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**SPX**  
THERMAL PRODUCT SOLUTIONS

**Tenney**

Tenney ETCU Temperature Humidity Cycling Chambers

### ETCU Temperature Humidity Cycling Chambers

The Tenney ETCU Ultimate Series Temperature Humidity Cycling Chamber features scroll compressor technology that provides quiet operation, fast transition rates, and reliable operations.

The chambers incorporate a ceiling plenum to diffuse conditioned air vertically through the chamber. The top to bottom air circulation guarantees stable and consistent performance over the testing period.

Multiple heating and cooling systems are available, as well as a diverse list of options that together will create the chamber to accommodate your specific application.

#### ► Features

- Quiet Operation
- Fast Transition Rates
- High Reliability
- Refrigeration System
- Temperature and Humidity Testing
- Versa Tenn V control system
- Automatic Humidity Vent

#### ► Options:

- IEEE488 Interface
- LinkTenn 32 for Windows® That Permits Your Computer to Control up to 10 Chambers
- 6-event Relay Board
- Water Demineralizer System
- Circular Recording Instruments
- Alternate Refrigeration and/or Heating Systems for Faster Temperature Change Rates or Increased Product Load-Handling Capabilities
- Additional Ports

\* Contact TPS for details and availability  
All performance data is for 230 or 460 v/60 Hz operations. Chamber operations utilizing 50 Hz power utility will derate performance approximately 17%.



| Model                 |         | ETCU-09             |       |         | ETCU-16              |       |         | ETCU-30              |       |         |         | ETCU-64              |       |         |         |
|-----------------------|---------|---------------------|-------|---------|----------------------|-------|---------|----------------------|-------|---------|---------|----------------------|-------|---------|---------|
| Interior Volume       |         | 9 cu. ft.           |       |         | 16 cu. ft.           |       |         | 30 cu. ft.           |       |         |         | 64 cu. ft.           |       |         |         |
|                       |         | 256 liters          |       |         | 460 liters           |       |         | 850 liters           |       |         |         | 1,812 liters         |       |         |         |
| Interior Dimensions   |         | 24 x 25 x 26        |       |         | 36 x 26 x 30         |       |         | 40 x 36 x 36         |       |         |         | 48 x 48 x 48         |       |         |         |
| WxDxH - inches (mm)   |         | (610 x 635 x 660)   |       |         | (914 x 660 x 762)    |       |         | (1016 x 914 x 914)   |       |         |         | (1219 x 1219 x 1219) |       |         |         |
| Exterior Dimensions   |         | 34 x 73 x 78        |       |         | 46 x 74 x 82         |       |         | 50 x 87 x 88         |       |         |         | 58 x 99 x 100        |       |         |         |
| WxDxH - inches (mm)   |         | (864 x 1854 x 1983) |       |         | (1169 x 1881 x 2084) |       |         | (1271 x 2211 x 2237) |       |         |         | (1474 x 2516 x 2542) |       |         |         |
| Nominal Horsepower    |         | 3.5 x 3.5           | 6 x 6 | 10 x 10 | 3.5 x 3.5            | 6 x 6 | 10 x 10 | 3.5 x 3.5            | 6 x 6 | 10 x 10 | 15 x 15 | 3.5 x 3.5            | 6 x 6 | 10 x 10 | 15 x 15 |
| Rated Horsepower      |         | 2.5 x 2.5           | 5 x 5 | 10 x 10 | 2.5 x 2.5            | 5 x 5 | 10 x 10 | 2.5 x 2.5            | 5 x 5 | 10 x 10 | 15 x 15 | 2.5 x 2.5            | 5 x 5 | 10 x 10 | 15 x 15 |
| Compressor Type       |         | Scroll              |       |         | Scroll               |       |         | Scroll               |       |         |         | Scroll               |       |         |         |
| Noise (dBA)           | Heating | 60                  | 60    | 60      | 60                   | 60    | 60      | 60                   | 60    | 60      | 60      | 60                   | 60    | 60      | 60      |
|                       | Cooling | 68                  | 75    | 75      | 68                   | 75    | 75      | 68                   | 75    | 75      | 75      | 68                   | 75    | 75      | 75      |
| Heating Elements (Kw) | 230/460 | 6                   | 12    | 12      | 6                    | 12    | 12      | 6                    | 12    | 12      | 24      | 6                    | 12    | 12      | 24      |
|                       | 208V    | 4.5                 | 9     | 9       | 4.5                  | 9     | 9       | 4.5                  | 9     | 9       | 18      | 4.5                  | 9     | 9       | 18      |

