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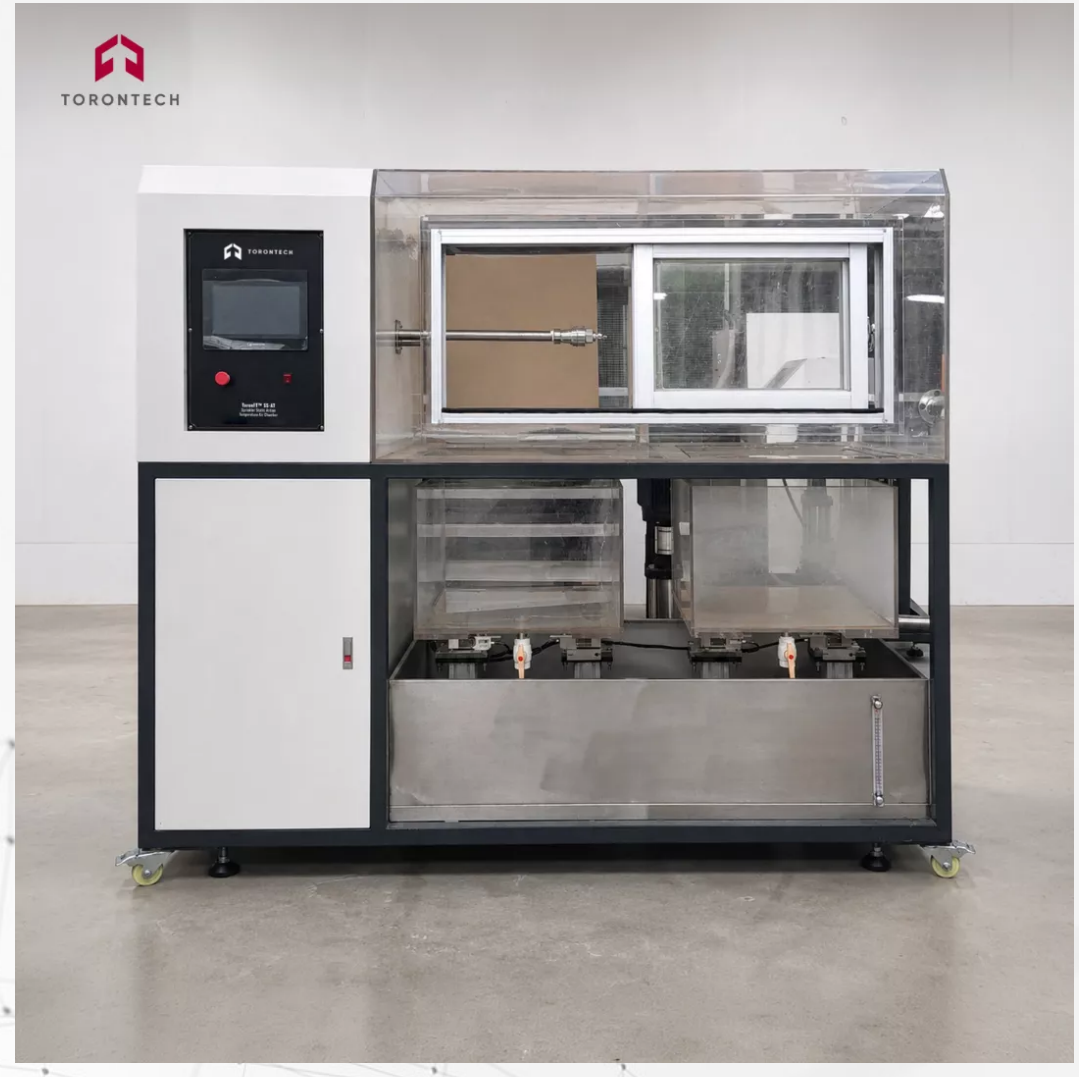


