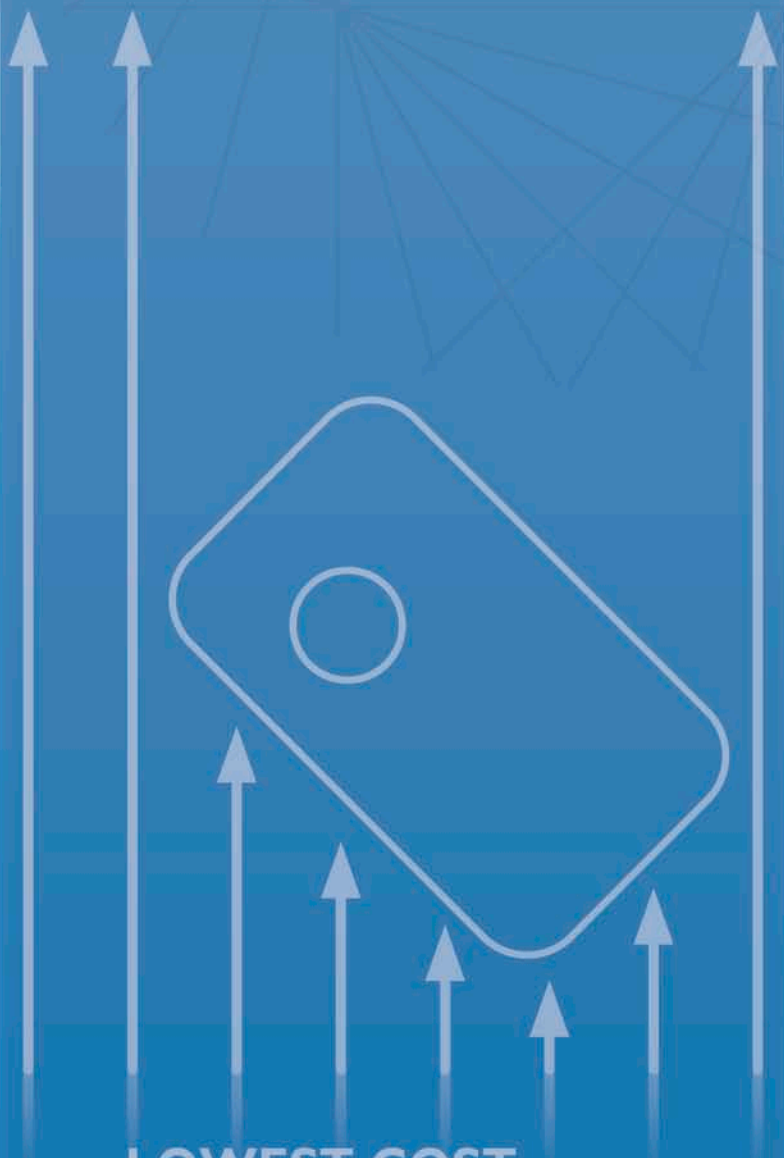
18300 CPH
16700 CPH

KE-2070
High-speed Chip Shooter

KE-2080
High-speed Flexible Mounter

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



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 Chip Shooter

KE-2070

A chip shooter optimal for high-speed mounting of small parts. With the addition of the optional MNVC (multi-nozzle vision centering), the component range can be increased even more for greater flexibility.

- Placement head:
  - multi-nozzle laser head (6 nozzles)
- Placement rate (max.):
  - 18,300 cph laser centering (IPC 9850)
  - 4,600 cph vision centering with MNVC (optional)
- Component range:
  - 01005 - 33.5 x 33.5 mm
- Component height (max.):
  - 12 mm
- Placement accuracy:
  - ±50 µm (Cpk ≥ 1) laser centering
- Board dimension (max.):
  - 800 x 460 mm (with long board option)

