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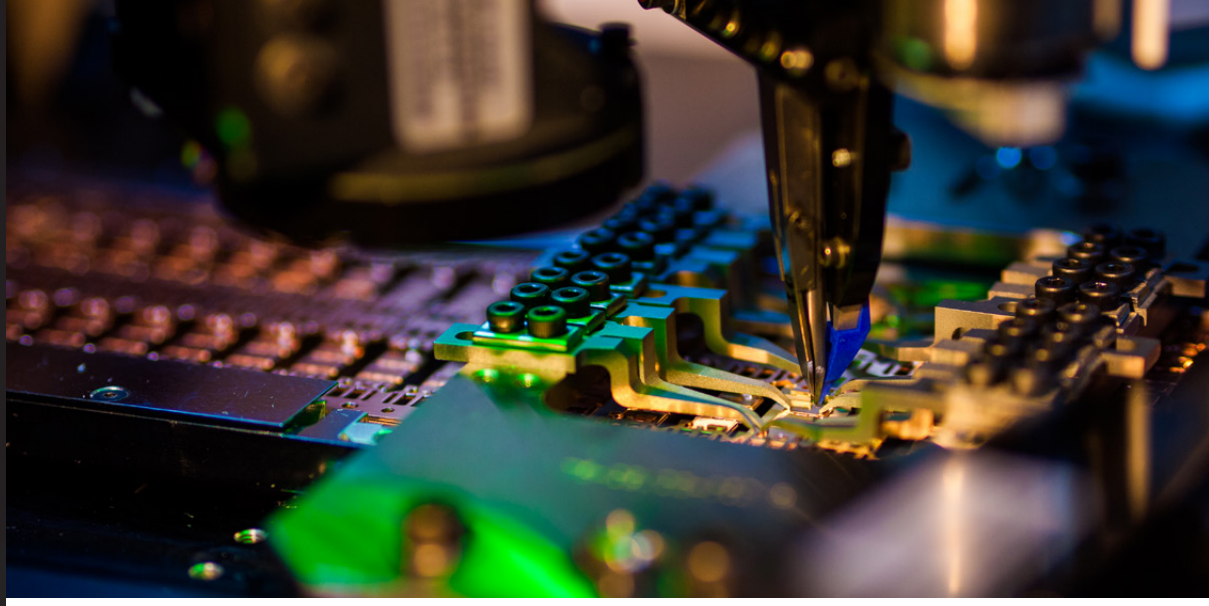
Power Series



*The **Power Series** for Kulicke & Soffa - a new generation of semiconductor assembly equipment for today's most challenging applications. In continuation of our tradition of innovation and technology leadership, **Power Series** products set new standards for performance, productivity, reliability, and ease of use.*

*Driven by the most powerful X-Y-Z motion control system available on the market, **Power Series** products deliver the highest levels of speed, accuracy and throughput for reduced cost of ownership.*

***Power Series** from Kulicke & Soffa - the most **Powerful** name in assembly equipment.*

PowerFusion PS TM

High Performance Wedge Bonder

K&S PowerFusion$^{PS}_{TM}$ Wedge Bonders are driven by a new powerful direct-drive motion system and expanded pattern recognition capabilities which deliver industry leading productivity and reliability. Three models of PowerFusion bonders are available to cover the full range of applications. The TL Model is the perfect choice for bonding TO power devices while the HL Model provides the accuracy and capabilities required to process the most advanced power semiconductor packages. The HLx Model can handle extra-wide matrix and IPM leadframes up to 105mm wide.

Features

Productivity
- *Increased UPH - Enabled with direct-drive servo system and faster PR find times*
- *Higher MTBA - Fewer line stoppages with improved pattern recognition*

Performance
- *Custom looping profiles create specialized loop shapes for critical applications*
- *Greater bond placement repeatability*
- *Input kicker jam sensor with adjustable force helps prevent leadframe damage*

Advanced Power Semiconductor Package Capability
- *Enabler for small power packages*
- *Expanded bondable area*
- *Wider leadframe capability (105mm Width) - **NEW!***
- *Superior indexing accuracy*

Ease of Use
- *Post-bond device review feature*
- *Bond tool replacement without gauges*
- *Global parameter editing of multiple process programs*

Configuration Flexibility
- *Link single and dual head machines together*
- *Large wire, small wire and PowerRibbon conversion kits available*
- *Up to four in-line non-destruct pulltesters per head*

Maintenance and Reliability
- *Reduced preventive maintenance requirements on major components*
- *New direct-drive XYZT motion system eliminates drive belts and leadscrews*
- *Reduced number of cables and interconnections improves reliability*

Kulicke & Soffa®
Technology . Innovation . Solutions

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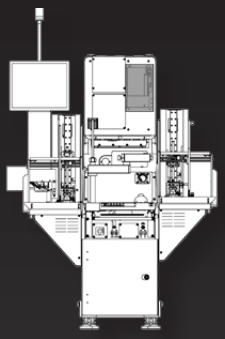
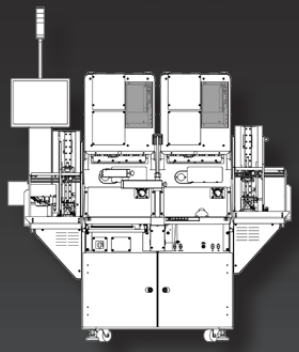
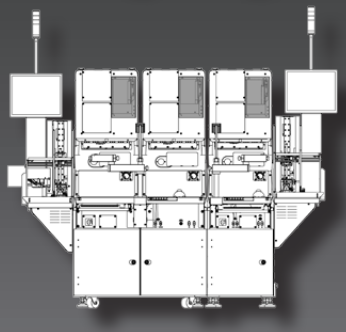






