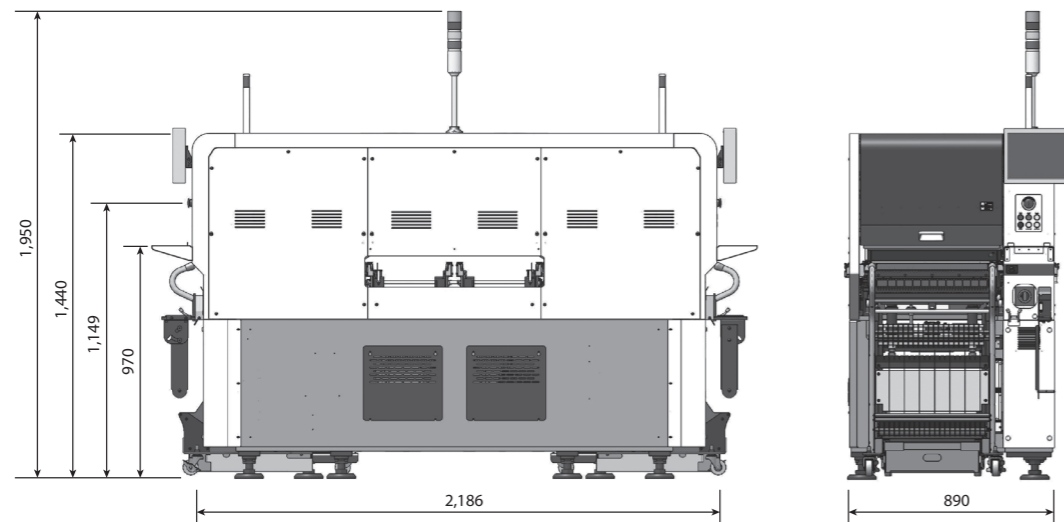


Specifications				
Machine Type		LED Machine	High Speed Machine	Multi Function Machine
Alignment		Fix Camera		
The Number of Spindles		20 Spindles x 2 Gantry (Rotary Type)	20 Spindles x 2 Gantry (Rotary Type)	6 Spindles x 2 Gantry (Piano Type)
Placement Speed (Optimum)		80,000 CPH	80,000 CPH	60,000 CPH
Placement Accuracy	Chip	±25 μm @ Cpk ≥ 1.0	±25 μm @ Cpk ≥ 1.0	±40 μm @ Cpk ≥ 1.0
	BGA	-	-	±30 μm @ Cpk ≥ 1.0
Component Range	Size	0201 ~ □ 6 mm	0201 ~ □ 6 mm	0402 ~ □ 55 mm
	Max. Height	2 mm	2 mm	15 mm
PCB Size (mm)	Min.		L50 x W50	
	Max.	Single Lane	~ L510 x W580, ~ L750 x W580 (Option) *	
		Dual Lane	~ L510 x W310, ~ L750 x W310 (Option) *	
PCB Thickness (mm)		1.0 ~ 4.2 **	0.3 ~ 4.2	0.3 ~ 4.2
Feeder Capacity (8 mm Standard)		8 ea (Fixed Base)	80 ea (Docking Cart)	80 ea (Docking Cart)
Utility	3 Phase, AC 200V / 208V / 220V / 240V / 380V / 415V ±10%			
	Power	Max. 4.2 kVA		
	Air Consumption	0.5 ~ 0.7 Mpa 100 Nℓ/min		
Weight (H900 mm Standard)		Approx. 1,670 kg	Approx. 1,605 kg	Approx. 1,607 kg
External Dimension (Standard)		L890 x D2,370 x H1,930 mm		

* If the length of the PCB exceeds 460mm, it is mounted partitively.

** If you use a PCB with a thickness of 0.3 to 4.2 or L750mm for your LED equipment, you need to contact our sales representative

Dimension



CUTTING EDGE MODULAR MOUNTER
HM520

· The specification in this catalog is actual value measured under designated condition. These are subject to change without prior notification.
· The above value may vary depending on operating condition. For an inquiry, please contact our sales representative or visit our website.

USA 6000 Phyllis Dr. Cypress, CA 90630, USA T +1-714-373-4200
 Europe T +82-70-7147-6322, 6311 F +82-31-8018-3721 (Mexico E mexico@hanwha.com)
 Asia T +82-70-7147-6320, 6323 F +82-31-8018-3721 (Vietnam T +84-96-880-7191 / India T +91-98100-01345)
 Korea HQ 6, Pangyo-ro 319beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488, Korea T +82-70-7147-6258
<https://www.hanwha-pm.com/en>

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CUTTING EDGE MODULAR MOUNTER
HM520



Best-in-Class actual productivity & optimized to produce a high quality product.

