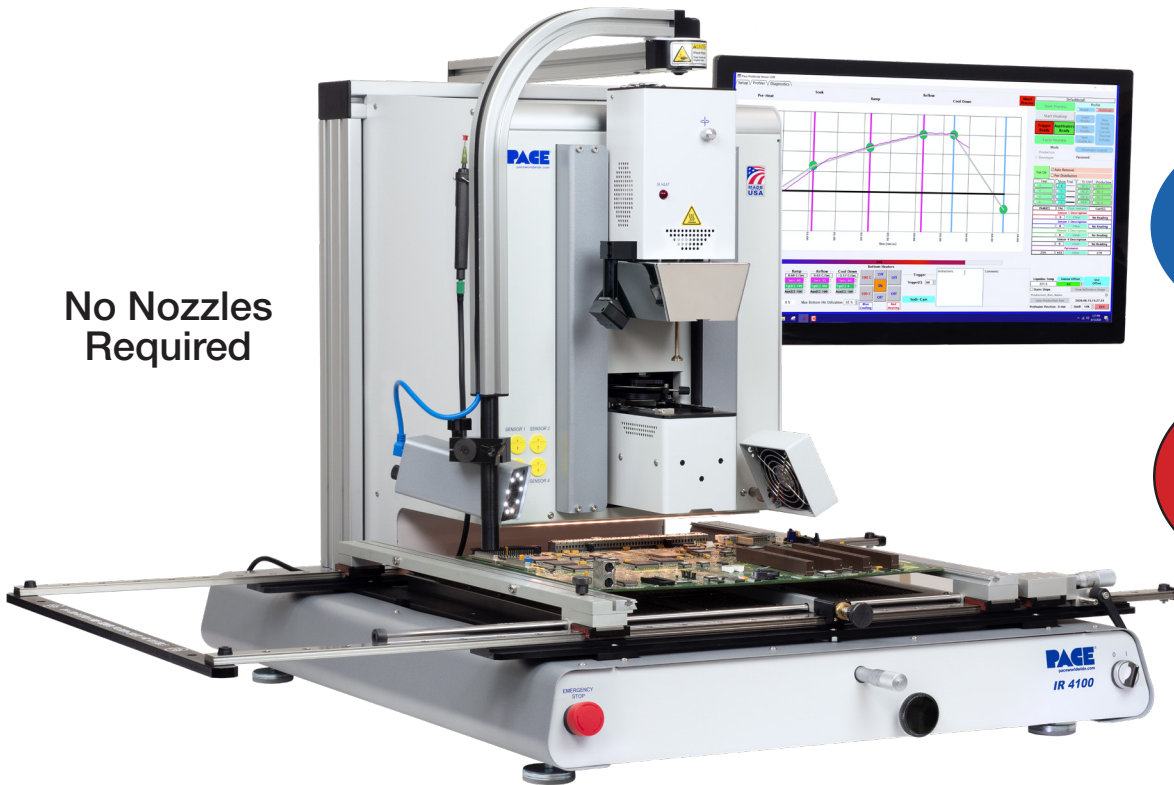


IR4100

Infrared BGA Rework Station



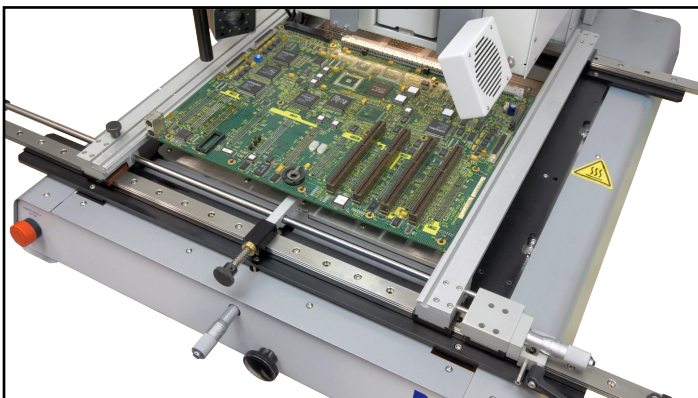
No Nozzles
Required

NEW
Available
Now

InfraRed

Production BGA Installation & Rework Made Easy!

The IR 4100 can easily install and remove BGA, QFN, μ BGA/CSP, Flip Chip and other SMD's. Featuring a 500W infrared (IR) top heater and a 1000W IR bottom preheater, the IR 4100 does not require nozzles. A specially-developed IR pyrometer provides non-contact, real-time, closed-loop temperature control throughout the reflow process. A Sodr-Cam Re-flow Camera comes standard, allowing you to watch the entire reflow process in real time. The IR 4100's newly designed Windows-based software makes profiling incredibly simple for even the most advanced applications, providing intuitive set-up, multi-stage profiling, on-the-fly profile adjustment, flux-dipping, unlimited profile storage and much more.



Designed to Rework Large PCBs

The IR4100 is specifically designed to rework large PCBs as big as 24"(610mm) x 24"(610mm). With its 6 independently controlled peripheral IR bottom heaters, the operator is able to create an effective heating profile with ease, without fear of reflowing nearby components or joints. The IR4100's uniquely designed Board Support Beam will keep any board from possible warping or sagging during a heating profile.

