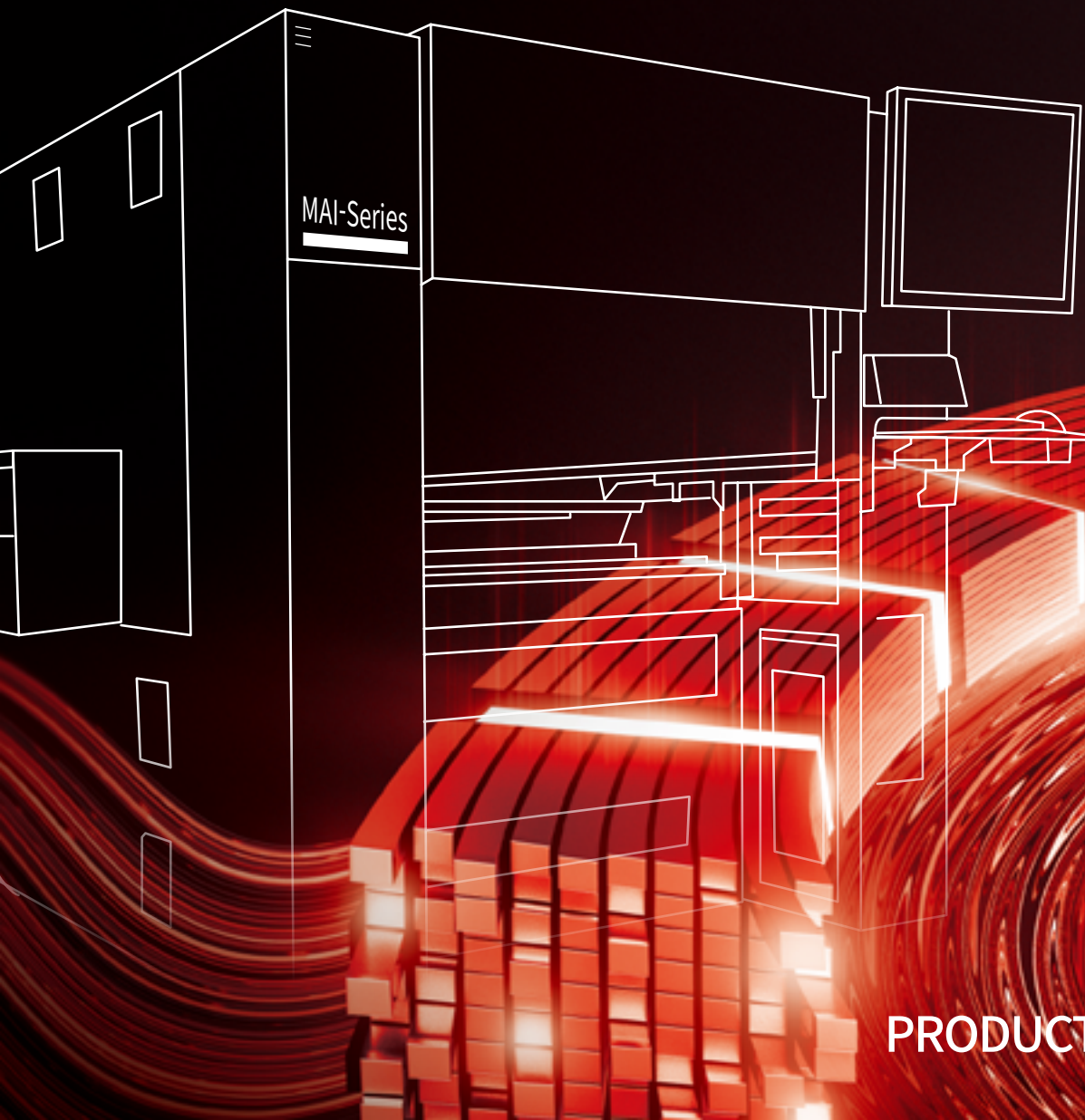


MIRAE CORPORATION

MAI-Series

Automatic Insertion System for Odd-Shaped Component



2024
PRODUCT CATALOGUE



MIRAE CORPORATION

Founded in 1983, our company is a source of pride for Korea as a leader in the high-tech industry, having been the first to domestically produce semiconductor test handlers and chip mounters.

Our equipment is sold all over the world in Europe, Asia, the Middle East, and the Americas. All of our executives and employees work together in unanimity to move forward as a global company. We are proud of our excellent technological skills and countless patents and strive to provide the best customer service to impress our customers at all times.