Flexible production line with modular head and a wide range of production mode.

Supports non-stop, zero defect and minimized resource input with T-Solution.



T-Solution

T-IT

Provides a solution to prevent component misplacement and to manage production history.

T-OLP

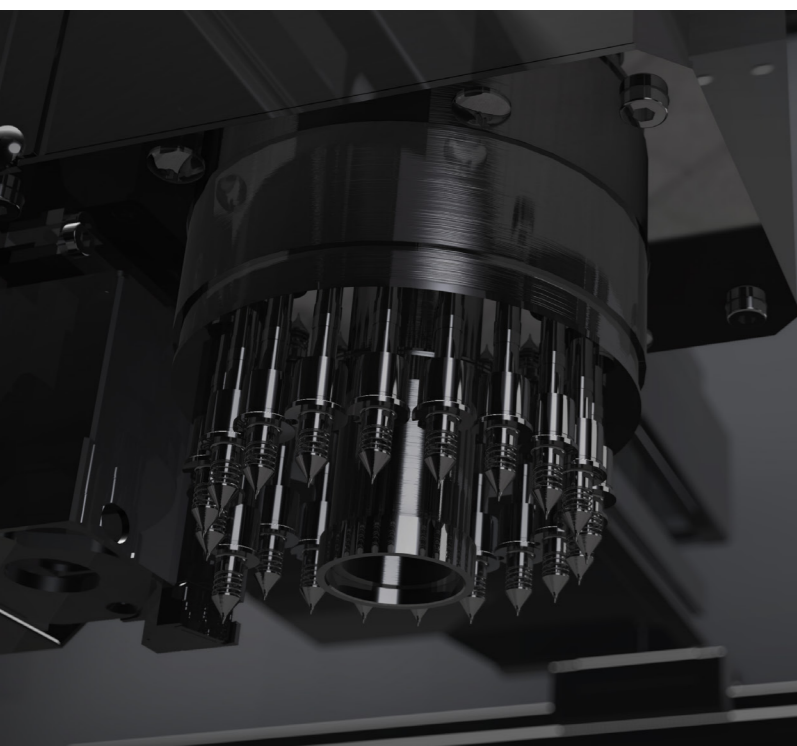
Planning with the optimum production condition.

T-PNP

Possible to maintain the optimum production quality with the real-time diagnostic report.

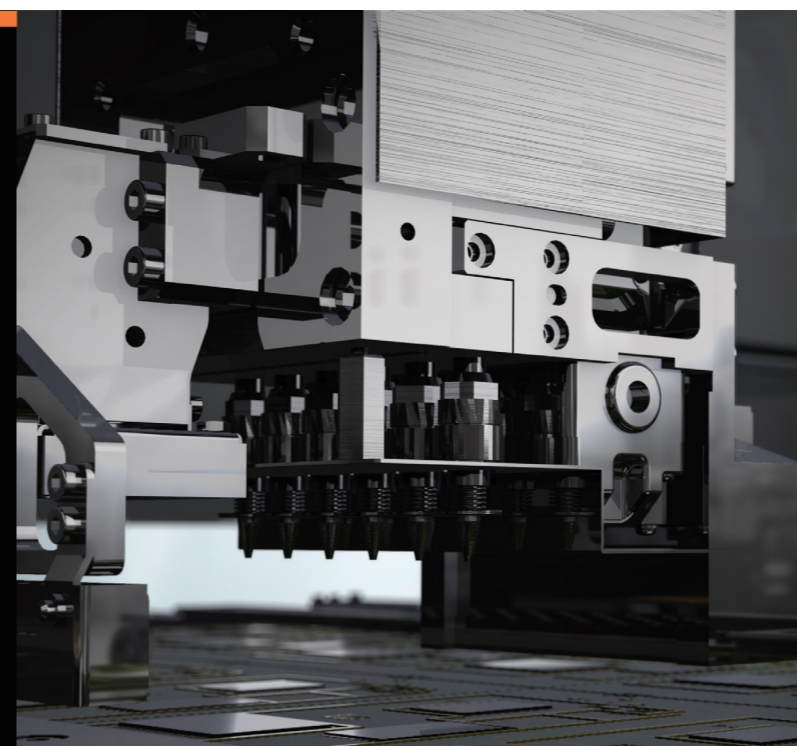
T-SMART

Monitors the production status anywhere, anytime, using a tablet PC and smart watch.



