Benchtop Environmental Chamber

Toron 15L/20L/30L-Series

TORONTECH

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The Benchtop Environmental Chamber — Toron-Series **provides precise temperature and humidity testing in a compact design**, with capacities of **15L, 30L,** and **50L**.

It offers a wide temperature range from **-70°C to +150°C**, with optional humidity control for full climate simulation. Ideal for labs, R&D, and quality control in industries like aviation, automotive, and medical research, it supports stress tests, reliability checks, and weather resistance evaluations on small samples.

Conforms to international standards, including: **IEC60068-2-1, IEC60068-2-2** (Cold & Dry Heat Testing), and **MIL-STD-810F** (High & Low Temperature Testing), this chamber ensures reliable performance under recognized international standards.

FEATURES/ADVANTAGES

❯ **High-Performance Chamber Construction**
Built with 1.5mm SUS304 stainless steel interior and cold-rolled steel exterior with electrostatic spray coating for corrosion resistance. TIG-welded seams and drainage holes ensure long-term leak-free use and easy maintenance.

❯ **Precision Air Heating and Circulation**
Incorporates stainless steel finned heating tubes, PID-controlled SSR heating, and multi-wing centrifugal fans to deliver fast, stable, and evenly distributed airflow for precise temperature control throughout the chamber.

❯ **Reliable Refrigeration System**
Outfitted with a German Secop compressor, sine-wave aluminum fin air-cooled evaporator, and multi-valve electronic expansion throttling. Ensures powerful, efficient cooling and stable low-temperature performance even in demanding environments.

❯ **Accurate Humidity Management**
External electric steam humidification using patented generator technology and frozen light dehumidification system. Combined with water quality control, float switch, and micro-vacuum pump for reliable and autonomous humidity regulation.

❯ **Intelligent Control and Monitoring**
Equipped with Siemens PLC and a 7-inch TFT touchscreen. Offers real-time data display, program curve settings (up to 20 programs with 99 segments each), alarm diagnostics, data export, and password protection for secure operation.

❯ **Enhanced Observation and Illumination**
Dual-coated anti-fog tempered glass viewing window (178–200mm) with integrated transparent heating film. Interior lighting with touchscreen timer provides clear visibility of samples during testing.
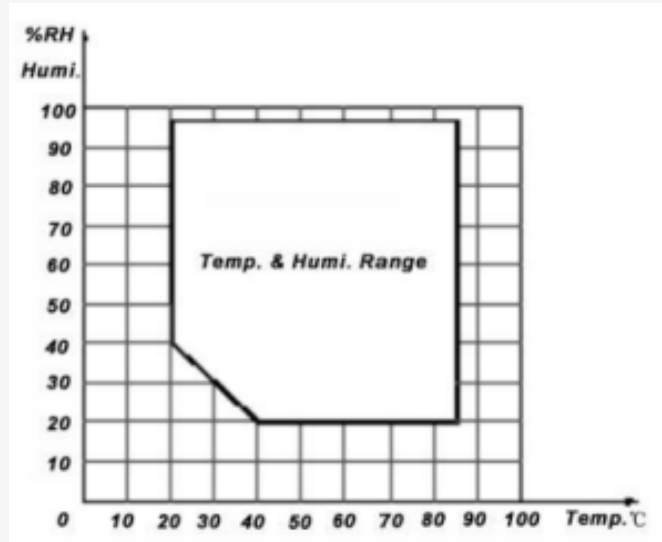
❯ **Comprehensive Safety System**
Features protection for compressor, fan, heater, and electrical circuits. Includes over-temperature shutdown, alarm recording, visual/audible alerts, and independent secondary temperature protection for maximum user safety.

❯ **Flexible Sample and Cable Access**
Includes an adjustable multi-layer sample holder to accommodate various sample sizes and testing heights, along with a Ø50mm cable port sealed with a rubber plug for external device connection without compromising chamber integrity.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DETAILS		
Model	Toron15L	Toron30L	Toron50L
Internal Volume	15L	30L	50L
Internal Size (mm) (W×D×H)	300 × 200 × 250mm	300 × 300 × 350mm	350 × 350 × 400mm
External Size (mm) (W×D×H)	550 × 820 × 750mm	550 × 920 × 850mm	600 × 1000 × 1200mm
Temperature Range	-70°C ~ +150°C		
Temp. Fluctuation	≤±0.3°C		
Temp. Uniformity	≤2.0°C		
Temp. Deviation	≤±2.0°C		
Heating Rate	3°C/min (-40°C ~ 85°C no load, average rate)		
Cooling Rate	2°C/min (85°C ~ -40°C no load, average rate)		
Humidity Range	20% ~ 98%RH		
Refrigeration Mode	Mechanical compressor refrigeration		
Cooling Method	Air cooling		
Operation Mode	Fixed value control operation, program circulation operation		
Noise	≤72dB (A)		
Remarks	Ambient temperature is +23°C, no-load test, according to international standards.		

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