

Reach-In Test Chambers

Elite G-Series



The Elite G-Series reach-in environmental test chamber line includes industry-leading features and accessories which offer superior performance and reliability.

Temperature and humidity chambers are an excellent choice for thermal cycling, steady state conditioning, product reliability testing, and other applications. Offered in five standard sizes, our G-Series chambers provide users the widest range of temperature or temperature and humidity environments on the market.

Single-stage or cascade refrigeration offers users a wide performance range to achieve complex test requirements, while optional LN2 or CO2 boost cooling and/or boost heat are available to expedite heating and cooling ramp rates.

An optional PCU add-on provides remote conditioning capabilities, increasing the versatility of your lab.

Russells GB and GD chambers can provide the following combination of controlled testing environments:

- » Temperature
- » Temperature and humidity
- » Conditioning pre-existing spaces with PCU add-on

Russells GB and GD chambers are available in sizes of 8, 16, 32, 64, and 83 cubic feet (226, 439, 898, 1,796, and 2,350 liters). A Russells application engineer will assist you in selecting the chamber configuration, size, and capabilities best suited to meeting your testing needs.



TYPICAL CHAMBER PERFORMANCE:

- » **Temperature Range:**
-70°C to +180°C (-94°F to +356°F)
in cascade configurations and
-32°C to +180°C (-26°F to +356°F)
in single-stage configuration*
- » **Humidity Range:**
10% to 95% RH within the bounds
of a +85°C (+185°F) max dry
bulb and a +4°C (+40°F) min
dewpoint*

*extended ranges available



STANDARD FEATURES:

- » Three-sided access to base mounted system components
- » Continuous TIG welded 304 stainless interior liner
- » Non-settling oven grade fiberglass insulation
- » Chamber floor drain
- » Dual silicone one-piece door gaskets with mitered and vulcanized corners
- » Multi-pane tempered heated viewing window minimizes condensation
- » Durable, maintenance free powder coat finish
*custom colors available
- » 3" access port on right-hand side wall (additional sizes available)
- » Heavy duty swivel casters with integrated leveling pads
- » Shelf pilaster for optional stainless steel shelves
- » Proprietary single-hand door latch
- » Refrigeration service manifolds with gauges
- » Quick response vapor generator with replaceable Inconel immersion heaters
- » Vapor generator failsafe overtemp protection
- » Humidity water demineralizer with one cartridge
- » Interior light with external switch

REFRIGERATION:

- » Single stage or cascade refrigeration
- » Zero ozone depletion refrigerants
- » Cryogenic models available
- » Heat only models available
- » Copper tube/aluminum fin cooling coil
- » High efficiency brazed plate cascade heat exchanger
- » Non-bucking automatic heat/cool mode selection with compressor time-out
- » Dual high/low refrigeration pressure limit switches
- » Inherent compressor overload protection

CONTROLS:

- » Watlow F4T programmer/controller
- » Ethernet Modbus TCP communication
- » Touchscreen control interface
- » Robust graphing and datalogging capability
- » Digital Product Safeguard high/low temperature limit with audible alarm
- » Solid state humidity sensor

ELECTRICAL:

- » UL 508A compliant control panel
- » All wiring meets National Electric Code (NEC) standards
- » System branch circuits individually fused
- » 115v control circuitry with integrated isolation transformer
- » Full system function switches and indicator lights
- » System fault status indicators
- » All wiring color coded and labeled
- » High temperature failsafe limit

OPTIONAL ACCESSORIES:

- » russellsOne touchscreen temperature, and humidity programmer/controller
- » Auto restart timer to automatically restart chamber after power outage
- » Side mounted control panel for unique configuration requirements
- » Product Temperature (Cascade) Control
- » Stainless steel adjustable shelf
- » Sliding shelf brackets
- » Additional access ports and shelves
- » Portable Conditioning Unit (PCU) adder with ducts
- » Cable slot in door mullion
- » Padlock hasp (lockable open/closed position)
- » Humidity water recirculation system
- » LN2 or CO2 boost cooling
- » Dry air purge to minimize migrating moisture and condensation to control humidity
- » GN2 purge system to mitigate condensation and control humidity
- » Air-cooled or water-cooled refrigeration condenser
- » Refrigeration sound-deadening package
- » Boost heating
- » Main power disconnect switch
- » Control panel mounted E-Stop
- » Running time meter
- » Minimal spark options for battery testing and potentially hazardous test articles
- » High heat options (temperature only models)
- » Multiple voltage options
- » NRTL/eSAFE inspection