HS(High Speed) Head

- 20 Spindle x 2 Gantry
- 80,000 CPH
- $\pm 25 \mu\text{m}$ @ $\text{Cpk} \geq 1.0$
- 0201 ~ □ 6 mm (H 2 mm)



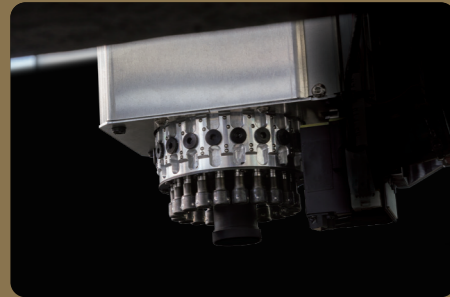
MF(Multi Function) Head

- 6 Spindle x 2 Gantry
- 60,000 CPH
- $\pm 30 \mu\text{m}$ @ $\text{Cpk} \geq 1.0$
- 0402 ~ □ 55 mm (H 15 mm)

HIGH PRODUCTIVITY

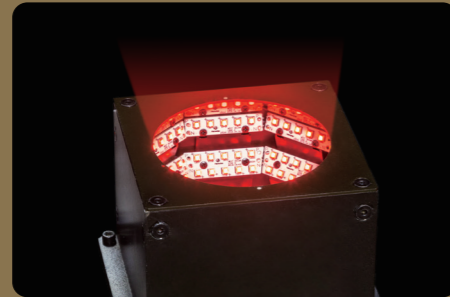
20 Spindle Head

Quickly recognizes 20 spindles simultaneously with the fix camera and our specially designed small and light-weighted head.



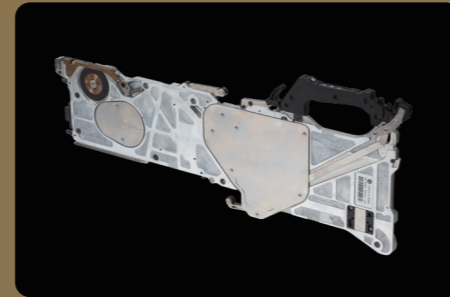
High Speed and High Definition Fix Camera

Possible to do high speed and high-precision placement of Mini LED chips as well as microchips (0402, 0603) for mobile phone PCBs using the high definition camera without a reduction of actual productivity.



HM Feeder (8 mm)

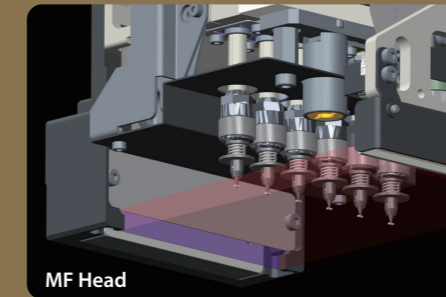
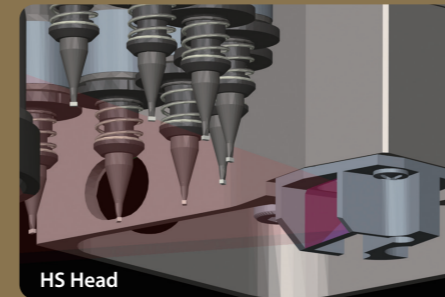
Developed a new HM feeder, which reduces feeding time by approximately 24%.



HIGH RELIABILITY

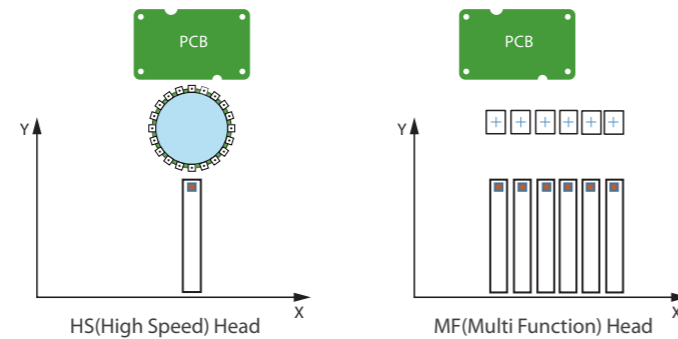
Prevents Non-Insertion with the Side View Camera

Possible to prevent non-insertion of components by - checking the posture after pick-up, checking the nozzle exposure during production, and comparing status before & after the placement. It is also possible to measure the component height in real-time and automatically adjust the deviation, as a way to prevent pick-up and placement defect.



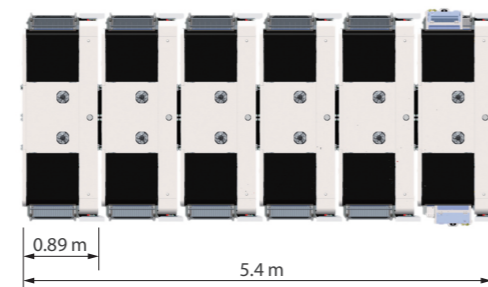
Optimized for LED Production

Ensures optimized production with a minimum number of feeder using the rotary head. Actual productivity can reach max 74,000 CPH.



