LX-8

Advanced Flexible Mounter

High Productivity
High Flexibility
High Quality

JUKI

Grand Prize of Minister of Economy, Trade and Industry Award 54th Innovative & Invebtive Design Excellence Award

Innovative & Inventive Design Excellence Award

LX-8

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Innovative & Inventive Design Excellence Award

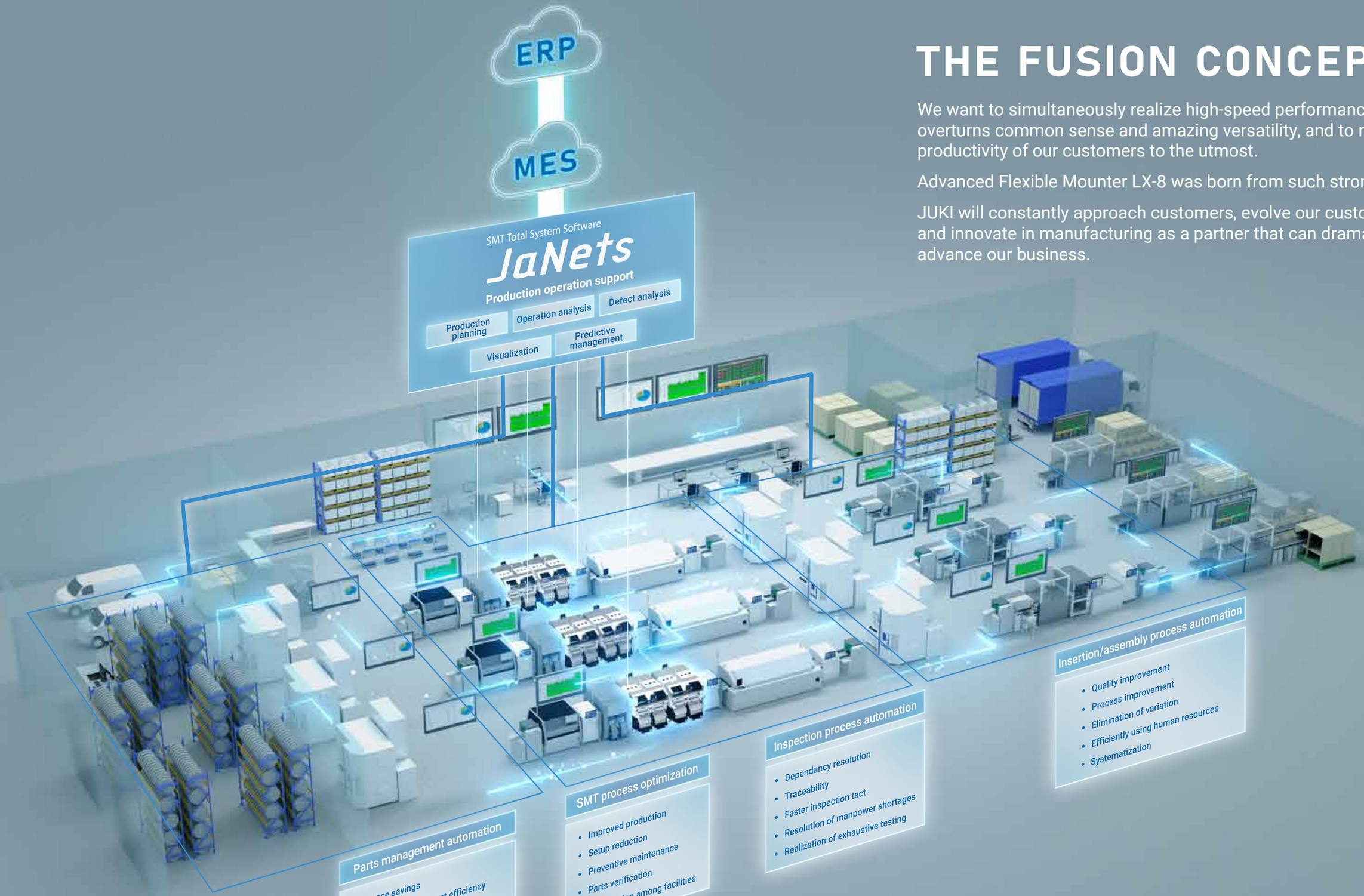
JUKI Smart Solutions

THE FUSION CONCEPT

We want to simultaneously realize high-speed performance that overturns common sense and amazing versatility, and to raise the productivity of our customers to the utmost.

