

Benchmark® Test Chambers

Tenney's Benchmark temperature humidity test chambers are capable of simulating a wide range of temperature or temperature and humidity conditions. The five cubic foot work space will readily accept equipment as large as a 19" relay rack. These chambers are well-suited for use in electronic, military, and pharmaceutical quality assurance and reliability testing, as well as research testing and production processes. In keeping with the needs of today's lab, we specifically designed these temperature humidity chambers to have a compact exterior, yet an ample interior workspace to maximize valuable floor space.

Temperature Humidity Test Chamber and Humidity Room Features

- Vapor-tight interior liners made of 100% continuously welded stainless steel
- Control system for humidified units provides fully automatic, PID, chamber control through a user-friendly alpha-numeric display
- Temperature Humidity Test Chambers with humidity are constructed of 100% non-corroding parts and have a low-water protection system
- Uniform conditions are assured through the use of a vertical-down recirculating conditioning stream



Tenney

Standard Features at a Glance:

- Vapor tight interior made of 100% stainless steel
- Non-settling, asbestos-free insulation
- Proprietary VersaTenn III control system on BTRC
- Watlow F4 controller on BTC
- Control tolerance of $\pm 0.3^{\circ}\text{C}$
- Hermetic refrigeration system
- Tenney VaporFlo humidity system
- Low mass nichrome, open wire heating system
- NEC wiring compliance
- Vertical-down recirculating conditioning system
- Double silicon gaskets on doors
- 2" diameter access port with plug
- $\pm 2\%$ RH typical after stabilization

- IEEE/488 interface
- LinkTenn software for Windows that permits your computer to control up to 10 chambers
- RS422, 423, 232, or 485 interface assemblies
- Water demineralizer
- Water reservoir for humidity system (5 gallon)
- Recirculating system for humidity water
- Viewing window, 6" x 8", thermally insulated and heated
- Interior lighting
- Shelving, adjustable and removable
- Automatic CO_2 or LN_2 cooling boost system
- Automating boost heating system
- GN_2 purge system
- Recording instruments
- Redundant thermal protection and alarm system
- External dryer for obtaining humidity as low as 5% (to 20°C)
- Alternate power supply wiring

Tenney Benchmaster Chamber Specifications

Model		BTC	BTRC
Workspace	W	20/51	
	D	19.25/49	
	H	22/56	
Exterior	W	57/145	62/157
	D	34/86	
	H	34.5/88	

Overall dimensions in inches/centimeters

Temperature range

Low	$^{\circ}\text{C}$	-73
High	$^{\circ}\text{C}$	+200

Change rates in minutes

Ambient to $^{\circ}\text{C}$ Chamber Empty	200 $^{\circ}$	30
	150 $^{\circ}$	20
	93 $^{\circ}$	15
	65 $^{\circ}$	10
	0 $^{\circ}$	5
	-18 $^{\circ}$	10
	-34 $^{\circ}$	12
	-40 $^{\circ}$	15
	-54 $^{\circ}$	25
	-65 $^{\circ}$	40
	-70 $^{\circ}$	Ultimate

Live load capacity in watts (humidity system off)

Temperature $^{\circ}\text{C}$	+25 $^{\circ}$	1000	900
	+10 $^{\circ}$	900	800
	-18 $^{\circ}$	750	600
	-34 $^{\circ}$	550	450
	-40 $^{\circ}$	500	400
	-54 $^{\circ}$	400	300
	-65 $^{\circ}$	180	150

Utilities, etc.

Refrigeration	(2) 1 HP		
Heater Capacity	2 KW		
Humidifier	Watts	—	750
	GPH	—	0.3
AMPS @ 230V, 1 ϕ	24	24	
AMPS Fuse	35		
Unit Weight	LBS	500	

Humidity capability: 20% to 98% RH in the dry bulb range of $+20^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ as limited by a 3 $^{\circ}$ dewpoint. Test data based on 24°C ambient, sea level, 60Hz. On 50 Hz or higher than 24°C ambient, performance may be reduced. Consult factory regarding any special cooling requirements. **CFC-free refrigerants are used exclusively on all Tenney chambers.**



Thermal Product Solutions

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