



## ECO-810E-M THERMOSTREAM®

*with WhisperStream quiet technology*

**-80° to +225°C**



The ECO Series is designed for any environment where audible noise and heat dissipation are concerns. It operates on an energy-efficient, 20 amp, 60Hz circuit with proprietary technology delivering quiet, smooth sounding operation. Additionally, the system **does not require annual leak testing** because its gas charge is below the CO<sub>2</sub> equivalent limit for greenhouse gas emissions as specified by Regulation EU 517/2014.

These fast, precise temperature forcing systems provide effective testing and conditioning of electronic components, boards and modules. Built with proven ThermoStream reliability and supported worldwide.

### PERFORMANCE:

Temperature Range\* - No LN<sub>2</sub> or LCO<sub>2</sub> Required

-80 to +225°C (60Hz)

Transition Rate\*

-55 to +125°C, approx. 10 seconds

125 to -55°C, approx. 10 seconds

System Airflow Output\*

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

### 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

Internal diode, thermocouples (T & K), RTD (100 Ohm platinum)



### E Series Systems Equipped with Embedded Software Controls, Eliminating Windows® OS

- Significant reduction in security vulnerabilities
- Minimizes software and hardware obsolescence concerns
- Improved responsiveness of the touch screen
- Faster system boot and startup times

### FEATURES:

**ECO Friendly: No Annual Leak Testing Required** per F-Gas Regulation EU 517/2014

- **20 Amp Operation:** Full performance with 20 amp service
- **Automatic Power Reduction:** Reduces power usage during idle periods
- **Heat Only Mode:** Reduces power usage when cold temperatures are not used

**WhisperStream Technology:** quieter, smooth-sounding operation, 56 dBA

**Frost Free Test Environment:** dry air purge for tester interface, prevents condensation:

0.5 to 3scfm (0.25 to 1.5 l/s)

**Heated Defrost:** quickly removes moisture buildup from internal chiller

- Fully adjustable thermal head
- Ethernet, IEEE-488, RS232, USB Serial ports
- Embedded Control System
- Customizable & savable test setups
- Local & remote operations
- Program & datalog storage, export via Ethernet or USB
- On-screen help
- User defined temperature limits

### APPLICATION OPTIONS:

**Thermal Cap or FlexExtender Hose**

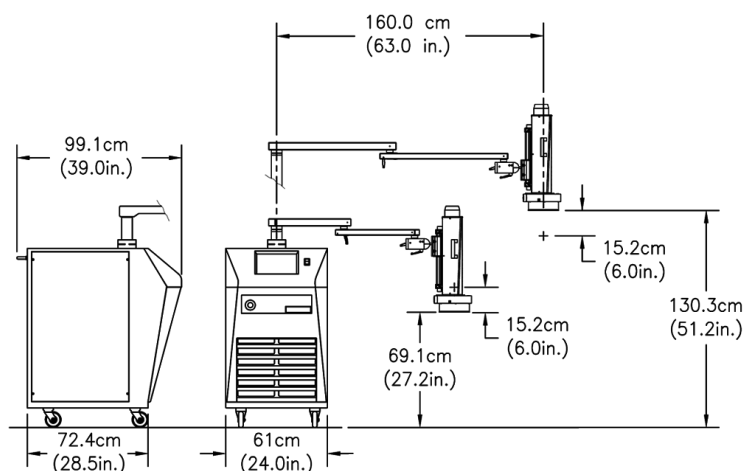
4.5 or 5.5 inch ID Thermal Cap or optional FlexExtender Hose for connection to external Thermal Chambers or enclosures

**MobileTemp™ Thermal Chambers**

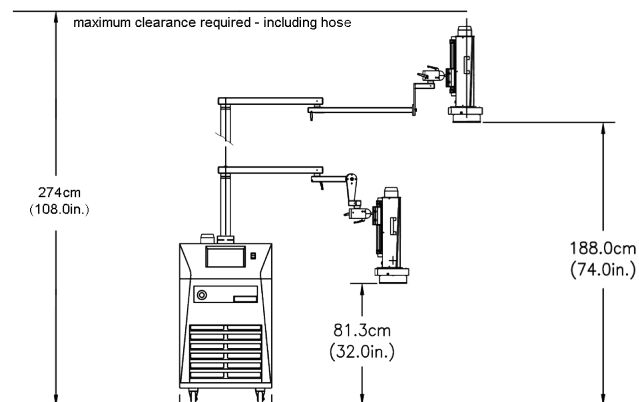
Temperature Chambers designed specifically for use with ThermoStream systems. See Additional Datasheets for details.

\*Under nominal operating conditions  
Ultimate high & low temperatures (±1°) achieved at 12scfm





**SYSTEM DIMENSIONS  
STANDARD**



**SYSTEM DIMENSIONS  
EXTENDED HEIGHT**

## FACILITY REQUIREMENTS

Power <sup>1</sup>	200 - 250 VAC, 60Hz, 20 amp, 1phase
Compressed Air <sup>2</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 Rate 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>2</sup>	+20° to +28°C; +23°C nominal
Humidity	0 to 60%; 45% nominal

## WEIGHTS & DIMENSIONS

Base <sup>3</sup>	Width: 61.0 cm (24 in.), Depth: 72.4 cm (28.5 in.), Height: 108 cm (42.5 in.)
System Weight	Not packed: 236 kg (520 lbs.) Packed: 365 kg (805 lbs.)
Mobility	Four static dissipative, swivel caster wheels
Maximum Reach	160.0cm (63 in.)
Maximum Operating Height	130.3 cm (51.2 in.) Extended height option: 188.0 (74.0 in.)
Minimum Operating Height	69.1 cm (27.2 in.) Extended height option: 81.3 (32.0 in.)
Noise Level	<56 dBA

## SERVICE & SAFETY

Refrigerants	HCFC and CFC-free, non-toxic, non-flammable
Serviceability	Auto-diagnostics and field replaceable modules
Over Temperature Protection	Settable high and low air temperature limits (factory set at +230°C)
Compliance	CE, RoHS, EU 517/2014 (<10 tons CO <sub>2</sub> eq, <b>no annual leak testing required</b> )

<sup>1</sup>System is configured for operation within voltages listed above using an internal transformer. Please specify power configuration with order  
<sup>2</sup>Under operating conditions which are greater or less than nominal, performance may be less than specification provided  
<sup>3</sup>An additional 20.3cm (8 in.) clearance is required for supply connections and cabinet ventilation

