

INNOVATIVE TECHNOLOGIES



Altitude Test Chambers

ToronAlt Series



TORONTECH



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Altitude test chambers - ToronAlt Series are **engineered to replicate the low-pressure, high-altitude environments products may encounter during air transport, aerospace missions, or operations in elevated regions.** These systems provide precise control over pressure, temperature, and humidity, allowing manufacturers to simulate real-world conditions such as pressure drops, reduced oxygen levels, and rapid decompression.

Used across aerospace, automotive, electronics, and defense industries, these chambers help ensure the reliability and safety of critical components—including aircraft instruments, batteries, semiconductors, and oxygen systems—under extreme conditions. Torontech's altitude test chambers are built to meet major international testing standards, including ASTM D6653, MIL-STD-810G, and RTCA DO-160. They deliver accurate, repeatable performance and offer customizable configurations to meet the specific testing needs of any industry.



FEATURES/ADVANTAGES

► Durable Construction

Built with SUS304 stainless steel interior and high-quality painted carbon steel exterior for longevity and safety.

► Large Volume Options

Available in sizes from 125L to 6750L, supporting various product sizes and test scenarios.

► High Accuracy & Stability

Ensures temperature uniformity of $\pm 0.5^{\circ}\text{C}$ and humidity deviation of $\pm 3.0\% \text{RH}$ for reliable, repeatable results.

► Wide Testing Range

Simulates extreme high-altitude environments with controlled pressure (down to 1 kPa), temperature (-70°C to $+150^{\circ}\text{C}$), and humidity (20% to 98% RH).

► Customizable Solutions

Chambers can be tailored to meet non-standard testing requirements upon request.

► Certified Compliance

Conforms to IEC 60068-3-5, supporting standardized testing for aerospace, defense, electronics, and automotive sectors.

► Advanced Touchscreen Control

7" LCD screen with PID control allows precise programming and user-friendly operation.

► Fast Pressure Control

Achieves depressurization rates up to $-1\text{kPa}/\text{min}$ and recovery rates of $\geq 10\text{kPa}/\text{min}$, ideal for rapid decompression testing.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DETAILS						
Model No.	ToronAlt-125	ToronAlt-216	ToronAlt-504	ToronAlt-1000	ToronAlt-2300	ToronAlt-4500	ToronAlt-6750
Test Space Volume (Liters)	125	216	504	1000	2300	4500	6750
Inner Chamber Size W×H×D(mm)	500×500×500	600×600×600	800×900×700	1000×1000×1000	1200×1200×1600	1500×1740×1730	1500×1500×3000
Exterior Chamber Size W×H×D(mm)	900×1850×1807	1000×1950×1907	1200×2060×2104	1810×2090×2660	2110×2380×3900	1920×2300×4320	1940×2090×5650
Temperature Range	R: -20°C to +150°C L: -40°C to +150°C S: -70°C to +150°C (180°C optional)						
Temperature Fluctuation	±0.5°C/(normal pressure)						
Temperature Uniformity	≤ 2.0°C(normal pressure)						
Temperature Change Rate acc. IEC 60068-3-5	Heating rate 2°C/min, cooling rate 1°C/min(average rate, no load, normal pressure)						
Humidity Range	20% to 98% RH(10% to 98% RH, 5% to 98% RH (optional))						
Humidity Deviation	± 3.0%RH (>75%RH), ± 5.0%RH (≤75%RH)						
Pressure Range	Normal pressure-0.5kPa						


TECHNICAL SPECIFICATIONS

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Depressurization Rate	Normal pressure~1kPa within 30 min(room temp, no load)
Pressure Recovery Rate	≤10kPa/min
Pressure Deviation	≤ ±2kPa (≥40kPa), ≤ ±0.5kPa (2kPa~40kPa), ≤ ±0.1kPa (≤2kPa)
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	Air cooled/Water cooled
	Hermetic compressor, single stage or cascade refrigeration system, environmental-friendly refrigerant
Controller	7"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)*1, 2pcs stainless steel loading trays, 30kg load/tray, Mobile Casters with foot cups
Ambient Temp.	+5 to +35°C
Voltage	380V AC 3Ø 50Hz
Customization Service	Non-standard or special requirements can be customized.



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