

Specifications

		JM-100		JM-20	
		Standard specification (L size PCB)	Clinch specification (L size PCB)	L size PCB	XL size PCB
			When using/not using the clinch unit		
Board size	Single clamping	50×50mm~410×360mm	80×100mm~410×360mm	410×360mm	410×560mm
	Double clamping	50×50mm~800×360mm	80×100mm~800×360mm	800×360mm	800×560mm
PCB weight		Max. 4kg			
Component height		Max. 30mm		Max. 55mm	
Component size	Laser recognition	0603~□50mm			
	Vision recognition	□3mm~78×48mm or 85×25mm		□3mm~□50 *7,1005~□24mm *8	
Insertion speed (Insertion components) *Optimum	Vacuum nozzle	0.6 sec / part *1,*4,*5		0.8 sec / part *3	
	Gripper nozzle	0.8 sec / part *2,*4,*5		1.3 sec / part *2,*4,*5	
Placement accuracy (SMT)	Laser recognition	±0.05mm (3σ)			
	Vision recognition	±0.04mm			
Insertion force		50N or less			
Power supply		3-phase AC200~415V			
Apparent power		2.2kVA		2.0kVA	
Circuit breaker		Standard			
Operation air pressure		0.5±0.05MPa			
Air consumption (standard)		81L / min		50L / min	
Conveyor height		900mm ±20mm			
Machine dimension (W×D×H) *6		1,500×1,505×1,450mm		1,500×1,657×1,550mm	1,500×1,892×1,550mm
Mass (approximately)		1,300kg		1,760kg	1,985kg

\*1 Using following conditions (Applicable part: Aluminum electrolytic capacitor (φ 8 mm), Feeder: two MRF-S, Placement conditions: Simultaneous pick, sequential insertions using 2 nozzles)  
\*2 Using following conditions (Applicable part: Connector (4 pin), Insertion conditions: 2 sequential picks and insertions using 2 nozzles)  
\*3 Using following conditions (Applicable parts aluminum electrolytic capacitor (φ8 mm) When the component height is 28 mm, board transport and BOC mark recognition time are not included.)  
\*4 Board transport and fiducial recognition not included    \*5 For 16mm head height.    \*6 For 900mm conveyor.    \*7 Using 54mm FOV camera    \*8 Using 27mm FOV camera

Options

	JM-100		JM-20			JM-100		JM-20	
	Standard (L size PCB)	Clinch (L size PCB)	L size PCB	XL size PCB		Standard (L size PCB)	Clinch (L size PCB)	L size PCB	XL size PCB
Clinch specification	—	Standard	Custom		Spare trolley	●		●	
Mini chuck nozzle		●		●	JaNets / Intelligent feeders (IFS-NX)	●		●	
Automatic conveyor width adjustment	●	Standard		●	Keyboard	●		●	
Rear side operation unit		●		●	External signal tower	●		—	
250mm Conveyor extension		●		●	Super foot	●		●	
950mm conveyor height (SMEMA)		●		●	Feeder float sensor (for SMT)	●		●	
VCS	—			●	Drive cylinders (for SMT)	●		●	
3D Vision centering system		●		Custom	Management data output	●		●	
Lead correction jig*		●		●	Traceability multi-code reader	●		●	

\* Please contact us for multi-pin parts.

Feeder capacity\*1

	Bank	Max. SMT tape feeders (8mm)	Radial feeder			Axial feeder		Stacked stick feeder	General purpose bulk feeder MVF	Tray holder*3		MTS Number of trays
			MRF-S	MRF-SN*2	MRF-L/LF	MAF-S	MAF-L			Full	Half	
JM-100	18mm pitch	56	18	18	14	14	10	10	5	1	2	40
	12mm pitch	NA	16	18	12	16	12	12	5	1*2	2*2	40
JM-20	—	80	26	26*4	20	22	16	16	7	2	4	40

\*1 Max quantity of feeders for given type.    \*2 It supports from the latest version (2.00.00A), and the old version cannot be used.  
\*3 Head height may be restricted depending on feeder location.    \*4 Please contact our sales staff.

