

ThermoStream® ECO-810-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, 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 CO₂ 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 (60Hz)

No LN₂ or LCO₂ 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 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)

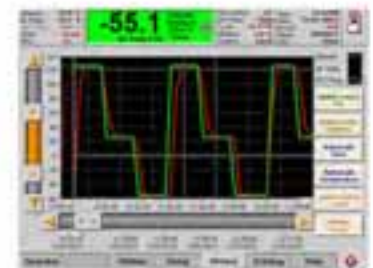
► Heated Defrost

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

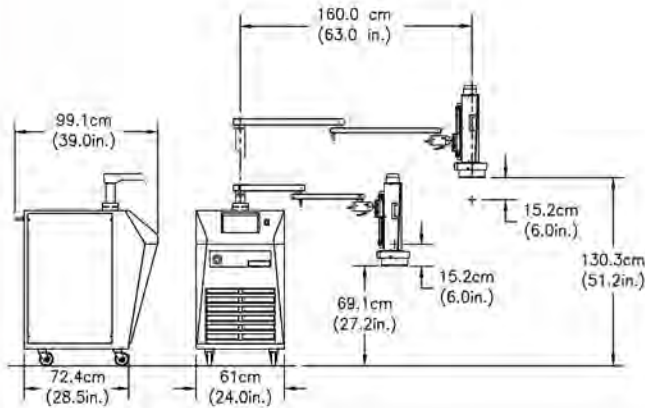
4.5 or 5.5 inch ID Thermal Cap or optional FlexExtender Hose for connection to external Thermal Chambers or enclosures

► MobileTemp™ Thermal Chambers

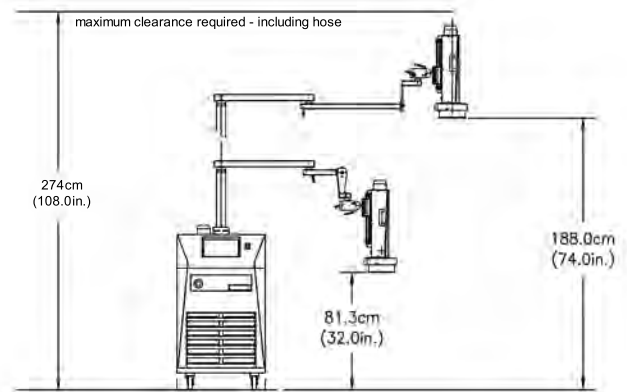
Temperature Chambers designed specifically for use with ThermoStream systems. See Additional Datasheets for details.



System Dimensions - Standard



System Dimensions - Extended Height



Weights and Dimensions

Base¹	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

¹ 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	Settable high and low air temperature limits (factory set at +230°C)
Compliance	CE, RoHS, EU 517/2014 (<10 tons CO ₂ eq, no annual leak testing required)

Facility Requirements

Power²	200 - 250 VAC, 60Hz, 20 amp, 1 phase
Compressed Air³	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 Environment³	+20 to +28°C; +23°C nominal
Humidity	0 to 60%; 45% nominal

² System is configured for operation within voltages listed above using an internal transformer. Please specify power configuration with order

³ Under operating conditions which are greater or less than nominal, performance may be less than specification provided



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