High-speed Flexible Mounter

KE-2080

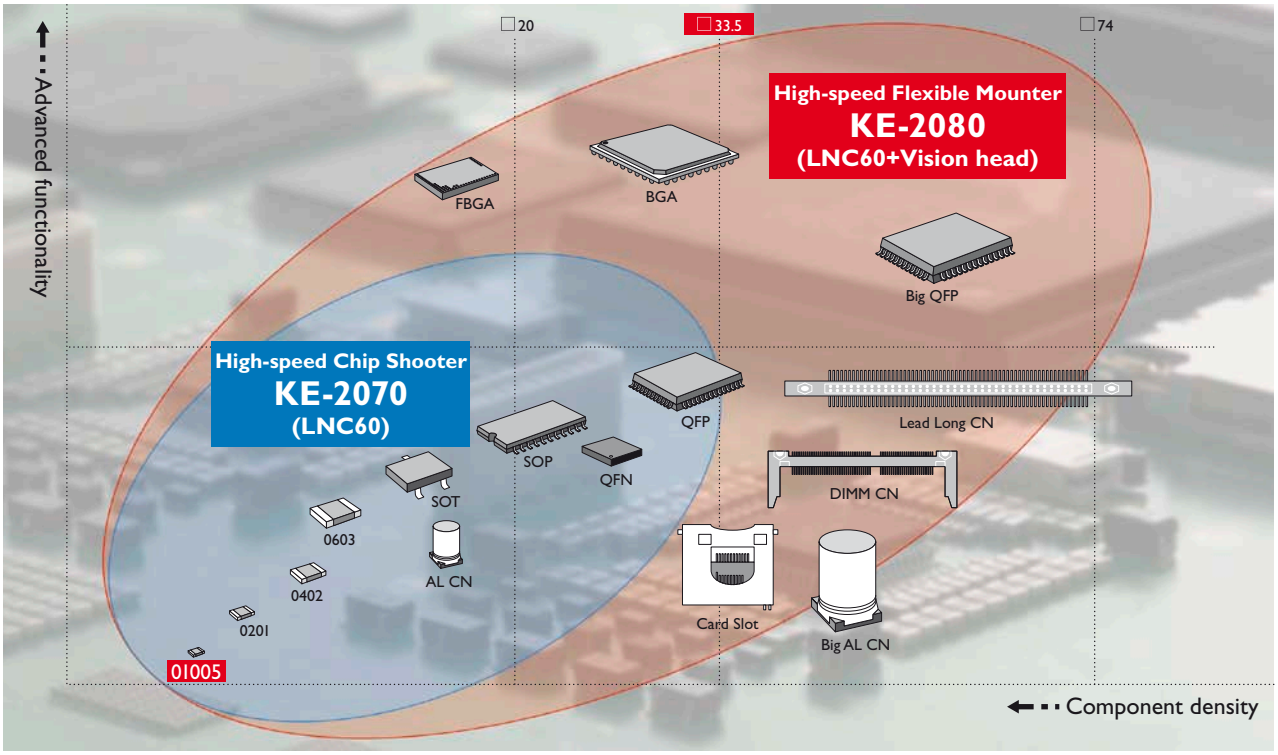
The best flexible placement system for high-density placements. The ultra-flexible KE-2080 can place a wide range of components from 01005 and ICs, to odd-form, all at industry leading accuracy and speed.

- Placement head:
  - multi-nozzle laser head (6 nozzles)
  - high-precision head vision centering (1 nozzle)
- Placement rate (max.):
  - 16,700 cph laser centering (IPC 9850)
  - 1,850 cph vision centering
  - 4,860 cph vision centering with MNVC (optional)
- 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 (Cpk ≥ 1) vision centering
- Board dimension (max.):
  - 800 x 460 mm (with long board option)

Premium flexibility and quality

Wide component range

The KE-2070 and KE-2080 recognize and place a wide range of components from 01005 to 33.5 x 33.5 mm respectively 74 x 74 mm or 50 x 150 mm.