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



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The activities of research, development, design, sales,  
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machines, household sewing machines and industrial robots, etc.,  
including sales and maintenance services of data entry systems.

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Multitask Platform

# JM-Series

Advanced MI solution



SOFTWARE



STORAGE



PRINTING



INSPECTION



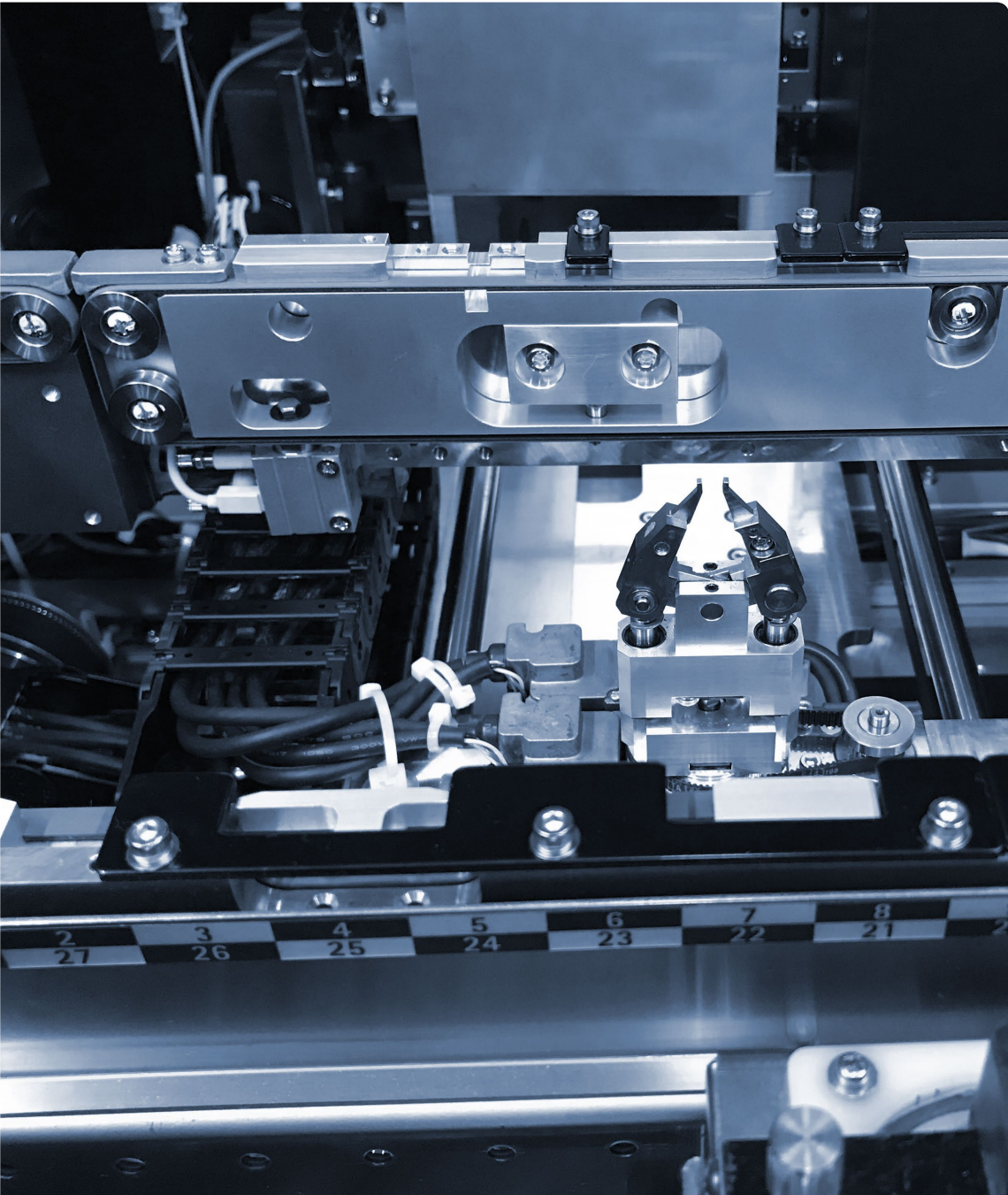
PLACEMENT



INSERTION



SOLDERING





## High speed insertion



**JM-100**



## Large Boards/ Odd Shape Components



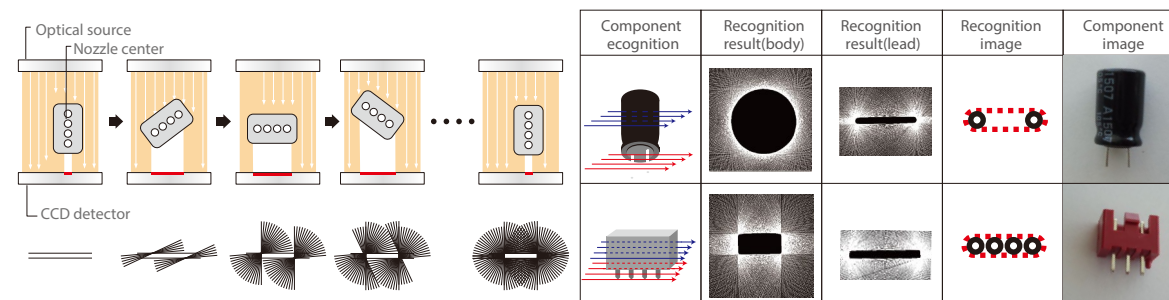
**JM-20**



## FEATURE 1: Laser sensor for lead detection

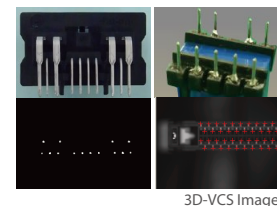
### Laser centering

Components are rotated 360 degrees in the laser. The entire outline of the component is measured accurately by a high resolution CCD sensor. The exact component position and angle are obtained in a fraction of a second without a side trip to a camera. After measuring the component body, the lead tips are measured to ensure accurate insertion.