Improved Productivity per Area

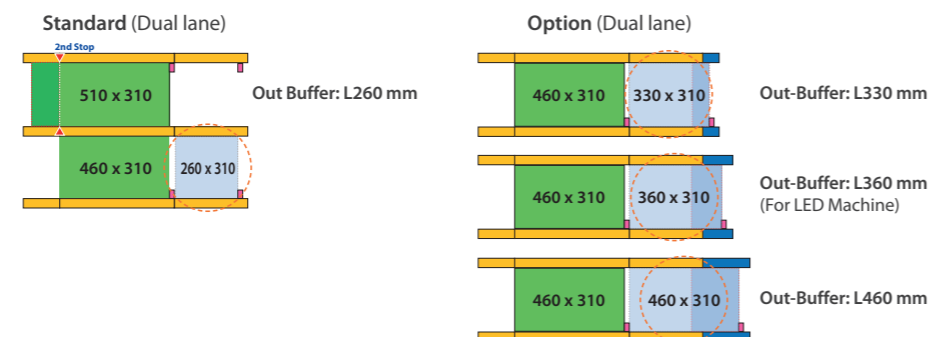
Significantly increase the productivity per unit area by minimizing the machine length while increasing the length of an available PCB. (140% compared to DECAN Series)



Adopts an Out-Buffer

Increases actual productivity by adding an Out-Buffer Extension as an option to reduce the transfer time between boards.

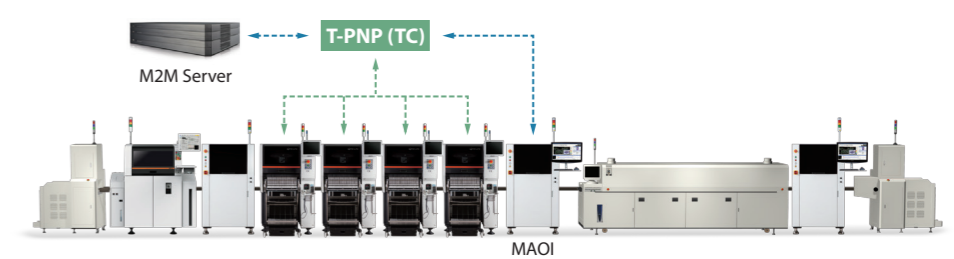
※ Out-Buffer
 • Standard: L260 mm
 • Option: L330, L360, L460 mm



Automatic Correction of Placement Coordinates T-M2M(AC) *

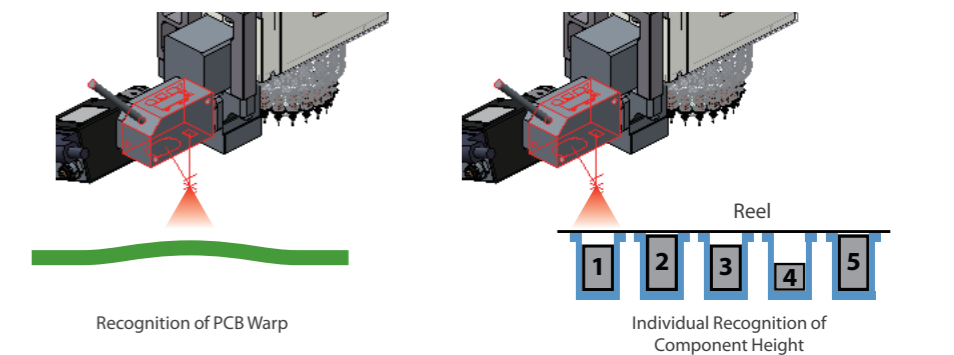
Possible to automatically and continuously correct the placement offset by sharing the inspection results of M-AOI with the chip mounter in real-time. (Cpk 30% ↑)

* Need to purchase separately



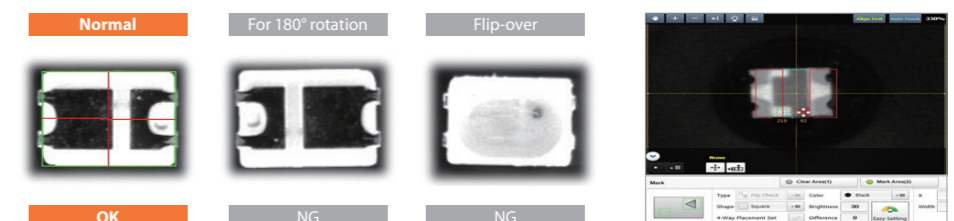
Height Sensor

Picks up a component using the height sensor without a separate teaching. It also automatically corrects the difference in the placement height from PCB warpage.



