Model ID		NPM-VF										
		Standard conveyor				Anvil conveyor (Option)						
PCB dimensi	ons	L 50 mm × W 50 mm ~ L 510 mm × W 460 mm				L 50 mm × W 50 mm ~ L 460 mm × W 400 mm						
Max. PCB m	ass *1	Up to 3 kg										
CB thicknes	SS	0.3 ~ 8 mm										
PCB flow		Left \leftarrow Right / Left \rightarrow Right (Flow direction is selectable)										
Insertion direction		360° (±180°) *1degree unit										
Insertion push force		Up to 100 N										
PCB Exchange time		4.5 s				5.5 s						
Clinch specifications						Clinch angle : 60 degrees outward clinch Clinch pitch : 2.5 to 40 mm Lead bend angle : $10 \sim 40^{\circ}$ Lead diameter : ϕ 0.4 mm $\sim \phi$ 1.0 mm (soft copper) ϕ 0.4 mm $\sim \phi$ 0.8 mm (hard copper / CP wire)						
Applicable co	mponents	Max. dimensions : L	. 130 mm × W 35 mr	n × H 60 mm	· L 150	nm × W 3	8 mm × H 2	9 mm / Max. co	omponent mass : 2	200 g		
Electric sour	ce	3-phase AC 200, 220	0, 380, 400, 420, 4	80 V 2.7 kV	Ά							
Pneumatic so	ource	0.5 ~ 0.8 MPa , 200 L / min (A.N.R.)										
Dimensions		W 1 866 mm × D 2 332 mm × H 1 554 mm(Main body only) W 2 166 mm × D 2 332 mm × H 1 554 mm(When downstream extension conveyor is connected)										
Mass		2 590 kg (Only for	main body : This d	iffers depen	ding on th	ne option	configurat	ion)				
				Head Conf	igurations							
		Body chuc	k + Nozzle + Nozz	le								
ctation ha	ad	Body chuck +		Tact: Max. 0.65 s / component *2、3、6								
3-station head		Body chuck + Nozzle + Lead chuck										
		Body chuck + Swing nozzle + Lead chuck										
2-station head		Body chuck + Body chuck				Tact: Max. 0.9 s / component *2、3						
				Compone								
itick	S	Max. component dimension: W 20 × L 80 × H 20 mm / Max. stick width: 24 mm / Max. component mass: 2 kg in total(including stick max)										
	L	·		: W 60 × L 80 × H 45 mm / Max. stick width : 64 mm / Max. component mass : 2 kg in total(including stick ma								
Radial tape		Max. body dimension							Landan and a samulation			
Tray		Max. tray dimension: L 230 × W 335 × D 69 mm / Max. pallets per feeder: 20 / Max. mass: 20 kg (magazine + pallet + tray + componer										
Bulk *4	T	Customized spec	doubte to be leaded	1		Cti-l. C		Catalo I	D. diel	T		
	Forms	Max. number of products to be loaded			Stick S		Stick L	Radial	Tray			
	Front	30-slot fixed supply				15		7	10			
\achine		30-slot fixed supply		Cl		15 6		7	10	20		
Configuration	Rear	13-slot fixed supply unit + single tray feeder				6		3	4	20 40		
		Twin tray feeder	David fooder v 2	* 4						20		
		Single tray feeder + Bowl feeder × 2 *4					_					
		Bowl feeder × 4 *4		Syst	-em							
Programming a	and Software	NPM-DGS · AM-LN	B·LNB、Option:		N			nected to AM-LNB PM series (including	NPM-VF) or the SP series	can be connected to L		
Optional fun	ctions	Component verification	on , Traceability , Au	tomatic chan	geover , H	ost commi	unication ,	iLNB line cont	rol including other o	company's mach		
		SM	T components *7					*Placement tact ti *Please refer to th	me may differ slightly depe e specification booklet for	nding on conditions. details.		
Applicable co	mponents	Min. dimensions: L 5 m	× W 5 mm or larger (F	or tape, embo	ssed tape o	of 12 mm or la	arger)		er insertion (including carrie			
Placement sp		Head: Nozzle only Placeme	ent accuracy: QFP ±0.05 m	ıı (Cpk ≧ 1) Max	. tact time: 3	000 cph (per l	nead)	*3 : During 2-hea	d operation (configured sim	ilar to 2-beam specs)		
<u> </u>		Tape feeder width	12 / 16 mm 24 / 32 m	m 44 / 56 mm	72 mm	under optimizations						
										opn 3() stations fived		
Supply unit(emb	ossed tape)	30-slot supply unit	30 15	10	7	6	5	supply unit (9	Std.) or feeder cart (Option) ck + Nozzle + Nozzle	een 30 stations fixed		

Safety Cautions

●Please read the User's Manual carefully to familiarize yourself with safe and effective usage procedures.

