



C-EVO Temperature & Humidity Test Chambers

Since 1932, Tenney has pioneered the design and manufacturing of environmental testing equipment. Designed for value, reliability and performance, C-EVO is a world class environmental cycling test chamber loaded with standard features and advanced technological upgrades:

- Smallest equipment footprint in the industry
- Superior heat capacity (kW), cooling capacity (HP/BTU) and air flow capacity (CFM) deliver the best temperature change rates and uniformity in the industry
- Redundant user and equipment safety features are standard

► Features

- Smart 1.2TM controller
- Ethernet & RS485 communications
- USB port
- Heated viewing glass window
- Chamber light
- Two 3" cable ports
- Solid-state humidity sensor
- Platinum RTD temperature sensor
- Heavy-duty leveling casters
- Nichrome wire air heater
- Semi-Hermetic reciprocating compressors
- Thermal expansion valves
- FM approved safety OTP
- Backup safety thermal cutoff
- Main electrical disconnect LOTO
- Chamber vent port
- One shelf standard

► Options:

- RS 232 or RS485 communications
 - 5-gallon water reservoir*
 - Recirculating system for humidity water*
 - Water demineralizer*
 - External dryer for obtaining humidity levels as low as 5%*
 - Additional ports
 - Shelving, adjustable and removable
 - Automatic CO2 or LN2 cooling boost system
 - Boost heating system
 - GN2 purge system
 - Recording instruments
 - NIST Calibration
 - Tenney Environmental offers calibration services accredited to the ISO 17025 standard
 - Additional engineered to order custom configurations available
- * Humidity Model Only



Tenney, Lunaire, Blue M, Gruenberg
Lindberg/MPH, Wisconsin Oven

Tenney Environmental

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C-EVO Temperature / Humidity Test Chamber Specifications

Model	C10S	C10C	C10RS	C10RC	C20S	C20C	C20RS	C20RC	C30S	C30C	C30RS	C30RC	C40S	C40C	C40RS	C40RC	C64S	C64C	C64RS	C64RC
Cubic Feet	10				20				30				40				64			
Liters	283				566				850				1132				1812			
Work Space (WxDxH)	24" x 26" x 28" 609 mm x 660 mm x 711 mm				30" x 32" x 36" 762 mm x 812 mm x 914 mm				36" x 40" x 36" 914 mm x 1016 mm x 914 mm				40" x 44" x 40" 1016 mm x 1117 mm x 1016 mm				48" x 48" x 48" 1219 mm x 1219 mm x 1219 mm			
Exterior (WxDxH)	34" x 65" x 75" 863 mm x 1498 mm x 1905 mm				40" x 71" 78" 1016 mm x 1803 mm x 1981 mm				46" x 79" x 78" 1168 mm x 2007 mm x 1981 mm				50" x 83" x 82" 1270 mm x 2108 mm x 2082 mm				58" x 87" x 90" 1473 mm x 2210 mm x 2286 mm			
Approx Unit Weight (lbs)	1295	1429	1367	1531	1511	1664	1596	1754	1656	1864	1775	2100	1831	2184	1951	2296	2308	2653	2420	2765

Cooling Rates (empty chamber) Min (°C/min)

180 C to -65°C		72(3.4)		72(3.4)		111(2.2)		111(2.2)		136(1.8)		136(1.8)		160(1.5)		160(1.5)		211(1.2)		211(1.2)
125 C to -35°C		37(4.5)		37(4.5)		53(3.1)		53(3.1)		63(2.6)		63(2.6)		76(2.2)		76(2.2)		96(1.7)		96(1.7)
85 C to -20°C	22(4.8)		22(4.8)		33(3.2)		33(3.2)		40(2.6)		40(2.6)		54(1.9)		54(1.9)		80(1.3)		80(1.3)	
85 C to -40°C		30(4.1)		30(4.1)		45(2.8)		45(2.8)		54(2.3)		54(2.3)		65(1.9)		65(1.9)		88(1.4)		88(1.4)
ambient to -40°C		15(4.3)		15(4.3)		23(2.8)		23(2.8)		28(2.3)		28(2.3)		35(1.9)		35(1.9)		45(1.4)		45(1.4)
ambient to -68°C		40(2.3)		40(2.3)		66(1.4)		66(1.4)		85(1.1)		85(1.1)		108(0.9)		108(0.9)		160(0.6)		160(0.6)

