TC Series Cycling Test Chamber

Tenney has brought back the widely popular “Tenney Classic” series of reach in chambers. The “TC” series chambers have many of the same design characteristics of our more advanced C-EVO product line. These include a high volume horizontal-down type air circulation system with an electric heating system, and a mechanical refrigeration system. Some models are also equipped with a vapor injection type humidification system to condition the product with relative humidity. A diverse selection of additional options can also be employed to this chamber to enhance conditioning.

Features
- Watlow F4T controller
- Ethernet communications
- USB Port
- Two 3” cable ports
- Semi-Hermetic reciprocating compressors
- Data logging and Graphical trend chart for Watlow F4T controller
- Thermal expansion valves
- Chamber vent port
- Solid state humidity sensor
- Platinum RTD temperature sensor
- Heavy-duty leveling casters
- Nichrome wire air heater
- Solid-state pressure switches
- Backup safety thermal cutoff

Options
- RS 232 or RS485 communications
- 5 gallon water reservoir*
- Recirculating system for humidity water*
- Water demineralizer*
- External dryer for obtaining humidity levels as low as 5%*
- Additional ports
- Viewing window
- Interior lighting
- Shelving, adjustable and removable
- Automatic CO2 or LN2 cooling boost system
- Boost heating system
- GN2 purge system
- Recording instruments
- TempGard IV Over-temperature Protection
- NIST Calibration
- Tenney Environmental offers calibration services accredited to the ISO17025 standard
- Additional engineered to order custom configurations available
* Humidity Model Only

Consult your Tenney Environmental Sales Representative for a full list of available options.
### Tenney TC Series Temperature / Humidity Test Chamber Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>TC10S</th>
<th>TC10C</th>
<th>TC10RS</th>
<th>TC10RC</th>
<th>TC20S</th>
<th>TC20C</th>
<th>TC20RS</th>
<th>TC20RC</th>
<th>TC30S</th>
<th>TC30C</th>
<th>TC30RS</th>
<th>TC30RC</th>
<th>TC40S</th>
<th>TC40C</th>
<th>TC40RS</th>
<th>TC40RC</th>
<th>TC64S</th>
<th>TC64C</th>
<th>TC64RS</th>
<th>TC64RC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cubic Feet</td>
<td>10</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>40</td>
<td>64</td>
<td>850</td>
<td>1132</td>
<td>40</td>
<td>64</td>
<td>40</td>
<td>64</td>
<td>1000</td>
<td>1000</td>
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<tr>
<td>Liters</td>
<td>283</td>
<td>566</td>
<td>850</td>
<td>1132</td>
<td>40</td>
<td>64</td>
<td>1295</td>
<td>1429</td>
<td>1367</td>
<td>1511</td>
<td>1664</td>
<td>1831</td>
<td>1429</td>
<td>1596</td>
<td>1754</td>
<td>1951</td>
<td>2100</td>
<td>2296</td>
<td>2420</td>
<td>2653</td>
</tr>
<tr>
<td>Work Space (WxDxH)</td>
<td>24&quot; x 26&quot; x 28&quot;</td>
<td>30&quot; x 32&quot; x 36&quot;</td>
<td>36&quot; x 40&quot; x 40&quot;</td>
<td>1001 mm x 1016 mm x 1016 mm</td>
<td>1219 mm x 1219 mm x 1219 mm</td>
<td>1951 mm x 1954 mm x 1982 mm</td>
<td>1949 mm x 1994 mm x 2083 mm</td>
<td>1473 mm x 2109 cm x 2286 mm</td>
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<tr>
<td>Exterior (WxDxH)</td>
<td>24&quot; x 39&quot; x 78&quot;</td>
<td>34&quot; x 73&quot; x 78&quot;</td>
<td>49&quot; x 78.5&quot; x 82&quot;</td>
<td>67.5&quot; x 83&quot; x 90&quot;</td>
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<tr>
<td>Approx Unit Weight (lbs)</td>
<td>1295</td>
<td>1429</td>
<td>1367</td>
<td>1511</td>
<td>1664</td>
<td>1596</td>
<td>1754</td>
<td>2000</td>
<td>1831</td>
<td>2184</td>
<td>1951</td>
<td>2296</td>
<td>2420</td>
<td>2653</td>
<td>2400</td>
<td>2765</td>
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</tr>
</tbody>
</table>