LED Component Flip Check Support

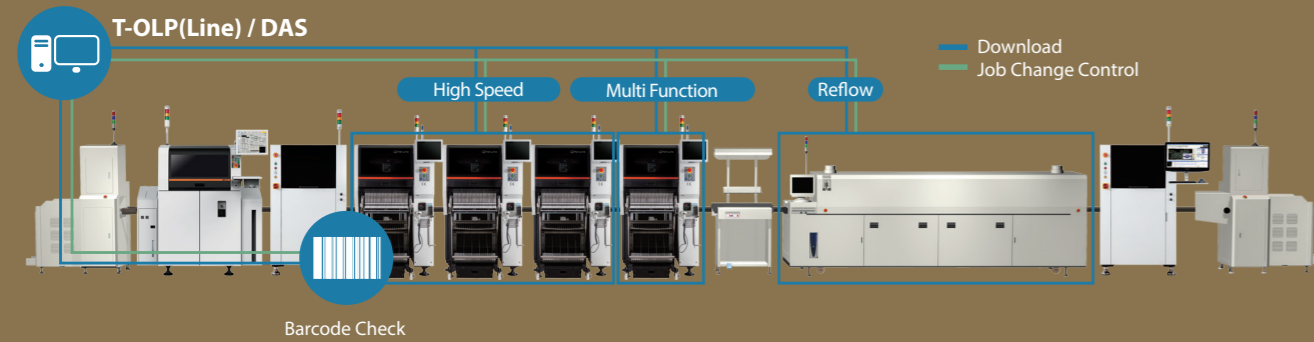
Prevents a defective placement by checking for component flipped-over using the Vision Camera.



FLEXIBLE PRODUCTION

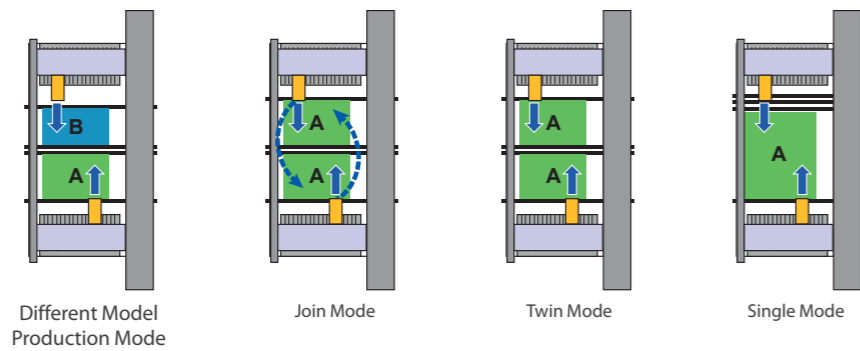
Family Job Change

Minimizes the model changing time by grouping the feeders and nozzles when producing family models.



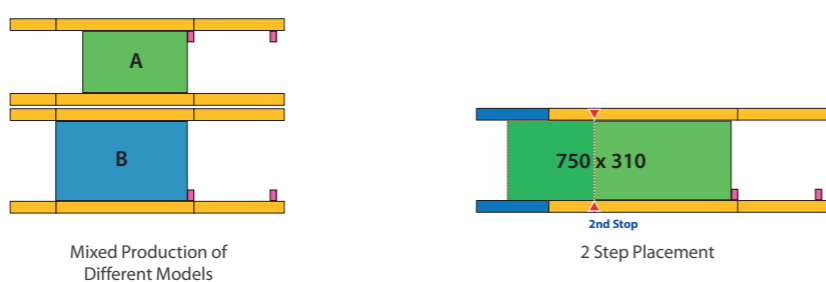
Provides Various Production Modes

Helps the user to achieve the optimum production conditions by selecting a production mode suitable for the production environment.



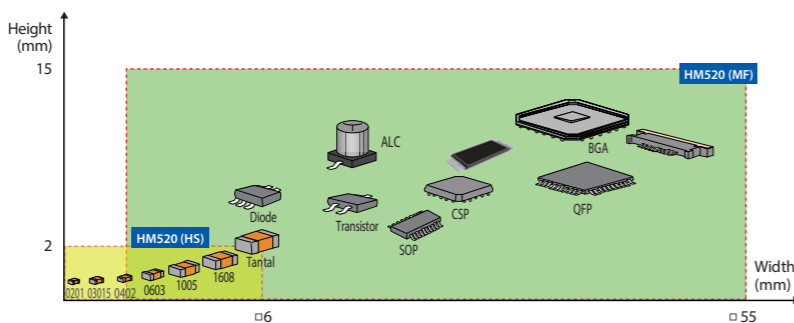
Flexible Applicability to PCBs

Allows a mixed production with different models by using a dual lane. Possible to use a 2-step placement to support up to 750 mm.



