

FIRE HOSE REEL IMPACT AND LOAD TESTER



Fire Hose Reel Impact and Load Tester — ToronFT™ FH-RL

ToronFT™ FH-RL Fire Hose Reel Impact and Load Tester is a dual-purpose mechanical testing instrument designed for both impact resistance evaluation and load performance qualification of fire hose reels. By combining an impact test frame capable of delivering standardized free-fall hammer impacts with a load test configuration that verifies the structural integrity of the reel under sustained static load, the ToronFT™ FH-RL provides comprehensive mechanical qualification of fire hose reel assemblies in a single instrument platform.

The Fire Hose Reel Impact and Load Tester accommodates standard hose reel sizes with a test stand rated to 100 kg static load capacity, and uses a standardized 25 kg circular weight dropped from 300 mm for impact testing — providing the controlled, reproducible mechanical loading conditions required for international fire protection equipment certification.

APPLICATIONS

Fire Hose Reel Impact and Load Tester — ToronFT™ FH-RL Applications

- Fire hose reel manufacturers: impact resistance and load performance qualification for production and certification
- Third-party certification and listing laboratories: mechanical performance testing per international hose reel standards
- Quality assurance departments: incoming inspection and batch-sampling mechanical integrity verification
- R&D departments: evaluation of new reel body materials, mounting systems, and structural designs under impact and load conditions
- Building services compliance: verification of installed hose reel structural integrity under operating load conditions



FEATURES

Fire Hose Reel Impact and Load Tester — ToronFT™ FH-RL Key Features

- Dual-test capability: impact resistance test and load performance test in a single integrated apparatus — complete mechanical qualification in one platform
- Impact resistance test configuration: hose reel in horizontal orientation, steel beam positioned at center, 25 kg circular weight dropped from 300 mm
- Steel beam specification: 100 mm × 25 mm cross-section, length greater than reel width — standardized impact distribution geometry
- Load performance test: 80 kg weight suspended from outer disc wheel via wire rope, 72-hour hold duration
- Post-load impact re-test: impact test repeated after 72-hour load exposure to verify retained structural integrity
- Test stand rated at 100 kg static load capacity — serving as a fixed hose reel during load performance testing
- Instrument composition: impact test frame, steel beam, and weight set — complete, self-contained apparatus
- Robust frame construction ensuring consistent impact geometry and load alignment for reproducible test results

THEORY & METHOD

Theory and Method

The impact resistance test is conducted by fastening the fire hose reel to the impact test frame with the hose reel axis in a horizontal position. A steel beam (100 mm × 25 mm cross-section, length greater than reel width) is placed directly above the reel at the center position. A circular weight of 25 kg is then dropped freely from a height of 300 mm, impacting the middle of the steel beam. This test verifies that the reel body, mounting hardware, and structural frame can absorb the specified impact energy without failure.

The load performance test is conducted using the same test frame, with the hose reel shaft fixed in a horizontal position. A thin wire rope is used to hang an 80 kg weight from the outer disc wheel of the reel. The reel is then held under this load for 72 hours, after which a repeat impact test is performed to confirm that the reel still meets the impact resistance requirements after sustained load exposure. The test stand is designed to serve as a fixed hose reel capable of bearing a load of 100 kg throughout the combined test sequence.

TECHNICAL SPECIFICATIONS

Fire Hose Reel Impact and Load Tester — ToronFT™ FH-RL Technical Specifications

Parameter	Specification
Model	ToronFT™ FH-RL
Test Types	Impact resistance test; Load performance test
Instrument Composition	Impact test frame, steel beam, weight set
Hose Reel Mounting Orientation	Horizontal (both tests)
Impact Weight	25 kg circular weight
Impact Drop Height	300 mm
Steel Beam Specification	100 mm × 25 mm cross-section; length > reel width
Load Performance Weight	80 kg (suspended from outer disc wheel)
Load Hold Duration	72 hours
Test Stand Load Capacity	100 kg



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