We will continue to grow into a trusted and loved company by our customers and create a cheerful workplace for our employees. Moreover, we believe that the spirit of dreaming for the bright future of our shareholders, company, and nation will open new doors for the future of Mirae Corporation.

We promise to pioneer the way for a more valuable future based on our decades-long history, and we invite you to keep an eye on our company with more interest and love.

Thank you.

MIRAE Co.,Ltd CEO



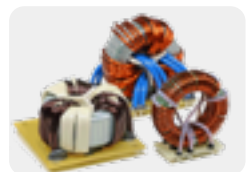
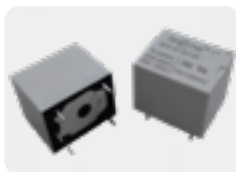
Hybrid Insertion System

MAI-Series

Our Hybrid equipment integrates lead-type component insertion systems using Through Hole Technology with highly dependable SMT mounter technology, in order to optimize performance and quality

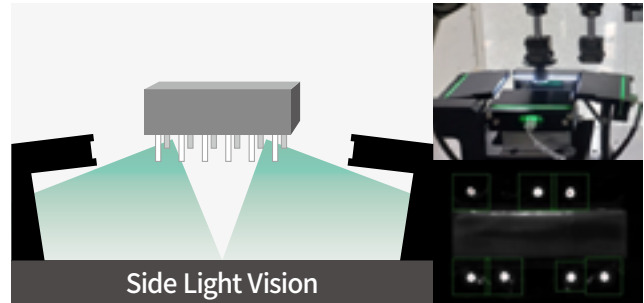
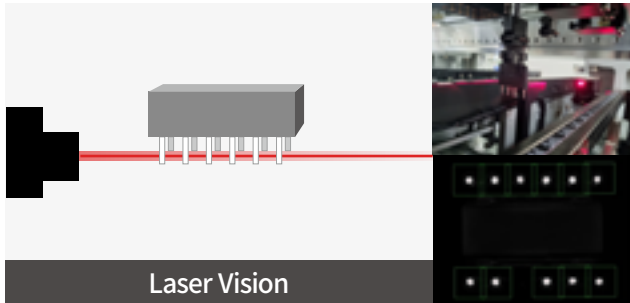
Model	MAI-H4T	MAI-H6T	MAI-H8T	MAI-12T
Optimal [Module/QFP]	11,500(0.31)/9,000(0.40) CPH(sec/chip)	17,000(0.21)/11,500(0.31) CPH(sec/chip)	25,000(0.15)/17,000(0.22) CPH(sec/chip)	36,000(0.10)/24,000(0.15) CPH(sec/chip)
IPC-9850 [Module/QFP]	12,500(0.29)/7,500(0.48) CPH(sec/chip)	13,500(0.27)/9,000(0.40) CPH(sec/chip)	15,000(0.24)/9,500(0.38) CPH(sec/chip)	17,500(0.20)/12,000(0.30) CPH(sec/chip)
Accuracy	±0.050mm			
Head	4	6	8	12
Gantry	Single Structure		Dual Structure	
Component Range	0603 ~ 50×50, 90×30 (mm)			
PCB size	700×510×5.0mm	600×510×5.0mm	700×510×5.0mm	600×510×5.0mm
	*Minimum 75×50×0.4 / 50×50×0.4(Option) (mm)			
Component Height (Max)	55mm			
Power	3 Phases 200 / 208 / 220 / 230 / 240 / 380 / 400 / 415 / 430(50/60) v(Hz)			
Air	0.55MPa			
Dimension	1,580×2,090×1,560mm			
Weight	About 2,000kg		About 2,100kg	

Applicable Components



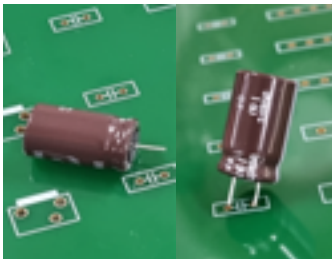
Laser & Side Light Vision System

Applying lasers and optical triangulation method, adjust the mounting position based on lead detection results, and determine the presence of lead bent or missing leads.

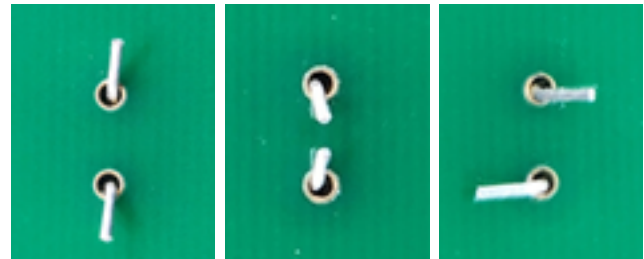
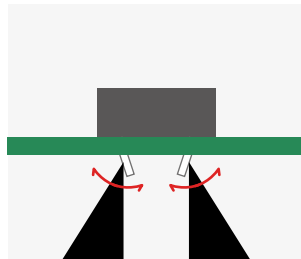


Auto Clinching

A component lead clinching system can prevent fall-out and slanting issues while the PCB is in motion.