#### Cooling Rates (empty chamber) Min (°C/min)

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>Min (°C/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>180 C to -65°C</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>125 C to -35°C</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>85 C to -35°C</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>85 C to -40°C</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>85 C to -54°C</td>
<td>±1.0°C</td>
</tr>
</tbody>
</table>

#### Heating Rates (empty chamber) Min (°C/min)

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>Min (°C/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-65°C to 180°C</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>20°C to 85°C</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>40°C to 85°C</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>-35°C to ambient</td>
<td>±1.0°C</td>
</tr>
<tr>
<td>-68°C to ambient</td>
<td>±1.0°C</td>
</tr>
</tbody>
</table>

#### Live Load Capacity

| Live Load Watts @ -18°C | 283  | 566  | 850  | 1132 | 40   | 64   | 1295  | 1429  | 1367  | 1511  | 1664  | 1831  | 1429  | 1596  | 1754  | 1951  | 2100  | 2296  | 2420  | 2653  |
|------------------------|-------|-------|-------|-------|------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Live Load Watts @ -40°C |      |       |       |       |      |       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Live Load Watts @ -54°C |      |       |       |       |      |       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |

**General Specifications**

- **Temperature Uniformity**: ±1.0°C after stabilization
- **Temperature Control**: ±1.0°C after stabilization
- **Standard Temperature Range**:
  - Single stage (S,RS models) -35°C to 200°C
  - Cascade (C,RC models) -68°C to 180°C
- **Optional Temperature Range**:
  - Single stage (S,RS models) -35°C to 200°C
  - Cascade (C,RC models) -68°C to 180°C
- **Humidity Range**:
  - (S,RS models only) 20% to 95% in the dry bulb range of 20°C to 85°C as limited by a 5°C dewpoint
- **Temperature**: ±1°C after stabilization
- **Humidity**: ±5% RH after stabilization
- **Air Flow Rate**: 250 CFM
- **Heat Capacity**: 3kW
- **Humidifier Capacity**: 1.5kW (RS,RC models only)
- **Refrigeration**:
  - Single stage (S,RS models) 2 HP
  - Cascade (C,RC models) (2) 2 HP
- **Condenser**:
  - Air Cooled or Water Cooled
- **Heat of Rejection**:
  - Single stage (S,RS models) 15,000 BTUH
  - Cascade (C,RC models) 24,000 BTUH
- **Load Per Shelf**: 100lbs evenly distributed (Maximum chamber load including shelf and floor load not to exceed 400 lbs)
- **Max Number of Shelves**: 6 shelves
- **Decibel Level**: Less than 78 dBA measured 3 feet from the chamber, 5 feet from the floor at right angles
- **Chamber Spacing Requirement**: 18" / 458mm on all sides
- **Power Rating**: 208V - 230V 1PH 60Hz
- **Amp - Fuse**: 40 60 50 60 40 60 50 60 40 60 50 60 40 60 50 60 40 60 50 60
- **Amp - Under Load**: 32 45 40 45 32 45 40 45 32 45 40 45 32 45 40 45 32 45 40 45
- **Power**: 460V - 1PH 60Hz
- **Amp - Fuse**: 20 30 20 30 20 30 20 30 20 30 20 30 20 30 20 30 20 30
- **Amp - Under Load**: 16 23 20 23 16 23 20 23 16 23 20 23 16 23 20 23 16 23 20 23

Performance is based upon an empty chamber operating at 24°C (75°F) ambient air.

On 50Hz or higher than 24°C ambient, performance may be reduced. Consult factory regarding any special cooling requirements.