Advanced Flexible Mounter LX-8 was born from such strong wishes.

JUKI will constantly approach customers, evolve our customers' factories, and innovate in manufacturing as a partner that can dramatically advance our business.



Parts management automation

- Space savings
- Storage management efficiency
- Systematization of existing shelves
- System linkage
- Automatic transport

SMT process optimization

- Improved production
- Setup reduction
- Preventive maintenance
- Parts verification
- Cooperation among facilities

Inspection process automation

- Dependancy resolution
- Traceability
- Faster inspection tact
- Resolution of manpower shortages
- Realization of exhaustive testing

Insertion/assembly process automation

- Quality improvement
- Process improvement
- Elimination of variation
- Efficiently using human resources
- Systematization

High Productivity

Achieves high-efficiency production through high area productivity and ultra-high speed equipment of the highest level in its class

It boasts the highest 105,000CPH in its class*, and is equipped with ultra-high speed, space-saving features, while boasting high area productivity and achieving highly efficient production.

The Planet head P20S supports mounting of 0201 very small parts.

In addition, even large components and other highly versatile design heads can be equipped with ultra-high speed 94,000CPH that are among the highest in their class.

*For P20S head × 2

Planet head P20S/Takumi head, selectable for each characteristic

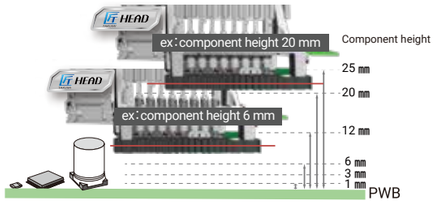
NEW P20S head

Planet head P20S has a planet-head construction that sucks continuously with 20 nozzles. Even a very small part of 0201 achieves stable suction reliability. In addition, the head height is variable (0.5 mm /2 mm/3 mm) according to the component to achieve high-speed mounting in order to mount the component at the highest speed.

Takumi head

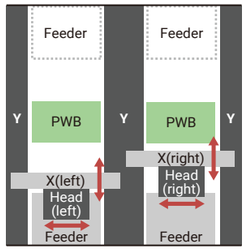
TAKUMI head for high-precision laser recognition adjusts head height to match placement component height.
High-speed mounting is realized at the optimum height from very small parts to large parts.

【Variable height of the laser sensor in accordance with the component height】



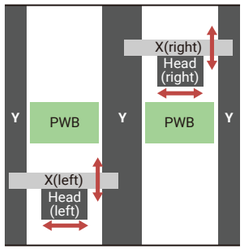
Front operation possible

LX-8 allows front-side banks to operate without loss of productivity. There is no need to set feeders in both the front and rear banks, making production preparation more efficient.



Independent head configuration with minimized tact loss

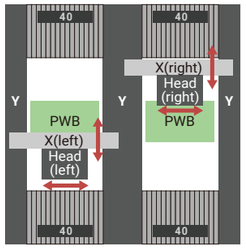
The complete independent head configuration and buffer station installation also reduces the latency-dependent tact loss.



