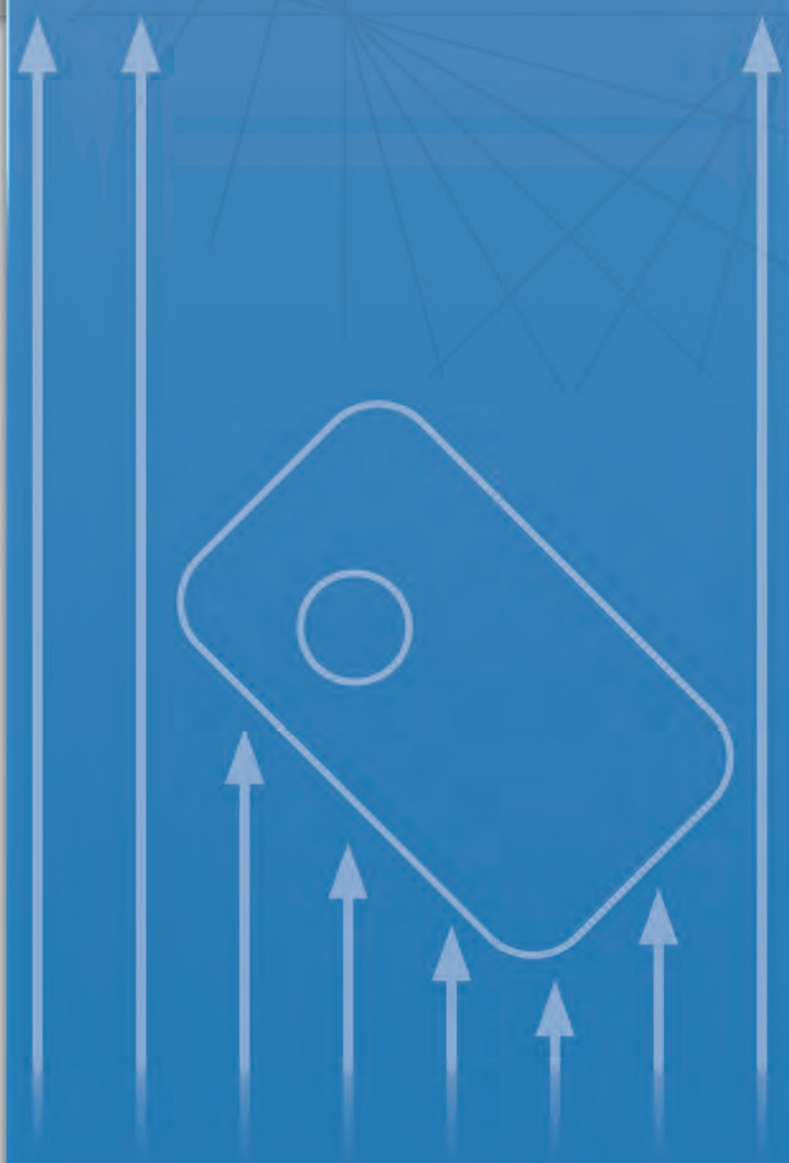
17100 CPH
18500 CPH

KE-3020V
KE-3010

Flex Placer

Speed Placer

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



3E EVOLUTION

leads to 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

Speed Placer

KE-3010

- Placement head
  - multi-nozzle laser head (6 Nozzles)
- Placement rate (max.):
  - 18,500 cph laser centering (IPC 9850)
  - 9,000 cph vision centering (MNVC)
- Component range:
  - 01005 - 33.5 x 33.5 mm
- Component height (max.):
  - 12 mm
- Placement accuracy:
  - ±50 µm (Cpk ≥ 1) laser centering
  - ±40 µm vision centering (MNVC)
- Board dimension (max.):
  - 610 x 560 mm
  - 800 x 560 mm (with long board option)

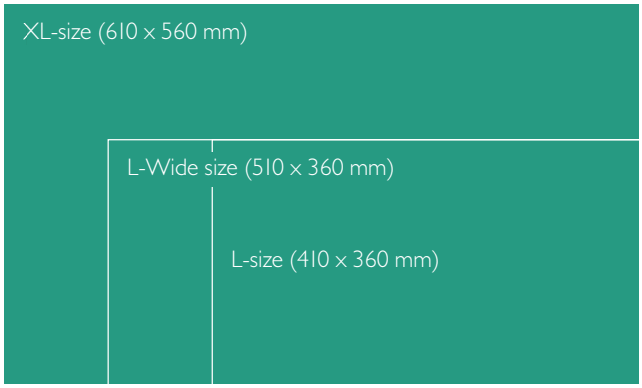
Flex Placer

KE-3020V

- Placement head:
  - multi-nozzle laser head (6 nozzles)
  - high-precision head (1 nozzle)
- Placement rate (max.):
  - 17,100 cph laser centering (IPC 9850)
  - 2,400 cph vision centering
  - 9,470 cph vision centering (MNVC)
- 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
- Borad dimension (max.):
  - 610 x 560 mm
  - 800 x 560 mm (with long board option)

