WATER MIST NOZZLE TESTING SERVICES

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WHY TEST WATER MIST NOZZLES?

Environmental conditions or damage can impact activation reliability. Corrosion or debris in the system can clog small orifices, reducing or preventing water flow and fire protection effectiveness. For this reason, NFPA 25 states that automatic and open water mist nozzles need to be tested periodically to confirm that they remain effective.

LAB TESTING

Dyne Fire Protection Labs tests all types of water mist nozzles including automatic and open nozzles.

Water mist nozzles are tested for sensitivity (automatic only), functionality, and discharge coefficient (K-Factor).

- **Sensitivity:** A measure of how long (time, NOT temperature) the device takes to activate under certain conditions (temperature, air flow, etc.).
- **Functionality:** Nozzles shall fully open at their minimum operating pressure during the periodic testing.
- **Discharge Coefficient (K-Factor):** A hydraulic formula that relates flow to pressure in your device (i.e. how much water will flow at a specific pressure).

WHY TEST WITH DYNE?

- Test reports in 5-business days or less (rush 24 hour turn-around available)
- Free Water Mist Nozzle sample kits
- Free shipping within the contiguous United States (limited free 1-way shipping to Alaska, Hawaii, Puerto Rico, and Canada, inquire for details)
- Comprehensive reports and tank tags
- Online access to results and return forms
- Immediate communication with our quality technician or customer service staff

RELEVANT STANDARDS

- **NFPA 25** Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
  - **2026 Edition Section 12.3.1.1**
  - **2026 Edition Section 12.3.2.2 or 12.3.2.3**

SAMPLE TEST KITS

- Each kit contains 4 sample tags for labeling, foam packing material, and a return form.
- UPS Ground shipping to you is included as well as return labels (UPS/USPS) that can be used within the contiguous United States (limited 1-way free shipping to Alaska, Hawaii, and Canada, inquire for details.)



NFPA® GLOBAL SOLUTIONS

Contact Us!

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	TYPE	HARSH ENVIRONMENTS	ALL OTHER ENVIRONMENTS
TESTING FREQUENCY	Automatic Nozzles	Every 5 Years	10 years after install, then every 5 years thereafter
	Open Nozzles	Every Year	

RTI CALCULATIONS

If you are interested in the equations and RTI calcluations used in the testing process, contact us or refer to our Testing Explanation sheets available online.

WHEN WATER MIST NOZZLES FAIL

Dyne tests the response time of the automatic water mist nozzles to determine if they will release in a specified amount of time when exposed to a defined temperature and air flow. The acceptable response time is based on a response time index (RTI). A water mist nozzle could fail if the response time does not meet the RTI requirement.

For both automatic and open water mist nozzles, the k-factor is evaluated given the minimum operating pressure and manufacturer published k-factor value are provided. If the actual k-factor is outside the allowed deviation from the published k-factor (+/- 5% for open and +/- 10% for automatic), the water mist nozzle would fail. These failures may result from, but are not limited to, the following:

Loading
Corrosion
Paint
Missing fluid in the glass bulb (if applicable)
Debris blocking the waterway/orifice

NFPA 25 Section 12.3.1.5 (automatic) / 12.3.2.5 (open) 2026 Edition Where one water mist nozzle within a representative sample fails to meet the test requirement, all water mist nozzles within the area represented by that sample shall be replaced.