Our modular production line sets new standards for productivity, flexibility and reliability.

KE-3020(V) High-speed Flexible Mounter

17100 CPH

 LOWEST COST OF OWNERSHIP

 JUKI
From high-speed, high-accuracy mounting down to very small parts – ultra-flexible performance assures the best return on investment for any application

High-speed Flexible Mounter

KE-3020(V)

- Placement head:
  - multi-nozzle laser head (6 nozzles)
  - high-precision head (1 nozzle)
- Placement rate (max.):
  - 17,100 cph laser centering (IPC 9850)
  - 2,200 cph vision centering
  - 5,800 cph vision centering with MNVC (optional)
  - 9,000 cph vision centering (V-Model)
- Component range:
  - 01005 - 74 x 74 mm or 50 x 150 mm
- Component height (max.):
  - 25 mm
- Placement accuracy:
  - ±50 µm (Cpk ≥ 1) laser centering
  - ±30 µm vision centering
- Board dimension (max.):
  - 610 x 560 mm

Premium flexibility and quality

Wide component range

The KE-3020(V) recognizes and places a wide range of components from 01005 to 74 x 74 mm or 50 x 150 mm.
Since the laser is mounted on the head, it can be used to monitor the presence of components the entire time from pick to placement. This is difficult to accomplish with vacuum detection only. The placement reliability is also improved because the release of the component is confirmed after placement.

**Flexible board size**

KE-3020(V)XL accepts larger size boards up to 610 x 560 mm.

- XL size (610 x 560 mm)
- L-Wide size (510 x 360 mm)
- L size (410 x 360 mm)

**Feeder compatibility**

The KE-3020(V) is compatible with mechanical and electronic feeders. Mechanical and electrical feeder trolleys are completely interchangeable allowing companies with previous generations of mechanical feeders to continue to get the most from their investment.

**Laser centering technology**

**JUKI’s LNC60 laser sensor for high-speed & high quality placement**

The LNC60 laser sensor has the unique ability to center components from 01005 to 33.5 x 33.5 mm. From ultra-small, ultra-thin, chip-shaped parts to small QFPs, CSPs, BGAs, a wide range of parts can be precisely centered by the laser recognition system at high-speed.

**Component check function improves placement reliability**

Since the laser is mounted on the head, it can be used to monitor the presence of components the entire time from pick to placement. This is difficult to accomplish with vacuum detection only. The placement reliability is also improved because the release of the component is confirmed after placement.

**LNC60**

A concept in component centering that is capable of on-the-fly centering of 6 components simultaneously.

Tangential Line Centering™ achieves both a wider component range and higher accuracy all at the same time. The LNC60 accurately measures the component’s center, dimensions, and angular correction all in a single sweep. The optical design has been simplified to give higher reliability in a thinner and lighter package.
**Vision centering technology**

**High-precision head or MNVC (Multi-Nozzle Vision Centering) option**

Centering method can be selected based on component type, shape, size and material. Laser centering is used for high-speed placement of smaller components. Vision is used when lead or ball inspection is needed or when the component is too large for the laser. Many nozzles are available for odd-shaped components providing unsurpassed component handling.

Easy operation

**Operator’s setup checklist**
The function assists operators in the preparation of a new production. By simply following a checklist of setup items "1. Automatic width adjustment" to "8. Production program check," an operator can be sure they have performed the necessary steps and see which have not been completed.

**Automatic component measurement**
Component data can be programmed simply by typing approximate dimensions, type and packaging information. Accurate dimensions, numbers of leads and lead pitch are measured and programmed automatically by the machine.

**Flexible vision teaching**
Complicated programming of odd-shaped components is made easier by following step-by-step guidelines, reducing programming significantly.

**High precision and quality with electronic feeders**

**Electronic tape feeders (ETF series)**
A motor-driven electronic feeder capable of feeding components reliably and quickly.

