



FIRE HOSE REEL SPRAY TESTER

Fire Hose Reel Spray Tester — ToronFT™ FH-ST

ToronFT™ FH-ST Fire Hose Reel Spray Tester is a precision hydraulic testing instrument designed for the spray range and flow performance evaluation of fire hose reels. By replicating the actual spray conditions under which a fire hose reel is deployed and operated, the ToronFT™ FH-ST enables manufacturers, testing laboratories, and quality assurance programs to verify that hose reels deliver the spray range and flow rate required for effective first-response fire fighting.

The fire hose reel spray Tester uses the ToronFT™ LHD large flow dynamic hydraulic strength test system as its pressure source, and all tests are conducted under controlled wind conditions — external wind speed less than 3 m/s — in the downwind direction to ensure accurate, reproducible spray range measurements consistent with international standard requirements.

APPLICATIONS

Fire Hose Reel Spray Tester — ToronFT™ FH-ST Applications

- Fire hose reel manufacturers: spray range and flow rate qualification testing for production and certification
- Third-party testing and certification laboratories: hose reel performance testing per international fire protection standards
- Building services and fire safety inspection: verification of installed hose reel spray performance
- Quality assurance departments: incoming inspection and production lot sampling for spray range compliance
- R&D departments: evaluation of new nozzle designs, hose materials, and reel configurations for spray performance optimization



FEATURES

Fire Hose Reel Spray Tester — ToronFT™ FH-ST Key Features

- Purpose-built injection Tester for fire hose reel spray range measurement — standardized nozzle elevation angle and height geometry
- Nozzle elevation angle: $30^{\circ} \pm 2^{\circ}$ — fixed per international hose reel spray test standard requirements
- Nozzle height above ground: $1\text{ m} \pm 0.05\text{ m}$ — consistent, reproducible test geometry for all specimen sizes
- Wind condition requirement: external wind speed $< 3\text{ m/s}$ — controlled field conditions for accurate range measurement
- Test performed in downwind direction — minimizing wind-induced trajectory deviation
- Uses the ToronFT™ LHD large flow dynamic hydraulic system as the pressure source — ensuring stable, high-capacity supply
- Compliant test setup for spray range and flow rate verification of fire hose reels per international standards

THEORY & METHOD

Theory and Method

The spray range test is conducted by fully unrolling the fire hose and adjusting the spray nozzle elevation angle to $30^{\circ} \pm 2^{\circ}$ from horizontal. The spray nozzle is positioned at a height of $1\text{ m} \pm 0.05\text{ m}$ above the ground. The hose inlet pressure is then adjusted to the specified value per the applicable standard, and the nozzle is pointed in the downwind direction. The distance from the center of the spray nozzle outlet to the nearest point of water impact on the ground is measured — this distance defines the spray range of the hose reel.

The test is performed under conditions where the external wind speed is less than 3 m/s to minimize wind interference with the spray trajectory. The ToronFT™ FH-ST injection Tester provides the precisely controlled nozzle geometry, elevation angle fixture, and height adjustment mechanism required for repeatable, standard-compliant range measurements.

TECHNICAL SPECIFICATIONS

Fire Hose Reel Spray Tester — ToronFT™ FH-ST Technical Specifications

Parameter	Specification
Model	ToronFT™ FH-ST
Test Type	Spray range and flow test for fire hose reels
Nozzle Elevation Angle	30° ± 2°
Nozzle Height Above Ground	1 m ± 0.05 m
Test Wind Condition	External wind speed < 3 m/s
Test Direction	Downwind
Pressure Source	ToronFT™ LHD (large flow dynamic hydraulic strength tester)



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