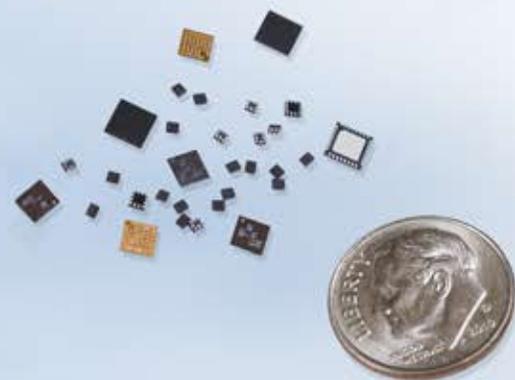


exatron 923 WLCSP-TT

WAFER LEVEL CHIP SCALE PACKAGE THERMAL TEST



Our linear motor-driven handler thermal tests, laser marks, and inspects devices presented in bulk, tube, tray, or tape as small as 0.8mm x 0.8mm accurately and safely.



(Package sizes pictured to scale)



2842 Alello Drive, San Jose, CA 95111
1-800-EXA-TRON 1-408-629-7600 www.exatron.com

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WAFER LEVEL CHIP SCALE PACKAGE THERMAL TEST

Exatron's building block design method allows seamless integration and easy changeover of a wide range of standard input/output, machine vision, and laser marking options.

HANDLER FEATURES:

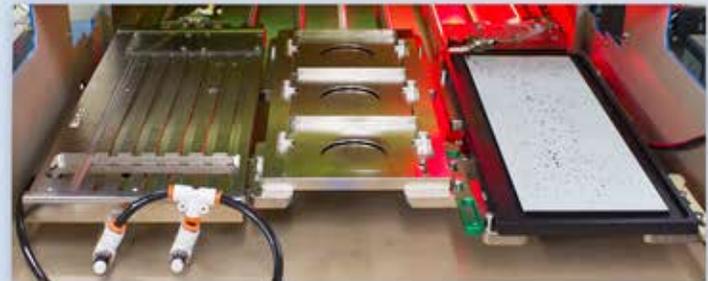
- Linear motor-driven gantry allows incredible accuracy and speed.
 - Resolution: 0.03mm (0.001")
 - Max Velocity: 150cm/s (60"/s)
- Exatron test/program sockets are specifically designed to handle fragile devices.
- Multiple input/output configurations:
 - Tray/waffle pack
 - Tube
 - Tape
 - Random Sort/Bulk
- Quick and easy changeover.
- XYZ 360° pickup head allows highly accurate pick and placement.
- Ionizer attached to pickup head eliminates static during operation.
- Top and bottom inspection ensures proper alignment at every handler location.
- Laser precursor pockets ensure precise marking of small devices.
- Output tape comes standard with in-pocket Pin1 inspection.
- Fits JEDEC standard trays and waffle packs.
- Integrated digital microscope assists with fine tuning of pick and place positions.



Linear Motor-Driven XYZ Pickup Head



Test Site



Input Tube, Waffle Pack, Random Sort Configuration



Output Tube



Input Tape



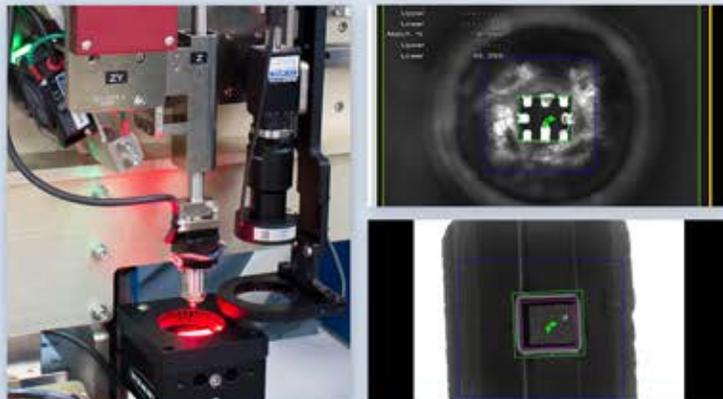
Output Tape



WAFER LEVEL CHIP SCALE PACKAGE THERMAL TEST

ROBOTIC ALIGNMENT:

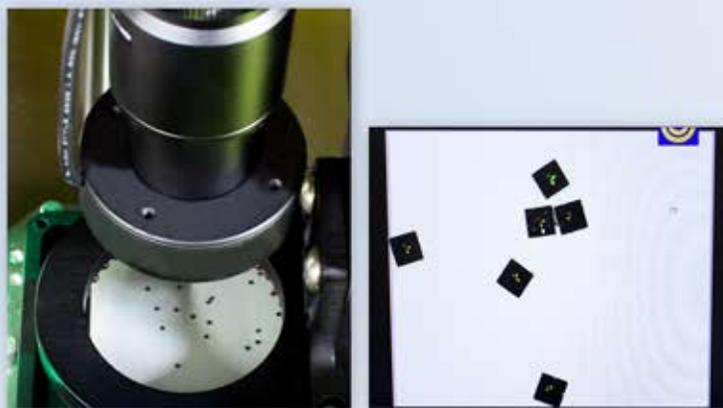
- Top inspection conducts gross alignment to ensure precise pickup.
- Bottom inspection identifies X, Y, angle position of device and pickup head adjusts as needed.
- 360° rotating pickup head travels on X, Y, and Z axes.



