TestEquity® Environmental Chambers

TestEquity Model 140 Temperature Chamber - Detailed Specifications

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Temperature Range	-73°C to +175°C
Control Tolerance	±0.2°C (Measured at the control sensor after stabilization)
Uniformity	±0.5°C (Variations throughout the chamber after stabilization)

Cool Down Transition Time*

	End Temp					
Start 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	10 min	25 min	34 min	42 min	Ultimate
+85°C	12 min	18 min	31 min	38 min	45 min	Ultimate
+150°C	25 min	32 min	45 min	51 min	58 min	Ultimate

Heat Up Transition Time*

	End Temp					
Start Temp	**+23°C**	**+50°C**	**+85°C**	**+125°C**	**+150°C**	**+175°C**
+23°C	-----	1.5 min	7 min	14 min	20 min	Ultimate
0°C	1.5 min	3.5 min	13 min	20 min	23 min	Ultimate
-40°C	6 min	11 min	17 min	24 min	30 min	Ultimate
-55°C	8 min	13 min	19 min	26 min	32 min	Ultimate
-65°C	10 min	14 min	21 min	28 min	34 min	Ultimate

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 +85°C to -40°C = 125°C / 31 min = 4.03°C/min.
Heat Up Example: From -40°C to +85°C = 125°C / 17 min = 7.35°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.

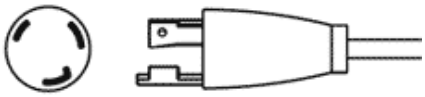
Live Load Capacity

+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)
Heater Power	1,500 Watts @ 208V Input
Instrumentation	
Temperature Controller	**Watlow F4 Controller** with RS-232 interface, LED readout of temperature, LCD display of other parameters (standard). **Watlow F4T Touch Screen Controller** with RS-232, Ethernet interface, 4.3" color graphic touch screen (optional).
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.

Input Power Requirements	
Input Voltage	208 V -5/+10%, 1 PH, or 230 V ±10%, Single Phase, 60 Hz Max Current Draw 25 A; Required Service 30 A
Power Cord and Plug	Power cord, 14-feet, with a molded NEMA L6-30P plug 
Operation at 50 Hz requires internal transformer option TE-0725. Cooling performance is reduced 17% at 50 Hz.	

Physical Characteristics	
Inside Dimensions	22" W x 18" H x 18" D (4 cubic feet)
Outside Dimensions*	30" W x 64" H x 42" D (nominal) * Door latch adds 3" to width on right side.
Minimum Installed Clearance	18" from the left and right side 24" from the rear
Window Viewing Area	13.5" W x 11.5" H
Access Ports	4" Port on left and right side (two total) Supplied with foam plugs
Weight	Chamber Weight: 700 pounds Shipping Weight: 809 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.

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