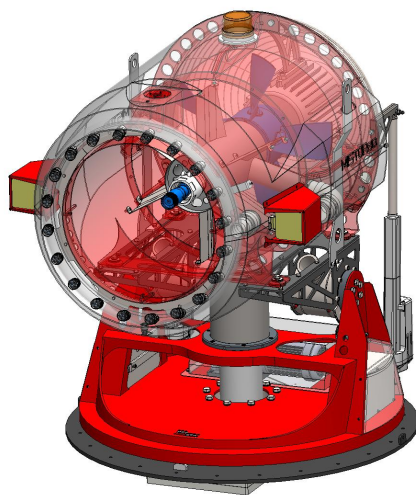


Firefighting Water Mist Turbine

- An OEM-Ready, High-Efficiency Solution for Stationary Industrial Fire Protection -

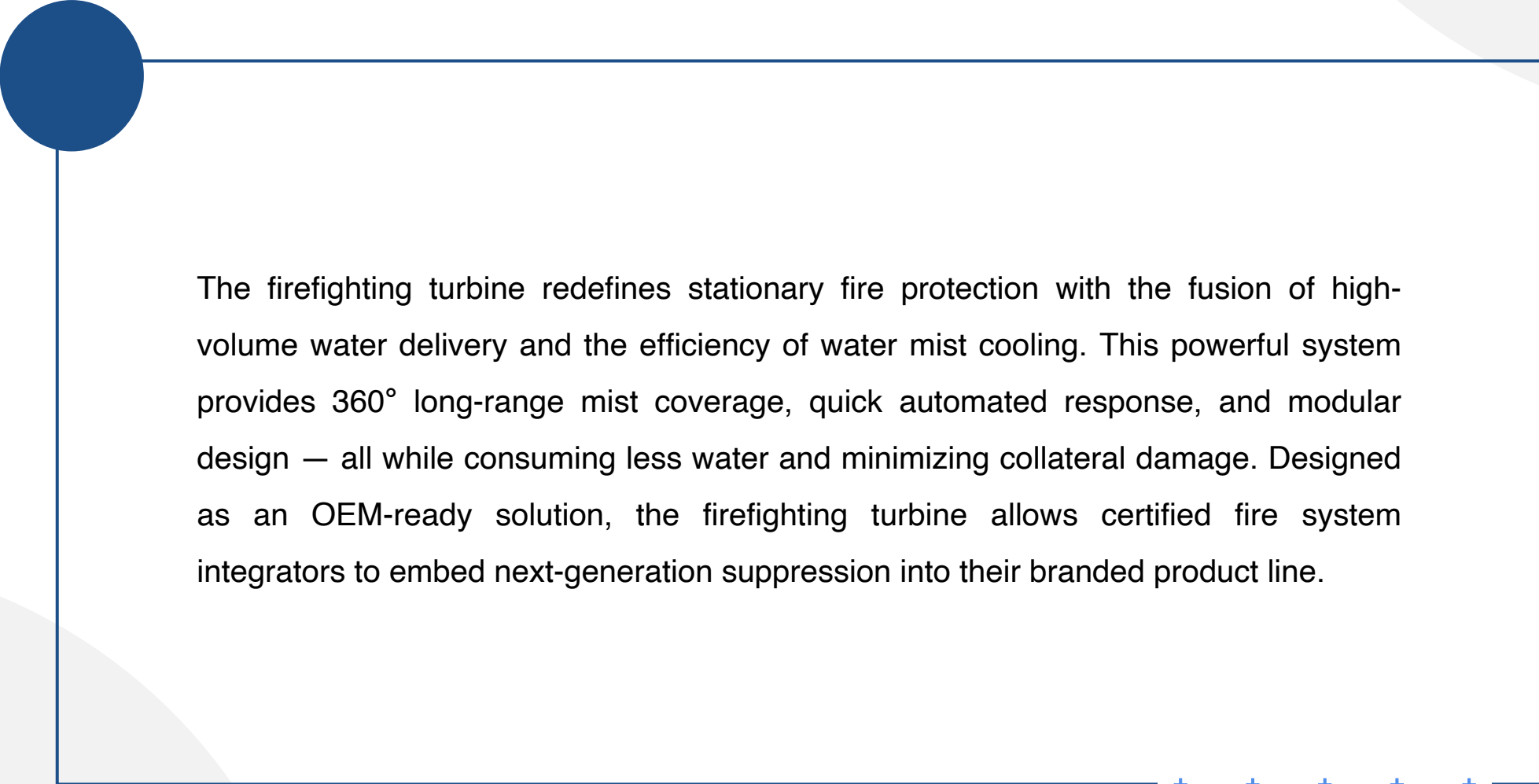
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Executive Summary