### Vision centering

JUKI'S proprietary 3D Vision Centering System (3D-VCS) is used for centering larger or more complicated lead patterns. 3D-VCS can recognize a variety of lead tip shapes including round, square, and semi-circular. It can also detect difference in lead length for accurate insertions.



3D-VCS Image

## FEATURE 2: Fast insertion

JM-100

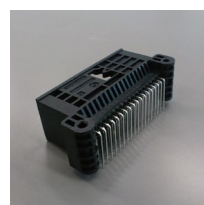
Best in class speed. Significant speed increase over previous generation. Component insertion time down to 0.6 seconds for vacuum nozzle and 0.8 seconds for gripper nozzle. Best in class speed.

**0.6 sec**  
per part for  
vacuum nozzles

**0.8 sec**  
per part for  
gripper nozzles

## FEATURE 3: Large and Odd-Shape Components

The JM-20 supports larger nozzles and larger, odd shape components such as DIMM and PCI connectors and large capacitors or transformers.



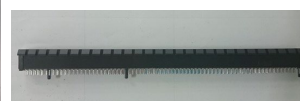
Large connector



Side



Top



PCI



DIMM



Chuck nozzle

JM-20

## FEATURE 4: New "Takumi head" with multiple recognition heights

JM-100

The new "Takumi head" has 8 nozzles and is equipped with a height adjusting laser to optimize speed. This head can handle a wide range of components while maintaining the maximum speed.

