

PANTHER Power

All-in-One Test and Inspection System for small packaged ICs



Automotive



Mobility



IoT/IoV & Optoelectronics



Computing & Network



Industrial & Medical



Consumer

Productivity

- High parallel testing with 100% touch down efficiency
- Temperature accuracy on DUT $\pm 2^{\circ}\text{C}$
- Visible defect metrology

Flexibility

- Small packages handling
- Flexible input and output modules
- Single device traceability
- Direct reel re-screen possible
- Tri-temp testing range: -45°C to 155°C

- Tri-temp chamberless system
- 6 Sides vision inspection (optional)

- Device alignment by vision (closed loop)
- Forceless device handling due to AccuChuck

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Process Capabilities

Platform

Input

- Bulk
- Tube
- De-taping

Output

- Bulk
- Tube
- Tape & Reel

Options and Features

- Contact tip to pad alignment by vision
- Kitless AccuChuck
- Direct docking to test head
- Tri-temperature testing
- Laser marking (optional)
- 6 sides vision inspection
- Multiple sorting in bulk bin or tube
- Automatic vision rejection & replacement in tape

NVcore Vision Inspection

- Marking inspection
- 2D pads measurement
- 6 sides surface inspection
- Pre-tape, In tape, post sealing inspection

Testing

- High test parallelism with 100% touch down efficiency
- Tri-temperature testing
- Automatic contactor cleaning
- Contact tip to pad positioning accuracy $\pm 25 \mu\text{m}$ (3 σ)

Performance Characteristics

- Process UPH up to 16,000 UPH with bowl or tube input
- Process UPH up to 12,000 UPH with de-taping input
- MTBA: Typical ≥ 1 h
- MTBF: Typical ≥ 168 h

Specifications

Temperature Characteristics

- Temperature range: -45°C to $+155^{\circ}\text{C}$
- Accuracy on DUT.: $\pm 2^{\circ}\text{C}$ ¹
- Soaking capacity: 6 AccuChuck (max.)
- Time to temperature: ≤ 30 min²

ESD Control

- Field strength at device: < 100 Volt/inch (max.)
- Decay time: 1,000 V to 100 V in ≤ 10 seconds
- Ionizer balance: ± 30 V (class 1 ± 5 V optional)

Electrical Interfaces

- TTL parallel interface for tester and laser
- RS232, GPIB (optional)
- Network: Ethernet capability
- Optional: SECS GEM (SEMI E4, E5, E30, E37)

Input Media

- Bulk
- Tube (max tube dimension: HxWxL 8 mm x 18 x 580 mm)
- De-taping: 8, 12, 16, 24 mm

Output Media

- Bulk (multi-bin)
- Tube (max tube dimension: HxWxL 8 mm x 18 x 580 mm)
- Tape & Reel (max. 2): 8, 12, 16, 24 mm

Device range

- QFN, DFN, LGA, BGA, SOT
- 1 x 1 to 10 x 10 mm
- Thickness 0.3 to 2.2 mm
- Dedicated AccuChuck devices $< 3 \times 3$ mm

AccuChuck Dimensions

- Overall dimension: 55 x 175 mm
- Netto working area: 45 x 164 mm

Facility Requirement

I/O Modules:

- 100 VAC - 240 VAC 50/60 Hz, One Phase
- 3.5k VA with vacuum pump (optional)

Test Module:

- 208 VAC - 240 VAC 50/60 Hz, Three Phases
- 9.6k VA with vacuum pump (optional)

Common

- Air Pressure range: 6 to 10 bar $\pm 10\%$
- Air consumption: 700l/min (typical)
- LN₂ consumption: 17l/hour
- LN₂ pressure: 1.5 - 4 bar
- CDA: dew point $< -70^{\circ}\text{C}$; temp range $+15^{\circ}\text{C}$ to $+40^{\circ}\text{C}$
- Vacuum network: 0.6 bar $\pm 10\%$
- Vacuum consumption: 1200l/min. (max.)³

Physical Dimensions

- Overall dimensions: 2.5 x 2.1 x 2.1 m
- Weight net: 1600 to 1900 kg (configuration dependent)

¹ with Cohu temperature pre-conditioned contactor over 10 sec test time
² ambient ($+25^{\circ}\text{C}$) to set point ³ vacuum pumps optional

All specifications are subject to change without notification and are for reference only. For detailed performance specifications, please contact Cohu.