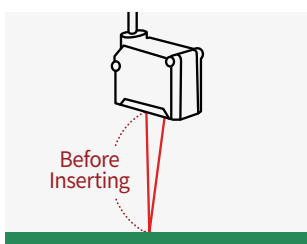
Problem (Fall-out/Slanting)



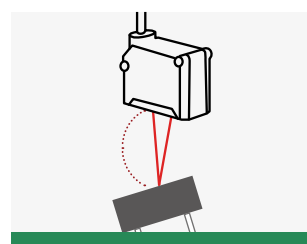
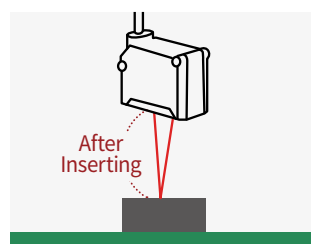
Method and Result

ZHMD (Z-Height Measurement Device)

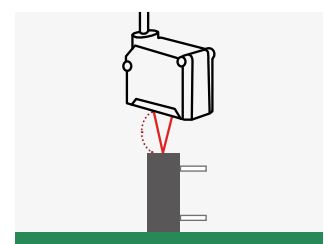
To prevent PCB defects caused by miss-inserted components, compare the component height before and after insertion and measure the evenness of the PCB using automatic level compensation.



① Height measurement



② Determination

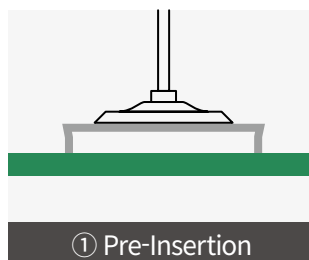


Side Push

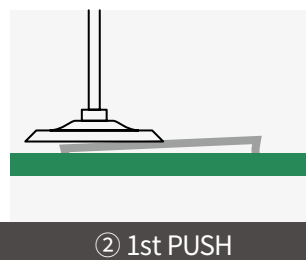
Use a side push technique with a nozzle to press pre-inserted components, especially for those that require further insertion.



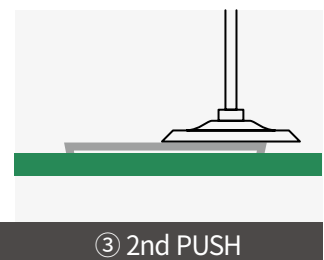
Example (Shield Cap)



① Pre-Insertion



② 1st PUSH



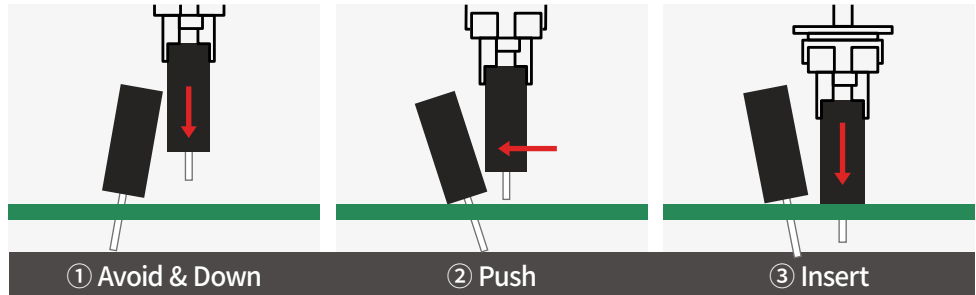
③ 2nd PUSH

Avoid

To prevent collisions with other components or insertion defects, use a sequence that involves avoiding, pushing, and inserting the components.

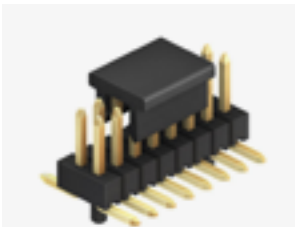


Problem (Narrowness)

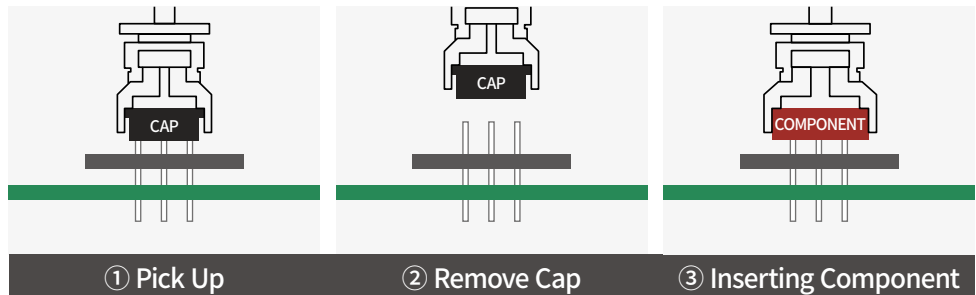


Component Removal

Function for removing component cover or protective cap before inserting component.