Feeder-mounted number-class No.1

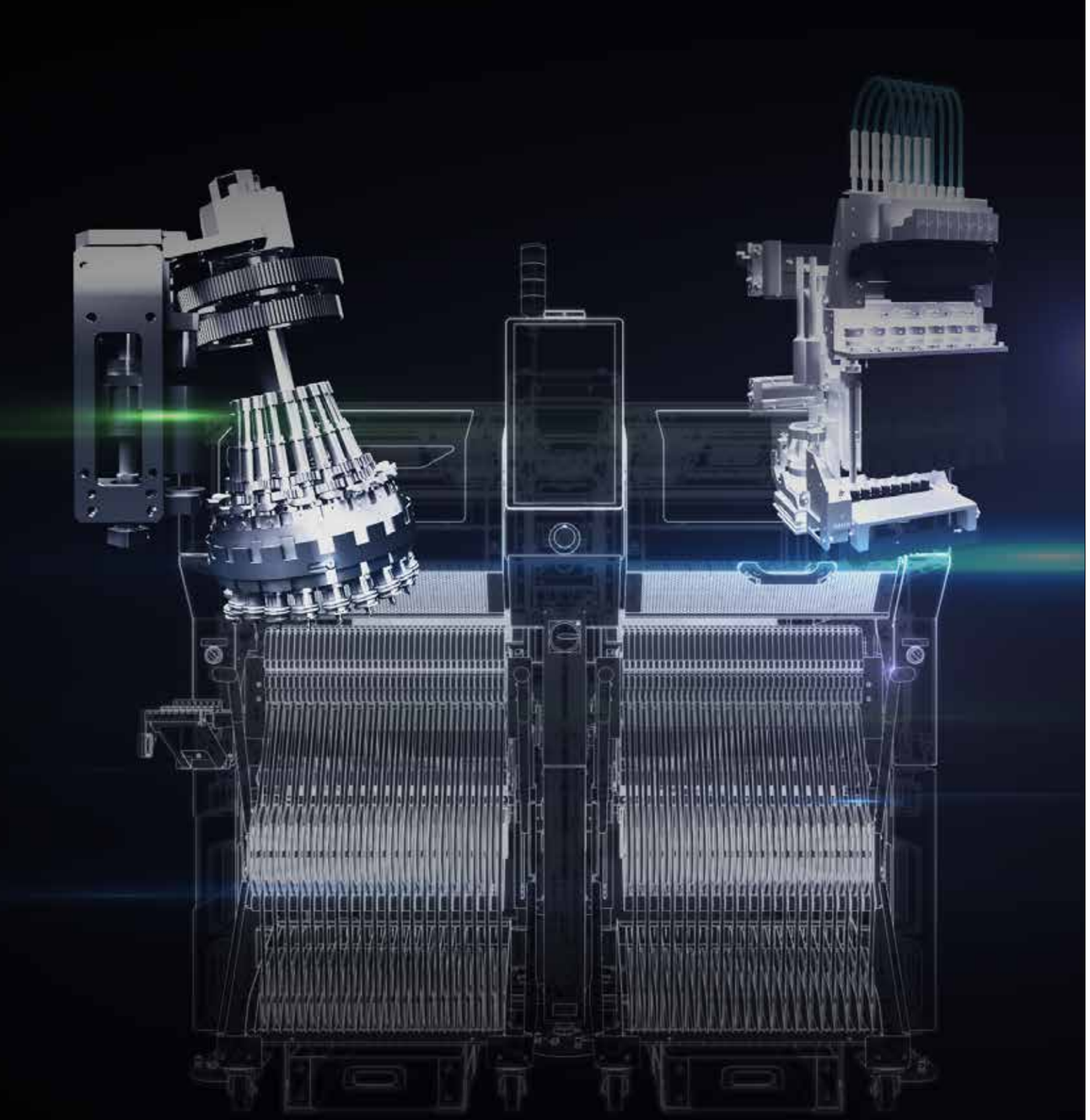
The number of feeder slots is 160* or more, the highest in the class. Since it is possible to set the next feeder for production in the feeder bank beforehand, the setup change time can be drastically shortened, and production preparation can be simplified and made more efficient.

*Takumi head × 2



NEW New User Interface pursuing ease of use

A smartphone-like operating feel that can be operated with intuition, color-conscious for all users and easy-to-view screens in dark themes, and high-priority functions have been placed on the top screen.
This is a new type of operation panel that pursues ease of use.



High Flexibility

Head replacement

The head of LX-8 can be replaced.
By simply placing the heads optimally without changing the line layout, the machine can flexibly respond to variable and variable-quantity production.

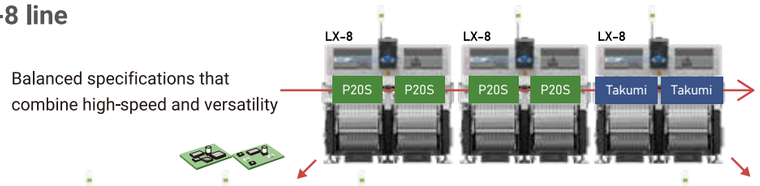
*Contact us for details.

Flexible head configuration

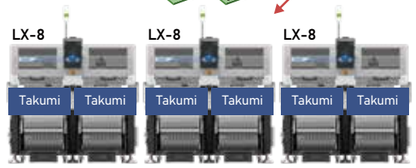
Head can be replaced by the user. It can flexibly respond to changes in production boards.

