

ATS-645-M THERMOSTREAM®

DATASHEET AND SPECIFICATIONS

-80° to +225°C



Designed for **60Hz operation only**, this Advanced Temperature Source is 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 (LN₂) or Liquid Carbon Dioxide (LCO₂).

PERFORMANCE:

Temperature Range*

-80 to +225°C

No LN₂ or LCO₂ Required

Transition Rate*

-55 to +125°C, approx. 10 seconds or less

125 to -55°C, approx. 10 seconds or less

System Airflow Output*

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

* under nominal operating conditions
ultimate low temperatures (±1°C) achieved at 12scfm

TEMPERATURE CONTROL:

Temperature Display & Resolution

+/- 0.1°C

Temperature Accuracy

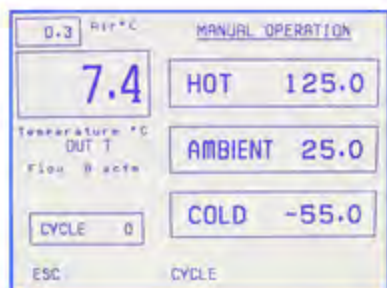
1.0°C (when calibrated against NIST standard)

DUT Temperature Control

proprietary control algorithm enables DUT temperature to be directly controlled

DUT Sensor Ports

thermocouples (type T & K)



OPERATOR SCREEN

FEATURES:

► Frost Free Feature

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

► ECO Friendly Feature

Heat Only Mode

reduces power usage when cold temperatures are not used

► Fully Adjustable Thermal Head

► Local & Remote Operations

► LabView™ drivers

► IEEE-488, RS232 ports

► customizable and savable test setups

► Program & Datalog Storage

► User Defined Temperature Limits



PROGRAM SCREEN

APPLICATION OPTIONS:

► Thermal Cap or FlexExtender™ Hose

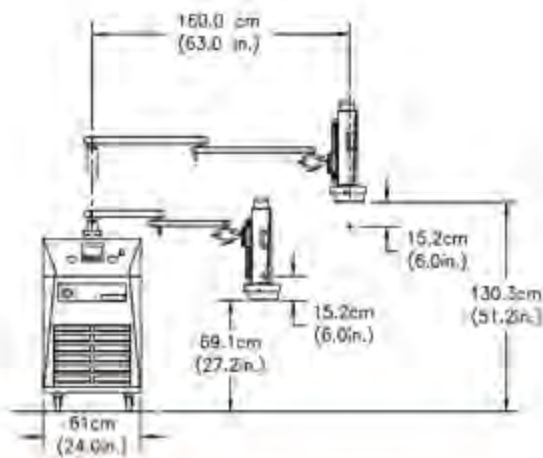
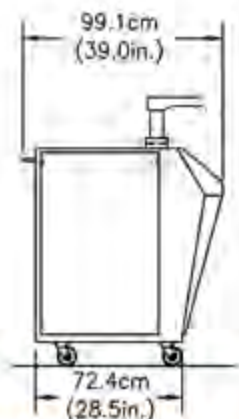
4.5 or 5.5 inch ID Thermal Cap or optional FlexExtender™ Hose for connection to external Thermal Chambers or enclosures

► MobileTemp™ Thermal Chambers

Temperature Chambers designed specifically for uses with ATS THERMOSTREAM® Systems. See Additional Datasheets for details.



System Dimensions - Standard



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

<65dBA

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

+230°C (factory set): Operator can set high and low air temperature limits

Facility Requirements

Power²

60Hz only, system does not operate at 50Hz
200 - 250 VAC (230V nominal), 60Hz, 30 amp, 1phase

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

Operating Temperature

+20° to +28°C; +23°C nominal

Humidity

0 to 60%; 45% nominal



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ISO 9001 Certified



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