**Simple setting of feeder pitch**
No tools are required to change the feeder pitch.

**Status is shown on a LED display**
Before production, electronic feeders communicate with the mounter to verify consistency with the production program: type of feeder and feed pitch. Should there be any discrepancy, the LED display flashes a warning. The LED display also alerts the operator of wrong feeder position and when components are running low. During production, the LED display shows the feeder position.

**Automatic correction of pick position on feeder**
The variance of the position from the center of each component is detected by the machine head when centering. This information is transmitted to each electronic feeder. The feeder automatically adjusts the pick position to increase the chance of simultaneous picking.
## Selection of available options

### Mechanical feeders
- Tape feeders
- Stick feeders
- Bulk feeders
- ATF (splicing tape feeders)

### Electronic feeders
- Tape feeders
- Stick feeders

### MNVC (Multi-Nozzle Vision Centering) option
Vision centering by the multi-nozzle head nearly doubles the placement rate for smaller components, including CSPs, BGAs and smaller QFPs.

### Placement force control
Using a built-in load cell, the placement force of each nozzle can be measured and controlled during the placement process. The placement force can be set individually for every component.

### Coplanarity Sensor
Measures true complanarity for both leaded components and BGAs, reducing the chance of a bad solder joint.

### Component Verification System (CVS)
Component verification measures the resistance, capacitance or polarity of each component before the start of production or after replacing the components. This option prevents placement of incorrect components.

### Flex Calibration System (FCS)
JUKI’s highly regarded easy maintenance just got even easier! The optional FCS calibration jig is a simple to use system to re-calibrate placement accuracy. The machine automatically picks and places jig components, then measures the error and adjusts all necessary calibrations.

### Fluxer
The fluxer is a device to apply flux or dip and solder paste to CSP and flip chip component before placement. The linear fluxer uses a precise cavity to ensure the proper depth of flux.

### Offset placement after solder screen printing
Offset Placement After Solder Screen-printing is a system to offset placements to correct for solder paste misalignment, which promotes the self-alignment effect and reduces the defect rate.

### Long board
The long board option allows to extend the possible board size of the KE-3020(V) (L-size) from standard 410 x 360 mm to 800 x 360 mm and the KE-3020(V) (XL-size) from standard 610 x 460 mm to 800 x 560 mm.

