

THERMAL SHOCK ESS CHAMBERS, TS-SERIES

Russells air-to-air thermal shock chambers meet the demands of today's environmental stress screening (ESS). Direct transfer between hot and cold is an economical method to achieve rapid part temperature change for ESS. Russell air-to-air thermal shock chambers are available in three configurations:

- TSV Series Two Zone Vertical. Direct hot/cold transfer.
- TSH Series Three Zone Horizontal. Direct hot/cold transfer with selectable ambient temperature dwell required for some MIL-STD's.
- TSDD Series Double Duty. Direct hot/cold transfer with additional hot zone and second transfer carriage effectively doubles throughput capacity for high volume production.

Performance:

- Temperature range for mechanical refrigeration:
-99°F/-73°C to 392°F/200°C
- Temperature range for liquid nitrogen refrigeration:
-301°F/-185°C to 392°F/200°C

MIL STD's:

- 202E, 107D conditions A, F
- 883D, 1010.7 conditions A, C



TSV-9-LN2 w/VS-1 Controller

Russells TS-Series chambers are available in sizes from 2 to 18 cu./ft.. A Russells application engineer can assist you in selecting the chamber configuration and size that is most economical for your testing needs. Let Russells give you the competitive edge!

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Standard Features:

- Chamber liner heliarc welded and dye checked brushed 300 series stainless steel.
- Fiberglass/urethane foam insulation.
- Welded structural steel frame.
- Service panels removable with ¼ turn fasteners.
- Chamber fan motors externally located.
- Dual door gaskets.
- Cold chamber drain.
- Microprocessor temperature programmer controller.

Cooling:

- Low or zero ozone depletion refrigerants.
- Cascade or liquid nitrogen cooling.
- Energy saving refrigeration bypass capacity control.
- Low stage desuperheater.
- Oil pressure switches.
- Compressor suction and discharge pressure switches.
- Water cooled condenser on mechanical refrigeration models.
- 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 interlock.
- Balanced load on 3 phase power.
- Chamber door interlocks.

Optional Accessories:

- Traveling access port to transfer basket.
- Transfer basket shelves or fixturing.
- Viewing windows.
- Refrigeration gauges.
- Refrigeration sound deadening package.
- Remote refrigeration systems.
- LN2/CO2 boost cooling.
- Air cooled condenser.
- Dry air purge system.
- Running timer meter.
- Electrical disconnect switch.

Optional Instrumentation:

- VS-1 PLC programmer/controller
- Product safeguard redundant over/under temperature limit.
- Circular or electronic chart recorders.
- Computer communications, networking, data-logging software.
- Free standing remote instrument console.