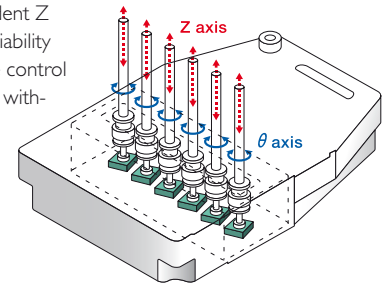
Flexible board size

The KE-2070 / 80 (E size) accept with the long board option boards up to max. 800 x 460 mm.

(800 x 460 mm)	E size (510 x 460 mm)
(800 x 360 mm)	L-Wide size (510 x 360 mm)
	L size (410 x 360 mm)

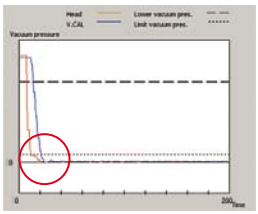
Independent Z / θ control

Each nozzle has independent Z and θ motors for high reliability and high accuracy. Precise control of each nozzle is possible without affecting components on ther nozzles.

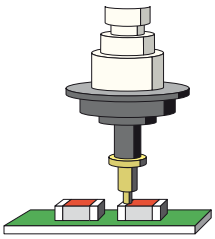


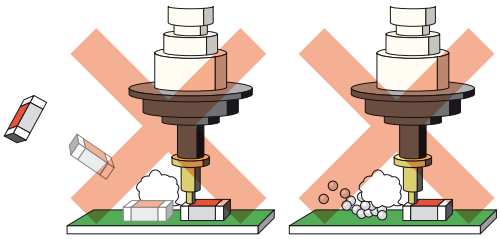
No-blow placement technology

JUKI's original vacuum self-calibration function eliminates the need for a vacuum 'blow-off' during placement, which can disturb neighboring components or solder paste.



high density placement without 'blow-off'

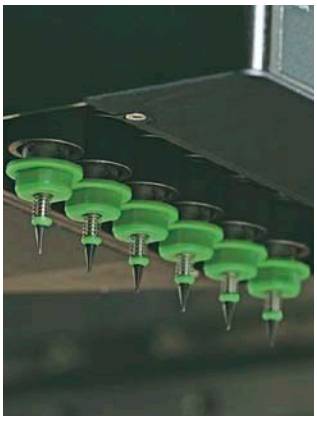


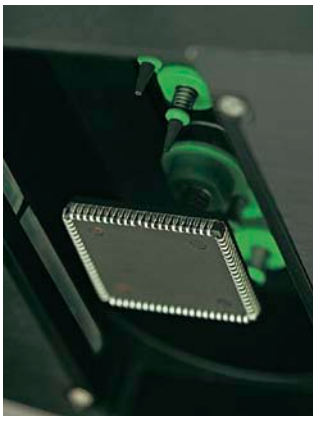


possible effects of 'blow-off'

Laser centering technology

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

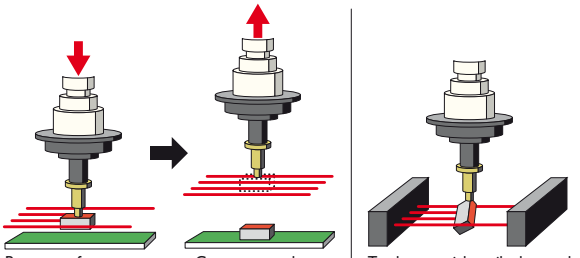




The LNC60 laser sensor has the unique ability to center components from 01005 to 33.5 x 33.5 mm. From ultra-small, ultra-thin, chip-shaped parts to small QFPs, CSPs, BGAs, a wide range of parts can be precisely centered by the laser recognition system at high-speed.

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.

