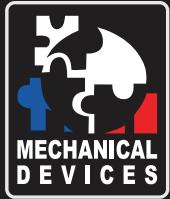


# MD TOP COOL Series

Thermal Controlled Chucks



**-60°C to +220°C**

MD newest innovation in thermal testing, is a family of thermal controlled chucks used for test characterization, modeling, process development, design de-bug or IC failure analysis of semiconductor wafers. The TP chuck system have the performance and versatility needed for all main analytical probe stations integration. Each system contains a thermal chuck and a self-contained thermal control unit.

The TP chuck system is a **breakthrough product** that introduced the use of refrigerant and heaters for active cooling & heating of wafers. As it is not water or air cooling and does not use Peltier elements, it can be a perfect replacement system in the industry for uncompromising thermal and mechanical performance. It is the first generation of thermal chucks from MD, with a temperature ranging from -60 to 220°C, (no separate chiller is necessary). Available for 100 mm (4"), 150 mm (6"), 200 mm (8") and 300 mm (12") wafers.

For analytical and production test applications calling for fast temperature change, cooling and heating times become particularly important for wafer test productivity. Time to temperature and soaking times with TP are considerably faster than any water or air based systems.

## Key features of TP system:

- Industry's lowest soaking time
- Industry's fastest transition times
- Reaching -60°C with NO chiller or pressurized air
- Ultra-low noise

## Saving Costs:

- Replace (LN2), (CO2) water and air systems.
- Save infrastructure costs of LN2, CO2, chiller, CDA...
- Save consumable material costs.
- Save on maintenance costs

## Applications:

- Probe stations
- Pre-cooling & pre- heating thermal platforms
- Low profile devices with flat surface and high density power device testing.



*Additional and customized plate chuck and capabilities available. (4", 6", 8", 12")*

**OEM with probe station manufacturers**

## Features:

- Temperature range of -60°C to +220°C,
- Fast cooling/heating rates up to 25°C/min
- No LN2 or CO2 required
- No chiller or CDA required
- Temperature stability +/-0.1
- Fully programmable for automation
- Quite & portable
- Maintenance FREE

TP controller provides touch-screen and remote interfacing to set up and transfer thermal profiles, view data and log diagnostics.

- Optimize test time – Precisely control and monitor device temperature, during power cycling
- Fast set up time – Intuitive touch-screen programming
- Display test status – Real-time data

To allow moisture free probing below ambient temperatures, an environmental enclosure is optional.

## Technical Data:

### Operating

Temperature range	-60°C to +220°C
Surface flatness and base parallelism	±50µm
Temperature resolution	0.1°C
Temperature accuracy	±0.1°C
Temperature stability	±0.1°C
Temperature uniformity	-60°C to +200°C ±1°C >200°C ±0.6%
Heating rates	-60°C to +25°C: 2 min 0°C to +25°C: 3 min +25°C to +220°C: 6 min
Cooling rates	+220°C to +25°C: 2 min +25°C to -60°C: 6 min

### Mechanical Data

System size (WxHxL)	577,5mm x 370mm x 753mm
System weight	100 Kg
Controller to chuck length	~2 - 2.5 meter (6.5ft)
Chuck surface plating	Nickel (gold available)

### Data Communication

Ethernet TCP/IP	RJ-45
USB	Type B
Touch screen display	7" LCD
Temperature sensor	PT100, 4-line wired
Interfaces	Ethernet RJ-45
Control method	PID with Temperature Dynamic Control TDC

### Facilities

Power	220V, 50/60Hz, 12A max
Operating temperature	-10°C to 30°C
Plug	Nema L6-20/30