Range of Applicability to Components

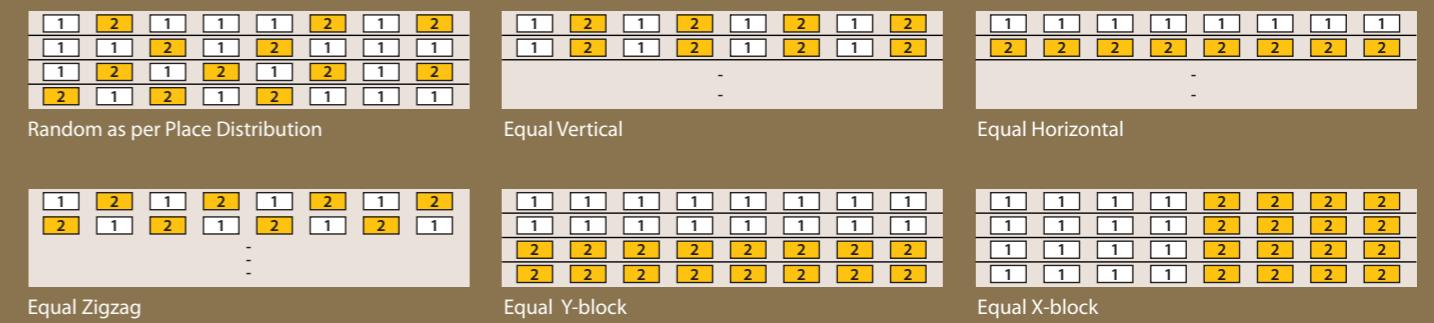
Possible to place components from 0201 microchips to a maximum of 55mm components, with a height of a maximum of 15 mm.



EASY OPERATION

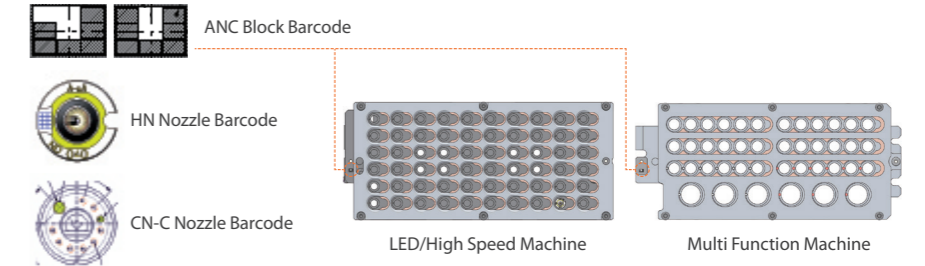
LED Rank / Random

Possible to register each LED by its rank and assign placement points at random by LED color.



Automatic Nozzle Re-Arrangement

The fiducial camera recognizes the barcode of the ANC and nozzles to help ensure the optimum rearrangement on the ANC block.



Multi-Vendor Component Support

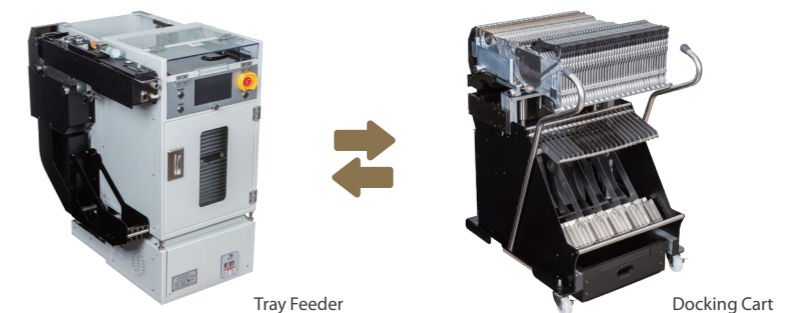
Manages the same component supplied from two companies as a one part name to help create a PCB program. This reduces component loss due to supplier difference.

