

FEATURES

- Temperature range: -70°C to +200°C
- Temperature stability: $\pm 1^{\circ}\text{C}$
- Touchscreen human-machine interface (HMI)
- Device-under-test (DUT) temperature control
- Benchtop configuration with low noise, vibration and ambient heat rejection
- Low temperature fluctuation during operation
- Condensation-free testing at low temperatures

Mx-03K

The **Mx-03K** uses direct-contact thermal transfer to regulate the case or junction temperature of a device under test (DUT) at a specified setpoint. It supports socket-mounted and PCB-soldered devices. Localized thermal control limits exposure of surrounding circuitry, reducing its influence on electrical test results.

The thermal control unit combines high thermal capacity with configurable device interfaces. Contact heads and fixtures can be customized to accommodate different semiconductor packages, device dimensions and power levels for socketed and PCB-mounted test configurations.



APPLICATIONS

IC characterization, performance testing and failure analysis:

- Automated test equipment (ATE), system-level test (SLT) and laboratory bench testing
- Direct-contact alternative to thermal chambers and low-temperature chillers
- Integration into OEM test platforms

SYSTEM COMPONENTS

Thermal control unit: Provides the central temperature-control functions. Select the operating temperature range to match the test requirements.

Contact head and fixture: Establishes the mechanical and thermal interface between the test head and DUT. The fixture maintains device positioning and supports testing of devices without sockets.

Dry compressed gas supply: Clean, dry air or nitrogen suppresses condensation and frost during low-temperature testing and supplies the pneumatic system. Configure the facility gas supply to meet the specified purity, dew point, flow and pressure requirements.

TECHNICAL SPECIFICATIONS

Temperature range	-70°C to +200°C
Typical temperature transition time	25°C to -40°C in ≤2 min
Temperature control accuracy	±1°C
Display accuracy	±0.1°C
Cooling capacity	Thermal head: 3000 W at 0°C
Operator interface	7-inch high-definition TFT color touchscreen
Interface languages	Chinese / English
Operating modes	Manual control or programmed operation
Thermal head dimensions	55 × 55 mm
Temperature sensors	Main probe: TC; DUT: TC; optional: RTD
Communication interfaces	RS-232, LAN; optional: GPIB; remote control via Python
Refrigerant	Environmentally friendly refrigerant
Air hose length	3 m
Purge gas requirements	Clean air or nitrogen, free of oil, moisture and particles; pressure dew point: ≤-70°C (-94°F); 0.1-0.5 SCFM / 0.2 MPa
Main unit dimensions	830 × 850 × 1150 mm (L × D × H)
Main unit weight	300 kg
Noise level	≤59 dBA average
Power supply	410 VAC / 50 Hz, 3-phase
OPERATING ENVIRONMENT	
Ambient temperature	+0°C to +28°C
Relative humidity	5% to 85%

ACCESSORIES AND CUSTOMIZATION

Custom thermal interfaces and test fixtures are available.



Height-adjustable support fixture



Secondary cooling head



Height-adjustable support fixture



Pneumatic cylinder fixture (350 kgf)

- Custom socket connection interfaces
- Adaptor design and fabrication

Note: Product specifications are subject to change without notice as part of our continuous product improvement program.