TORONTECH

THERMAL VACUUM (TVAC) TEST SYSTEM - TORONTVAC™ 1000

Thermal Vacuum (TVAC) Test System - ToronTVAC™ 1000

TVAC testing evaluates aerospace products under high vacuum and controlled temperature cycling to confirm reliability and stability in space-like environments. ToronTVAC™ 1000 is designed for unit-level thermal vacuum (TVAC) verification where repeatable pressure performance and stable thermal boundaries are required.

The system integrates a vacuum chamber with a heat sink and cold plate to support thermal cycling, thermal balance work, and functional checks under vacuum. Its configuration fits aerospace electronics and subsystem testing programs that need consistent, documented test conditions. TVAC testing with ToronTVAC™ 1000 helps identify temperature-driven drift, intermittent faults, and vacuum-related performance changes before deployment.

ToronTVAC™ 1000 is a thermal vacuum (TVAC) test chamber built to simulate low-pressure space conditions while controlling the thermal environment of the test article. The vacuum chamber supports stable pump-down and high-vacuum operation, while the heat sink and cold plate provide controlled thermal exposure across the specified temperature range.

A practical cold plate size supports fixturing and stable thermal contact for conduction-driven test setups. The system is suited for qualification, acceptance, and engineering investigation workflows where repeatability and temperature uniformity impact decision-making. It is an effective platform for aerospace labs evaluating component and unit performance under vacuum and thermal stress.

APPLICATIONS

Thermal Vacuum (TVAC) Test System - ToronTVAC™ 1000 Applications

- TVAC testing of aerospace components and electronic units for reliability verification
- Thermal cycling under vacuum to screen for temperature-driven drift and intermittent behavior
- Thermal balance evaluation to validate thermal interfaces and heat transfer assumptions

- Qualification and acceptance testing for avionics modules, RF hardware, and power electronics
- Failure analysis and verification testing after design or process changes

TORONTECH

FEATURES

Thermal Vacuum (TVAC) Test System - ToronTVAC™ 1000 Key Features

- S30408 stainless steel chamber construction supports corrosion resistance and long service life
- High-vacuum capability supports space-simulation TVAC testing for aerospace products
- Wide thermal range for heat sink and cold plate supports thermal cycling and stress screening
- Heat sink temperature uniformity supports consistent exposure across the thermal interface region
- Fast temperature ramp capability supports repeatable cycling profiles and efficient test throughput

TECHNICAL SPECIFICATIONS

Thermal Vacuum (TVAC) Test System - ToronTVAC™ 1000 Technical Specification

Specification	Details
Chamber Dimensions	Φ 1000 mm × 1200 mm
Heat Sink Dimensions	Φ 800 mm × 1200 mm
Cold Plate Dimensions	L 1000 mm × W 600 mm
Operating Pressure	≤ 1.3×10^{-3} Pa
Ultimate Pressure	≤ 5.0×10^{-5} Pa
Heat Sink and Cold Plate Temperature Range	-75°C to +150°C
Heat Sink Temperature Uniformity	≤ +2°C

Specification	Details
Rate of Temperature Change	≥ 2°C/min

TORONTECH.com

TORONTECH

Torontech Inc.
251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC
601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE
Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE

Phone: +971 488 19252
Email: me@torontech.com

USA | Canada | EU | UAE | GCC | KSA | India | Africa | Latin America | Asia