No.	ST	Part Name
Filter	-	-
1		2p
2		3030
3		3030_1
4		3030_1_KEC
5		3030_1_Osram
6		3030-1_Samsung

Dump Information (page 1) of Information	
Move	15:01:34 F5 R1005
Move Next	15:01:34 F6 R1005
Edit	15:01:34 F7 R1005
Pusher U/D	<input checked="" type="checkbox"/> Stop Buzzer <input type="checkbox"/> Change Vendor <input type="checkbox"/> Close

Improves Convenience on Peripheral Devices

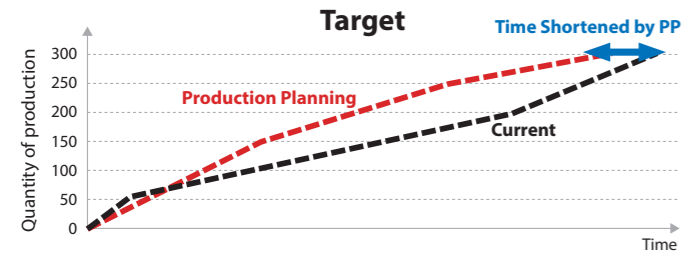
Possible to add a Flux-Dipping unit or 7 sets of 8mm feeder to the left side of the tray. Automatically recognizes Tray Feeder and Docking Cart to cross-install them within 1 minute.



SOFTWARE SOLUTIONS

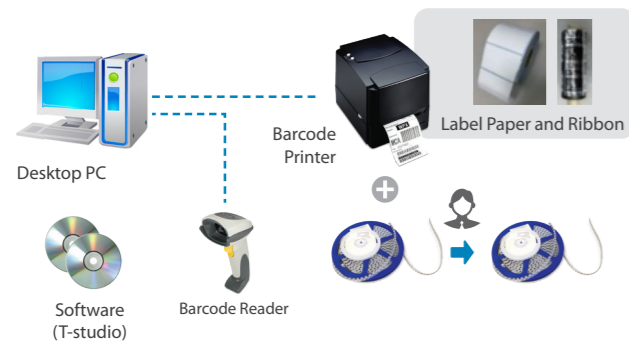
Offline Programming (T-OLP)

- Provides CAD interface, optimization, and line balancing.
- Establishes a production plan that considers feeder rearrangement when changing a model using JOB Planning.



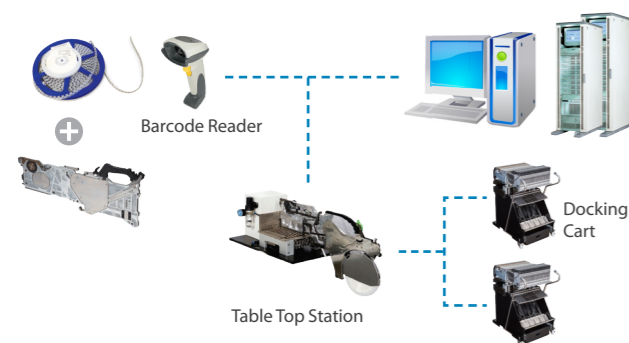
Issuing and Registering Component Reel Barcode (T-SMART ID)

- Creates and manages the component reel information by issuing and registering the reel barcode.



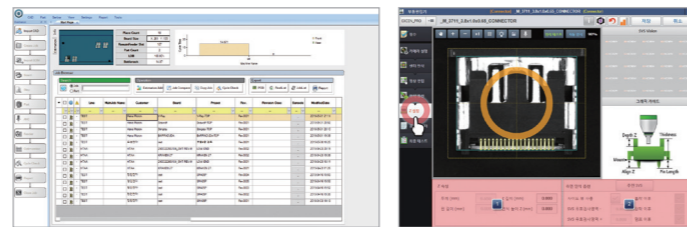
Prepare the Feeder in Advance of Production

- Minimizes the model changing time using a docking cart before changing a model.
- Helps rearrange feeders easily up to a maximum of 8 sets of docking carts. (Feeder workstation or FLMS)



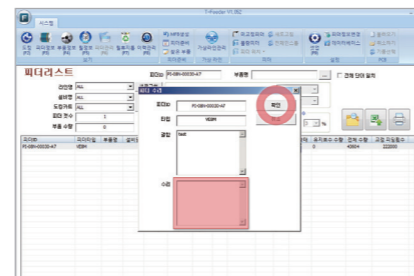
Off-Line Component Registration and Management (T-ELITE)

Can increase operation efficiency by creating a part DB without stopping the machine.



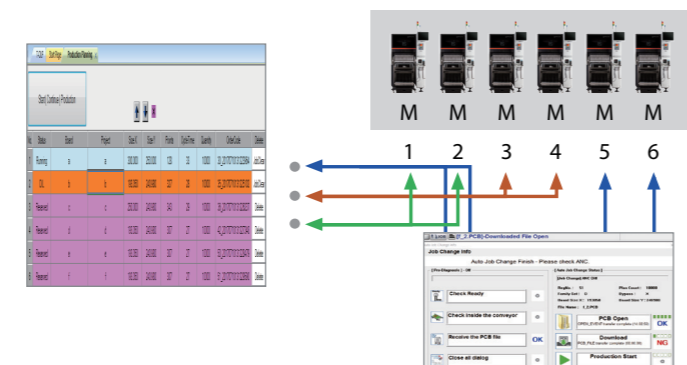
Feeder History Management Tool (T-Feeder)

- Manages the feeder calibration history to maintain the feeding quality.
- Easy to examine the position of the tape feeder necessary for the next production.



