

RapidTherm *Fast Change Rate Temperature Cycling Chamber*

Two Cubic Feet of Workspace

The **RapidTherm**® **Single Zone Chamber** is an energy efficient technology utilizing a thermal storage system to achieve extremely fast air temperature change rates.

The new two cubic foot design is a single zone self-contained air cooled chamber. Tests that can be performed include JEDEC and Mil Std 883E condition C; and JEDEC JESD22-104D (Tin Whiskers) test with only an electrical power connection. Cooling water, compressed air or liquid nitrogen/CO2 utilities are not needed to perform the testing.

The chamber is also capable of controlling linear ramp rates up to 20°C per minute. Faster average rates of change are possible depending on the starting and ending temperatures. The control system can ramp either the chamber air temperature; or it can directly control the ramp rate of the temperature of the part.

The high resolution touchscreen controller provides a user-friendly interface and the Ethernet capability allows remote monitoring and control. Advanced control PIDs provides excellent control of fast temperature ramps and part temperature control utilizes the thermal boost for extremely fast part temperature change rates.



The **RapidTherm** two cubic foot chamber occupies just 18 square feet (1.7 square meters) of floor space. Moving is easy as the chamber fits through standard commercial double doors.

A two inch access port is provided on the left sidewall.



Because of the single zone design, the device under test does not move, eliminating the need for air dampers or a basket transfer system and the associated electrical control systems.

Also, unlike other chambers that need to stop the test to defrost the cold zone's cooling coil, the design of this chamber inherently defrosts the cooling coil every cycle.

The refrigeration systems use electronic control valves for enhanced performance and improved reliability.

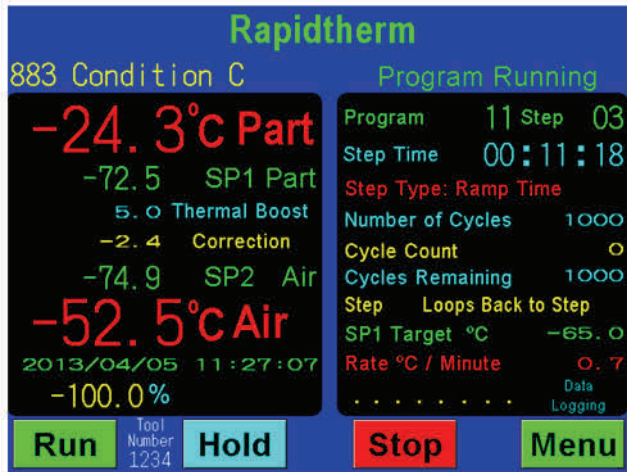
RAPIDTHERM, INC.

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STANDARD FEATURES

HIGH RESOLUTION 5.7" TOUCHSCREEN CONTROLLER

- Profile internal storage of 20 programs, up to 49 steps each; 980 total steps available.
- Product temperature control capability
- Advanced control PIDs provide for better control of fast temperature ramps.
- Guaranteed soak timing feature.
- Ethernet Communications
- Remote monitoring & operation via Ethernet
- Data Logging
- System Monitor logs and displays faults.



- **VARIABLE SPEED FAN MOTOR**
Provides for faster product temperature changes.
- **INDEPENDENT HIGH-LOW LIMIT**
Stand alone product temperature safety limit.
- **ELECTRICAL WIRING NFPA 79 COMPLIANT**

CHAMBER CONSTRUCTION

- **SCROLL TYPE REFRIGERATION COMPRESSORS**
Inherently more energy efficient, reliable, and quieter than piston compressors.
- Air-cooled self-contained refrigeration system
- Chamber access port one 2-inch (51mm) diameter
- 3-inch (76mm) heavy duty steel casters
- Inner liner continuously welded 304 stainless steel construction designed to float. This allows for unabated thermal expansion and contraction.
- Door is equipped with dual silicon gaskets.
- Non-corrosive electronics grade silicon sealant used for sealing projections through the inner liner.

Thermal Shock Product Load Capability

The chamber is capable of performing Mil Standard 883 method 1010.8 condition C with a 4.5 pound (2 Kg) load of sixteen DIP ceramic IC chips . No expendable refrigerants (liquid nitrogen or CO₂) are needed for these tests. (60 Hertz Power)

RapidTherm Two Cubic Foot Chamber Specifications

Interior Workspace Size:

2 Cubic Feet
(55 Liter)

Interior Workspace Dimensions

15" Wide x 15" Deep x 15" High
(381mm Wide x 381mm Deep x 381mm High)

Exterior Dimensions:

49" Wide x 53" Deep x 69" High
(1245mm Wide x 1346mm Deep x 1753mm High)

Temperature Range

-75°C to +200°C
Temperature Uniformity ± 1°C

Electrical Service

208 Volt, 60 Hertz, 3 Phase 58 Amp
200 Volt, 50 Hertz, 3 Phase 58 Amp

Specifications subject to change without notice.

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