IR4100 Advanced Features

- **Non-Contact IR Pyrometer:** A closed-loop, non-contact IR pyrometer monitors and controls the ramp-rate and temperature of the component in real time, by controlling the top and bottom heaters' output throughout the heating process.
- **Ultra-High Precision Placement Capability:** Motorized reflow head is driven by advanced stepper motor system providing smooth, high precision, repeatable movement with no drift, allowing for soft landing of components and 28 μ m (.0011") placement accuracy.
- **High Sensitivity Vacuum Pick:** New Vacuum Pick design is more robust, utilizes an optical sensor, is counterweight balanced, and employs precision high-temperature linear ball bearings for maximum accuracy and sensitivity in placement and pick-up.
- **Sodr-Cam Reflow Camera:** Provided Sodr-Cam allows the operator to verify the entire reflow process, including the exact moment of solder melt.
- **Height Adjustable Bottom-Side Preheater:** High powered (1000W) IR preheater, and 6x150W peripheral heaters, is height adjustable from standard position up to 38mm (1.5") closer to the PCB for the most challenging high-thermal -mass boards.
- **High-Definition Optical Alignment System:** Automated Vision Overlay System uses a beam-splitting prism, high intensity LEDs for shadow-free lighting and a new high definition 1080p camera for easy alignment.
- **Quad-Field Imaging for Large/Fine Pitch BGA's:** Allows up to four corners of a large component (and its lands) to be viewed under high magnification, providing perfect alignment of outsized BGAs or fine-pitch QFPs.
- **Integrated Board Support Beam:** Prevents warping or sagging during reflow, is extremely adjustable to clear parts on the bottom of PCB and is easily removable when not in use.
- **Power Distribution Graph:** Provides a graphical analysis of the top heater output within each zone, helping the developer make necessary adjustments to either the bottom heater utilization, or ramp rate, to maximize thermal performance.
- **Sensor Offset:** Allows the developer to easily match the pyrometer temperature reading to the actual solder temperature.



Part Numbers	8007-0591 (120 VAC Unit)	8007-0592 (230 VAC Unit)
Power Requirements	120 VAC, 50/60 Hz (2400 Watts maximum) Requires dedicated 20 A supply	230 VAC, 50 Hz (2400 Watts maximum) Requires dedicated 10 A supply
Dimensions	737mm (29") H x 1118mm (44") W x 965mm (38") D	
Weight (Without Computer)	90kg (200lbs)	
Top-side Heater	Medium/Long wave IR, 500 Watts	
Bottom-side Preheater with Adjustable Working Height	Medium/Long wave IR, 1900 Watts with array of 7 IR emitters capable of preheating large, high mass assemblies; Adjustable working height from lowest position up to 38mm (1.5") closer to the PCB	
High Sensitivity Vacuum Pick	Pick is counterweight balanced, and utilizes an optical sensor and precision high temperature linear ball bearings, ensuring delicate placement and pick up of parts from PCB. Includes seven (6) Vacuum Picks	
Precision Placement Capability	Advanced professional placement system utilizing a stepper motor and position encoding provides smooth, precise movement, with no drift, allowing for repeatable and accurate placement.	
Placement Accuracy	Stepper motor with precision positioning of to 28µm (.0011") accuracy	
Board Support Capability	Incorporates adjustable/removable Board Support Beam; Plus up to four stationary adjustable height support pins; Prevents PCBs from sagging/warping during rework	
Maximum Target Temperature	Each profile zone has a maximum target temperature of 328 °C (624 °F)	
Precision PCB Holder	Advanced table features micrometer X & Y adjustment, extruded board holder arms, spring loaded, with T-slots and movable clamps for both large and irregularly shaped boards with non-uniform edges	
Maximum/Minimum PCB Size	Maximum: 610mm x 610mm (24" x 24"); Minimum: N/A arms close down completely.	
Maximum/Minimum Component Size	Maximum: 65mm (2.5") x 65mm (2.5"); Minimum: 1mm Sq.	
IR Pyrometer and Thermocouple Inputs	A specially developed IR sensor provides non-contact, real-time, closed-loop temperature control throughout the reflow process. In addition, four (4) thermocouple inputs provide additional real-time monitoring (includes 2 K-type thermocouples)	
High Definition Optical Alignment System	Vision Overlay System (VOS) with High Definition (1080p) color camera, integrated frame grabber, dichroic beam-splitting prism, independently controlled LED illumination for component and PCB. Up to 240x zoom capability, with Stable Zoom and image stabilization. VOS does not require routine calibration. (Optical Alignment Kit included)	
Motorized Optics Housing (Sodr-Cam)	Allows the developer to watch the entire reflow process in real time to verify solder melt. The camera arm rotates to provide a 180-degree view at a fixed distance, for minimal focus adjustment and ease of use. Automatically controlled, retractable optics housing protects Vision Overlay System from dirt and contamination	
Quad-Field Imaging	For large component alignment (including fine-pitch QFPs), allows up to four opposite corners of a large component (and its pads) to be viewed under higher magnification	
Single Axis Operation	All operations, including component pick-up, alignment, placement, reflow & active cooling are completed in a single axis, eliminating risk of component movement after placement and reflow.	
Auxiliary Cooling Fan	Standard, for secondary cooling of the PCB	
Software	Intuitive, user-friendly, Windows-compatible software guides operators through profile development and execution; No cost upgrades on IR3100/4100 software	
Computer System	Windows 10 PC, with wireless mouse and keyboard	
Video Monitor	607mm (24") wide screen flat panel monitor (includes Monitor Arm Mounting Kit)	
Video Inputs	USB 3.0	
Component Nests	Two (2) removable and adjustable Component Nests provided for perfect centering of components, in preparation for vacuum pick-up/placement. Optional component holding system for parts under 5mm Sq.	
Flux Dip Plate	Included; allows for automated flux dipping	
Stencils/Solder Paste	Over 145 stencil kits are optionally available (requires Universal Bracket Kit) and are integrated into the installation process	
PV-65 Pik-Vac Vacuum Wand	Included; provides a manual vacuum pick-up capability for handling SMDs, incorporates new 15 minute auto-off feature	
Warranty	One Year Limited Warranty	

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