PowerFusion PS

High Performance Wedge Bonder

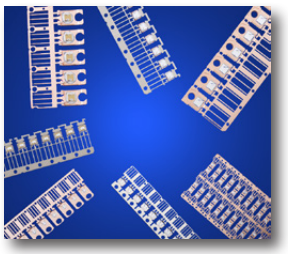
NEW!

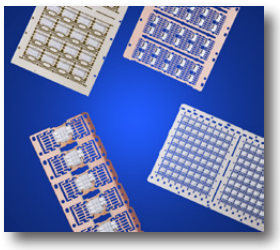
TL HL HLx

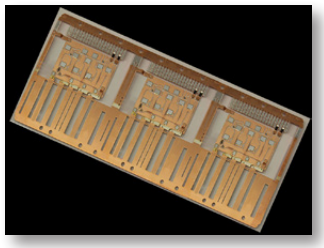
The TL Model is the perfect choice for bonding single-row to four-row matrix TO power devices. PowerFusion^{PS}'s industry leading productivity reduces your manufacturing costs and delivers optimum pattern recognition and superior bonding performance. It is upgradeable to the HL Model in case advanced interconnect requirements are needed in the future.

The HL Model is specially designed to enable large wire, small wire and PowerRibbon bonding in advanced interconnect designs. Whether you are bonding high density power devices like SO-8 & PDFN or stretching the wire limit on a matrix D-Pak, the superior indexing accuracy and clamping capabilities of the HL Model deliver consistent quality.

The HLx model has all the high performance capabilities of our HL model with the added benefit of handling leadframes up to 105mm wide. Whether you have a current requirement for wide leadframe processing or just want to invest in a flexible platform for future leadframe development, the HLx model is the best choice for many applications.







Options

- New Graphical Bond head Set-up aid option (GBS) reduces consumable replacement time and ensures a repeatable set-up
- New Graphical Tooling Set-up aid option reduces tooling set-up time and improves positioning
- Bond Process Monitoring option (BPM) helps keep tight control of the bonding process consistency
- SECS-GEM option for factory automation and communication

Specifications

General
Power Requirements:
Single Head: Electrical: 180-240VAC, Single Phase, 50/60Hz, 2.0kVA
Dual Head: Electrical 180-240VAC, Single Phase, 50/60Hz, 4.0kVA
Compressed Air: 3 SCFM, 80psi Clean Dry Air
Nitrogen: Min 40psi - Max 145psi (Small wire only)
Work Height: Adjustable 990mm - 1050mm from Floor
Foot Print:
Single-head: 1346mm (W) x 1219mm (D) x 1676mm (H)
Dual-head: 1828mm (W) x 1219mm (D) x 1676mm (H)
Weight:
Single-head: 500kg Uncrated
Dual-head: 800kg Uncrated
CE Certification: Standard on all automatic Orthodyne wedge bonders

Motion System
X,Y Axes: Linear motors, 0.1µm Resolution
Bond Area: TL & HL 80mm x 78mm;
NEW! HLx 80mm x 98mm
Z-Axis: Voice Coil, 0.1µm Resolution; 50mm Z-Stroke
Θ-Axis: Direct Drive; ± 220°, 0.0057° Resolution
Repeatability:
±3µm at 3σ (without Pattern Recognition);
±4µm at 3σ (with Pattern Recognition)

Pattern Recognition/Optics/Vision
Vision System: GS4 Pattern Recognition System
New PR Modes: Feature Find; Single Point with Angle

Interconnect Options
Large Wire
Wire Range: 100µm - 500µm Diameter
PowerRibbon
Ribbon Range: 500 x 100µm to 2000 x 250µm
Small Wire
Wire feed angle: 45° or 60°
Wire Range: 25µm - 75µm Diameter

Leadframe Handler
Clamp station: Vertical moving anvil standard; Optional horizontal moving anvil coming soon.
Strip dimensions:
HLx: **NEW!** 110-300mm Length; 18-105mm Width; Max. 3mm Down-set
HL: **NEW!** 110-300mm Length; 18-80mm Width; Max. 3mm Down-set
TL: **NEW!** 110-300mm Length; 18-75mm Width; Max. 3mm Down-set
Leadframe positioning repeatability:
HLx & HL: ± 15µm @ 3 sigma
TL: ± 35µm @ 3 sigma
Magazine size: **NEW!** 20-115mm Width; 50-200mm Height; 115-305mm Length
Magazine pitch: Programmable, 3mm minimum

Non-destruct Pulltesting
In-line Transport Pulltester Option
Pull force: 20-500g, non-destructive
Up to 4 pulltesters per bonder module
Loop height check: yes
Bondhead Pull Test: Large Wire ALC bond head only

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WB-002-01/2017