

Water Mist Systems

Water Mist systems are **special protection systems** designed to generate a spray or fog of small water droplets. Fire extinguishment through water mist application is controlled by two main mechanisms; flame cooling and reduced oxygen concentration by displacement of air from the water vapour created. Ensure the water mist system will perform as intended by:

- Consulting FM Global Property Loss Prevention Data Sheet 4-2, Water Mist Systems and the occupancy-specific property loss prevention data sheets listed in Appendix C.4 of FM Global Property Loss Prevention Data Sheet 4-0, Special Protection Systems, prior to design, installation and use of these systems.
- Insureds of FM Global contacting their local FM Global office to discuss proposed use of water mist systems for protection of any enclosure or equipment.
- Verifying the required design criteria, as it may vary for each application type and depending upon maximum design parameters, may vary among water mist system manufacturers.
- Designing these special protection systems to provide protection for a specific duration within the limitations described in the manufacturer's design and installation manual identified in the Approval Guide listing.
- Consulting the FM Global occupancy-specific property loss prevention data sheet for discharge duration recommendations.
- Using compatible FM Approved controls and detection, as necessary. (See AUTOMATIC RELEASES FOR EXTINGUISHING SYSTEMS AND OTHER FIRE PROTECTION EQUIPMENT under ELECTRICAL SIGNALING.)
- Using automatic sprinkler protection in conjunction with the water mist system when recommended by the occupancy-specific FM Global Property Loss Prevention Data Sheet.
- Applying this equipment by FM Global insureds to the limitations specified above and FM Global's acceptance of plans prior to installation.

Protection of Machinery in Enclosures with Volumes

Water mist systems listed under this category are for enclosures with machinery such as internal combustion engines, oil pumps, oil tanks, fuel filters, generators, transformers, gear boxes, drive shafts, lubrication skids, diesel engine driven generators, and other similar equipment using liquid hydrocarbon fuel and/or hydraulic, heat transfer, and lubrication fluids; enclosures with incidental use of hydrocarbon flammable liquids of not more than two 55 gal (208 L) drums arranged for dispensing with safety bungs. All limitations to room volume, ceiling height, ventilation, opening sizes must be strictly met. FM Approval is voided by any deviation from the listing.

These special protection system applications are associated with the hazards and occupancies as identified in Appendix C.4, Recommended Applications of FM Global Property Loss Prevention Data Sheet Number 4-0, *Special Protection Systems*. Automatic sprinkler protection may also be recommended.

RG W-FOG UAC Water Mist System for the Protection of Machinery in Enclosures

General:	RG W-FOG UAC Water Mist System for the Protection of Machinery and Combustion Turbines in Enclosures with Volumes not Exceeding 9175 ft ³ (260 m ³) and a maximum ceiling height of 16.4 ft (5 m).
System Type:	Engineered; Single Fluid; Cylinder-Driven
Agent Type:	Water
Discharge Type:	Continuous discharge; decaying pressure
Water Flow Rate (per nozzle, nominal):	1.66 gpm (6.28 lpm) – Volumes 0 to 4,590 ft ³ (0 to 130 m ³) 1.24 gpm (4.74 lpm) – Volumes 4,591 – 9,175 ft ³ (131 to 260 m ³)
Water Pressure (at nozzle, minimum):	1015 psi (70 bar) – Volumes 0 to 4,590 ft ³ (0 to 130 m ³) 580 psi (40 bar) – Volumes 4,591 – 9,175 ft ³ (131 to 260 m ³)
Ambient Temperature Installation Range:	40° to 130°F (4° to 54°C)
Provisions:	- Use of FM Approved fire detection equipment is required. - Use of automatic door and ventilation closure devices and fuel shut off devices is required.
Design, Installation, Operation, and Maintenance Manuals:	<i>Design Manual:</i> RG W-FOG UAC – Cylinder Systems Design Manual, Document ID: FM_RG W-FOG UAC_Design Manual, Revision: 01 <i>Components Manual:</i> RG W-FOG UAC – Cylinder Systems Components Manual, Document ID: FM_RG W-FOG UAC_Components Manual, Revision: 02 <i>Installation Manual:</i> RG W-FOG UAC – Cylinder Systems Installation Manual, Document ID: FM_RG W-FOG UAC_Installation Manual, Revision: 02 <i>Maintenance Manual:</i> RG W-FOG UAC – Cylinder Systems Maintenance Manual, Document ID: FM_RG W-FOG UAC_Maintenance Manual, Revision: 02

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Company Website:	http://rq-systems.com
New/Updated Product Listing:	No
Listing Country:	Spain
Certification Type:	FM Approved
Class of Work:	5560-Water Mist Systems