TT-9 Firefighting Water Mist Turbine

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

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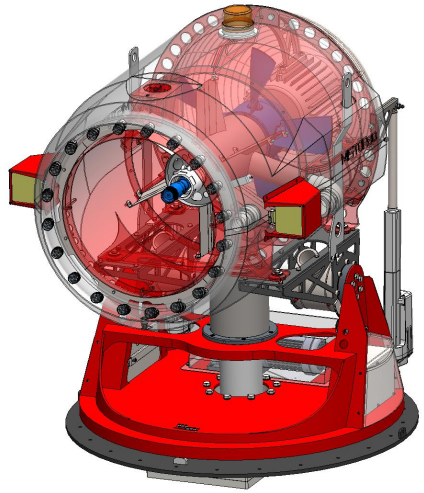

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Executive Summary

The TT-9 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 TT-9 allows certified fire system integrators to embed next-generation suppression into their branded product line.

Challenges in Industrial Fire Protection

TT-9 solves these challenges, offering mist-based coverage that is fast, efficient, and intelligent.

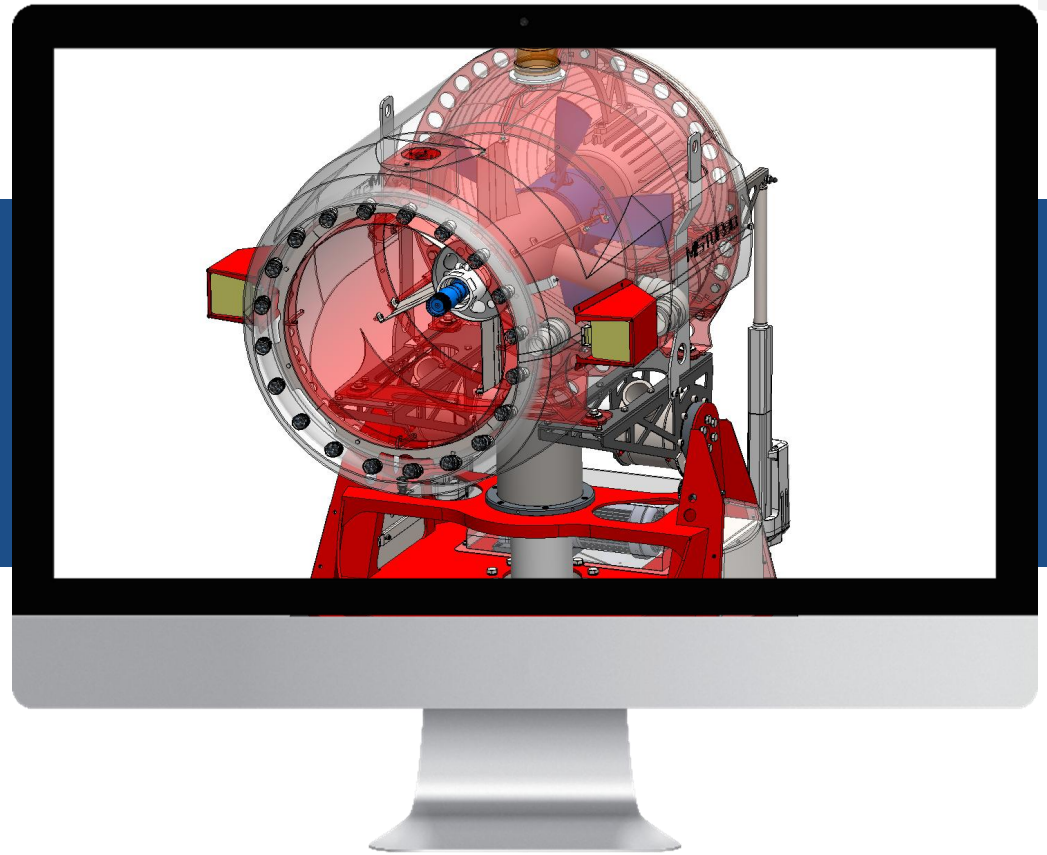
Traditional sprinkler and monitor systems struggle to meet modern fire protection challenges in industries like petrochemical, recycling, energy, and logistics. Limitations include:

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 TT-9's 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 TT-9 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

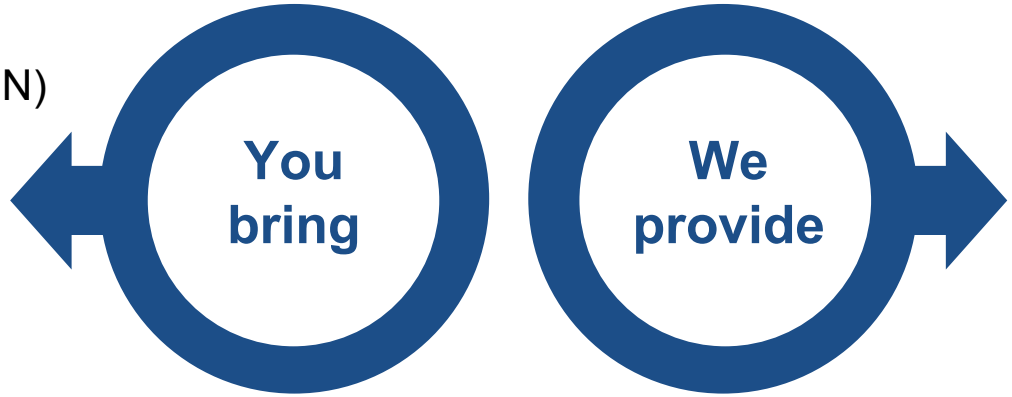
Compared to traditional sprinklers:

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

- Certifications (e.g. FM, UL, EN)
- Local market
- Branded control system



- Fully built turbine hardware
- Documentation, integration support
- CAD files, manuals, and customization
- Optional joint branding or white-label

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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