The firefighting turbine redefines stationary fire protection with the fusion of high-volume water delivery and the efficiency of water mist cooling. This powerful system provides 360° long-range mist coverage, quick automated response, and modular design — all while consuming less water and minimizing collateral damage. Designed as an OEM-ready solution, the firefighting turbine allows certified fire system integrators to embed next-generation suppression into their branded product line.

Challenges in Industrial Fire Protection

The firefighting turbine solves these challenges, offering mist-based coverage that is fast, efficient, and intelligent.

Traditional sprinkler and monitor systems struggle to meet modern fire protection challenges in industries like petrochemical, recycling, energy, and logistics. Limitations include:

- 1 Inability to reach hidden fire sources
- 2 Excessive water use and secondary damage
- 3 High setup and maintenance costs
- 4 Lack of flexible control or automation
- 5 No adaptability for multi-risk zones

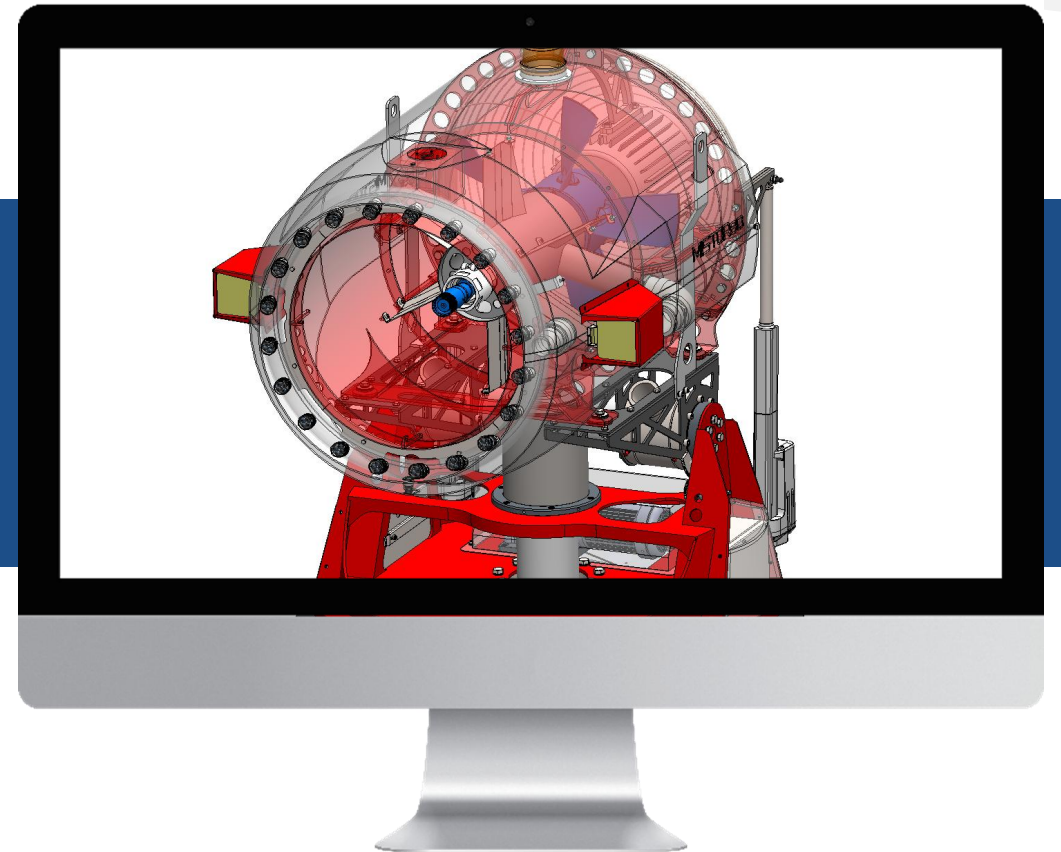
What is a Water Mist Turbine?