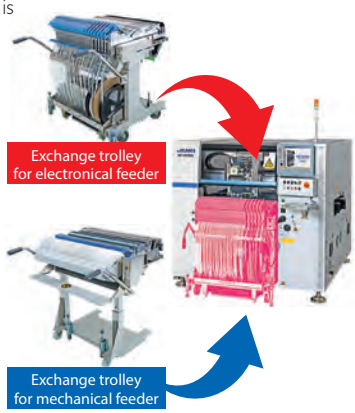
Flexible board size

The KE-3010 and KE-3020V XL-size accepts larger size boards up to 610 x 560 mm.



Feeder compatibility

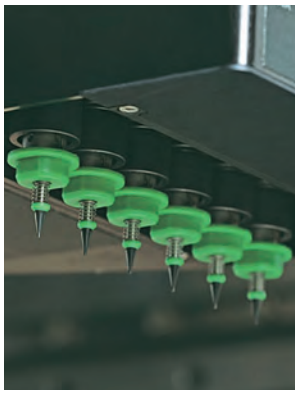
The KE-3010 and KE-3020V is compatible with mechanical and electronic feeders. Mechanical and electrical feeder trolleys are completely interchangeable allowing companies with previous generations of mechanical feeders to continue to get the most from their investment.

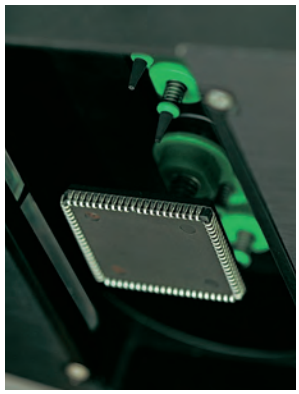


Laser centering technology

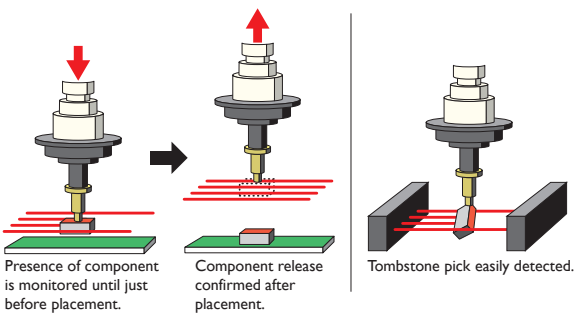
JUKI's LNC60 laser sensor for high-speed & high quality placement

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.



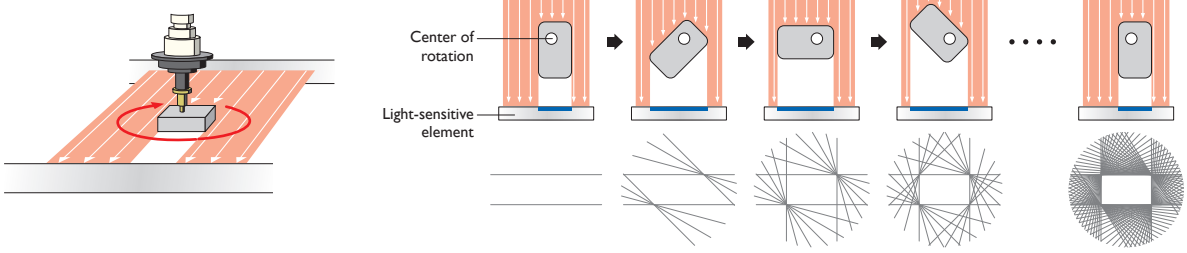


Component check function improves placement reliability



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.