LX-8 line

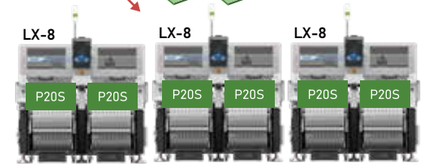
Balanced specifications that combine high-speed and versatility



Flexible response to sudden changes in production items by replacing the head. Achieves optimal throughput independent of the type of components on the board.



All-round variate production line

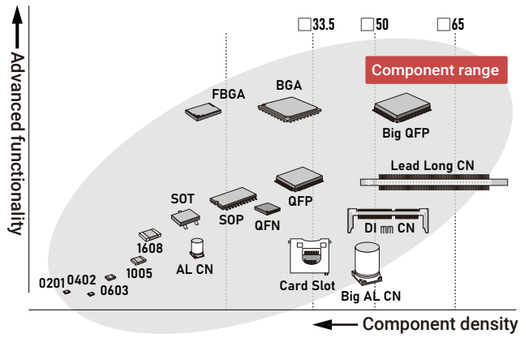


Ultra-high-speed and high-density mounting specifications

Wide component range

Supports components from 0201* (metric) up to 65 mm square or 10 x 90 mm. In addition, component height up to 25 mm, so it is possible to mount a wide range of components.

*Contact us for details.



Large parts are supplied in trays

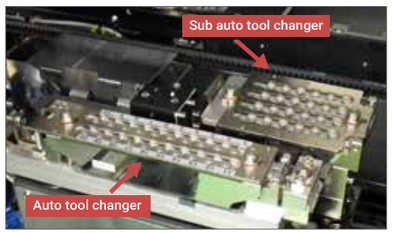
By using a tray server TR8 in which the main unit head sucks parts directly from the tray, it is possible to suck irregularly shaped parts such as connectors and heavy parts directly with the head.

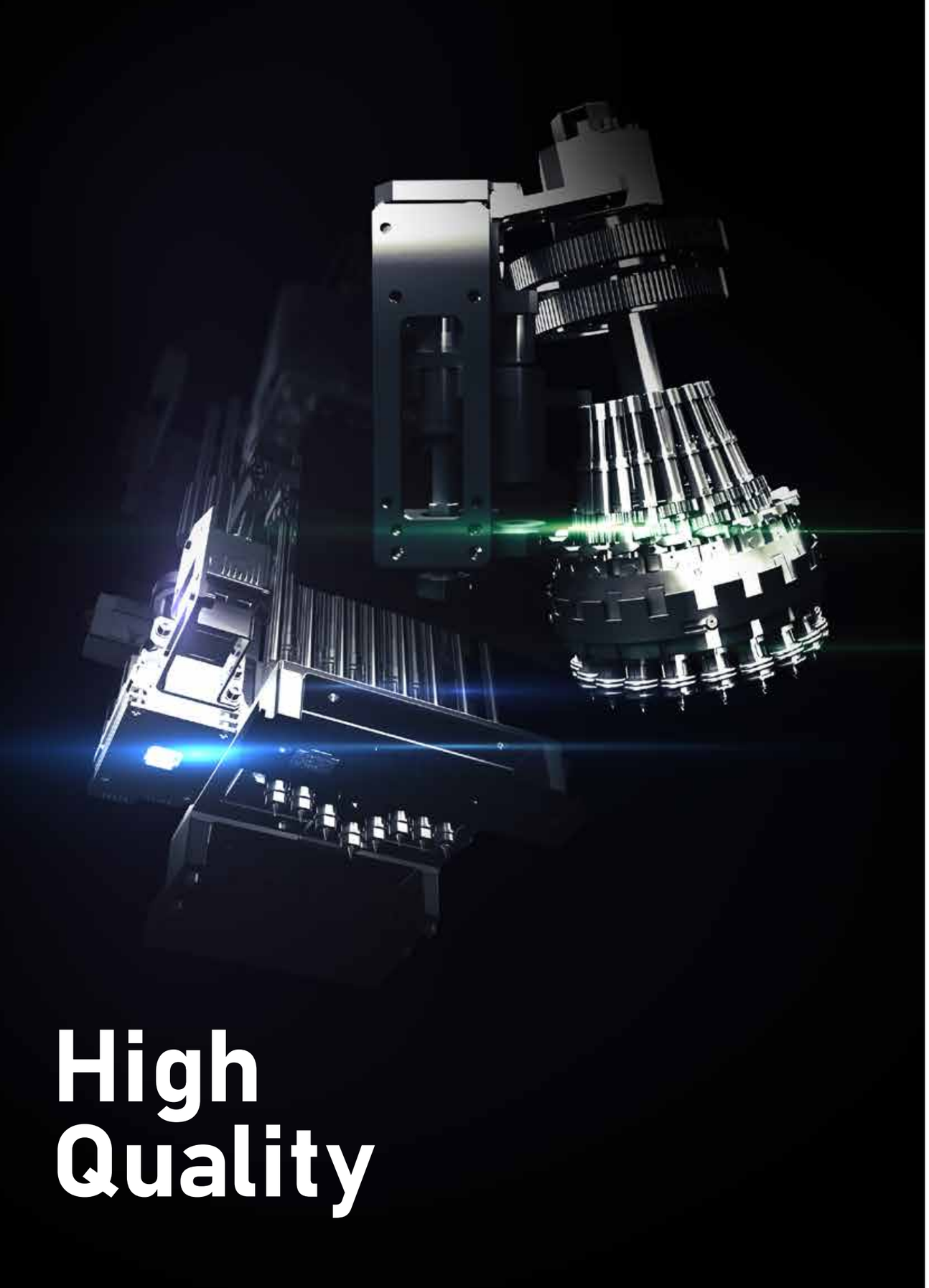
NEW Support pin automatic placement unit

