



## 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 (LN<sub>2</sub>) or Liquid Carbon Dioxide (LCO<sub>2</sub>).

### PERFORMANCE:

**Temperature Range\***  
-80 to +225°C  
No LN<sub>2</sub> or LCO<sub>2</sub> 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

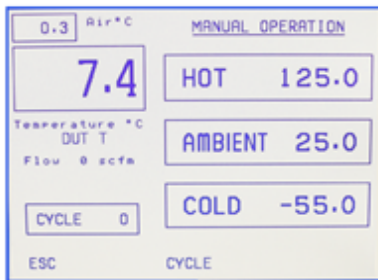
### TEMPERATURE CONTROL:

**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)

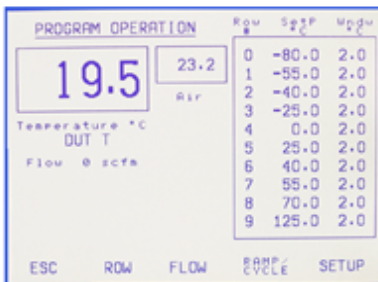


OPERATOR SCREEN

### 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



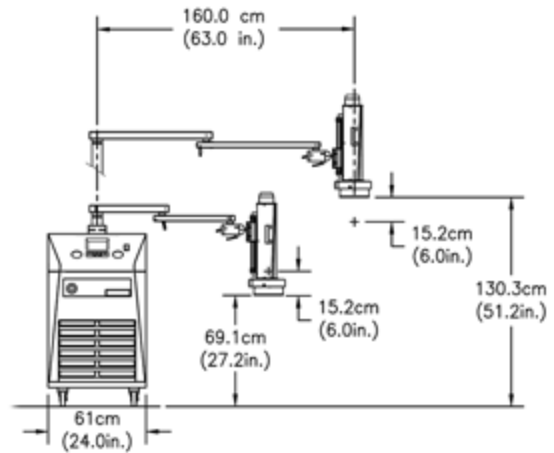
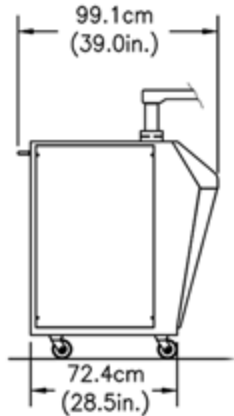
PROGRAM SCREEN

### 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

<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>	<65dBA

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

## Facility Requirements

<b>Power<sup>2</sup></b>	<b>60Hz only, system does not operate at 50Hz</b> 200 - 250 VAC (230V nominal), 60Hz, 30 amp, 1phase
<b>Compressed Air<sup>3</sup></b>	
<b>Clean, Dry Air (CDA)</b>	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>	
<b>Operating Temperature</b>	+20° to +28°C; +23°C nominal
<b>Humidity</b>	0 to 60%; 45% nominal



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

ISO 9001 Certified



<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