



## Benchmaster Upright Temperature & Humidity Test Chambers

Tenney Benchmaster Upright Test Chambers are capable of simulating a wide range of temperature or temperature and humidity conditions. The one horsepower cascade refrigeration and two-kilowatt heating system provide optional cooling and heating performance. The five cubic foot internal workspace has the versatility to accommodate both small and large size test material. The vertical configuration of the chambers minimizes the floor space required.

### ► Features

- All models feature vapor-tight, continuously welded stainless steel interiors
- 3-inch port is standard on left side
- Temperature and humidity conditions are controlled with the Watlow F4T profiling type dual channel 1/4 DIN controller
- Data logging and Graphical trend chart for Watlow F4T controller
- Ethernet communication
- USB port
- Cascade type refrigeration system
- Nichrome wire air heater
- Low workspace height to ease the loading and unloading of product
- Accurate control and display with minimum maintenance
- Vertical recirculation conditioning system
- Upright configuration

### ► 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
  - Viewing windows up to 6" x 8" and thermal insulated
  - Interior lighting
  - Shelving, adjustable and removable
  - Automatic CO2 or LN2 cooling boost system
  - Boost heating system
  - GN2 purge system
  - Recording instruments
  - TempGard IV Over-temperature Protection
  - NIST Calibration
  - Tenney Environmental offers calibration services accredited to the ISO 17025 standard
  - Additional engineered to order custom configurations available
- \* Humidity Model Only**



Model	UTC		UTRC	
Cubic Feet	5			
Liters	141			
Work Space (WxDxH)	20.5" x 20" x 22" 521mm x 508mm x 559mm		20.5" x 20" x 22" 521mm x 508mm x 559mm	
Exterior (WxDxH)	43" x 32" x 74" 1093mm x 813mm x 1880mm		43" x 32" x 74" 1093mm x 813mm x 1880mm	
Approx Unit Weight	825 lbs / 375 kg		875 lbs / 397 kg	
Approx Crated Weight	875 lbs / 397 kg		925 lbs / 420 kg	
Standard Temperature Range	-68°C to 180°C			
Optional Temperature Range	-70°C to 200°C		-70°C to 180°C	
Humidity Range	N/A		20% to 95% in the dry bulb range of +20°C to 85°C as limited by a 5°C Dewpoint	
Cooling Rates (empty chamber) Min (°C/min)				
180°C to -65°C	59 (4.1)	ambient to -35°C	9 (6.6)	
125°C to -35°C	34 (4.7)	ambient to -40°C	10 (6.5)	
85°C to -40°C	23 (5.4)	ambient to -65°C	25 (3.6)	
ambient to -20°C	6 (7.5)	ambient to -68°C	38 (2.4)	
Heating Rates (empty chamber) Min (°C/min)				
-65°C to 180°C	20 (12.2)	-68°C to ambient	5 (18.6)	
-20°C to 85°C	7 (15)	ambient to 85°C	4 (15)	
-40°C to 85°C	8 (15.6)	ambient to 125°C	7 (14.2)	
-35°C to 180°C	17 (12.6)	ambient to 180°C	32 (4.8)	
Live Load Capacity				
Live Load Watts @ -18°C		930		
Live Load Watts @ -40°C		820		
Live Load Watts @ -54°C		560		

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.

General Specifications	UTC		UTRC	
Temperature Control	±1.0°C after stabilization			
Humidity Control	N/A		±5% RH after stabilization	
Air Flow Rate	115 CFM			
Heat Capacity	2000 W			
Refrigeration	Two (2) 1 HP Reciprocating Compressors			
Humidifier	N/A		1500 W-GPH 0.5	
Condenser	Air Cooled			
Condenser Discharge Air	Exits on left side of the chamber			
Heat of Rejection	Maximum 12000 BTU's per hour			
Power	230V-1PH-60Hz			
Amp - Fuse	40			
Amp - Under Load	29			
NEMA Plug	Male Plug NEMA 6-50P			
Standard Ports Included	3" Standard Port w/ Plug centered left sidewall			
Decibel Level	Less than 58 dBA as measured 3 feet from chamber, 5 feet from the floor at right angles			
Load Per Shelf	10 lbs / 5 kg per shelf (Maximum chamber load including shelf and floor load not to exceed 50 lbs / 23 kg)			
Number of Shelves Standard	None			
Max Number of Shelves	4 Shelves			
Shelf Spacing	2" / 50mm on Pilasters			
Chamber Spacing Requirement	18" / 458mm on all sides			
Floor Load Rating	50 lbs / 23 kg			



**Baker Furnace, Blue M, Gruenberg, Lindberg/MPH, Lunaire, Tenney, Wisconsin Oven**

Address: 2821 Old Route 15 | New Columbia, PA 17856-9396 | USA  
Phone: (570) 538-7200 | Toll Free (800) 586-2473 | Fax: (570) 538-7380  
info@thermalproductsolutions.com

Specifications and Product Information are subject to change without notice.

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