Model 1007H Temperature/Humidity Chamber Specifications

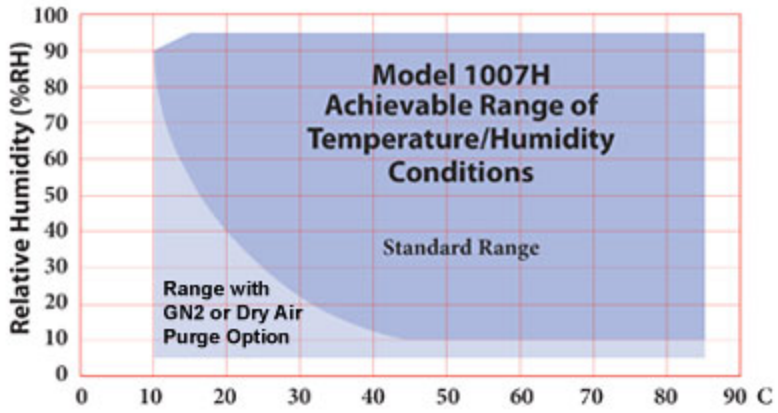
Temperature Range
-73°C to +175°C

Control Tolerance
±0.5°C (±0.2°C Typical) (Short-term variations measured at the control sensor after stabilization)

Uniformity
±1°C (Variations throughout the chamber after stabilization)

Humidity Range
Standard Range: 10% to 95%
(Limited by a 6°C dewpoint and maximum dry bulb of +85°C)

With optional GN2 Purge or Dry Air Purge: 5% to 95%
(Dry bulb range of +10°C to +85°C)



NOTE: Ability to reach RH extremes may be limited by the humidity sensor accuracy. Low Dew Point conditions can only be achieved when starting with a clean, dry chamber.

Control Tolerance
±3% RH (Short-term variations measured at the control sensor after stabilization)

Display Resolution
0.1% RH

Humidity Sensor

Dynamic capacitive type (no wet wicks required)

Cool Down Transition Time* (uncontrolled humidity mode)						
Start Temp	**End Temp**					
	+23°C	0°C	-40°C	-55°C	-65°C	**-73°C**
+23°C	-----	4 min	18 min	25 min	33 min	Ultimate
+50°C	5 min	11 min	27 min	36 min	45 min	Ultimate
+85°C	13 min	20 min	37 min	47 min	55 min	Ultimate
+150°C	32 min	39 min	58 min	65 min	76 min	Ultimate

Heat Up Transition Time* (uncontrolled humidity mode)						
Start Temp	**End Temp**					
	+23°C	+50°C	+85°C	+125°C	+150°C	+175°C
+23°C	-----	1.5 min	7 min	14 min	20 min	25 min
0°C	1.5 min	3.5 min	13 min	20 min	23 min	31 min
-40°C	6 min	11 min	17 min	24 min	30 min	35 min
-55°C	8 min	13 min	19 min	26 min	32 min	37 min
-65°C	10 min	14 min	21 min	28 min	34 min	39 min

Rate Of Change
To calculate rate of change for a particular condition, take the difference between the Start Temp and End Temp and divide by the Transition Time.
Cool Down Example: From +50°C to -40°C = 90°C / 27 min = 3.33°C/min.
Heat Up Example: From -40°C to +50°C = 90°C / 11 min = 8.18°C/min.
***Note:** Transition times are measured after a 2 hour soak at the respective start temperature with an empty chamber, as indicated on the temperature controller, 23°C ambient. Measured with setpoint beyond the start and end temperatures. Does not include the effect of proportional band when approaching setpoint. Performance is reduced by 17% with 50 Hz input power.

Live Load Capacity (uncontrolled humidity mode)				
+23°C	**0°C**	**-40°C**	**-55°C**	**-65°C**
1,000 Watts	800 Watts	500 Watts	400 Watts	300 Watts

Refrigeration and Heating System	
High Stage Refrigerant	R-404A (Dupont HP-62)
Low Stage Refrigerant	R-508B (Dupont SUVA-95)
Compressors	1.5 HP x 1.5 HP Tecumseh hermetic compressors in a cascade configuration.
Condenser	Air Cooled
Heat of Rejection	14,800 BTUH (maximum rated chamber load at maximum cooling rate from high temperature soak)
Air Heater Power	2,000 Watts
Humidifier Heater Power	1,500 Watts (rating at 240V)
Air Flow	450 cfm

Instrumentation	
Temperature Controller	**Watlow F4T Touch Screen Controller** with RS-232, Ethernet interface, 4.3" color graphic touch screen. OR... **Watlow F4 Controller** with RS-232 interface, LED readout of temperature, LCD display of other parameters.
Limit Controller	Independent high and low temperature limits. Triggers an audible alarm and shuts down the chamber. Relay contacts provide a safety power interlock for test

	sample.	
Chart Recorder	(Optional) Honeywell DR4300 Series. One pen, 10" circular chart. Mounts in lower front door.	

Input Power Requirements			
	Phase	**Current Draw**	**Minimum Service**
230 V ±10%, 60 Hz	1 PH	25 A	30 A
	3 PH	19 A	25 A
208 V -5/+10%, 60 Hz	1 PH	28 A	35 A
	3 PH	21 A	30 A

Input may be configured for single or three phase in the field by changing jumpers. Three phase load is semi-balanced. Call for other voltages or 50 Hz operation. Performance is reduced by 17% at 50 Hz.
Customer power source must be hard-wired to the chamber by a qualified electrician. Power cord and plug is not included.

Humidity Water Requirements	
Supply and Drain	Must be provided with a water line and floor drain. Negligible consumption.
Water Recirculation System (optional)	Provides a reliable supply of filtered water for the humidity system. Perfect for installations where a water line and drain are not available.

Physical Characteristics and Safety	
Inside Dimensions	24" W x 21" H x 24" D (7 cubic feet) 609 mm W x 533 mm H x 609 mm D (198 liters)
Outside Dimensions	33" W x 68.75" H x 54" D (nominal) 838 mm W x 1746 mm H x 1372 mm D
Door latch adds 3" to width on right side (may be removed to permit move-in through a 36" doorway). Circulator motor and housing adds 6" to height.	
Minimum Installed Clearance	18" from the left and right side 24" from the rear
Window Viewing Area	13.375" W x 9" H
Access Ports	4" Port on left and right side (two total) Supplied with foam plugs
Weight	Chamber Weight: 890 pounds Shipping Weight: 1,058 pounds
Sound Level	62 dBA in cooling mode (A-weighted, measured 36" from the front or side surface, 63" from the floor, in a free-standing environment)

NOTE: Performance is typical and based on operation at 23°C (73°F) ambient and nominal input voltage. Designed for use in a normal conditioned laboratory. Operation at higher ambient temperatures may result in decreased cooling performance. Additional ports and shelves will also affect performance. Operation above 30°C (85°F) or below 16°C (60°F) ambient is not recommended.