

## Model 1016S Temperature Chamber Specifications

### Temperature Range

-35°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, up to +8°C)

<b>Cool Down Transition Time (empty)*</b>						
	<b>End Temperature</b>					
	<b>+23°C</b>	<b>0°C</b>	<b>-10°C</b>	<b>-20°C</b>	<b>-30°C</b>	<b>-35°C</b>
Time from +23°C: °C/minute:	—	1 min 23°C/min	2 min 16.5°C/min	4 min 10.8°C/min	8 min 6.6°C/min	Ultimate
Time from +85°C: °C/minute:	4 min 15.5°C/min	7 min 12°C/min	9 min 10.6°C/min	12 min 8.8°C/min	17 min 6.8°C/min	Ultimate
<b>Heat Up Transition Time (empty)*</b>						
-30°C to +85 °C	13 minutes (8.8°C/minute)					
<p><b>*Note:</b> 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 end temperatures with an instantaneous step change in Set Point without a controlled ramp-rate. Does not include the effect of proportional band when approaching setpoint. Performance is reduced by 17% with 50 Hz input power.</p>						

<b>Live Load Capacity</b>				
<b>+23°C</b>	<b>0°C</b>	<b>-10°C</b>	<b>-20°C</b>	<b>-30°C</b>
4,000 Watts	2,800 Watts	2,300 Watts	1,800 Watts	1,550 Watts

<b>Refrigeration and Heating System</b>	
<b>Refrigerant</b>	R-404A (Dupont HP-62)
<b>Compressors</b>	3.5 HP Copeland scroll compressor. <a href="#">More about Scroll Compressors &gt;&gt;</a>

<b>Condenser</b>	Air Cooled
<b>Heat of Rejection</b>	30,200 BTUH (maximum rated chamber load at maximum cooling rate from high temperature soak)
<b>Heater Power</b>	4,200 Watts @ 208 V input
<b>Air Flow</b>	830 cfm
Instrumentation	
<b>Temperature Controller</b>	<b>Watlow F4T Touch Screen Controller</b> with RS-232, Ethernet interface, 4.3" color graphic touch screen. OR... <b>Watlow F4 Controller</b> with RS-232 interface, LED readout of temperature, LCD display of other parameters.
<b>Limit Controller</b>	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.
<b>Chart Recorder</b>	(Optional) Honeywell DR4300 Series. One pen, 10" circular chart. Mounts in lower front door. 

Input Power Requirements	
<b>230 V ±10%, 60 Hz, 3 Phase</b>	Max Current Draw 31 A; Recommended Service 40 A
<b>208 V -5/+10%, 60 Hz, 3 Phase</b>	Max Current Draw 26 A; Recommended Service 35 A
	Input may be configured for 230 V or 208 V in the field by changing jumpers. Three phase load is balanced. Call for other voltages or 50Hz operation. Performance is reduced by 17% with 50Hz input power.  Customer power source must be hard-wired to the chamber by a qualified electrician. Power cord and plug is not included.

Physical Characteristics and Safety	
<b>Inside Dimensions</b>	30" W x 30" H x 30" D (15.6 cubic feet) 762 mm W x 762 mm H x 762 mm D (442 liters)

<b>Outside Dimensions</b>	38" W x 78.5" H x 56" D (nominal) 914 mm W x 1994 mm H x 1422 mm D Door latch adds 3" to width on right side.
<b>Minimum Installed Clearance</b>	18" from the left and right side 24" from the rear
<b>Window Viewing Area</b>	18" W x 12" H
<b>Access Ports</b>	4" Port on left and right side (two total). Supplied with foam plugs.
<b>Weight</b>	Chamber Weight: 1,080 pounds Shipping Weight: 1,220 pounds
<b>Sound Level</b>	67 dBA in cooling mode (A-weighted, measured 36" from the front 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.

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