

Model 3007C FastRate Temperature Chamber Specifications

Temperature Range

-73°C to +175°C

Control Tolerance

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

Uniformity

±1.0°C (Variations throughout the chamber after stabilization)

Ramp Rates With an Empty Chamber

Cooling Rate, Compressors Only*						
Start Temp	End Temp					
	+23°C	0°C	-40°C	-55°C	-65°C	-73°C
+85°C	18°C/minute	14°C/minute	12°C/minute	11°C/minute	10°C/minute	Ultimate
+150°C	16°C/minute	15°C/minute	12°C/minute	11°C/minute	10°C/minute	Ultimate
Cooling Ramp Rate with LN2 Boost and Compressors* 20°C/minute from +85°C to -40°C						
Heating Ramp Rate* 17°C/minute from -40°C to +85°C						
* Note: Ramp rates are measured at the control sensor 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.						

Ramp Rates With a 25 Pound Aluminum Load

Cooling Rate, Compressors Only*						
Start Temp	End Temp					
	+23°C	0°C	-40°C	-55°C	-65°C	-73°C
+85°C	14°C/minute	10°C/minute	8°C/minute	7°C/minute	6°C/minute	Ultimate
Cooling Ramp Rate with LN2 Boost and Compressors* 13°C/minute from +85°C to -40°C						
Heating Ramp Rate* 12°C/minute from -40°C to +85°C						
* Note: Ramp rates are measured at the control sensor after a 2 hour soak at the respective start temperature with an empty chamber. Measured with setpoint set beyond the start and end temperatures. Does not include the effect of proportional band when approaching setpoint.						

Live Load Capacity

+23°C	0°C	-20°C	-40°C	-55°C	-65°C
3,700 Watts	3,500 Watts	3,300 Watts	2,700 Watts	2,300 Watts	1,800 Watts

Refrigeration and Heating System

High Stage Refrigerant	R-404A (Dupont HP-62)
Low Stage Refrigerant	R-508B (Dupont SUVA-95)
Compressors	3.5 HP x 3.5 HP Copeland scroll compressors in a cascade configuration
Condenser	Air Cooled
Heat of Rejection	27,500 BTUH (maximum rated chamber load at maximum cooling rate from high temperature soak)
Heater Power	6,000 Watts @ 208 V input
Air Flow	550 CFM total airflow. Two forward curved, 300 series stainless steel, dynamically balanced blower wheels with machined hubs. The blower assemblies also include

	formed stainless steel inlet rings to provide high velocity airflow throughout the workspace, driven by two heavy-duty motors.
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

230 V $\pm 10\%$, 60 Hz, 3 Phase	Max Current Draw 39 A; Recommended Service 50 A
208 V -5/+10%, 60 Hz, 3 Phase	Max Current Draw 35 A; Recommended Service 45 A
Input may be configured for 230 V or 208 V in the field by changing jumpers. Three phase load is balanced. Customer power source must be hard-wired to the chamber by a qualified electrician. Power cord and plug is not included.	
Physical Characteristics	
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 79" H x 54.25" D (nominal) 838 mm W x 1721 mm H x 1378 mm D Door latch adds 3" to width on right side, may be removed for move-in.

Minimum Installed Clearance	18" from the left and right side 24" from the rear
Window Viewing Area	13.5" W x 11.5" H
Sound Level	71 dBA in cooling mode (A-weighted, measured 36" from the front surface, 63" from the floor, in a free-standing environment)
Access Ports	4" Port on left and right side (two total) Supplied with foam plugs
Weight	Chamber Weight: 1,000 pounds Shipping Weight: 1,226 pounds

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.

Due to continuous product improvements, specifications subject to change without notice.