### Variable height laser sensor changes automatically based on component height

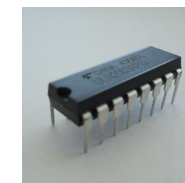
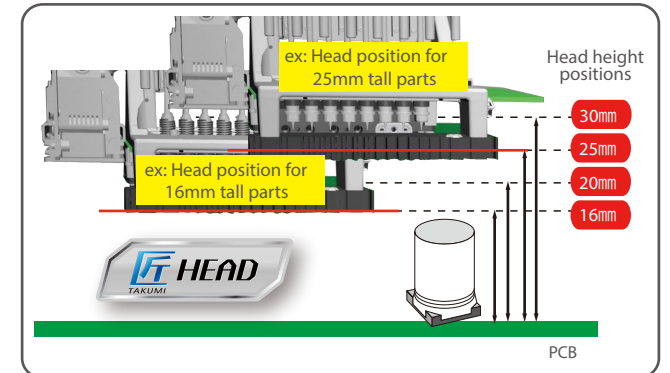
The laser sensor changes height automatically based on the the component height to minize the movement and optimize speed. Height can change randomly between 4 different settings.

### Improved productivity with 8 nozzles

The JM-100 uses 8 nozzles vs. the previous generation's 6 nozzles. This increases the number of parts that can be picked on each cycle and reduces overall cycle time.

### Wide component range from small to large and heavy

JM-100 and JM-20 can handle components from metric 0603 up to 50mm square with a weight of up to 200g. Maximum insertion force of up to 50N.

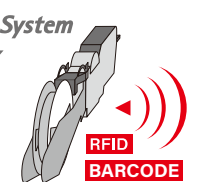


## FEATURE 5 : Setup verification and traceability (option)

Intelligent feeders are supported to provide setup verification and also component traceability.

Feeders can be equipped with barcodes or RFID tags to verify the correct part number is loaded in the correct location. PCB barcodes are scanned at the start of production and all component data is recorded for traceability.

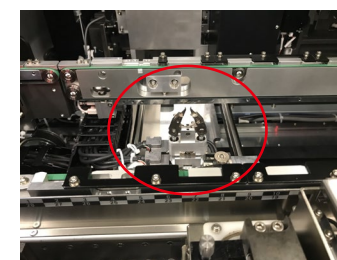
Intelligent Feeder System  
**IFS-NX**



## FEATURE 6 : Active clinching

\*For clinch specifications

New active clinch unit supports bend in, bend out, and N bend to prevent components from lifting during reflow and make handling prior to reflow easier.



Clinch unit

## FEATURE 7 : Component feeders (option)

**NEW** General Purpose Bulk Feeder MVF

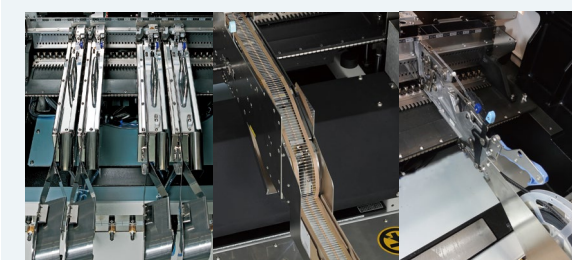
Bluk feeders typically are custom made for one particular part and require a lot of space. Our new Flexible Bulk Feeder is dramatically smaller than bowl feeders and can handle a range of part types. It mounts on our standard feeder bank and can be installed and removed quickly and easily.



General Purpose Bulk Feeder

Component feeders are available for a broad range of tape components, stick components, discrete components, and tray components. Custom feeders are also available.

Taped parts

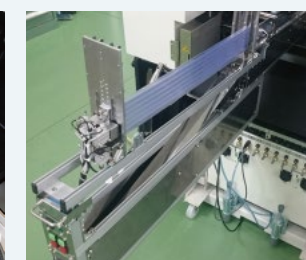


Radial Feeder  
MRF-S/MRF-L /MRF-ML

Axial Feeder  
MAF-S

Tape feeder  
(SMT)CTFR

Stick parts



Stacked stick feeder

Tray



Tray Holder



Matrix tray server  
TR55NK