

# ThermoStream® ECO-710-M

20 Amp, Ultra Quiet, No Annual Leak Testing Required

(EU F-Gas Regulation)

-80 to +225°C



## Data Sheet

The ECO Series is designed for any environment where audible noise and heat dissipation are concerns. It operates on an energy-efficient, 20 amp, 50/60Hz 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\*

-80 to +225°C (50/60Hz)

No LN<sub>2</sub> or LCO<sub>2</sub> Required

### 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

\* under nominal operating conditions  
ultimate high & low temperatures (±1°) 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

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

## 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

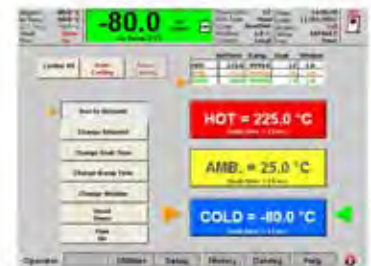
### ► Frost Free Test Environment

dry air purge for tester interface, prevents condensation: 0.5 to 3scfm (0.25 to 1.5 l/s)

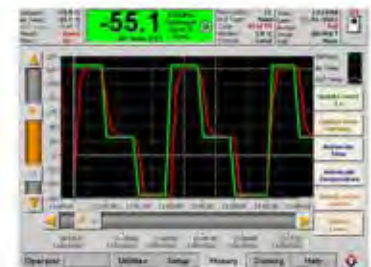
### ► Heated Defrost

quickly removes moisture buildup from internal chiller

- Fully adjustable thermal head
- Windows® OS
- Local & remote operations
- LabView™ & LabWindows® drivers
- On-screen help
- Ethernet, IEEE-488, RS232 ports
- USB, mouse, keyboard ports
- Customizable and savable test setups
- Program & datalog storage, export via Ethernet or USB
- User defined temperature limits



OPERATOR SCREEN



DATALOG SCREEN

## APPLICATION OPTIONS

### ► Thermal Cap or FlexExtender Hose

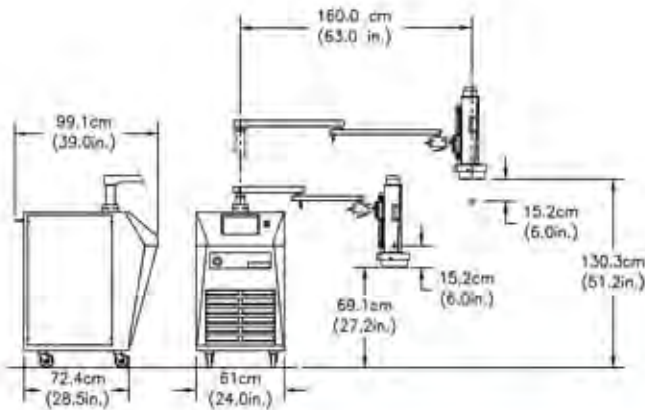
5.5 inch ID Thermal Cap or optional FlexExtender Hose for connection to external Thermal Chambers or enclosures

### ► MobileTemp™ Thermal Chambers

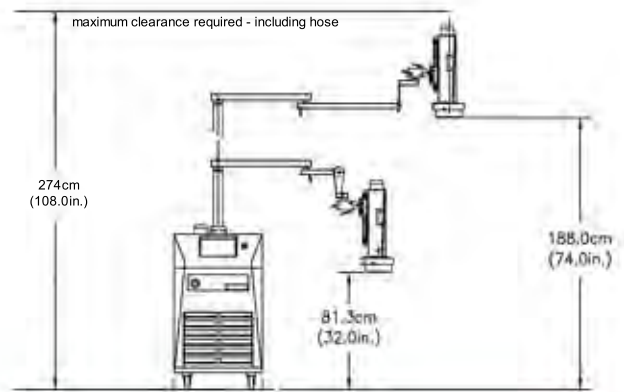
Temperature Chambers designed specifically for use with ThermoStream systems. See Additional Datasheets for details.



System Dimensions - Standard



System Dimensions - Extended Height



Performance for extended height system:  
 -75°C @ 12scfm @ 60Hz (at nominal conditions)  
 -70°C @ 12scfm @ 50Hz (at nominal conditions)

## Weights and Dimensions

<b>Base<sup>1</sup></b>	Width: 61.0 cm (24 in.), Depth: 72.4 cm (28.5 in.) Height: 108 cm (42.5 in.)
<b>System Weight</b>	Not packed: 236 kg (520 lbs.) Packed: 365 kg (805 lbs.)
<b>Mobility</b>	Four static dissipative, swivel caster wheels
<b>Maximum Reach</b>	160.0cm (63 in.)
<b>Maximum Operating Height</b>	130.3 cm (51.2 in.) - extended height option: 188.0 (74.0 in.)
<b>Minimum Operating Height</b>	69.1 cm (27.2 in.) - extended height option: 81.3 (32.0 in.)
<b>Noise Level</b>	< 56 dBA

<sup>1</sup> an additional 20.3cm (8 in.) clearance is required for supply connections and cabinet ventilation

## Service and Safety

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

## Facility Requirements

<b>Power<sup>2</sup></b>	200 - 250 VAC (230V nominal), 50/60Hz, 20 amp, 1phase
<b>Compressed Air<sup>3</sup></b>	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)
<b>Air Supply Pressure</b>	6.2 to 7.6 BAR (90 to 110 PSIG)
<b>Total Air Flow Rate Required</b>	7.1 to 14.2 l/s (15-30 scfm) 11.8 l/s (25 scfm) nominal
<b>Air Supply Temperature</b>	+20 to +25°C; +22°C nominal
<b>Operating Environment<sup>3</sup></b>	+20 to +28°C; +23°C nominal
<b>Humidity</b>	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



**inTEST Thermal Solutions**  
 41 Hampden Road  
 Mansfield, MA 02048  
 TEL: 1.781.688.2300  
 www.inTESTthermal.com

ISO 9001 Registered

