



TORONTECH

# **SLOW FREEZE-THAW TEST CHAMBER FOR CONCRETE DURABILITY TESTING**



ToronSFTC™ Slow Freeze-Thaw Test Chamber is a high-performance solution designed to evaluate the long-term durability and freeze-thaw resistance of concrete and masonry materials. Ideal for research institutions, quality control laboratories, and construction material testing centers, the ToronSFTC™ allows for slow-cycle freeze-thaw testing under controlled environmental conditions.

This next-generation system combines robust stainless steel construction with precise temperature control and an intuitive PLC-based interface, providing a reliable and user-friendly experience for extended cyclic testing applications.

## **APPLICATIONS**

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### **Designed for Durability and Ease of Use**

The ToronSFTC™ Slow Freeze-Thaw Test Chamber is equipped with a stainless steel inner tank and a movable external water reservoir for drying and freeze-thaw testing. Its advanced filtration system ensures clean operation, while the large touchscreen interface offers one-touch control for commonly used test protocols, including freeze-thaw cycles for concrete, red bricks, and ceramics.

The system comes pre-loaded with multiple standard temperature curves and allows for custom test programming, giving you full flexibility for long-term material performance evaluation.

### **Applications**

1. Long-term freeze-thaw durability testing of concrete
2. Performance evaluation of red bricks and ceramics

- 3. Quality assurance for building and masonry materials
- 4. Research and development in construction material resilience
- 5. Laboratory testing for infrastructure subjected to cold climate conditions

ToronSFTC™ Slow Freeze-Thaw Test Chamber delivers precision, durability, and ease of use for laboratories performing slow freeze-thaw testing. With its large capacity, user-friendly controls, and intelligent temperature management, it’s the ideal tool for studying material behavior under prolonged freeze-thaw exposure.

## FEATURES

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### Key Features

- 1. Optimized for slow-cycle freeze-thaw testing of concrete, bricks, and building materials
- 2. Large-capacity stainless steel chamber with excellent corrosion resistance
- 3. High-efficiency polyurethane insulation for superior thermal retention
- 4. Microprocessor-controlled PLC system with large color touchscreen
- 5. Quiet, imported low-temperature compressor for stable and efficient operation
- 6. Built-in memory for automatic data recording and temperature curve tracking
- 7. Free PC software for remote monitoring, custom curve creation, and data management
- 8. Environmentally friendly water filtration and storage system with easy maintenance

## TECHNICAL SPECIFICATIONS

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| Specification | Details |
|---------------|---------|
|---------------|---------|

|                                  |                                                   |
|----------------------------------|---------------------------------------------------|
| Internal Chamber Dimensions      | 1100 × 500 × 500 mm                               |
| Overall Equipment Dimensions     | 1800 × 850 × 1300 mm                              |
| Temperature Range                | -35°C to +50°C                                    |
| Temperature Uniformity           | ≤ ±1°C within the chamber                         |
| Cooling Rate                     | ≤ 20°C per hour                                   |
| Specimen Capacity                | Up to 5 wall bricks (190 × 190 × 390 mm)          |
|                                  | Up to 54 concrete test cubes (100 × 100 × 100 mm) |
|                                  | Up to 60 red bricks                               |
| Freezing Time Range              | 0-9999 hours (adjustable)                         |
| Thawing Time Range               | 0-9999 hours (adjustable)                         |
| Cycle Count Range                | 0-9999 cycles (adjustable)                        |
| Temperature Measurement Accuracy | ±1°C                                              |
| Control System                   | PLC + Touchscreen interface                       |
| Compressor                       | Low-temperature compressor with low noise         |
| Voltage                          | 220V (110V available upon request)                |
| Weight                           | 200 kg                                            |



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