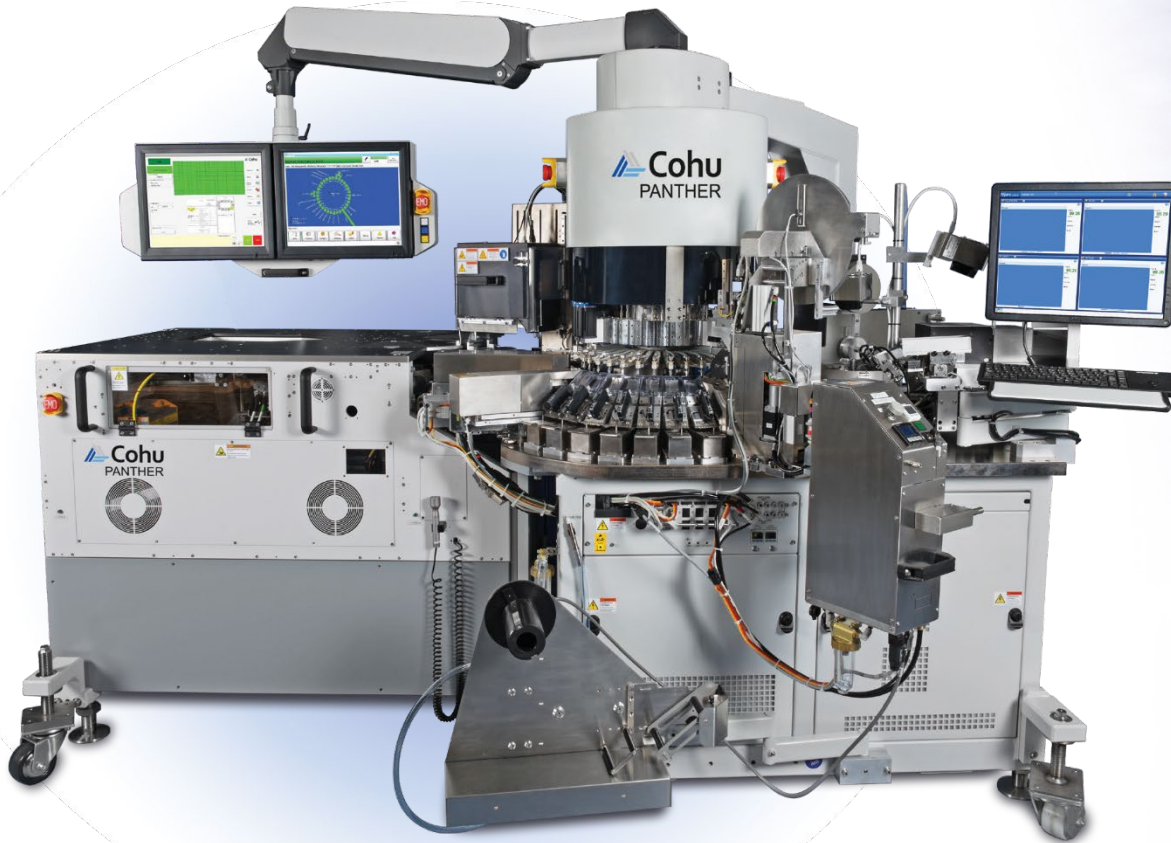


PANTHER Power

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



Enabling Higher Yield

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

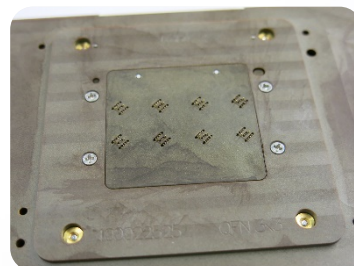
Stress-Free Handling

- No clamping mechanism
- Device alignment by vision (closed loop)
- 6 sides vision inspection (optional)

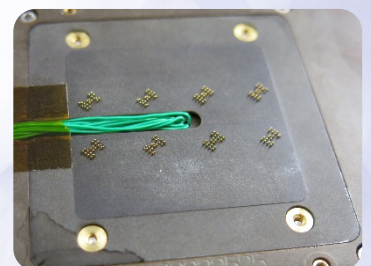
Scalability and Flexibility

- Small packages handling
- Flexible input and output modules
- Single device traceability
- Direct reel re-screen possible

Cohu temperature pre-conditioned contactor



Device side



Loadboard side

PANTHER Power

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

Process Capabilities

Input

Bulk
Tube
De-taping

Output

Bulk
Tube
Tape and Reel

Output Sorting

Bulk
Tube

Processes

Grid to package alignment
Kitless AccuChuck
Laser marking (optional)
6 sides vision inspection
Multiple sorting in bulk bin
Multiple sorting in tube
Device flip
Tape and reel

NVcore Vision Inspection

Back side marking, surface
Active side surface
5 Sides surface inspection
2D pads measurement
Pre-tape, In-tape, post sealing inspection

Testing

High test parallelism with 100% touch down efficiency
Tri-temperature
Automatic contactor cleaning
Contact tip to pad positioning accuracy $\pm 20 \mu\text{m}$ (3 σ)

Specifications

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: >2h
MTBF: $\geq 200\text{h}$

Temperature Characteristics

Temperature range: -45°C to $+155^{\circ}\text{C}$
Extended temperature range: -45°C to $+160^{\circ}\text{C}$ (under development)
Accuracy on DUT.: $\pm 2^{\circ}\text{C}^1$
Soaking capacity: 6 AccuChuck required for soaking
Time to temperature set point:
Ambient to cold: ≤ 25 min
Ambient to hot: ≤ 25 min
Cold to hot: ≤ 45 min

¹with Cohu temperature pre-conditioned contactor

ESD Control

Field strength at device: < 100 Volt/inch (max)
 ± 1000 V to ± 100 V in ≤ 10 seconds
Ionizer balance: ± 30 V (class 1 ± 5 V optional)

Electrical Interfaces

Tester: GPIB
RS232 (optional)
Network: Ethernet
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 and Reel (max. 2): 8, 12, 16, 24mm

Device range

QFN, DFN, LGA, BGA, SOT
1 x 1 to 10 x 10 mm
Thickness 0.3 to 2.2 mm

AccuChuck Dimensions

Overall dimension: 55 x 175 mm
Maximum working area: 48 x 165 mm

Facilities Requirement

I/O Modules:

100 VAC – 240 VAC 50/60 Hz, One Phase
3.5 kVA with vacuum pump (optional)

Test Module:

208 VAC – 240 VAC 50/60 Hz, three phases 9.6 kVA with vacuum pump (optional)

Cooling Fluid Requirements:

Liquid Nitrogen: 12 l/hour
1.5 - 4 bar (typical 3 bar) no gas

Common

Air Pressure range: 6 to 10 bar $\pm 10\%$
Air consumption: 700 l/min (typical)
CDA dew point: $\leq -70^{\circ}\text{C}$
CDA temperature $+15$ to $+40^{\circ}\text{C}$
Vacuum network: 0.6 bar $\pm 10\%$

Physical Dimensions

Overall dimensions: 2.5 x 2.1 x 2.1 m
Net weight: 1600 to 1900 kg (configuration dependent)

Specifications subject to change without notice.

For detailed performance specifications, please contact Cohu.