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|---------------------------|-----------------|-----|-----|-----------------|-----|-----|-----------------|-----|-----|-----|-----------------|-----|-----|-----|
| Cooling Rate (min)        |                 |     |     |                 |     |     |                 |     |     |     |                 |     |     |     |
| 190°C to -65°C            | 49              | 34  | 14  | 78              | 36  | 19  | 155             | 76  | 31  | 20  | 256             | 125 | 52  | 42  |
| 71°C to -65°C             | 36              | 26  | 11  | 40              | 28  | 15  | 119             | 59  | 26  | 17  | 197             | 97  | 44  | 33  |
| 85°C to -40°C             | 27              | 18  | 8   | 32              | 20  | 12  | 95              | 42  | 21  | 12  | 157             | 69  | 36  | 24  |
| Heating Rate (min)        |                 |     |     |                 |     |     |                 |     |     |     |                 |     |     |     |
| -65°C to 190°C            | 35              | 16  | 16  | 32              | 22  | 22  | 60              | 30  | 30  | 20  | 110             | 53  | 53  | 27  |
| -65°C to 71°C             | 17              | 8   | 8   | 14              | 11  | 11  | 27              | 13  | 13  | 10  | 45              | 23  | 23  | 13  |
| -40°C to 85°C             | 16              | 8   | 8   | 12              | 10  | 10  | 27              | 13  | 13  | 11  | 45              | 23  | 23  | 14  |
| Water Cooled              | Y               | Y   | Y   | Y               | Y   | Y   | Y               | Y   | Y   | Y   | Y               | Y   | Y   | Y   |
| Air Cooled                | Y               |     |     | Y               | Y   |     | Y               | Y   |     |     | Y               | Y   |     |     |
| 208/230V-1 Ph             | Y               | N/A | N/A | Y               | N/A | N/A | Y               | N/A | N/A | N/A | Y               | N/A | N/A | N/A |
| 208/230V-3 Ph             | Y               | Y   | N/A | Y               | Y   | N/A | Y               | Y   | N/A | N/A | Y               | Y   | N/A | N/A |
| 460V-3 Ph                 | Y               | Y   | Y   | Y               | Y   | Y   | Y               | Y   | Y   | Y   | Y               | Y   | Y   | Y   |
| Air Delivery (Blower HP)  | .5 HP           |     |     | (2) .5 HP       |     |     | (2) .75 HP      |     |     |     | (2) .75 HP      |     |     |     |
| Airflow (CFM)             | 750             |     |     | 1600            |     |     | 1600            |     |     |     | 1600            |     |     |     |
| Temp Unif. (Std Dev/9 Pt) | +/-0.5°C/+/-1°C |     |     | +/-0.5°C/+/-1°C |     |     | +/-0.5°C/+/-1°C |     |     |     | +/-0.5°C/+/-1°C |     |     |     |
| Temp Control              | +/-0.3°C        |     |     | +/-0.3°C        |     |     | +/-0.3°C        |     |     |     | +/-0.3°C        |     |     |     |

- \* Single Stage Refrigeration Temperature Range: -35°C to 200°C
- \* Performance is based upon an empty chamber operating at 24°C (75°F) ambient air and may vary slightly at other ambient temperatures. Voltages below those listed may affect performance. All performance data is for 240 or 480V / 60Hz operation.
- \* Liquid Nitrogen is available as an option on all systems. When Liquid Nitrogen is provided, the heater KW is automatically upgraded to the maximum for that chamber size. Consult factory for current draw of any Liquid Nitrogen equipped chambers.
- \* Airflow circulation is based on blower wheel performance curves. Actual circulation rate will vary depending on the cooling option selected.
- \* Temperature uniformity Standard deviation from the mean, measured at -25°C and 100°C. 9 Point: Uniformity measured in accordance with ASTM E145 section 4 at temperatures of -25°C and 100°C.
- \* Test chamber performance may be affected by the addition of certain optional accessories.
- \* Chamber operation utilizing 50Hz power utility will derate performance approximately 17%
- \* It is Thermal Product Solutions' policy to constantly improve quality, features and performance. Thermal Product Solutions reserves the right to change specifications without notice.

Specifications & Product Information is subject to change without notice.  
Images for reference only. Options and accessories may not be included with all models.



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