The small footprint and convenience of the TP4500 System make this system ideal for use in all laboratories or production facilities for testing, characterization and failure analysis of devices and PCBs to commercial/industrial specifications.

For temperature cycling with fast transitions and high airflow at all temperatures, the TP4500 provides the necessary environment to quickly thermally test devices of any size and power dissipation from small NAND Flash to larger high power devices and PCBs.

Ideal for:

- Device characterization, testing and failure analysis at temperature.
- Production Test Facilities
- Engineering Labs
- All device types and power dissipations.
- Facilities with limited power and compressed air supply.

- Wide -45° to +225°C temperature range
- High adjustable airflow (up to 10 scfm) at full temperature range
- Fast temperature transitions: -40° to +125°C in less than 12 seconds
- Proprietary Dual Loop Control manages the temperature directly at the device.
- 115V and 230V systems available.
- 15 amp and 20 amp systems available.
- No LN₂ or CO₂ required.
The TP4500 ThermoStream® clamps conveniently to the benchtop or workstation using the optional Benchmount.

SPECIFICATIONS

Temperature Performance / Airflow Capacity

Temperature range¹:  
-45° to +225°C

¹ Ultimate low temperature may reach -50°C under certain circumstances.

Typical temperature transition rate (air) in seconds at 10 scfm:
-40° to +125°C: <12 seconds
125° to -40°C: <40 seconds

System airflow output:  1.9 to 4.7 l/s (4 to 10 scfm, 240 to 600 scfh)

Temperature accuracy:  
1.0°C (When calibrated against NIST Transfer Standard)

Temperature set, display and resolution:  0.1°C

Temperature control:
DUT Sensor Ports: Types K and T standard.
DUT Control: Control to within +/-0.1°C


Ramp/soak/cycle configurations:
In Program Mode, up to 12 sequences per test set-up;  Table is displayed online.

Facility Requirements

Power Configurations:
115 +/-10% VAC, 60 Hz, 20 Amp (15 Amp available)
100 +/-10% VAC, 50 Hz, 20 Amp (15 Amp available)
220 +/-10% VAC, 60 Hz, 16 Amp
220 +/-10% VAC, 50 Hz, 16 Amp

Compressed Air Requirements:  (Optional Air Dryer is available.)
Clean, Dry Air (CDA) filtered to 5 micron particulate contamination.
Oil content: < 0.01 ppm by weight, filtered to 0.01 micron oil contaminant
Dewpoint:  < -70°C (ideal)  @ 6.2 BAR (90 PSI)

Supply pressure²:  5.5 to 7.6 BAR (80-110 PSI)
Supply flow²:  5.7 l/s (12 scfm) [2.8 l/s (6 scfm) minimum]
Air supply temperature:  +20° to +25°C (+22°C nominal)
Operating temperature:  +20° to +28°C (+23°C nominal)
Humidity:  60% maximum

² At lower pressures and flow, performance may be derated.

OPTIONS

- Benchmount
- Castors and handle
- Cart
- Air Dryer: Recommended to achieve specified Clean Dry Air (CDA).  See Compressed Air Specifications.

Dimensions and Weights

approximate,  cm.  (inches)

Benchtop Controller

Dimensions:
cm: 26.7 w x 20.65 h x 9.75 d
(inches: 10.5 w x 8.13 h x 3.84 d)

Refrigeration module (Chiller)

Dimensions:
cm: 51.3 w x 41.45 h x 74.93 d
(inches: 20.20 w x 16.32 h x 29.5 d)

Weight: 74.5 kg (157 lbs.)

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