## Pick-and-Place Handlers

#### Model 8000

High-volume production handler

- One to five tray stackers, up to 40 travs per stack
- Single or dual large ATE test heads
- Up to 3 Z cars, up to 16 pick ups each
- 1 to 128 test sites
- Many building blocks can be added at a later date.
- ■-55°C to 155°C

Most economical high-volume production handler

- 1 to 5 JEDEC trays/3-15 4\* waffle packs
- Custom non-JEDEC trays as may be required
- 24" to 81" gantry lengths
- Up to 3 Z cars, up to 16 pick ups each
- 1 to 32 test sites
- Built with a specific combination of building blocks
- ■-55°C to 155°C



# Walking Beam Handlers

#### Model 700

- Magazines input and/or output ■ Boat-Strip-Waffle
- Tray Handling
- Add any combination of building blocks (see below)
- Build to order



## **Rotary Handlers**

## Model 2110 Rotary Handler

- Based on DDR digital drive rotary motors, no belts/pulleys
- Rotation tables from 4\* to 48\* in diameter
- 2 to 36 positions
- Most adjustments computer controlled
- Add almost any combination of building blocks (see below)



## **Laser Markers**



- CDRH Class 1
- "Smart Mark" vision alignment per device
- Servo motor driven, no belts



#### **Single Tray** 900 Laser marker



## **Gravity-Feed Handlers**

# Model 5000

Floor mounted production handler

- Input/output to tubes
- Optional temperature test to +155°C
- AC/DC/RF/Hi-pot test, 1 to 4 sites
- Fast & simple change over, usually
- Add almost any combination of building blocks (see below)



# Model 3000B

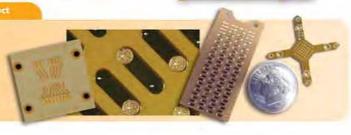
Benchtop medium volume handler

- Input/output to tubes
- Optional elevated test to +155°C
- AC/DC/RF/Hi-pot test
- Widest choice of change over kits
- Typically used for electrical test only



## Particle Interconnect

- Contact resistance
- Capacitance approaches zero
- Inductance
- approaches zero ■ Tested to 40 GHz
- ■-70°C to +300°C Temperature Range



## **Building Block Options**

## **Machine Vision Systems**

- Pin 1 location, orientation & position
- OCB/OCV mark inspection
- 20/30 lead/hall inspection
- 1D/2D barcode matrix read/verification
- Top and/or bottom side vision
- Wide choice of OEM vision suppliers

## **Bowl Feed Input & Bulk Output**

- Integrated OEM bowl, 4" to 24"
- Fast bowl change over, typically only two parts, one tool
- Add vision to simplify set up and correct orientation before leaving the bowl ■ Simple and easy to remove standard
- "Smart bucket" with electrical/mechanical locks, bucket present & positive device drop input detection

#### Mark

- individual device
- Laser obliteration, scribe, cut or weld
- Manually loaded and simply automated laser enclosures
- Label print and apply w/o vision alignment
- Pin stamper and inkjet integration

## Magazine Input & Output

- 1 to 8 magazines per input loaders and/or
- Lead frames, tiles/PCBs, wafers, Auer boats

- CO2, 1064nm, 532nm, 355nm Laser markers
- CDRH Class 1
- "Smart Mark" vision alignment per

- output unloaders
- Input / output elevators for vacuum formed trays
- Servo motor driven push/pull, no belts

# Pick & Place Tube Input & Output

- Gravity feed input
- Tray vibration input
- ■8 tube ouptput

## Particle Interconnect **Contactors and Test Sockets**

- Particle Interconnect (PI)
- BeCu, leaf spring contacts built to order
- Repairable, spring probe sockets
- Integrates with most off the shelf OEM sockets
- High Pot test sockets
- Unique MEMS socket solutions CSP Chipscale Sockets

## Tape & Reel Input & Output

- Stand-alone models or built into the handler ■ Vision detection of empty/out of pocket,
- pin 1 prientation PSA and/or thermal seal
- Easy to adjust to any size tape tooling
- Powered cross reel mounts
- Fixed tooling production, fastest possible change over
- Snap on/off fast reload Detaper input

### **Hot-Ambient-Cold Test**

- Hot Test to 155°C (+300°C Special Order)
- Controlled ambient
- Cold Test to -55°C
- Hot/ambient/cold 3 temp test in one insertion

#### Software

- Common look & feel over all PC based systems
- Extensive built in easy to use diagnostics ■ No error codes, just easy to understand
- error messages ■ Generated in house at Exatron
- All software adjustments saved in a unique JOB file
- Database management integration
- Remote service and updates via the Internet

# Interface

- Up to 48 bit TTL or +24 Relay Logic
  - Multiple RS-232 (one per test site)
  - GPIB
  - Ethernet
  - SECS GEM Other



## **MEMS Testing**

- Audio testing
- Air pressure and/or vacuum
- Shock/vibration/tilt/acceleration
- Light source/LED/light sensing/CCD
- Magnetic field sensing

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