This function quickly and accurately inserts and positions support pins used to stabilize the board during production. Once production is complete, the support pins are automatically returned to the stocker. By automating the setup and retrieval of support pins, this feature significantly enhances work efficiency.

NEW Takumi SUB-ATC unit

By incorporating a sub auto tool changer into the standard auto tool changer, the number of available nozzle stocks can be increased to 88. This addition reduces setup times during production transitions and boosts overall operational efficiency.

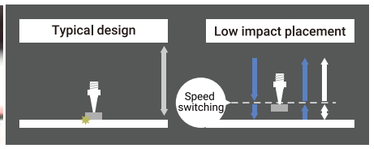




High Quality

Low impact placement for flexible circuits

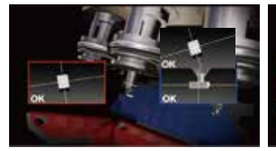
Low impact feature allows separately adjusting the down and up speed of the nozzle during placement. This minimizes the load on the part and on the board during placement. This is optimal for placing very small parts that require a lot of accuracy.



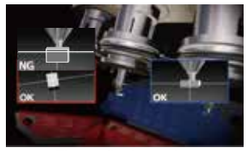
NEW P20S head

State-of-the-art centering and inspection vision system

With Planet head P20S, it is possible to detect the reversal of the front and back sides, inspect the tip standing, and detect the presence or absence of components. Realizes high-quality mounting of extremely small parts.



Front/back reversal detection



Tip standing inspection

New high accuracy image-recognition for inspection and centering

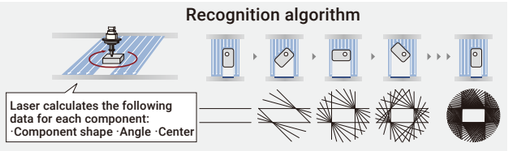
Coaxial lighting technology with a new structure enables clearer imaging and realizes high-precision onboard recognition.

0402 chip (metric) | Right angle LED | Small BGA | Glass Jig

Takumi head

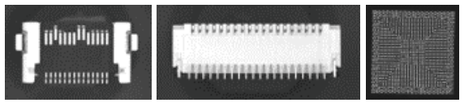
Realizes high-speed, high-precision recognition with JUKI's proud laser-recognition technique

Various component shape can be recognized, such as SOP, QFP, BGA from 03015 minimal component to □50mm. Laser recognition realizes stable recognition and mounting without being affected by component variations such as electrode-shape and gloss.



Reduction of VCS image-recognition times

The adoption of an image-processing library HALCON has greatly reduced image-recognition times using VCS. It realizes high-speed recognition and mounting in not only chip components but also large components.



Component image-recognition technology

Component shape, lead and ball details are accurately captured using our VCS camera. Component problems such as missing ball detection or bent leads are also detected. We can deal with not only QFP and BGA, but also irregular components in individual pattern-recognition.

