


Image for illustrative purposes only



ULF
Mist Control Center

Pump, controller, valves and controls
 supplied as single unit
 Compact design
 Factory assembled and functionally tested
 Multiple flow rates and voltages available
 FM Approved



ULF
AM4 Nozzle

Pendent orientation
 High flame cooling containment
 capabilities
 Nozzle pressure 185 - 250 psi
 (12.8 - 17.2 bar)
 Stainless Steel
 FM Approved



ULF
Red-E Mist Supply Skid

Tank-based nitrogen propelled water
 supply unit
 Available in two sizes, 600 and 1200
 gallons (2,271 and 4,541 liters)
 Electric and/or pneumatic releasing
 options
 FM Approved

Global Strength. Local Expertise.
At your service.

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