ATS-870-M  THERMOSTREAM®

DATASHEET AND SPECIFICATIONS

-100° 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*

-100 °C to +225 °C (60Hz)
No LN₂ or LCO₂ Required

Transition Rate*

-55 °C to +125 °C, approx. 12 seconds or less
125 °C to -55 °C, approx. 12 seconds or less

System Airflow Output*

4 to 12 scfm (1.9 to 5.6 l/s) Continuous
* under nominal conditions

**FEATURES:**

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

▸ ECO Friendly Features
Automatic Power Reduction
reduces power usage during idle periods
Heat Only Mode
reduces power usage when cold temperatures are not used

▸ Heated Defrost Feature
quickly removes moisture buildup from internal chiller

▸ Fully Adjustable Thermal Head

**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.

**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)

Windows® OS

Local & Remote Operations

LabView™ & LabWindows® drivers

On-Screen Help

Ethernet, IEEE-488, RS232 ports

USB, keyboard, mouse, & printer ports

customizable and savable test setups

Program & Datalog Storage
(via ethernet or USB)

User Defined Temperature Limits

Temperature Range*

-100 °C to +225 °C (60Hz)
No LN₂ or LCO₂ Required

Transition Rate*

-55 °C to +125 °C, approx. 12 seconds or less
125 °C to -55 °C, approx. 12 seconds or less

System Airflow Output*

4 to 12 scfm (1.9 to 5.6 l/s) Continuous
* under nominal conditions

**FEATURES:**

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

▸ ECO Friendly Features
Automatic Power Reduction
reduces power usage during idle periods
Heat Only Mode
reduces power usage when cold temperatures are not used

▸ Heated Defrost Feature
quickly removes moisture buildup from internal chiller

▸ Fully Adjustable Thermal Head

**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.
## Specifications

### ATS-870-M THEROSTREAM®
Advanced Temperature Source

### System Dimensions - Standard

<table>
<thead>
<tr>
<th>Width</th>
<th>Depth</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>61.0 cm (24 in.)</td>
<td>72.4 cm (28.5 in.)</td>
<td>108 cm (42.5 in.)</td>
</tr>
</tbody>
</table>

### System Dimensions - Extended Height

<table>
<thead>
<tr>
<th>Width</th>
<th>Depth</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>160.0 cm (63 in.)</td>
<td>15.2 cm (6.0 in.)</td>
<td>108.0 cm (42.5 in.)</td>
</tr>
</tbody>
</table>

### Weights and Dimensions

1. **Base**
   - Width: 61.0 cm (24 in.), Depth: 72.4 cm (28.5 in.), Height: 108 cm (42.5 in.)

2. **System Weight**
   - Not packed: 236 kg (520 lbs.), Packed: 365 kg (805 lbs.)

3. **Mobility**
   - Four static dissipative, swivel caster wheels

4. **Maximum Reach**
   - 160.0 cm (63 in.)

5. **Maximum Operating Height**
   - 130.3 cm (51.2 in.) - extended height option: 188.0 cm (74.0 in.)

6. **Minimum Operating Height**
   - 69.1 cm (27.2 in.) - extended height option: 81.3 cm (32.0 in.)

7. **Noise Level**
   - <65dBA

---

### 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

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

#### Compressed Air
- 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)
  - 6.2 to 7.6 BAR (90 to 110 PSIG)
  - 7.1 to 14.2 l/s (15-30 scfm)
  - 11.8 l/s (25 scfm) nominal
  - +20° to +25°C; +22°C nominal

#### Air Supply Pressure
- Total Air Flow Rate Required
  - +20° to +25°C; +22°C nominal

#### Air Supply Temperature
- Operating Environment
  - Operating Temperature
    - +20° to +28°C; +23°C nominal

#### Humidity
- 0 to 60%; 45% nominal

---

1. An additional 20.3 cm (8 in.) clearance is required for supply connections and cabinet ventilation

2. An additional 20.3 cm (8 in.) clearance is required 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

---

ISO 9001 Certified

www.inTESTthermal.com part number SL10900A