### Selection of tray feed devices

<table>
<thead>
<tr>
<th>Matrix Tray Server (rear type)</th>
<th>Dual Tray Server</th>
<th>Matrix Tray Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td>In addition to the matrix tray server, a shuffle-type side mounted matrix tray changer is available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note dual tray server or matrix tray holder for mechanical feeder banks is not compatible with dual tray server or matrix tray holder for electrical feeder banks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dual tray server, matrix tray server and matrix tray changer for electrical feeder bank are specially designed for use with the KE-3020(V) only. Other model matrix tray servers and matrix tray changers will not work with KE-3020(V).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please refer to the product specifications for details.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>High-speed Flexible Mounter KE-3020(V)L / KE-3020(V)XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board size</td>
<td></td>
</tr>
<tr>
<td>L-size (410 × 360 mm)</td>
<td>O</td>
</tr>
<tr>
<td>L-Wide size (510 × 360 mm)</td>
<td>O</td>
</tr>
<tr>
<td>XL-size (610 × 560 mm)</td>
<td>O</td>
</tr>
<tr>
<td>Long board</td>
<td></td>
</tr>
<tr>
<td>L-size (800 × 360 mm)</td>
<td>O</td>
</tr>
<tr>
<td>XL-size (800 × 560 mm)</td>
<td>O</td>
</tr>
<tr>
<td>Component height</td>
<td></td>
</tr>
<tr>
<td>12 mm</td>
<td>O</td>
</tr>
<tr>
<td>20 mm</td>
<td>O</td>
</tr>
<tr>
<td>25 mm (XL size only)</td>
<td>O</td>
</tr>
<tr>
<td>Component size</td>
<td></td>
</tr>
<tr>
<td>Laser recognition</td>
<td>0.0030 to 33.3 × 33.3 mm</td>
</tr>
<tr>
<td>Vision recognition</td>
<td>1.0 x 0.5 mm to 74 x 74 mm or 50 x 150 mm</td>
</tr>
<tr>
<td>Placement speed</td>
<td></td>
</tr>
<tr>
<td>Chip (IPC9850)</td>
<td>17,100 cph / 15,300 cph</td>
</tr>
<tr>
<td>IC</td>
<td>2,200 cph</td>
</tr>
<tr>
<td>Vision recognition V-Model</td>
<td>5,800 cph / 4,600 cph</td>
</tr>
<tr>
<td>Placement accuracy</td>
<td></td>
</tr>
<tr>
<td>Laser recognition</td>
<td>±0.05 µm (Cpk ≥ 1)</td>
</tr>
<tr>
<td>Vision recognition</td>
<td>±0.10 µm</td>
</tr>
<tr>
<td>Feeder input</td>
<td>max. 160 (electronic 8 mm tape feeder)</td>
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<tr>
<td>Power supply</td>
<td>200 to 415 VAC, 3-phase</td>
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<tr>
<td>Apparent power</td>
<td>2.2 kW</td>
</tr>
<tr>
<td>Operating air pressure</td>
<td>0.5 ±0.05 Mpa</td>
</tr>
<tr>
<td>Air consumption</td>
<td>50 l/min</td>
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<tr>
<td>Machine dimensions</td>
<td></td>
</tr>
<tr>
<td>(WxDxH)</td>
<td></td>
</tr>
<tr>
<td>L-size</td>
<td>1,675 x 1,690 x 1,580 mm</td>
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<tr>
<td>L-Wide size</td>
<td>1,975 x 1,690 x 1,580 mm</td>
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<tr>
<td>XL-size</td>
<td>2,131 x 1,890 x 1,580 mm</td>
</tr>
<tr>
<td>Mass (approximately)</td>
<td></td>
</tr>
<tr>
<td>L-size</td>
<td>2,100 kg</td>
</tr>
<tr>
<td>L-Wide size</td>
<td>2,250 kg</td>
</tr>
</tbody>
</table>

A leading supplier
JUKI is one of the leading worldwide suppliers for SMT assembly systems. Our innovative and reliable customer solutions are developed to meet customers’ individual demands and are designed to give ‘Lowest Cost of Ownership’. With this philosophy JUKI strives to reach the highest standard of customer satisfaction.

Our understanding of Lowest Cost of Ownership
Often when deciding on the purchase of a new placement system, only the initial investment cost and the theoretical placement rate are considered. This overlooks many other factors that make up the overall production cost; consumables, spare parts and service can also be a big cost factor. Such things as changeover times, machine breakdowns and the difference between the theoretical and actual throughput rate significantly affect productivity. Maintenance, programming and operator training account for additional personnel cost. Thanks to our many years of experience building flexible modular placement systems JUKI has gained an outstanding reputation. Data from the market has shown that, compared to systems from other manufacturers, JUKI clearly provides the highest reliability and lowest cost of ownership in the industry.

EUROPE
Headquarters
Solothurn, Switzerland
Telephone +41 32 626 29 29

Nuremberg, Germany
Telephone +49 911 93 62 660

Gatwick, England
Telephone +44 (0) 1293 80 45 62

AMERICA
Headquarters
Morrisville, NC
Telephone +1 (919) 460 0111

ASIA
Juki Corporation
Tokyo, Japan
Telephone +81 3 3480 3371

Please contact our headquarters or your nearest JUKI sales office for further information or alternatively visit our website: www.jas-smt.com

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Revision 1/1

1) Component supply units are different either by mechanical or electric feeder bank. Make sure correct component supply unit be selected.
2) For mechanical bank only.
3) For electric feeder trolleys only.
4) For availability, please contact one of our sales representatives.
* Please refer to the product specifications for details.