ONYX29

Robotic SMT Rework & Assembly

Rework, Assembly & Production

01005, QFN, MLF, Flip Chip, BGA/Micro BGA, CSP/Micro CSP, MEMS, 0201, Leaded Devices and more.

Enhanced Part Handling, Micro-Force Pick & Place Control, Dispensing, Alignment, Placement Accuracy, Preheat and Precision Reflow Control

Automated Precision Component Handling

Enhanced capability in part handling, micro-force pick and place control, dispensing, alignment, placement accuracy, preheat and precision reflow control. Precision Micro-Force sensing provides the extremely low force needed to pick tiny, fragile devices.

Custom Nozzle Design

Internal nozzle design and manufacturing capability.

Itegrated Precision Dispensing

Integrated precision dispensing of solder paste, flux, epoxy or underfill.

Easy-to-use Visual Machines™ Software

- Graphical user interface provides a visual representation of the board and component locations. One or multiple component sites can be reworked during a single cycle.
- Expanding component library includes ready-made process sequences and thermal parameters for Tin/Lead and Lead-Free components.

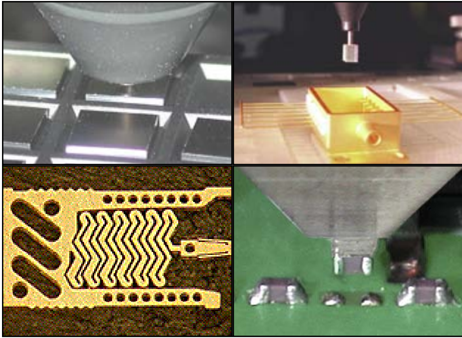
Fully Lead-Free Capable

- Powerful 2000 watt top heater.
- Infra-red (IR) bottom heating technology. The heating element provides extremely uniform preheat over the entire surface. The bottom heating panel is 19" x 19" and features four (4) independently programmable heating zones (1400 watts per zone, 5600 watts total).
- Programmable cold air injection and linear air knife provide precise cool down control to optimize time over reflow.
- Interactive thermal profiling provides "on-the-fly" adjustments.

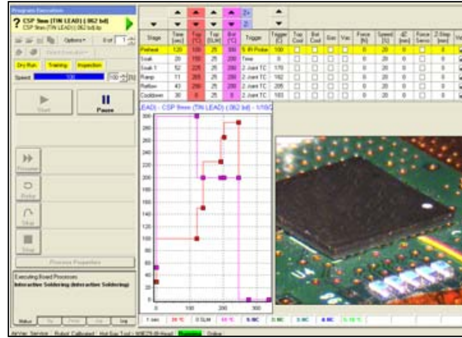
Automated Micro Site Cleaning

- Standard & Micro Tip Site Clean Assembly with a high temp, non-abrasive, composite vacuum micro tip with an inside diameter as small as 0.063".
- Composite vacuum tip with automatic height adjustment, automatically compensates for variable residual solder volume.
- Eliminates potential damage to pads or solder mask caused by contact-based methods.

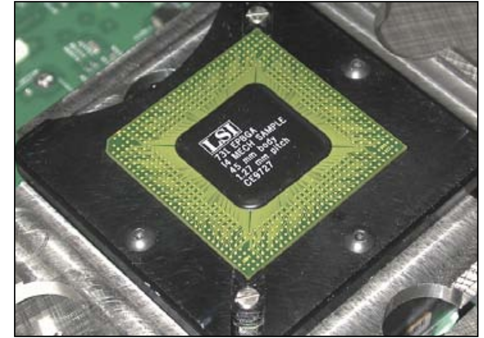
The Future of Robotic Lead-Free Rework & Low Volume Assembly



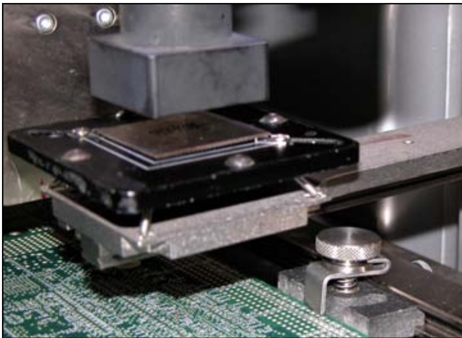
Micro-Force Pick & Place



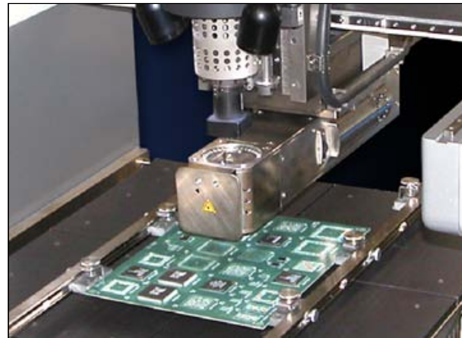
Ready-Made Component Processes



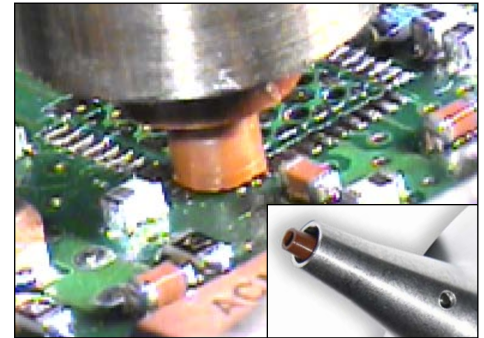
Multi-position Pick Capability



Automated Component Handling



Multiple Field Of View Vision



Automated Micro Site Cleaning

Recommended Options

- **Pivoting IR Sensor w/Laser Pointer** (0029.11.041) - Provides process repeatability by insuring that the board is at the exact same target temperature each time before localized reflow begins.
- **Automatic Toolchanger** (w/5 pockets: 0029.14.010), (w/10 pockets: 0029.14.011) - Automates entire tool handling processes; pick, prep and drop off.
- **Component Shuttle, Auto V2** (0029.02.042) - Provides a safe, repeatable location for component pick up, flux dipping and drop off away from the heated work area.
- **Site Cleaning System** (0029.03.012) - ***Includes standard and micro nozzles*** for **c**omplete removal of residual site solder on virtually any site.
- **Universal Insertion Tool** (AU6LGA47R) - Mechanically self-centers any device for accurate pick up. Used in conjunction with automatic component shuttle.
- **Direct View Camera** (0029.04.041) - Provides high magnification site viewing including the ability to verify when component reflow has occurred.
- **Dipping Kit for Solder Paste or Flux** (FASET1) - Superior to applying paste via component or board stencils.

Other Options

- **Ergonomic Workstation with CPU Holder** (1003.05.010)
- **Monitor Stand Option for Workstation** (1003.05.005)
- **Nozzle Stand Option for Workstation** (1003.05.006)
- **Locking Drawer Option for Workstation** (1003.05.007)
- **70mm Topside Clearance** (Std is 30mm) (0029.01.052) Provides increased top side clearance for assemblies with vertical daughter cards or tall devices that exceed the standard 30mm (1.2") top side clearance.
- **Fume Extraction Manifold** (300.00.547) - Removes flux vapors from the environment for health and safety.
- **Dispensing System** (0029.08.010) - On-machine dispensing of flux, solder paste, adhesive, epoxy or underfill.
- **Paste-On-Device Stencil Adapter** (0024.24.111) - Component specific stencil applies solder paste directly to the component spheres.
- **4 Additional Thermocouple Ports** (300.00.504)
- **Thermocouple Organizer** (0024.90.047)

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