

Half Cube Model 105 Temperature Chamber Specifications

Replaced by the improved Model 105A >>

Temperature Range	-40°C to +130°C
Control Tolerance	±0.5°C (±0.2°C Typical) (Measured at the control sensor after stabilization)
Uniformity	±1.0°C (Variations throughout the chamber after stabilization)

Cool Down Transition Time (empty)*								
Start Temp		End Temp						
		+23°C	0°C	-10°C	-20°C	-30°C	-35°C	-40°C
+23°C	Standard	----	3 min	5 min	7 min	10 min	13 min	22 min
	50 Hz Export Version	----	3 min	5 min	7 min	11 min	15 min	24 min
+85°C	Standard	8 min	13 min	15 min	17 min	20 min	23 min	31 min
	50 Hz Export Version	9 min	14 min	16 min	18 min	21 min	27 min	41 min
Heat Up Transition Time (empty)*								
Start Temp		End Temp						
		+23°C	+50°C	+85°C				
+23°C		----	1.5 min	6 min				
0°C		2 min	4 min	7.5 min				
-20°C		3 min	5 min	8 min				
-40°C		4.5 min	7.5 min	11 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 (empty): From +85°C to -20°C = 105°C / 17 min = 6.18°C/min.								
Heat Up Example: From -40°C to +85°C = 125°C / 11 min = 11.36°C/min.								
*Note: Transition times are measured after a 30 minute soak at the respective start temperature.								

Live Load Capacity					
+23°C	0°C	-10°C	-20°C	-30°C	-40°C
200 Watts	175 Watts	165 Watts	145 Watts	90 Watts	10 Watts

Refrigeration and Heating System	
Compressor	1/3 HP Copeland hermetic
Condenser	Air Cooled
Heat of Rejection	3,000 BTUH (maximum rated chamber load at maximum cooling rate from high temperature soak)
Heater Power	500 Watts
Instrumentation	
Temperature Controller	16 steps, 2 profiles, ramp and soak programmable memory. RS-232C interface. Watlow Series 96. More details >>
Limit Controller	Independent of temperature controller. User adjustable high and low temperature limits. Shuts down the chamber if limits are exceeded. Watlow Series SD.

Power Requirements	
Input Voltage	<p>Standard Model 105 120 V nominal (110 to 126 VAC), 60 Hz, 1 PH Max Current Draw 10 A, Recommended Minimum Service 15 A</p> <p>Export Model 105-EX 230 V nominal (209 to 253 VAC), 50 Hz, 1 PH Max Current Draw 5 A, Recommended Minimum Service 10 A</p>
Physical Characteristics and Safety	
Inside Dimensions	12" W x 9" H x 8" D, 0.5 cubic feet (305 x 229 x 203 mm, 14 liters)
Outside Dimensions (nominal)	16.5" W x 26" H x 20" D (419 x 660 x 508 mm) Door latch adds 2" (51 mm) to width. Circulator motor housing adds 2" (51 mm) to depth in rear
Minimum Installed Clearance	12" (304 mm) from the rear
Access Ports	2" (51 mm) Port on left and right side (two total) Supplied with silicone foam plugs
Weight	Chamber Weight: 114 pounds (52 kg) Shipping Weight: 140 pounds (64 kg)

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 will result in decreased cooling performance. Low end limit derates to -38°C when operating above 27°C (80°F) ambient. Operation above 30°C (85°F) or below 16°C (60°F) ambient is not recommended.