

## ECO-560/660 ThermoStream® Temperature Forcing System

Temperature forcing system for fast and precise thermal conditioning of components, parts, hybrids, modules, subassemblies, and printed circuit boards. Capable of ultra-low temperatures without the use of Liquid Nitrogen (LN<sub>2</sub>) or Liquid Carbon Dioxide (LCO<sub>2</sub>).

### Performance:

#### Temperature Range\*

-60 to +200°C (50/60Hz)  
No LN<sub>2</sub> or LCO<sub>2</sub> Required

#### Transition Rate\*

-40 to +105°C, approx. 15 seconds or less  
105 to -40°C, approx. 35 seconds or less

#### System Airflow Output\*

4 to 18scfm (1.9 to 8.5 l/s) Continuous

\* Under nominal operating conditions. Ultimate low temperatures ( $\pm 1^\circ$ ) achieved at 12scfm.

### Temperature Control:

#### Temperature Display & Resolution

+/- 0.1°C

#### Temperature Accuracy

1.0°C (when calibrated against NIST standard)

#### DUT Temperature Control

Proprietary control algorithm enables DUT temperature to be directly controlled

#### DUT Sensor Ports

Thermocouples (T & K)

### Features:

- **Frost Free Feature**  
Dry air purge for tester interface, prevents condensation: 0.5 to 3scfm (0.25 to 1.5 l/s)
- **Local & Remote Operations**
- **LabView™ & LabWindows® driver**
- **Ethernet, IEEE-488, RS232 ports**
- **Customizable and Savable Test Setups**
- **User Defined Temperature Limits**

### Application Options:

- **Thermal Cap or FlexExtender Hose**  
4.5 or 5.5 inch ID Thermal Cap or optional FlexExtender Hose for connection to external Thermal Chambers or enclosures
- **Manual or Automatic Flow Control**  
Optional Automatic Flow Control enables main air control from digital touch screen



Operator Screen



Data Graphing Screen

## ECO-560/660-HT ThermoStream Performance

Weight and Dimensions	
Base <sup>1</sup>	Width: 46.4 cm (18.25 in.) Depth: 66.7 cm (26.25 in.) Height: 142.2 cm (56 in.)
System Weight	Not packed: 181 kg (400 lbs.) Packed: 227 kg (500 lbs.)
Mobility	Locking swivel caster wheels
Maximum Reach	68.6 cm (27 in.)
Maximum Operating Height	106.7 cm (42 in.)
Minimum Operating Height	90.9 cm (35.8 in.)
Noise Level	<57 dBA
<sup>1</sup> an additional 20.3cm (8 in.) clearance is required for supply connections and cabinet ventilation	
Service and Safety	
Refrigerants	HCFC and CFC-free, non-toxic, non-flammable
Serviceability	Auto-diagnostics and field replaceable modules
Over Temperature Protection	+230°C (Factory Set): (Operator can set high and low air temperature limits)
Facility Requirements	
Power <sup>2</sup>	200 - 250 VAC (230V nominal) 50/60Hz 30 amp, 1phase
Compressed Air <sup>3</sup> : Clean, Dry Air (CDA)	Filtered to 5 micron particulate contamination Oil Content: <0.1 ppm, by weight, filtered to 0.01 micron oil contaminant Dewpoint: <10°C @ 6.2 BAR (90PSI)
Air Supply Pressure	6.2 to 7.6 BAR (90 to 110 PSIG)
Total Air Flow Required	7.1 to 14.2 l/s (15-30 scfm) 11.8 l/s (25 scfm) nominal
Air Supply Temperature	+20° to +25°C; +22°C nominal
Operating Environment <sup>3</sup> Operating Temperature	+20° to +28°C; +23°C nominal
Humidity	0 to 60%; 45% nominal
<sup>2</sup> System is configured for operation within voltages listed above using an internal transformer. Please specify power configuration with order.	
<sup>3</sup> Under operating conditions which are greater or less than nominal, performance may be less than specification provided.	



The inTEST Thermal family includes three temperature-related corporations: Temptronic, Sigma Systems, and Thermonics. Products include thermal chambers and plates, temperature forcing systems, and process chillers. Specifications subject to change.