

## The RH-Series from Russells Technical Products

Altitude simulation testing is important for manufacturers of products that might be shipped via air. It is especially important for defense and aerospace applications where pressure and vacuum conditions are even more intense. Russells RH-Series altitude/temperature and altitude/temperature/humidity chambers offer performance flexibility and reliability for today's mixed-environment testing requirement. Control the temperature environment for testing your product while simulating various altitude environments from site level to 100,000 feet. The same chamber can be utilized for humidity testing to 95% relative humidity. We offer an optional extended range to simulate sea level testing when your site is significantly above sea level. Russells Altitude Chambers now meet RTCA DO-160 test specifications.

Russells RH-Series chambers can provide the following combinations of controlled testing environments:

- ✓ Altitude
- ✓ Temperature
- ✓ Temperature and Altitude
- ✓ Temperature and Humidity



Russells RH-Series chambers are available in sizes from 8 cu ft (225 L) to walk-in size. A Russells application engineer can assist you in selecting the altitude chamber configuration and size that's best for you or we can custom design any standard test chamber configurations.

**Chamber Performance:**

Temperature Ranges:

-100 degree F to + 350 degree F  
(-73 degree C to + 177 degree C)

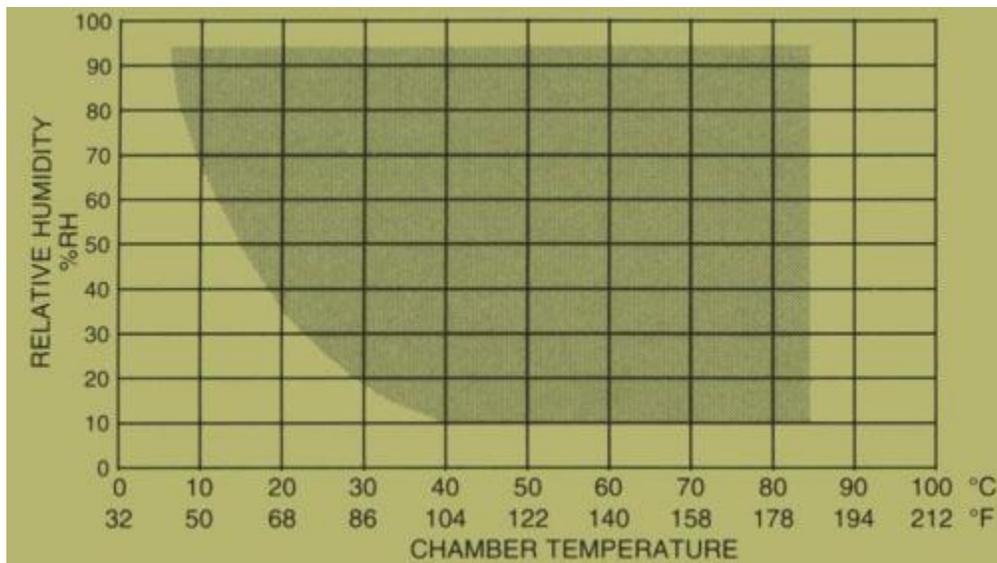
Temperature Change Rates:(Average)

9 degree F (5 degree C) per minute  
\*18 degree F (10 degreeC) per minute  
\*27 degree F (15 degree C) per minute  
\*36 degree F (20 degreeC) per minute

\*not all models

Humidity Range: (optional)

10% to 95% within the bounds of a 40F (4C) minimum dewpoint and a 185F (85C) maximum dry bulb.



**Standard Chamber Features:**

**Cabinet**

- Brushed 304 series stainless steel liner, heliarc welded and day checked.
- Welded external pressure member construction.
- Fiberglass insulation, 0.25k factor.
- Welded steel frame, removable access panels to serviceable components.
- Full opening chamber door with dual silicone gaskets.
- Heavy duty horizontal glide door hinges.
- Durable enamel finish

**Electrical**

- All wiring meets NEC standards.
- 120 volt control circuit transformer.
- Fully enclosed electrical panel.
- All circuits fuse or circuit breaker protected.
- Full system function switches.
- System status indicator pilot lamps.
- Incandescent interior lighting.
- All wiring numbered or color coded.
- High temperature limit control.
- Master heating circuit contactor.
- Air circulator/heater/high altitude interlock.
- Balanced load on 3 phase power.

**Vacuum System**

- Heavy duty vacuum pump with gas ballast.
- Piping vibration isolator.
- Oil mist eliminator.

**Refrigeration**

- Low or zero ozone depletion refrigerants.
- Energy saving refrigeration bypass capacity control.
- Low stage desuperheater.
- Oil pressure switches.
- Compressor suction and discharge pressure switches.
- Water cooled condenser.
- Automatic condenser water control valve.
- Vapor tank and condenser ASME certified.
- Compressor overload protection.
- High stage compressor crankcase heater.
- Compressor head fans.
- Low stage oil separator.
- All piping joints silfosed or silver soldered.
- Stainless steel compressor condensate pans.

**Optional Accessories:**

- Vacuum accumulators for MIL-STD-810 and **RTCA DO-160** rapid decompression testing.
- Humidity operation to 5,000 m (15,000 ft).
- Vibration interface capability for site level or combined altitude testing.
- Through-wall access ports with bolted vacuum tight covers.
- Viewing windows.
- Shelves.
- Refrigeration gauges.
- Refrigeration sound deadening package.
- Remote refrigeration or vacuum pump.
- LN2 boost cooling.
- Air cooled condenser.
- Humidity water demineralizer.
- Dry Air purge.
- Desiccant dehumidifier.
- Running time meter.
- System message display.
- Electrical disconnect switch.
- Explosion proof electrical system.

**Optional Instruments:**

- Microprocessor temperature/altitude/humidity programmer/controller with automatic altitude control valves.
- Direct altitude sensor/transducer.
- Absolute pressure transducer or manometer.
- Solid state humidity sensor.
- Product safeguard redundant over/under temperature limit.
- Circular or strip chart recorder.
- Computer communications, networking, data-logging software.
- Free standing remote instrument console.