

INNOVATIVE TECHNOLOGIES



3-Zone Thermal Shock Chamber

ToronTSC3



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Torontech's 3-Zone Thermal Shock Chambers are **designed to perform advanced thermal cycling tests by incorporating hot, cold, and ambient zones**. This configuration allows for more complex and realistic simulations of environmental stress, offering greater flexibility for testing materials and components across a wider range of conditions. Samples are automatically moved between the three zones to closely replicate real-world thermal stress scenarios.

These chambers are ideal for industries such as electronics, aerospace, and automotive, where precise thermal performance is critical. With fast transfer times, excellent temperature uniformity, and easy operation, Torontech's 3-Zone Thermal Shock Chambers ensure reliable and repeatable results even for the most demanding test requirements.



FEATURES/ADVANTAGES

» Advanced 3-Zone Design

Incorporates hot, cold, and ambient zones to support complex thermal cycling simulations for a wide range of testing conditions.

» Realistic Stress Testing

Automatically moves samples between zones, replicating real-world environmental stress for highly accurate testing results.

» Versatile Applications

Ideal for industries requiring precise testing, including electronics, aerospace, and automotive sectors with strict reliability standards.

» Fast Transition Times

Engineered for quick temperature transitions between zones, ensuring efficient operation during demanding thermal shock tests.

» Exceptional Temperature Uniformity

Delivers consistent and precise temperature control across all zones, improving the accuracy and repeatability of test outcomes.

» Reliable and Easy Operation

Designed for ease of use while maintaining high reliability, even during intensive testing scenarios with stringent performance requirements.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DETAILS					
	TORONTSC3-64	TORONTSC3-100	TORONTSC3-200	TORONTSC3-300	TORONTSC-500	TORONTSC3-1000
Test Space Volume (Liters)	64	100	200	300	500	1000
Inner Chamber Size W × H × D (mm)	400 × 400 × 400	500 × 450 × 450	650 × 460 × 670	850 × 600 × 650	1000 × 750× 700	1000 × 1000 × 1000
Exterior Chamber Size W × H × D (mm)	1420 × 1930 × 2000	1520 × 1990 × 2050	1620 × 1980 × 2140	1840 × 1862 × 2100	1900 × 1962 × 2200	1900 × 2150 × 2200
High Temp. Chamber	+60°C to +200°C					
Pre-Heating Time	From normal temperature RT to ~ +200°C within 30 min					
Low Temp. Chamber	A : -55°C to -10°C B : -70°C to -10°C D : -80°C to -10°C					
Pre-Cooling Time	From normal temperature RT to -55°C / -70°C / -80°C within 60 min					
Temp. Shock Range	A : -40°C to +150°C B : -55°C to +150°C D : -65°C to +150°C					
Recovery Time	≤ 5 min					
Temp. Fluctuation	±0.5°C					
Temp. Uniformity	≤ 2.0°C					
Exterior Chamber Material	High-quality carbon steel with painting					
Interior Chamber Material	SUS304 matte stainless steel plate					
Insulation Material	Rigid polyurethane foam insulation					
Refrigeration System	Water cooled					
	Semi-hermetic compressor, cascade refrigeration system, Eco-friendly refrigerant					
Controller	LCD Touch Screen Controller with PID control					
Safety Protection Device	NFB (No fuse breaker), over pressure, over heat and over current protectors for compressor, over temperature protectors, over load protector of fan, dry heat protector, short of water protector					
Standard Accessory	Cable port(Φ50mm)×2, shelves×2 Mobile Casters with foot cups					
Ambient Temp.	+5 to +35°C					
Voltage	380V AC 30 50Hz					
Customization Service	Non-standard or special requirements can be customized.					



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