

**MIRAE MAI SERIES - AUTOMATIC INSERTION**

Mirae 



# INTRODUCTION



InterElectronic Hungary Ltd. offers equipments, machines and different materials (ESD) of different production technologies (SMT/THT/LED). Including high quality, special request fulfilling soldering machines, devices, tools, instruments and materials for the electronic industry and services.

## SERVICES

Our each and every product has a warranty granted by the InterElectronic Hungary Ltd. For more complex appliances our company offers a well-needed training for set up and usage. We grant the repair of all of the products traded by our company during and after the warranty period. As well as we guarantee the continuous supply of accessories and instruments.

## DEMONSTRATON

In case if any of our products aroused your interest the InterElectronic Hungary Ltd. would be glad to visit your company and hold a presentation of the product of your interest. As far as possible we serve you by bringing demo devices with us. In the most cases of our products we are proud possessors of references nation-wide. Major machines also could be observed at our partners' site.

## PRICE LIST

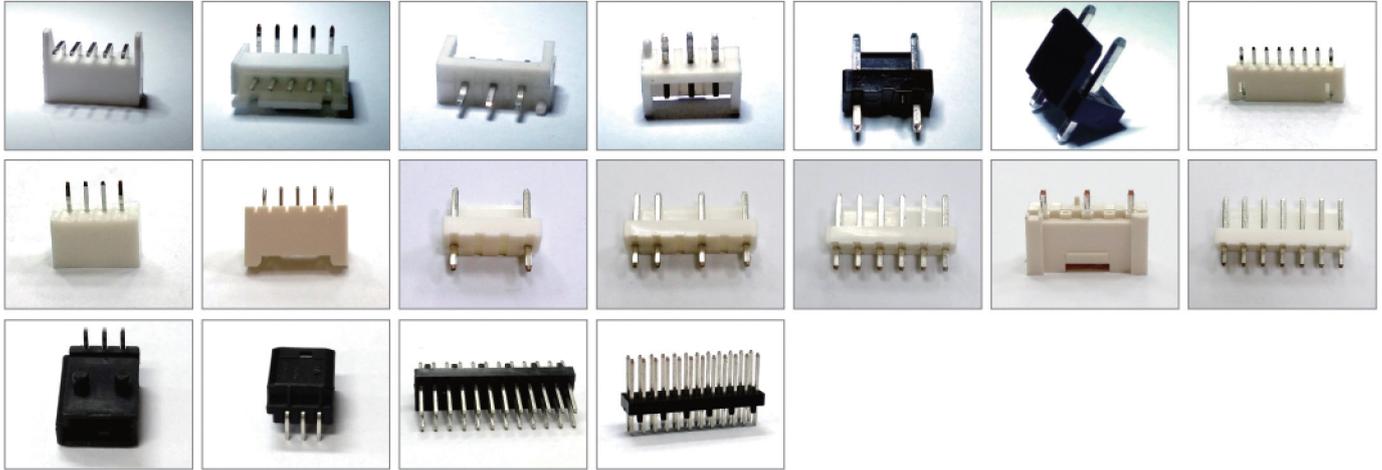
Most of the prices of our products can be requested on our website and will be sent via email to you. In case of special and more complex machines the prices are given after consultation individually through a price offer. If you are interested in more information or user manuals of our products we recommend you to visit our website ([www.interelectronic.com](http://www.interelectronic.com)), which is updated continuously with professional information. We also recommend you to visit our office, where you can purchase any of the needed devices and spare parts of the product of your interest.

## ORDER/SHIPPING

Our soon to be partners are welcomed to be helped via telephone, fax or e-mail. We use different ways of delivery, depending on the preference of our partner. We can deliver your purchased product by ourselves, by freight or courier service. The way of delivery might be negotiated previously. We offer you cash on delivery nation-wide!

# Applicable Components

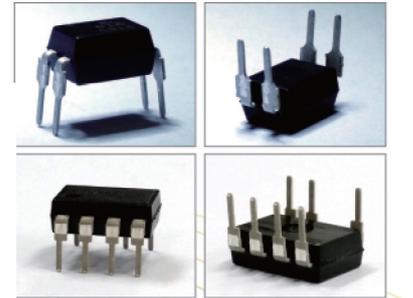
## Connector



## Relay



## IC



## Transformer Coil



## Odd-shape components



## Feeder Types

Tape feeder (8mm ~ 88mm)		Manual tray feeder		Tray feeder (TF5,SLTF,DLTF)	
Bowl feeder					
2 Lanes		4 Lanes		3x1 Lanes	
Stick feeder					
Vibration stick feeder		Air stick feeder		Multi stick feeder	

## Feeder Quantity

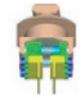
Base	Reel	Stick Feeder			Tray Feeder				Bowl Feeder		
	Tape (8mm)	Vibration	Air stick	Multi stick	Manual Tray	TF5	SLTF	DLTF	2 Lanes	4 Lanes	3x2 Lanes
Front	60	8	8	8	2	-	-	-	2	1	2
Rear	60	8	8	8	2	1	1	1	2	1	2

# Nozzle Types

## A. Connector Nozzles

QP C-S0A-1	QP C-S0A-2	QP C-S0A-3	QP C-S0B-1	QP C-S0B-2	QP C-S0B-3	QP C-S0B-4	QP C-S0B-5
							

## B. Gripper Nozzles

QP G2	QP G3	QP G4	QP G5	QP G7	QP G8	QP G9	QP GA
							

## C. Pad Nozzles (Suction Cup Nozzles)

QP P2-1	QP P2-1-S01	QP P2-1-S01-1	QP P2-1-S02	QP P2-1-S03	QP P2-1-S04
					

\* In addition to the above samples, Mirae maintains varied nozzels for odd-shaped components

## Option I

### ZHMD (Z Height Measuring Device)



### ZHMD ( Z Height Measuring Device)

- Measures each component's upper side height to prevent PCB defects in miss-inserted components.
- Easily verifies component placement height.
- Measures evenness of PCB with automatic level compensation.