Example (Header Pin)



Software Option



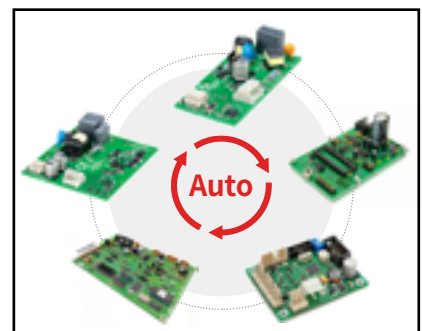
M.E.S

- To transmit collected production-related data to a server
- For an immediate response to any production-related problems through a real-time monitoring system
- To track the history of production and defects through collected data



Barcode

- To transmit QR code or barcode information of a component or PCB to a server
- To track a history of production and defect
- Equipped with an OCR inspection function (Optical Character Recognition system)



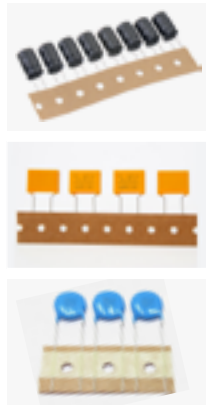
Auto Program Change

- To automatically change the production model through PCB barcode recognition
- To automatically adjust the conveyor width and assign nozzle and feeder based on information from the barcode
- To minimize the idle time associated with program setting

Feeder and Nozzle

Radial Feeder

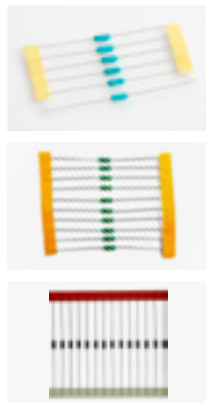
Feeding system for components in Radial (Vertical) package type.



Package Type	Radial (Vertical Reel)
Applicable QTY	Maximum 16ea
Current	2A
Power	48W
Feeding Method	Step Motor
Dimensions	800×110×180mm
Weight	8kg
Function	Lead Cutting / Bending

Axial Feeder

Feeding system for components in Axial (Horizontal) package type.



Package Type	Axial (Horizontal Reel)
Applicable QTY	Maximum 16ea
Current	2A
Power	48W
Feeding Method	Step Motor
Dimensions	770×99×302mm
Weight	8kg
Function	Lead Cutting / Bending

Stick Feeder

Feeding system for components in stick package type.



Package Type	Stick (Tube)
Applicable QTY	Maximum 16ea
Current	Less than 1A
Power	24W
Feeding Method	Step Motor / Air
Dimensions	1,020×97×375mm
Weight	17kg
Function	Lead Cutting / Forming

Bowl Feeder

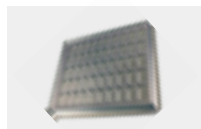
Feeding system for components in bulk or irregular package type.



Package Type	Bulk or irregular package
Applicable QTY	Maximum 4ea
Current	Maximum 3A
Power	600W
Feeding Method	Vibration / Air / PLC
Dimensions	Be depended on the component Shape
Weight	300~400kg
Function	Hopper / Escape(Pick-Up)

Single / Dual Large Tray Feeder

Feeding system for components in tray package type.



Package Type	Tray
Applicable QTY	Maximum 1ea
Tray QTY	Single 20 / Dual 64
Tray Size	430×355 (S) / 500×290 (D) mm
Feeding Method	Servo Motor / Air
Dimensions(mm)	642×1,184×1,359 (S) / 1,238×1,534×1,713 (D)
Weight	600kg
Function	Automatic Tray Change

Reel Feeder

Feeding system for SMT components in tape reel package type.



Package Type	Tape Reel
Applicable QTY	Maximum 20ea
Dimensions	658×12×419mm
Weight	1.5kg

Nozzle

Key part for picking up and inserting components.