Heating Rates (empty chamber) Min (°C/min)

-65°C to 180°C		55(4.4)		55(4.4)		64(3.8)		64(3.8)		84(2.9)		84(2.9)		102(2.4)		102(2.4)				
-20°C to 85°C		18(5.8)		18(5.8)	26(4.0)		26(4.0)		32(3.3)				40(2.6)		40(2.6)		50(2.1)		50(2.1)	
-40°C to 85°C		21(6.0)		21(6.0)		31(4.0)		31(4.0)		38(3.3)		38(3.3)		46(2.7)		46(2.7)		58(2.2)		58(2.2)
-35°C to ambient		10(6.2)		10(6.2)	14(4.2)		14(4.2)		17(3.5)		17(3.5)		21(2.8)		21(2.8)		27(2.2)		27(2.2)	
-68°C to ambient		18(5.1)		18(5.1)		22(4.2)		22(4.2)		25(3.5)		25(3.5)		33(2.8)		33(2.8)		41(2.2)		41(2.2)

Live Load Capacity

Live Load Watts @ - 18°C	1200	1700	1200	1700	1160	1650	1160	1650	1120	1610	1120	1610	630	1260	630	1260	560	1210	560	1210
Live Load Watts @ - 40°C		1400		1400		1330		1330		1260		1260		1150		1150		1060		1060
Live Load Watts @ - 54°C		1100		1100		1010		1010		940		940		750		750		630		630

General Specifications

Temperature Uniformity	±2°C @ 65°C																			
Temperature Control	± 1.0°C after stabilization																			
Standard Temperature Range	Single stage (S,RS models) -35°C to 180°C Cascade (C,RC models) -68°C to 180°C																			
Optional Temperature Range	Single stage (S models) -35°C to 200°C Single stage (RS models) -35°C to 180°C Cascade (C models) -73°C to 200°C Cascade (RC models) -73°C to 180°C																			
Humidity Range	(RS,RC models only) 20% to 95% in the dry bulb range of 20°C to 85°C as limited by a 5°C dewpoint																			
Control Tolerances	Temperature: ± 1°C after stabilization Humidity: ± 5% RH after stabilization																			
Air Flow Rate	500 CFM																			
Heat Capacity	3KW																			
Humidifier Capacity	1.5KW (RS,RC models only)																			
Refrigeration	Single stage (S,RS models) 2 HP Cascade (C,RC models) (2) 2 HP																			
Condenser	Air Cooled or Water Cooled																			
Heat of Rejection	Single stage (S,RS models) 15,000 BTUH Cascade (C,RC models) 24,000 BTUH																			
Load Per Shelf	100lbs evenly distributed																			
Max Number of Shelves	6 shelves																			
Decibel Level	78 dBa																			
Chamber Spacing Requirement	18" / 458mm on all sides																			
Floor Load Rating	200 lbs evenly distributed, no point load																			
Max Chamber Load	400 lbs includes shelf load																			

Electrical Requirements

Power	208V - 230V 1PH 60HZ																			
Amp - Fuse	40/32	50/45	50/40	60/45	40/32	60/45	50/40	60/45	40/32	60/45	50/40	60/45	40/32	60/45	50/40	60/45	40/32	60/45	50/40	60/45
Amp - Fuse/ Under Load	20/16	30/23	30/20	30/23	20/16	30/23	30/20	36/23	20/16	30/23	30/20	30/23	20/16	30/23	30/20	30/23	20/16	30/23	30/20	30/23
Power	460V - 1PH 60HZ																			
Amp - Fuse	20	30	30	30	20	30	30	30	20	30	30	30	20	30	30	30	20	30	30	30
Amp - Under Load	16	23	20	23	16	23	20	23	16	23	20	23	16	23	20	23	16	23	20	23

- Performance is based upon an empty chamber operating at 24°C (75°F) ambient air.
- On 50Hz or higher than 24°C ambient, performance may be reduced. Consult factory regarding any special cooling requirements.
- Listed cooling rates may be affected if the optional temperature range is purchased. Consult factory for more information.