Model 1007C Temperature 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)

| **Cool Down Transition Time*** | | | | | | |
|---|---|---|---|---|---|---|
| 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*** | | | | | | |
|---|---|---|---|---|---|---|
| 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 | | | | |
|---|---|---|---|---|
| **+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 |
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|---|---|
| **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** | 2,000 Watts |
| **Air Flow** | 450 cfm |

| Instrumentation | | |
|---|---|---|
| **Temperature Controller** | **Watlow F4T Touch Screen Controller** with RS-232, Ethernet interface, 4.3" color graphic touch screen. OR...<br>**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 50 Hz operation. Performance is reduced by 17% with 50 Hz 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 | |
|---|---|
| **Inside Dimensions** | 24" W x 21" H x 24" D (7 cubic feet)<br>609 mm W x 533 mm H x 609 mm D (198 liters) |
| **Outside Dimensions*** | 33" W x 67.75" H x 54.25" D (nominal)<br>838 mm W x 1721 mm H x 1378 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<br>24" from the rear |
| **Window Viewing Area** | 13.375" W x 9" H |
| **Access Ports** | 4" Port on left and right side (two total)<br>Supplied with foam plugs |
| **Weight** | Chamber Weight: 850 pounds<br>Shipping Weight: 1,011 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.