A water mist turbine uses a high-speed propeller to atomize water into ultra-fine droplets, creating a dense cooling mist that suppresses fire by:

- Extracting intense heat (via latent heat of evaporation)
- Displacing oxygen (inerting effect)
- Absorbing radiant energy (thermal barrier)
- Reducing toxic smoke and airborne contaminants



The water mist turbine design propels the mist over long distances — reaching targets that traditional nozzles cannot. It is a next-generation solution combining monitor-level range with water mist precision.



Water Mist Turbine Specification

Feature	Specification
Flow Rate	100–4,000 L/min (mist + jet + combined)
Spray Modes	Fine Mist / Full Jet / Combined
Operating Pressure	4–16 bar (standard fire water)
Range	~80 m (jet), ~50 m (mist)
Movement	360° rotation, -19° to +43° tilt
Control	CAN-bus, remote, PLC, PC
Media	Water, Foam, Water-Foam Mix
Power Supply	400V, 3-phase, 50Hz, ~29 A
Weight	~1,000 kg

Working Principle of Water Mist Turbine

Outer Mist Ring

- Flow: ~100–400 L/min
 - Ideal for cooling, gas suppression, and sensitive zones
-

Central Jet Nozzle

- Flow: up to 2,300 L/min
 - Ideal for long-range direct impact
 - Adjustable jet/umbrella pattern
-

Combined Mode

- Full mist + jet flow (~4,000 L/min total)
 - Offers aggressive suppression + cooling simultaneously
-



Key Advantages

- 1 No Need for High-Pressure Pumps**
Operates on standard fire water pressure (~4–16 bar)
- 2 Full Automation or Manual Control**
Integrates with any alarm system via CAN-bus or relay
- 3 Quick Reconfiguration**
Swappable monitor or mist nozzles via quick-connect
- 4 Built-in Winterization**
Internal heating ensures year-round operation
- 5 Reduced Water Use = Lower Damage**
Less runoff, less cleanup, more sustainability
- 6 OEM Modular Design**
Designed for system integrators with local certifications

Fields of Application

Recycling Centers & Landfills

Oil & Gas / Refineries / Petrochemical

Chemical Plants

Wood, Pulp, and Paper Facilities

Warehouses & Logistics Hubs

Electrical Substations & Transformer Yards

Aircraft Hangars / Fuel Depots

Tunnels and Underground Facilities

Compatible with fire classes A, B, C, and F.

Why Water Mist is Better

Compared to traditional sprinklers:

Metric	Sprinkler	Water Mist Turbine
Droplet Size	Large	Ultra-fine
Cooling Efficiency	Moderate	High
Water Use	High	Low
Reach	Limited	Long-range
Smoke Control	Poor	Excellent
Damage Control	Poor	Minimal

1 L of water becomes 600 m² of surface area at 0.01 mm droplet size.

OEM Partnership Model



Integration

- Compatible with existing detection panels

- Standard water & power interfaces

- PLC / PC control ready

- Remote & manual control

- No proprietary lock-in

THANKS

- Interested in OEM integration or distributor partnership? -

Reach out for technical specs, CAD drawings, and pricing.

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