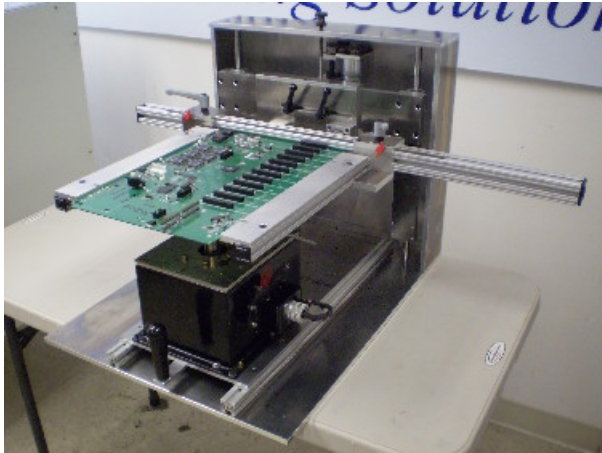


Preliminary Data Sheet



FEATURES:

- Removes and installs connectors and other components into PCBs within 2 mm of nearby components.
- “Tilt” axis extraction eliminates bridges.
- Uses the standard KISS solder pots and pump system.
- Rapid setup and time to “first production” using the alignment laser and simple adjustments for the PCB location.
- Creates top-side solder fillets to EIA and SMTA standards.
- Absolute control over all critical process parameters.
- Lead or No-Lead alloy compatible solder pots .
- Nozzles to accommodate connectors up to 6” Long
- Will accept PCB panels up to 18” x 24”.
- Step and repeat capability in both X and Y axis for multiple boards in a panel.
- Selectable “Remove” and “Install” procedure.



DESCRIPTION:

The **KISS-100** is simply the best connector rework machine available. It is used to remove and or install through hole components on SMT boards within close proximity of adjacent components. This system combines the standard KISS solder pot and pump found on all KISS selective soldering machines with a universal PCB holding and indexing nest and a vertical/tilt motion.

Traditional rework systems have limitations when installing a new component. With these machines the vertical separation as the component leads separate from the solder wave tends to leave solder globs and icicles. The **KISS-100** uses a state of the art angular (tilt) extraction from the solder wave. This “tilt” motion allows the solder to drain off the component leads preventing solder bridging and icicles from forming.

The **KISS-100** couples high throughput with precise process controls. The manual PCB indexing system provides a handy method of step and repeating over a XY matrix. The control features provide the tools to set all process parameters including immersion depth, dwells in solder “tilt” extraction., travel distances and speeds, solder temperature and wave height. Once set, the system will repeat precisely.

PROCESS OVERVIEW:

The operator places the PCB into the holding nest. then centers the component to be removed (on the PCB) true with the solder nozzle The operator uses the alignment laser as a centering indicator. The cycle begins by depressing the “Cycle Start” button moving the PCB down to the flowing solder wave. The Z motion stops when the component leads are immersed fluidizing the solder bonding the component to the PCB. The operator then pulls the component free from the PCB. If replacing is to follow, the operator places a pre fluxed component back into the PCB and activates the “Cycle Start” button a 2nd time. The tilt motion begins (if selected) draining the solder from the components leads. The Z extraction follows clearing the PCB from the wave. The tilt returns back to horizontal and the operator removes or indexes the PCB ready for the next cycle..

APPLICATIONS:

The **KISS-100** is designed to selectively install components such as connectors, and odd-form devices into printed circuit boards, panels, and other assemblies without disturbing nearby SMT components. The system may also be used to selectively remove and replace components in a rework routine.

SOLDER POT:

The solder pot wetted surfaces are constructed of specially treated 316 stainless steel able to withstand aggressive no-lead solders. The heaters are sized to bring the solder safely to temperature within an hour. Recirculation of solder is accomplished via a speed-controlled motor coupled to a treated stainless steel impeller assembly. The solder distribution system is designed to minimize dross build up while providing an extremely consistent and repeatable solder wave shape.

A nitrogen blanket captured within the enclosed solder pot inerts the molten solder surfaces minimizing dross. The nitrogen escapes surrounding the solder nozzle and PCB as the solder wave contacts the terminals functionally minimizing icicles and solder bridges while providing an inerted return of the solder from the nozzle back into the pot.

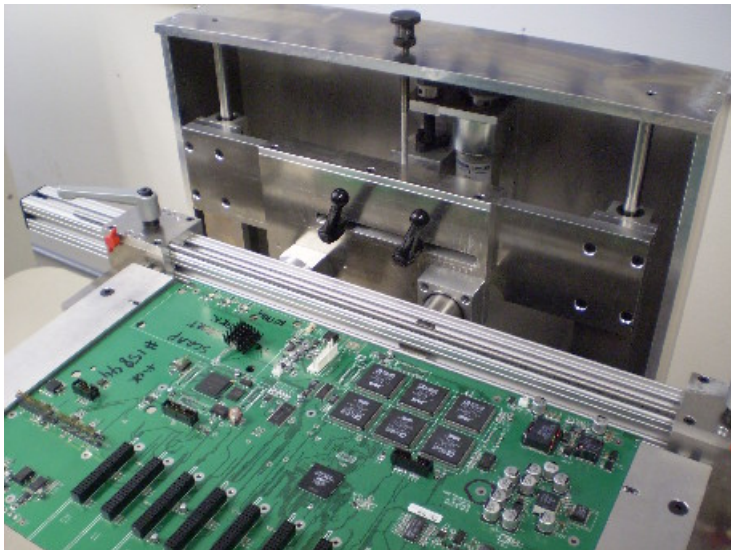
The solder temperature is interlocked within $\pm 2^{\circ}\text{C}$ of set point. The capacity of the solder pot ensures sufficient solder mass for even the largest assemblies.

SOLDER NOZZLES:

The nozzles are magnetically fixed and can be exchanged in seconds. Two of the "KRW" nozzles are supplied with the system. These are sufficient for most applications. Additional standard and special purpose nozzles can easily be used enabling selective soldering of wide patterns (multiple rows) in close proximity to previously soldered components without danger of reflowing them.

OPTIONS:

- Matching support bench with storage shelf, casters and leveling feet
- Automatic solder level makeup
- Additional solder nozzles (see data sheet)



SPECIFICATIONS:

PCB Panel Size (with manual step over)

	Minimum	Maximum
•	2" x 2"	18" x 24"

Motion

- Z-Axis Accuracy/Repeatability $\pm .002"$
- Tilt Axis Accuracy/Repeatability $\pm .002"$
Extraction angle up to 15°

Solder Pot

- Temperature Controller PID proportioning (0-350°C) $\pm 2^{\circ}\text{C}$
- Solder Capacity 30 lbs.
- Pump Speed Controlled and repeatable

Controls

All panel mounted-PLC

Physical

- Dimensions 32" wide x 24" deep x 18" high
- Weight 150 lbs.

Facilities

- Power 120VAC/1 Ph/60 Hz 15 amps
- Nitrogen (RECOMMENDED)
15-50 CFH @ 60-70 PSI
- Exhaust Customer supplied hood