●To ensure safety when using this equipment, all work should be performed according to that as stated in the supplied Operating Instructions. Read your operating instruction manual thoroughly.

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2022

Odd-form Component Insertion Machine

Electronics Assembly System Catalogue





Model ID NPM-VF Model No.NM-EJR9A



*It may not conform to Machinery Directive and EMC Directive in case of optional configuration and custom-made specification



Innovating PCB assembly process via automation of odd-form components insertion

Features and aims of NPM-VF

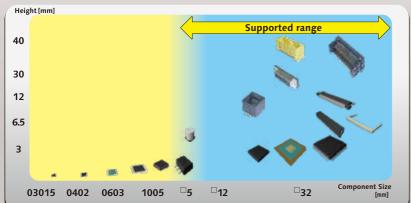
Automation of odd-form components insertion process. In addition, SMT specifications* are also supported.

Versatile and flexible: various configuration of head tools and machine feeder configuration to adapt to different types of components

Contribute to manpower reduction and stable production with high productivity, flexibility, high quality insertion

Applicable Components Stick, Tray, Bulk **Tape** $2\sim3$ pins Height A Large capacitors 60 mm Large Connectors not Capacitors Large coils Connectors Module switching conductors 26 mm mmmmmm Semiconductors capacitors, resistors LED etc. (in bulk) L 22.5 × W 14 mm L 130 × W 35 mm Automation supported Automation not supported

Support for SMT components



Automation supported by current

insertion machines (RL132/RG131)



Automation target of NPM-VF

The multi-re			ble from both unction-ready		dard specs	
Examples of applicable components	Outline	Height	Minimum lead pitch / minimum ball pitch	Minimum lead width / minimum ball diameter	Minimum ba height	
QFP·SOP	□5 mm ~	1.0 mm ~	0.5 mm	0.2 mm	-	
BGA · CSP	□5 mm ~	0.3 mm ~	0.5 mm	0.3 mm	0.25 mn	

Line Solution

Reduce manual insertion assembly process Prevent human errors, improve quality



Convert manual insertion process to SMT inline process Reduce processes / dip solder investment



High Productivity

High speed insertion

Maximum tact of 0.65 s* is achieved by 2-beam 2-head structure. Compared to manual insertion, 1 NPM-VF is able to replace 3 to 5 operators. In addition, each head can hold up to 3 tools (chucks, nozzles), enabling effective movement of the insertion heads.



[Stackable stick feeder]

machine operation

Sticks can be loaded during machine operation, reducing machine down time due to component exhaust



[Trav feeder] Tray pallets can be replenished during

Non-stop Production [Variable pitch body chuck]

Motorized body chuck varies chuck opening according to component size, greatly reducing dead space, chuck exchange time and increasing productivity



Chuck width is optimized to suit

Flexible feeder configuration



to chuck tips for better gripping of components

Versatility

Various tools to cater to Various component



Lead chuck

Push force up to 100N



Radial

Tape Feeder

according to stick size



Bowl Feeder *

30 slots * 30 slots *1

*1 feeder cart is selectable

*2 bowl feeder is customized spec Can also be placed to the front For details, contact us.











Single tray feeder

Quality Insertion

Recognition correction and component inspection function

Swing nozzle

NPM-VF is equipped with 2 cameras (head camera and component camera) to scan PCB holes, PCB marks and component leads, ensuring high quality and stable insertion.

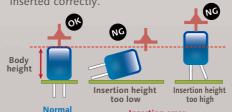


Component verification & Traceability (Option)

Prevents setting mistakes when exchanging parts and supports fabrication history management

Insertion error detection system

Component height will be detected via sensor after insertion to determine if it is inserted correctly



Recovery Operation

In the case of insertion error PCB will automatically be flow to the upstream extension conveyor for the operator to remove the error components.



Cut & Clinch Function (Option)

Function: prevent protrusion of components after insertion improving insertion stability Features: variable pitch clinch (2.5~40 mm) with piezoelectric detection system for insertion errors