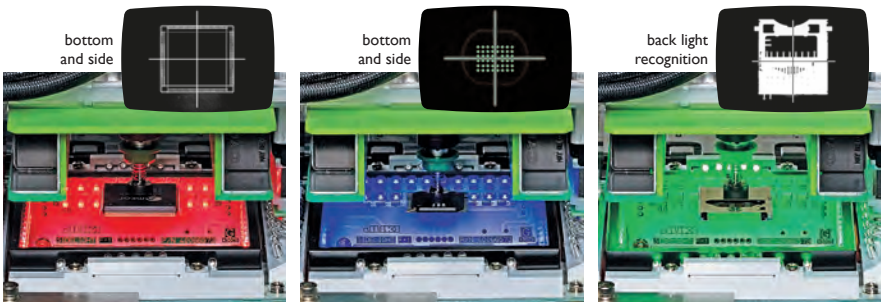
Tangential Line Centering™ achieves both a wider component range and higher accuracy all at the same time. The LNC60 accurately measures the component's center, dimensions, and angular correction all in a single sweep. The optical design has been simplified to give higher reliability in a thinner and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

nozzles for odd-shaped components

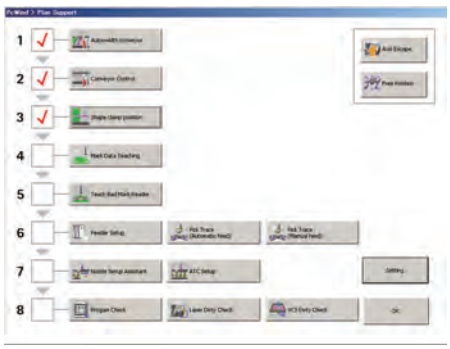


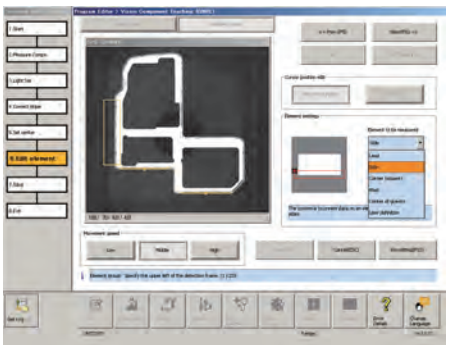
vision recognition

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 reliability and quickly.

Simple setting of feeder pitch

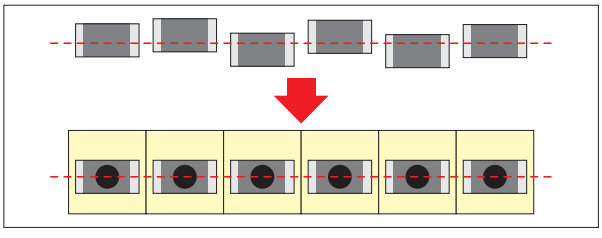
No tools are required to change the feeder pitch.

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

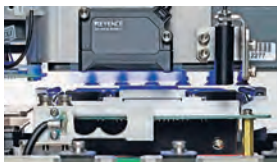
Mechanical feeders

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

Electronic feeders

- Tape feeders
- Stick feeders

MNVC (Multi-Nozzle Vision Centering) option

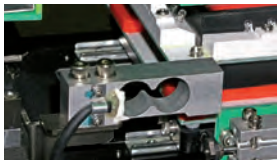


Vision centering by the multi-nozzle head nearly doubles the placement rate for smaller components, including CSPs, BGAs and smaller QFPs.

Coplanarity Sensor

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

Placement force control

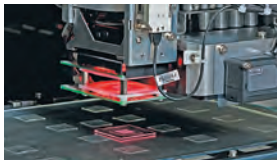


Using a built-in load cell, the placement force of each nozzle can be measured and controlled during the placement process. The placement force can be set individually for every component.

Component Verification System (CVS)

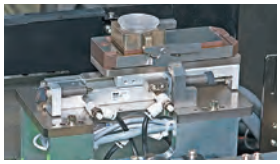
Component verification measures the resistance, capacitance or polarity of each component before the start of production or after replacing the components. This option prevents placement of incorrect components. The new inspection unit features simultaneous measurement of six components, reducing changeover time.

Flex Calibration System (FCS)



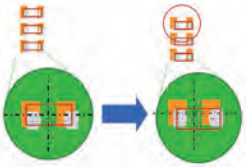
JUKI's highly regarded easy maintenance just got even easier! The optional FCS calibration jig is a simple to use system to re-calibrate placement accuracy. The machine automatically picks and places jig components, then measures the error and adjusts all necessary calibrations.