360 XYZ Pickup Head w/Top and Bottom Cameras (left);
Bottom Vision Inspection (top right);
Top Vision Inspection (bottom right)

RANDOM SORT:

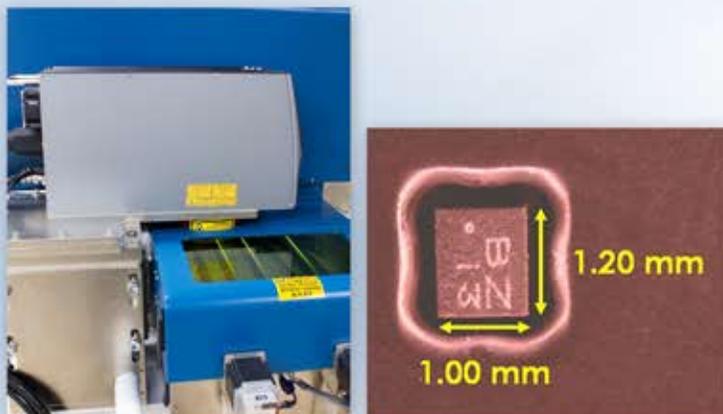
- Top camera locates and reports position of devices matching size/type specifications scattered on the input tray.
- Inspection ignores upside down and damaged devices.
- Pickup head picks specified devices and rotates as needed.



Top Camera above Random Sort Tray (left);
Random Sort Inspection Image (right)

LASER MARKING AND INSPECTION:

- Precise marking on the smallest devices.
- Pre-mark inspection ensures proper device seating, orientation, and quality.
- Post-mark inspection ensures mark quality.
- Smart Mark option available. Aligns new mark to existing marks. Contact Exatron for details.



Laser Mounted on Handler (top)
Example of Small Laser Marked Devices (bottom)



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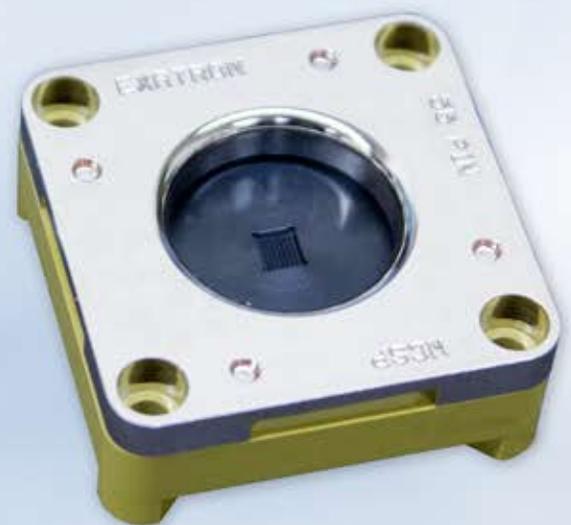
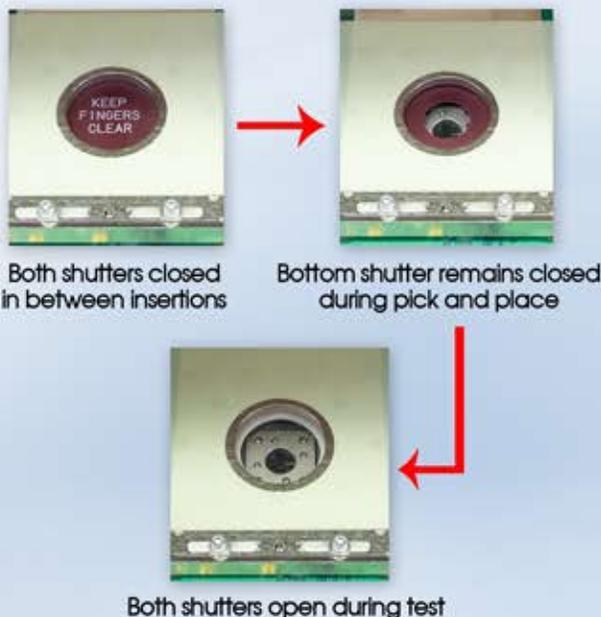
WAFER LEVEL CHIP SCALE PACKAGE THERMAL TEST

THERMAL TEST FEATURES:

- Features Exatron's Wide Range Thermal Head (WRTH). -55°C to +155°C minimum work range (-75°C to +175°C hardware capability).
- +/- 0.5°C temperature control.
- Direct contact conduction heating/cooling.
- Unique shutter system and purge air guarantee NO FROST BUILDUP during cold testing.
- Software-controlled temperature, soak timer, ramps, and calibration.
- Thermal test on devices smaller than 2mm x 2mm is dependent on socket type. (Contact Exatron).
- Pair with Exatron Copperhead® Thermal Test Sockets for unheard of stability and blazing fast soak times.



WRTH and Test Site Dock



Copperhead® Thermal Test Socket