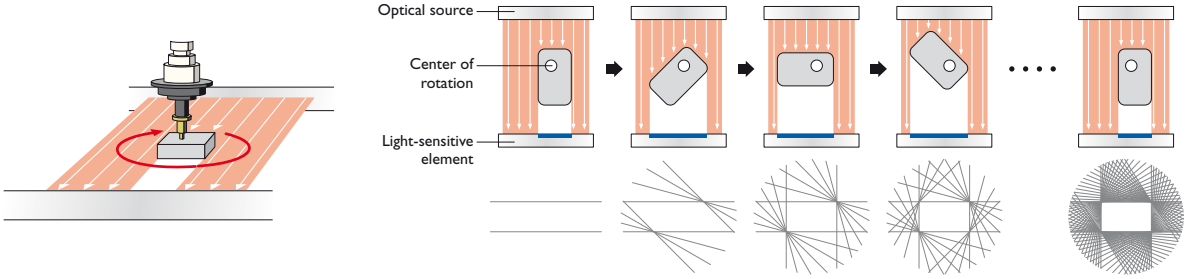


Presence of component is monitored until just before placement.

Component release confirmed after placement.

Tombstone pick easily detected.

LNC60 A concept in component centering that is capable of on-the-fly centering of 6 components simultaneously.



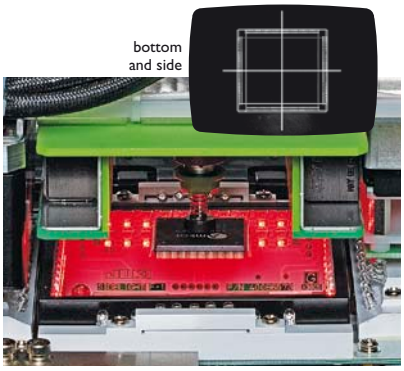
Tangential Line Centering™ achieves both a wider component range and higher accuracy all at the same time. The LNC60 accurately measures the component's center, dimensions, and angular correction all in a single sweep. The optical design has been simplified to give higher reliability in a thinner and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

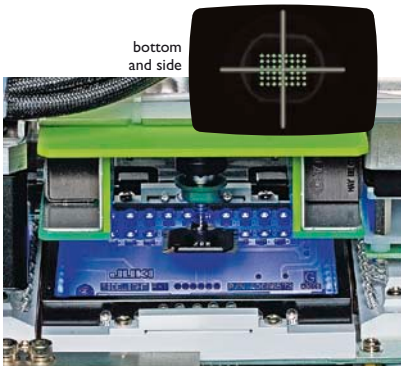
Vision centering technology

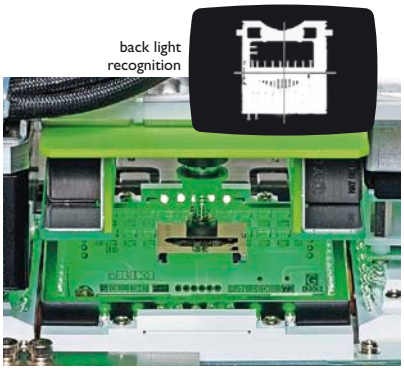
High-precision head or MNVC (multi-nozzle vision centering) option

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





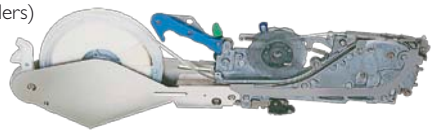


vision recognition

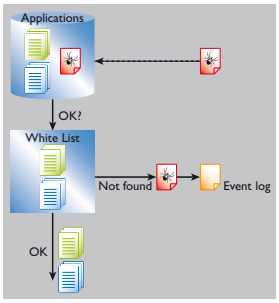
Selection of available options

Mechanical feeders

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



Antivirus software

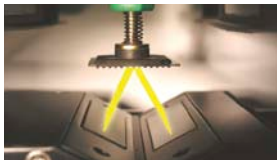


The antivirus software based on the 'white list' method uses very low resources and protects any JUKI pick and place machine running Windows XP embedded.
The 'white list' allows only registered software to be executed and protects the machine for an unlimited time without an update.