360 degree part recognition technology

Components that are supplied incorrectly can be corrected and accurately placed using 360 degree recognition technology.

Three color recognition lighting

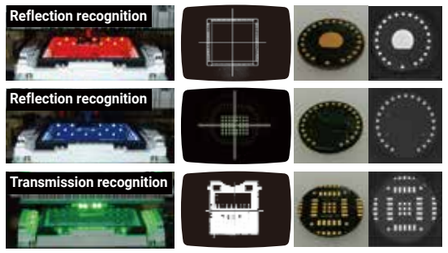
The color of lighting can be changed to match the component requirements for stable, accurate centering.

Wide component range

Hundreds of nozzles to choose from and vision to support difficult parts. Simplified data creation make it easy to handle complex components.

Faster image recognition

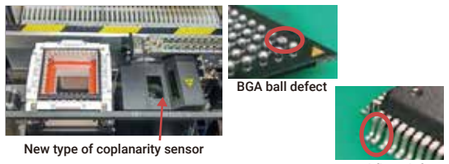
Head is moved along the X-axis to capture images, enabling high-speed non-stop image recognition.

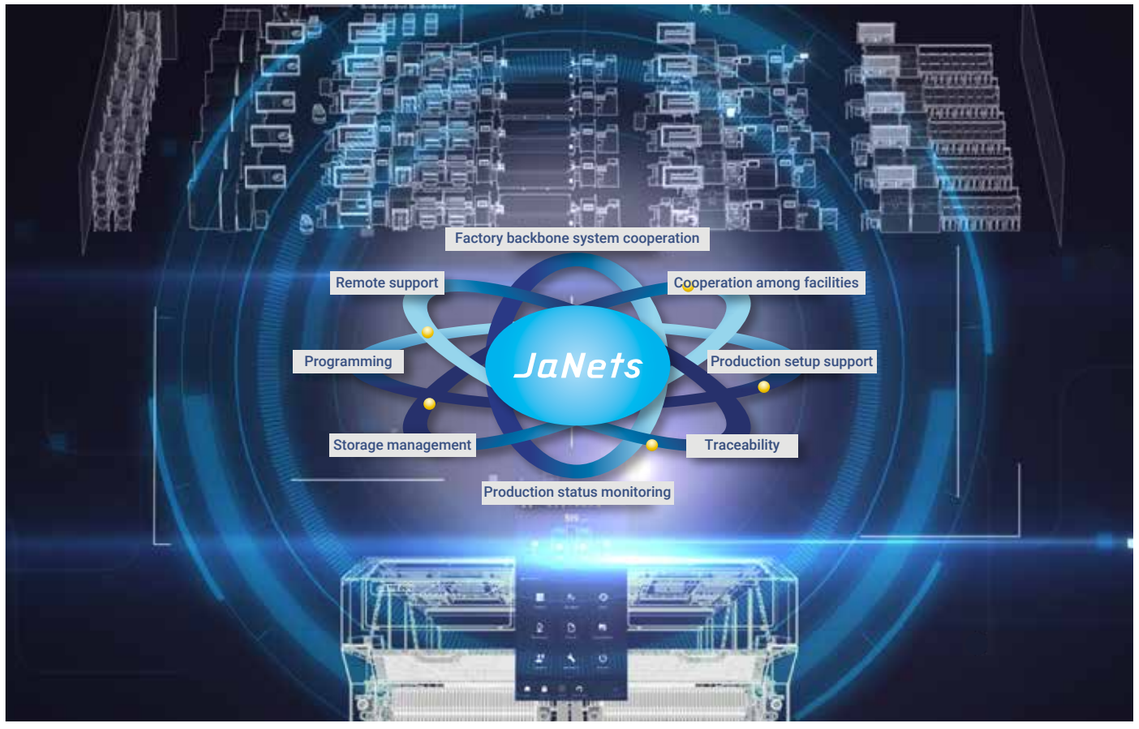


NEW New type of coplanarity sensor

Simultaneous image-recognition and coplanarity inspection greatly improves placement tact compared with the conventional machine. High accuracy and high speed coplanarity checking prevent placement of defective component

* Please contact for detail





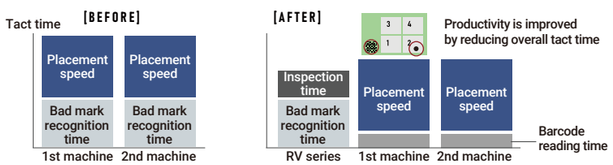
Integrates seamlessly with the production enviroment

SMT total system software JaNets and the system connected via JaNets help improve production efficiency across the entire plant by monitoring production status, storage-management, and remote-support.
In addition, IFS-NX option enables high-quality production, such as traceability and component mis-mounting protection.

