Walk-In Test Chambers
Welded Construction

The Russells Technical Products W-Series is your solution for your most demanding temperature, humidity, and/or altitude testing requirements. Available in small walk-in or drive-in designs, the W-Series offers maximum flexibility in both chamber size and performance.

Moisture buildup can be destructive to products, especially electronics, causing corrosion and oxidation. The welded and dye-checked one-piece construction of the W-Series chambers allows for rapid thermal change rates, ultra-low temperature cooling, high humidity levels, and prolonged soaks at extreme temperatures and humidity.

Russells' welded construction W-Series temperature and humidity test chambers afford maximum durability and performance for your most demanding simulation test requirements.

Russells W-Series chambers can provide the following combination of controlled testing environments:

- » Temperature
- » Humidity
- » Altitude
- » Temperature and altitude (temperature controllable to 65,000 ft or 20,000m)
- » RTCA DO-160 icing and various other combined environmental tests

Russells W-Series chambers are available in sizes ranging from small walk-in applications to custom drive-in projects. 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:**
  -70ºC to +180ºC (-93ºF to +356ºF)*

- » **Humidity Range:**
  10% to 95% RH within the bounds of a +85ºC (+185ºF) max dry bulb and a +4ºC (+40ºF) min dewpoint*

- » **Altitude Range:**
  Consult factory

*extended ranges available

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STANDARD FEATURES:

- » Removable access panels to serviceable components
- » Continuous TIG welded 304 stainless interior liner
- » Heavy duty welded steel frame
- » Non-settling oven grade fiberglass insulation
- » Heavy duty reinforced floor construction
- » Chamber floor drain(s), spill containment
- » Multiple door configurations and sizes
- » Dual silicone door gaskets with mitered and vulcanized corners
- » Multi-pane tempered heated viewing window minimizes condensation
- » Durable textured enamel painted finish *custom colors available
- » Quick response vapor generator with replaceable Inconel immersion heaters
- » Vapor generator low water safety protection
- » Humidity water demineralizer with one cartridge
- » Interior lighting with external switch

REFRIGERATION:

- » Single stage or cascade refrigeration
- » Zero ozone depletion refrigerants
- » Multiple compressor options
- » 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
- » High/low/oil 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
- » Additonal data logging sensors/inputs
- » Auto restart timer to automatically restart chamber after power outage
- » Remote control panel for unique configuration requirements
- » Product Temperature (Cascade) Control
- » Additional access ports
- » Padlock hasp (lockable open/closed position)
- » 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
- » Industrial dehumidification systems
- » Combustion/continuous make-up air systems
- » Remote (outdoor) refrigeration systems and/or condensors
- » 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
- » Ultra-low temperature (cryo) options
- » High heat options (temperature only models)
- » Multiple voltage options
- » NRTL/eSAFE inspection