MNVC (multi-nozzle vision centering)

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

Coplanarity sensor

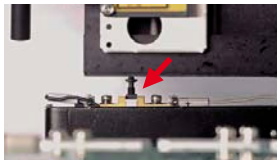


Measures true complanarity for both leaded components and BGAs, reducing the chance of a bad solder joint.

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.

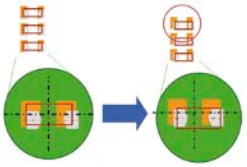
Flex calibration system (FCS)

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 460 mm)
(800 x 360 mm)

The long board option allows to extend the possible board size of the KE-2070 / 80 (L size) from standard 410 x 360 mm to 800 x 360 mm and the KE-2070 / 80 (E size) from standard 510 x 460 mm to 800 x 460 mm.

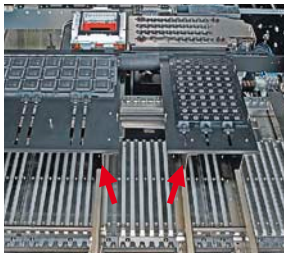
Selection of tray feed devices

Matrix tray server (rear type)

Matrix tray changer (in-line type)

Dual tray server (rear type)

Matrix tray holder



Specifications

Item		Model: High-speed Chip Shooter KE-2070L / KE-2070E	High-speed Flexible Mounter KE-2080L / KE-2080E
Board size	L-size	○ (410 × 360 mm)	○
	L-Wide size*1)	○ (510 × 360 mm)	○
	E-size	○ (510 × 460 mm)	○
Long board*1)	L-size	○ (800 × 360 mm)	○
	E-size	○ (800 × 460 mm)	○
Component height	6 mm	○	–
	12 mm	○	○
	20 mm	–	○
	25 mm (only E size)	–	○
Component size	Laser recognition	01005 to 33.5 x 33.5 mm	
	Vision recognition	1.0 x 0.5 mm to 33.5 x 33.5 mm	1.0 x 0.5 mm to 74 x 74 mm or 50 x 150 mm
Placement speed	Chip (IPC9850)	18,300 cph	16,700 cph
	IC	4,600 cph MNVC	1,850 cph
			4,860 cph MNVC
Placement accuracy	Laser recognition	±50 µm (Cpk ≥ 1)	
	Vision recognition	±40 µm MNVC	±30 µm (±40 µm MNVC)
Feeder inputs		max. 80 (8 mm tape feeder)	
Power supply		200 to 415 VAC, 3 phases	
Apparent power		3 kVA	
Operating air pressure		0.5 ±0.05 Mpa	
Air consumption		345 l/min	403 l/min
Machine dimensions (WxDxH)*2)	L-size	1,500 × 1,500 × 1,490 mm	
	E-size	1,730 × 1,600 × 1,490 mm	
Mass (approximately)	L-size	1,590 kg	1,660 kg
	E-size	1,600 kg	1,670 kg

1) L-Wide size and long board are optional 2) Dimensions of machine described are for conveyor height 950 mm

Selection of available options

Recognition system	Multi-nozzle vision centering (MNVC) / Bad mark reader / High-resolution camera (HRC) / Lighting unit for solder recognition
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 / L-Wide option / Long board option / Offset placement after solder screen-printing / Placement monitor (EPV)*1) / Blue light kit
Software	Intelligent shopfloor solutions (IS) / Intelligent feeder system (IFS-X_2) / External programming unit (EPU) / Host line computer software (HLC) / Data conversion software (Flexline CAD) / Antivirus
Component handling and feeders*1)	Matrix tray server TR-5 / Matrix tray changer TR-6 / Matrix tray holder / Dual tray server TR-1 / Tape feeder / Bulk feeder / Stick feeder (SF/SW/MBF) / ATF (spliceable tape feeder) / Feeder trolley / IC collection belt / Trash box

1) For KE-2070 only.

*** Please refer to the product specifications for details.**

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.

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IPC MEMBER
ASSOCIATION CONNECTING ELECTRONICS INDUSTRIES

Revision 12/10

JUKI