Communicates and shares informaton with other equipment

Bad mark information of the circuit detected by the inspection machine or a machine upstream of the line can be propagated to the LX-8 in order to reduce the bad mark recognition timed and improve productivity.

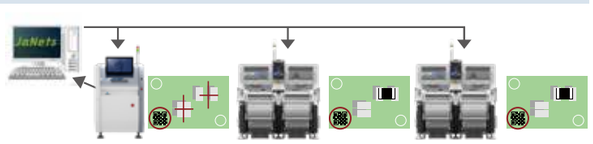
* Please contact for detail



Feed forward for printing misalignment*

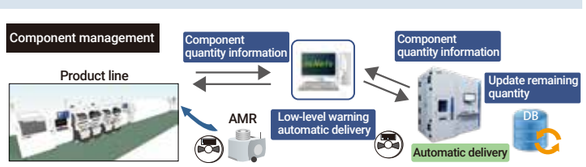
The SPI results can be fed forward to the mounter and applied as a placement offset to reduce defects.

* Applicable models are RV series and LX-8
* Please contact for detail



Component management with auto replenishment

In addition to automated component delivery from the warehouse during setup, production efficiency is enhanced through various linked processes, such as automatic delivery triggered by Component Run Out Warnings during production.



Specifications

Advanced Flexible Mounter LX-8				
		P20S × P20S	P20S × Takumi	Takumi × Takumi
Board size	Minimum	50 × 50 ㎜		
	Single clamping	410 × 400 ㎜		
	Double clamping*1	810 × 400 ㎜ *2		
Board thickness		0.3 ～ 4.0 ㎜ (actual size)		
Component height		3 ㎜	22 ㎜	
Component size	Minimum	0201*1		03015
	Maximum	□5 ㎜	□65 ㎜ /10 ㎜ × 90 ㎜ /50 ㎜ × 75 ㎜	
Placement speed (optimum)		105,000CPH	99,500CPH	94,000CPH
Placement accuracy		±40μm Cpk≧1	±35μm Cpk≧1*3	
Feeder capacity	Tape	Max. 136	Max. 148	Max. 160
	Tray*4	—	Max. 30	Max. 60
Power		3-phase AC200V (standard) AC200V ～ AC415V (when optional transformer is selected)		
Apparent power		2.49 kVA		
Operating air pressure		0.5±0.05MPa		
Air consumption (standard)		54L /min (ANR)		
Machine dimensions (W×D×H)*5		1,600 ㎜ × 1,924 ㎜ × 1,440 ㎜		
Mass (approximately)		2,400kg or less		

*1 Please contact for detail
*2 Factory default
*3 For laser recognition
*4 For TR8SR
*5 D dimension does not include the front operation monitor. H dimension does not include signal tower.

Options

Advanced Flexible Mounter LX-8	
Recognitions system	54 ㎜ view camera
Inspection function	Coplanarity sensor* / Component verification system(CVS)*
Conveyor	Support pin automatic placement unit / Support pin / Support sponge
Electrical protection	CE compatible specification / Ground-fault interrupter
Software	JaNets* / IFS-NX*
Component handling and feeders	Electric tape feeder (RF) / Electric stick feeder(Type-N)* / Matrix tray server TR8SR / Matrix tray changer TR6DNV */ Dual tray server TR1RB* / Tray holder / Tape reel mounting base(for RF) / Splicing jig / Electric trolley power station (PW02)*
Others	TAKUMI SUB-ATC unit / Nozzles(with RFID tags) / RFID reader (Nozzle individual control) / FCS calibration jig / Rear monitor

* Please contact for detail

JUKI SUSTAINABLE PRODUCTS

Products complied with JUKI SUSTAINABLE PRODUCTS Standard (JUKI own standard)

The products are paying attention to environmental impact reduction, better working environment and helping create smart factory.

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*Please refer to the product specifications for details. Specifications and appearance may be changed without notice.
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