



ROBOTIC PROCESS SYSTEMS

HARMONY - SPX Selective Soldering System

INTRODUCTION:

The **Harmony-SPX** is a miniature wave multi-axis Cartesian Robot designed specifically for selectively soldering through-hole and odd-form components into mixed-technology PCBs, molded modules, and other odd-form assemblies without any special tooling. The system conforms to SMEMA in-line manufacturing standards, is CE labeled, and is ideally suited for applications where the product is manufactured in small or large lot quantities and high product mix.

The **board handler** is a edge-conveyor mounted to the robot, expanding between 4"-18" under program control. Theta-rotation is standard on the system, with optional pneumatic, or servo-driven tilt-axis built into the conveyor head. The conveyor will line up and receive an incoming PCB locating it in position. The PCB is processed through the fluxing, and the soldering operation with no operator intervention. The robot then delivers the processed PCB to the down stream conveyor completing the cycle.

The **Solder Station** features "**FlexSite* Technology**" which allows for up to 6 separate solder nozzles, each selectable under program control. The selected nozzle raises above the others for unobstructed access. These nozzles feature quick disconnects to facilitate rapid exchange. Each nozzle is complete with a servo pump motor and heated nitrogen diffuser.

The unique and innovative features of the **HARMONY-SPX** Selective Soldering System enable the system to solder almost any feature, and any thermal demand without benefit of special tools such as vision, or pre-heating. The Harmony's exceptional flexibility, performance, productivity, and value make it the only selective soldering solution you will ever need. We even provide the initial process and programming to insure your success.

The Harmony System comprises an optional fluxing module (SF) where very hi-speed production is required, and optional pre-heat module (Delta-T) for exceptional thermal demands. Together these modules form the most sophisticated and productive Selective Soldering line available.

APPLICATIONS:

High volume selective soldering of mixed technology PCB's, RF Shields, molded modules, SMT components, and other odd-form assemblies.

BENEFITS:

- High Productivity
- Repeatable quality result
- Exceptional keep-away capability <1.5-mm
- Exceptional lead protrusion clearance >6-mm
- Exceptional thermal capability with dynamic wave
- Multiple solder pot option can process two solder alloys with no lost production time to swap out.
- Low maintenance
- Program off-line in minutes
- Small footprint
- Low cost



FEATURES:

- CE Labeled
- Designed to meet UL/OSHA safety requirements
- SMEMA machine interface
- CamConductor off-line programming software
- Programming/set-up camera
- Handles PCB's up to 450 x 600 mm
- Coordinated motion with optional tilt-axis achieve peel-back to help prevent bridges and iccicles
- Lead-Free compatible solder management system
- Option for 2nd solder pot and up to 6-solder pumps
- Automatic solder level sensor and make-up
- Quick-change magnetic solder nozzles
- Solder nozzles-3 in set
- Computer with Windows interface
- Theta-Axis
- Conveyor -Effector (SMEMA)

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