

ALTITUDE CHAMBERS-ALTITUDE/TEMPERATURE/HUMIDITY, RH SERIES

Altitude simulation is important for manufacturers who ship their products via air. It is even more important for defense and aerospace applications where pressure and vacuum conditions are even more intense. Russells RH-Series chambers offer performance flexibility and reliability for today's mixed environmental testing requirements. These chambers control the temperature environment for testing your product while simulating various altitudes from site level to 100,000 feet. The same chamber can be used to simulate temperature and humidity. Russells altitude chambers can now be manufactured to meet **RTCA DO-160** test specifications.



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

- Altitude
- Temperature
- Temperature and Altitude (temperature controllable to 65,000 ft./20,000M)
- Temperature and Humidity at site level
- RCTC DO-160 Icing & various other combined environmental tests

Russells RH-Series chambers are available in sizes from 8 cu./ft. (225L) to walk in sizes. A Russells application engineer can assist you in selecting the chamber configuration and size that is most economical for your testing needs.

Chamber Performance:

- Altitude Range:
Site level to 100,000 ft. (30,500M) (extended ranges available)
- Temperature Ranges:
-100°F (-73°C) to +350°F (+177°C)
- Humidity Range:
10% to 95% RH within the bounds of a +185°F (+85°C) max. dry bulb and a +40°F (+4°C) min. dewpoint.

Let Russells give you the competitive edge!

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Standard Features:

- Brushed 304 series stainless steel liner, heliarc welded and dye checked.
- Welded external or internal pressure member construction.
- Fiberglass insulation, .25k factor.
- Welded steel frame with removable access panels to service components.
- Full opening chamber door with heavy duty wheel latch.
- Heavy duty horizontal glide door hinges.
- Durable blue enamel finishes (custom colors available).

Cooling:

- 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.
- Vapor tank and condenser ASME certified.
- Compressor overload protection.
- High stage compressor crankcase heater.
- Compressor head fans.
- Low stage oil separator.
- All piping joints silfos or silver soldered.
- Stainless steel compressor condensate pans.

Electrical:

- All wiring meets NEC standards.
- 120 volt control circuit transformer.
- Fully enclosed electrical panel.
- All circuits fused or circuit breaker protected.
- Full system function switches w/ system status pilot lights.
- Incandescent interior lighting.
- All wiring numbered or color coded.
- High Temperature limit safety.
- 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.
- Oil mist eliminator.

Optional Accessories:

- Vacuum accumulators for MIL-STD-810 and RTCA DO-160 rapid decompression testing.
- Through-wall access ports with bolted vacuum tight covers.
- Viewing windows.
- Shelves (adjustable)
- Refrigeration gauges.
- Refrigeration sound deadening package.
- Remote refrigeration systems.
- LN2 boost cooling.
- Air cooled condenser.
- Humidity water demineralizer.
- Dry air purge system.
- Running timer meter.
- System message display.
- Electrical disconnect switch.
- Explosion proof electrical system.

Optional Instrumentation:

- VS-1 Microprocessor altitude/temperature/humidity programmer controller with automatic altitude control valves.
- High speed data acquisition for rapid decompression apps.
- Direct altitude sensor/transducer.
- Absolute pressure transducer or manometer.
- Solid state humidity sensor.
- Product safeguard redundant over/under temperature limit.
- Circular or electronic chart recorder.
- Computer communications, networking, data-logging software.
- Free standing remote instrument console.