### Rear Vision (Fov36mm 2H Camera)



### Rear Vision (FOV36mm 2H Camera)

- Optimal component placement based on identifying different shape of each component.
- Increasing productivity by supporting camera in the rear feeder area in case that feeders are installed on the rear side

## Hybrid Placement & Insertion System

# MAI Series

### Machine Definition

- A hybrid machine realizing through-hole component insertion system integrated with highly reliable SMT Mounter technology
- Maximizing production quality and manufacturing performance by utilizing dual inspection technologies (Laser Vision and Laser Align) and realizing SMT level accuracy

### Advantages

- Component height inspection with Z Height Measurement Device (ZHMD) followed by component placement and performs faulty component placement detection



## Option II

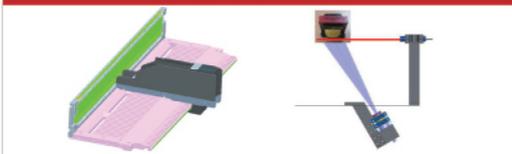
### LA (Laser Align)



### LA (Laser Align)

- Laser infrared observation device for bent, broken, missing leads.
- Inspects any bent leads which are difficult to detect by camera

### LV (Laser Vision)



### LV (Laser Vision)

- Lead inspection for placement compensation and detection of any bent, broken, missing components
- Recognizing shapes of components by applying laser integrated with optical triangulation method
- Cradle type and embedded type available
- Measuring area: 58 x 50 (mm)
- Inspection time: 25 (ms) [2P DIODE]

# MAI Series



# Specifications

Item		MAI-H4	MAI-H4S	MAI-H4ST
Performance	Chip(1005)	19,500 CPH (0.18sec/chip)	17,000 CPH (0.21sec/chip)	
Optimal Condition	QFP(100)	9,000CPH (0.40sec/chip)	9,000CPH(0.40sec/chip)	
Performance	Chip(1005)	15,000 (0.24sec/chip)	12,500 (0.29sec/chip)	
IPC-9850 Standard	QFP(100)	7,500CPH(0.48sec/chip)	7,500CPH(0.48sec/chip)	
Placement Accuracy	Chip(3 $\sigma$ )	±0.050mm		
	QFP(3 $\sigma$ )	±0.025mm		±0.035mm
Number of Precision Head		4 Precision Head		4 Precision Head (26W Z-Axis Motor)
Component Size		0603 to 50×50mm, 90×30mm		
PCB	Size (Standard)	700 x 510 x 5.0mm	700 x 330 x 5.0mm	
	Thickness	0.5mm ~ 5.0mm		
Maximum Number of Tape Feeders (8mm)		60EA 120EA (60x2) Option		
Component Height		25mm		55mm
Power Requirements		3 phase 200 / 208 / 220 / 230 / 240 / 380 / 400 / 415 / 430 [V], 50/60Hz		
Air Pressure		0.55Mps		
Machine Size (W × D × H)		1,580 x 2,090 x 1,500mm	1,580 x 1,700 x 1,500mm	1,580 x 1,700 x 1,530mm
Machine Weight		Approx. 2,000Kg	Approx. 1,800Kg	

MAI-H4T2	MAI-H6	MAI-H6S	MAI-H6ST	MAI-H8
11,500 CPH (0.31sec/chip)	18,000 (0.20sec/chip)	17,000 (0.21sec/chip)	17,000 (0.21sec/chip)	30,000 (0.12sec/chip)
9,000CPH(0.40sec/chip)	12,000CPH(0.30sec/chip)	12,000CPH(0.30sec/chip)	12,000CPH(0.30sec/chip)	21,000CPH(0.17sec/chip)
10,500 (0.34sec/chip)	15,000 (0.24sec/chip)	13,500 (0.27sec/chip)	13,500 (0.27sec/chip)	17,000 (0.21sec/chip)
7,100CPH (0.51sec/chip)	9,500CPH(0.38sec/chip)	9,500CPH(0.38sec/chip)	9,500CPH(0.38sec/chip)	13,000CPH(0.28sec/chip)
±0.050mm				
±0.035mm	±0.025mm		±0.035mm	±0.025mm
4 Precision Head (100W Z-Axis Motor)	6 Precision Head			
0603 to 50×50mm, 90×30mm				
640 x 510 x 5.0mm	600 x 510 x 5.0mm	600 x 330 x 5.0mm	600 x 330 x 5.0mm	700 x 510 x 5.0mm
0.5mm ~ 5.0mm				
60EA 120EA (60x2) Option				
55mm	25mm		55mm	25mm
3 phase 200 / 208 / 220 / 230 / 240 / 380 / 400 / 415 / 430 [V], 50/60Hz				
0.55Mps				
1,580 x 2,090 x 1,530mm		1,580 x 1,700 x 1,530mm	1,580 x 1,700 x 1,560mm	1,580 x 2,090 x 1,500mm
Approx. 2,000Kg		Approx. 1,800Kg		Approx. 2,100Kg



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