SPRINKLER DEFLECTOR SPRAY VOLUME CHAMBER

Sprinkler Deflector Spray Volume Chamber — ToronFT™ SD

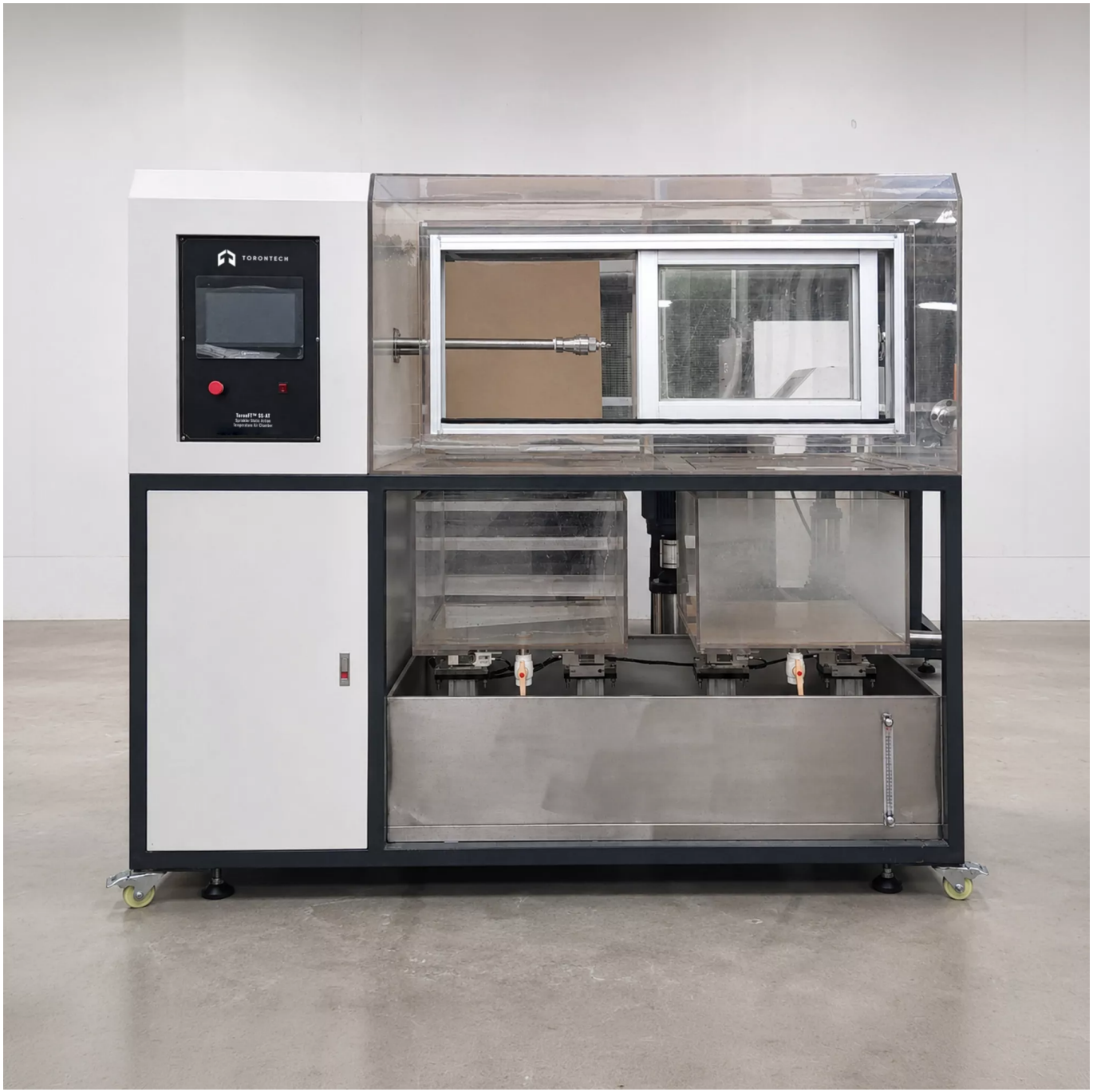
ToronFT™ SD Sprinkler Deflector Spray Volume Chamber is a precision hydraulic test system engineered to quantify the water distribution volume above and below the splash plate (deflector) of fire sprinkler nozzles. By providing a controlled, measurable water collection environment and an integrated electronic weighing system, the ToronFT™ SD delivers the accurate spray volume data required for sprinkler performance qualification and listing programs.

