

SPRINKLER STRESS CORROSION TEST CHAMBER



Sprinkler Stress Corrosion Test Chamber — ToronFT™ S-SC

ToronFT™ S-SC Sprinkler Stress Corrosion Test Chamber is a precision environmental conditioning system designed for magnesium chloride stress corrosion testing of fire sprinklers and gas fire extinguishing system components at ambient and moderately elevated temperatures. Sharing the same robust chamber architecture as the ToronFT™ MgCl, the ToronFT™ SW-AT is optimized specifically for ambient-temperature stress corrosion protocols where precise thermal stability and consistent environmental exposure are critical.

With an inner chamber volume suited for multi-specimen loading and a heating plate range extending from room temperature to 200°C, the ToronFT™ S-SC sprinkler ambient temperature test chamber delivers the environmental consistency required for reliable, repeatable stress corrosion qualification programs.

APPLICATIONS

Sprinkler Stress Corrosion Test Chamber — ToronFT™ S-SC Applications

- Fire sprinkler manufacturers: ambient-temperature stress corrosion qualification testing
- Gas fire extinguishing system component manufacturers: chloride SCC testing of nozzles, valves, and structural components
- Third-party certification and listing laboratories: performance qualification per international sprinkler standards
- R&D departments: evaluation of new alloys, coatings, and surface treatments for SCC resistance
- Quality assurance: periodic re-qualification and incoming material verification



FEATURES

Sprinkler Stress Corrosion Test Chamber — ToronFT™ S-SC Key Features

- Inner chamber dimensions: 100 cm (H) × 80 cm (D) × 100 cm (W) — spacious volume for multi-specimen batch testing
- Outer box dimensions: 155 cm (W) × 190 cm (H) × 145 cm (L) — robust enclosure for laboratory installation
- Heating plate temperature range: RT+10°C to 200°C — stable thermal conditions across the full test temperature range
- Controlled heating rate: 3–5°C/min for reproducible, standard-compliant temperature ramp-up
- Boiling temperature of magnesium chloride solution: approximately 150°C
- Precision timer: 0–9999 with switchable H, M, S display units for flexible exposure programming
- Designed specifically for sprinkler and fire suppression component ambient-temperature stress corrosion testing
- Durable construction for sustained operation in production and certification testing environments

THEORY & METHOD

Theory and Method

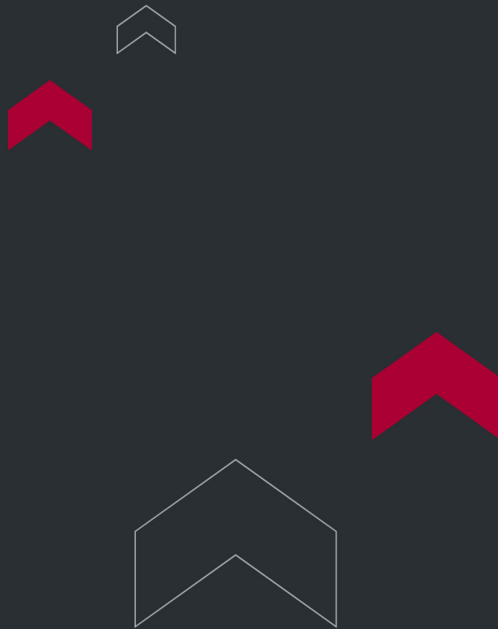
The ToronFT™ SW-AT operates on the same magnesium chloride stress corrosion principle as the ToronFT™ MgCl platform: specimens are immersed in a magnesium chloride solution maintained at a defined temperature and exposed for a specified duration. The ambient-temperature configuration emphasizes precise thermal maintenance at or near the solution boiling point, ensuring uniform corrosive attack across all exposed specimen surfaces.

The heating plate system ramps to the target temperature at a controlled rate of 3–5°C/min and maintains it throughout the test cycle, while the programmable timer (0–9999 H, M, S) ensures accurate exposure duration tracking. After test completion, specimens are removed, cleaned, and inspected for evidence of stress corrosion cracking, pitting, or structural degradation.

TECHNICAL SPECIFICATIONS

Sprinkler Stress Corrosion Test Chamber — ToronFT™ S-SC Technical Specifications

Parameter	Specification
Model	ToronFT™ S-SC
Inner Box Dimensions (H×D×W)	100 cm × 80 cm × 100 cm
Outer Box Dimensions (W×H×L)	155 cm × 190 cm × 145 cm (subject to actual product)
Heating Plate Temperature Range	RT+10°C to 200°C
Heating Rate	3-5°C/min
MgCl ₂ Solution Boiling Temperature	~150°C
Timer Range	0-9999 (H, M, S switchable)



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