- Custom-made for optimum performance based on the material, size, weight, and other factors of the components
- Supports the use of up to 12 types of nozzles through an automatic nozzle changer (ANC)
- Features surface heat treatment coating for preventing corrosion and maximizing the product's lifespan

World Wide Sales & Service Network



AMERICA & SOUTH AMERICA

Pimax

Tel. +55 11 2605 9607
E-Mail. danilo@pimax.com.br
Address. Rua Padre Adelino, 987
Sao Paulo -SP 03303-000, Brazil

SmarTsol Technologies

Tel. +52 33 3271 3784
E-Mail. contact@smartsol.mx
Address. Prol. Pino Suárez 1039-
int 37, El Vigía, 45140 Zapopan,
Jal., Mexico

SMT Automation Uruguay

Tel. +59 94 484496
E-Mail. santiago@smturuguay.com
Address. Zabala 1542-Of.103,
Montevideo, Uruguay

EUROPE & AFRICA

SMT-TECH

Tel. +48 668 580 701
E-Mail. a.lukaszewski@smt-tech.pl
Address. ul. Stodólna 1 87-610
Dobrzyń nad Wisłą, Poland

Laryo S.R.L

Tel. +39 39 620 3184
E-Mail. sales@laryo.it
Address. Via Cristina Trivulzio
di Belgioioso, 18/20 20852
Villasanta, Italy

Robotech AS

Tel. +47 64 85 80 20
E-Mail. jan-tore.soerlie@robotech.no
Address. Anolitvn. 10-12, P.O. Box
1303, N-1401 Ski, Norway

SMT House AB

Tel. +46(0) 40 672 72 70
E-Mail. ot@smthouse.com
Address. Lidangsgatan 26252 71
Raa Sweden

Detech Europe Ltd.

Tel. +44 (0) 1262 409 944
E-Mail. david@detech-europe.com
Address. Unit 3, Bridlington
Business Park, Bessingby Way,
Bridlington, East Yorkshire. YO16
4SJ. United Kingdom

Liontech

Tel. +7 812 715 0950
E-Mail. mail@liontech.ru
Address. Leninsky prospect, 153-
A, office 906, St. Petersburg,
196247, Russia

Korean SMT Solution

Tel. +372 559 655 36
E-Mail. mail@korean-smt.com
Address. Väike-Paala tn 1-507,
11415 Tallinn, Estonia

Sisprod

Tel. +351 229 547 938
E-Mail. geral@sisprod.com
Address. Rua Manuel Pinto de
Azevedo 567, S05 Edifício Mota &
Teixeira, 4100-321 Porto

InterElectronic

Tel. +36 1 207 37 26
E-Mail. karoly.peics@interelectronic.hu
Address. Gyár utca 15, 1222
Budapest, Hungary

ASIA & PACIFICA

J Solutions

Tel. +82-10-7621-1202
E-Mail. solution@jsolve.co.kr
Address. F717, WonheeCatsle, 320
Godeokjungang-ro, Pyeongtaek-
si, Gyeonggi-do, Republic of Korea

Premtronic (Thailand) Co., Ltd.

Tel. +66 89 218 2376
E-Mail. jacky@premtronic.co.th
Address. 111/55 Moo 4 Praksamai,
Muang, Samutprakarn 10280,
Thailand

Ankatek Elektronik

Tel. +90-216 471 72 46
E-Mail. selim.ergul@anka-tek.net
Address. Y.Dudullu Mah.Nato Yolu
Caddesi. Nebioğlu Sok.No:25
Ümraniye İST, Turkey

Contax Automation Ltd.

Tel. +44 208 9988770
E-Mail. morteza@contaxautomation.com
Address. Little Park Farm Road,
Segensworth West, Fareham,
Hampshire PO15 5SJ. U.K

PT. JIN SUNG TECH

Tel. +62 21 8983 2002
E-Mail. park_pps@hotmail.com
Address. Jl.Samsung 1 Blok B-9D,
Desa Mekar Mukti, Kec. Cikarang
Utara Bekasi Jawa Barat 17530,
Indonesia

Kampfer Automation Pvt Ltd.

Tel. +91 80 25351440
E-Mail. sales@kampferindia.com
Address. 119, E20, BDA, Domlur
2nd Stage, Bangalore 560071,
India

CHINA

Suzhou Mirae Automation Co.,Ltd

Tel. +86-0512-6288-2876
E-Mail. jhhong@mirae.com
Address. Room1510, Building T4,
Hong Leong City Center, Industrial
Park, Suzhou, China.

Mirae Corporation

Add. #65, Baekseokgongdan7-ro, Seobuk-
gu, Cheonan-si, Chungcheongnam-do,
Korea (31093)

Tel. 041-529-1031 / 041-559-8750
Email. smtsales@mirae.com
Web. www.mirae.com