Fluxer



The fluxer is a device to apply flux or dippable 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

(800 x 560 mm)
(800 x 360 mm)

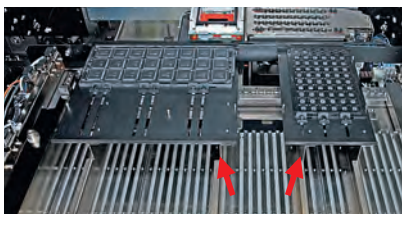
The long board option allows to extend the possible board size of the KE-3020V / KE-3010 (L-size) from standard 410 x 360 mm to 800 x 360 mm and the KE-3020V / KE-3010 (XL-size) from standard 610 x 460 mm to 800 x 560 mm.

Selection of tray feed devices

Matrix Tray Server (rear type)

Dual Tray Server

Matrix Tray Holder



- In addition to the matrix tray server, a shuffle-type side mounted matrix tray changer is available.
- 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.
- Dual tray server, matrix tray server and matrix tray changer for electrical feeder bank are specially designed for use with the KE-3020V only. Other model matrix tray servers and matrix tray changers will not work with KE-3020V.
- Please refer to the product specifications for details.

Specifications

Item		Model: Speed Placer KE-3010L / KE-3010XL	Model: Flex Placer KE-3020VL / KE-3020VXL
Board size	L-size	○ (410 × 360 mm)	○
	L-Wide size[1)]	○ (510 × 360 mm)	○
	XL-size	○ (610 × 560 mm)	○
Long board[*1)]	L-size / L-Wide size	○ (800 / 1010 × 360 mm)	○
	XL-size	○ (1210 × 560 mm)	○
Component height	6 mm	○	–
	12 mm	○	○
	20 mm	–	○
	25 mm (XL -size only)	–	○
Component size	Laser recognition	01005 to 33.5 x 33.5 mm	
	Vision recognition (standard camera)	3 mm[3)] to 33.5 x 33.5 mm MNVC	3 mm to 74 x 74 mm or 50 x 150 mm
	(high resolution camera)	1 x 0.5 mm[4)] to 20 x 20 mm MNVC	1 x 0.5 mm to 48 x 48 mm or 24 x 72 mm
Placement speed	Chip (IPC9850)	18,500 cph	17,100 cph
	IC	9,000 cph MNVC	2.400 cph
			9,470 cph MNVC
Placement accuracy	Laser recognition	±50 µm (Cpk ≥ 1)	
	Vision recognition	±40 µm MNVC	±30 µm (±40 µm MNVC)
Feeder inputs		max. 160 (electronic 8 mm double tape feeder)	
Power supply		200 to 415 VAC, 3-phase	
Apparent power		3 kVA	
Operating air pressure		0.5 ±0.05 Mpa	
Air consumption		50 l/min	
Machine dimensions (WxDxH)[*2)]	L-size	1,500 × 1,690 × 1,500 mm	
	L-Wide size[1)]	1,800 × 1,690 × 1,500 mm	
	XL-size	2,131 × 1,890 × 1,500 mm	
Mass (approximately)	L-size	1,900 kg	
	XL-size	2,250 kg	

1) L-Wide size and long board are optional .
2) Dimensions of machine described are for conveyor height 950 mm.
3) With MNVC. MNVC is optional on the KE-3010 and standard on the KE-3020V.
4) KE-3010: With high resolution camera and MNVC. (optional).
KE-3020V: With high resolution camera (optional).
5) The display is not part of the mentioned height.

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.

Selection of available options

Recognition system	Multi-nozzle vision centering (MNVC) / Bad mark reader / High-resolution camera (HRC)
Inspection function	Coplanarity sensor / Component verification system (CVS) / SOT direction check function
Conveyor	Automatic board width adjustment (AWA)
Others	Flex calibration system (FCS) jig / Feeder position indicator (FPI) / Placement force control / Fluxer unit / Offset placement after solder screen-printing / Blue light kit
Software	Intelligent shopfloor solutions (IS) / Intelligent feeder system (IFS-NX) / External programming unit (EPU) / CircuitCAM Express / Antivirus
Component handling and feeders[*1)]	Matrix tray server TR-5 / Matrix tray changer TR-6 / High-speed Matrix Tray Server TR-7 /Matrix tray holder / Dual tray server TR-1 / Tape feeder / Bulk feeder[*2)] / Stick feeder (SF/SW/MBF[2)]) / ATF (spliceable tape feeder) / Feeder trolley / IC collection belt / Trash box / Tape cutter[*3)]

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.

* Please refer to the product specifications for details.

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ASSOCIATION CONNECTING ELECTRONICS INDUSTRIES

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JUKI