Constructed from 1.5 mm thick stainless steel throughout, the ToronFT™ SD water spray volume test chamber is built for long-term durability in high-humidity test environments. The chamber accommodates the standard nozzle test pipeline and collection geometry required for both upper-plate and lower-plate spray volume determinations, with valve-equipped collection containers that facilitate rapid water discharge and precision weighing after each test run.

APPLICATIONS

Sprinkler Deflector Spray Volume Chamber — ToronFT™ SD Applications

- Fire sprinkler manufacturers: upper and lower splash plate water spray volume measurement for product qualification
- Third-party certification and listing laboratories: spray volume distribution testing per international sprinkler standards
- Hydraulic design engineering: characterization of sprinkler deflector geometry effects on spray pattern and volume distribution
- R&D departments: evaluation of new deflector designs, orifice configurations, and water distribution optimization
- Quality assurance programs: production verification of spray volume characteristics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FEATURES

Sprinkler Deflector Spray Volume Chamber — ToronFT™ SD Key Features

- Fully integrated instrument composition: water collection tank, negative plate, nozzle test pipeline, limit sensor, position adjustment component, stepper motor, and additional main components
- Constructed entirely from 1.5 mm thick stainless steel — corrosion-resistant and dimensionally stable for long-term use in wet test environments
- Chamber dimensions: 900 mm (H) × 800 mm (W) × 1600 mm (L) — accommodating standard sprinkler test frame configurations
- Electronic scale integrated for precise water quantity measurement by weight — eliminating volumetric measurement errors
- Valve-equipped dual water collection containers for independent upper and lower spray volume isolation and rapid post-test drainage
- Stepper motor-driven position adjustment component for precise and repeatable nozzle positioning within the test chamber
- Limit sensors for automated end-of-travel detection and specimen protection during positioning
- Clean, enclosed stainless steel enclosure minimizes splash interference and ensures that all discharged water is captured within the collection system

THEORY & METHOD

Theory and Method

The water spray volume test measures the proportion of total sprinkler water output that is directed above and below the deflector plate, providing a quantitative characterization of the sprinkler's vertical distribution geometry. During the test, the sprinkler nozzle is operated at the specified test pressure while water discharged above and below the splash plate is separately collected in designated receptacles within the test chamber.

After a defined test period, the collection containers are isolated using the built-in valves, and the collected water is weighed using an electronic scale to determine the mass (and thus volume) of water in each zone. The ratio of upper to lower spray volume is calculated and compared against the standard-specified limits to determine compliance. The stainless steel construction of the ToronFT™ SD ensures that the chamber does not corrode, deform, or retain water between tests, maintaining measurement accuracy over the service life of the instrument.

TECHNICAL SPECIFICATIONS

Sprinkler Deflector Spray Volume Chamber — ToronFT™ SD Technical Specifications

Parameter	Specification
Model	ToronFT™ SD
Chamber Construction Material	1.5 mm thick stainless steel
Chamber Dimensions (H×W×L)	900 mm × 800 mm × 1600 mm
Instrument Composition	Water collection tank, negative plate, nozzle test pipeline, limit sensor, position adjustment component, stepper motor
Water Quantity Measurement	Electronic scale (weigh and measure)
Collection Container Drainage	Valve-equipped for rapid discharge and weighing
Test Application	Upper and lower splash plate water spray volume measurement

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