Auto JOB Change (T-OLP)

- 'Production Reservation' function allows automatic change in production model and reduces production time, without involvement of operator during the production.

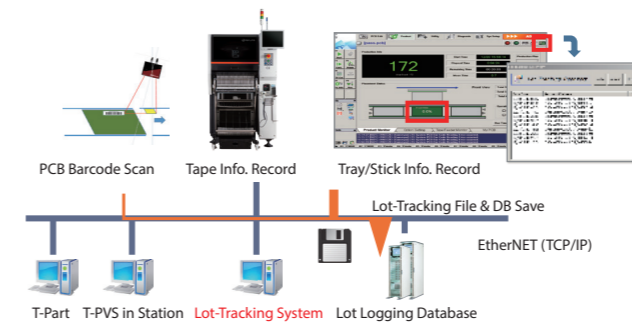


Component Misplacement Prevention

- Collective inspection over all components and feeders to check if they match with the original PCB program.
- Prevent misplacements by checking reels if it is installed in the proper slot.

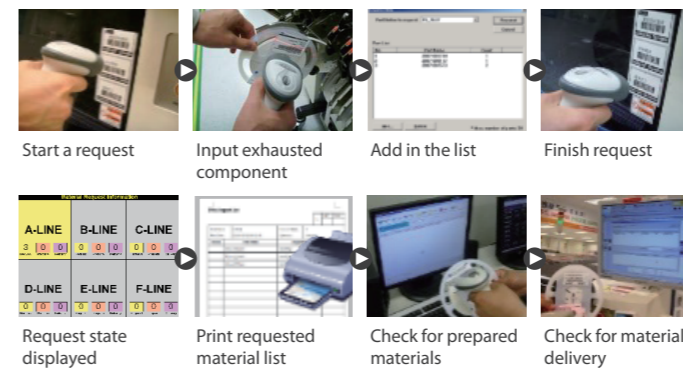
Production History Management System (LTS)

- Minimizes the range of recall and PCB repair through the Lot tracking.



Prevents Production Delay from a Component Shortage (T-IT)

- Automatically manages the quantity of components remaining in the reel to help prepare components in advance.
- Remotely add components in shortage to the Material Request. The requested parts are recognized and supplied from the stock in real-time.



Factory Monitoring and Remote Control System (T-SMART)

- Possible to monitor the factory through remote connection and to check the error message of the machine/system.
- Possible to remotely check and control operation condition on the machine with mobile devices.

Line Management

Major Production Index (KPI) Management and Monitoring (T-PNP)

- Monitors six production index and the trend of each index in real-time to help take a quick measure on a problem in the line.

Warning against Production Model Change (T-PNP)

- Warns the user on a production model change in advance, to prevent a delay in changing lead-time.

Production History Inquiry and Reporting (T-PNP)

- Inquires the production history on key indicators. Provides a report from the key production index mailing system.

Failure Analysis by Period (T-PNP)

- Conducts failure analysis on selected period with production data, and propose solutions accordingly.

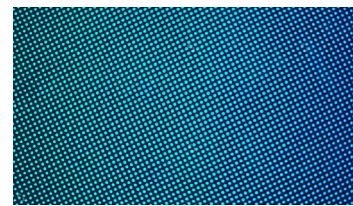
Alarm Transmission and Maintenance (T-PNP)

- Sends an alarm to the production manager to take an immediate counter-action on a major defect or a production issue.

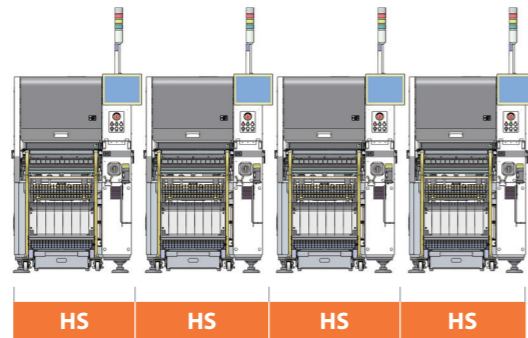
M2M Communication Support (T-PNP)

- Prevents defects by sharing data between machines to improve productivity.

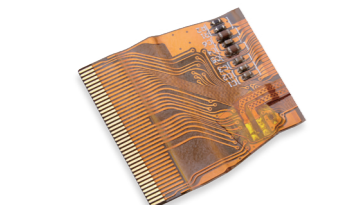
HM520 PRODUCTION IN-LINE



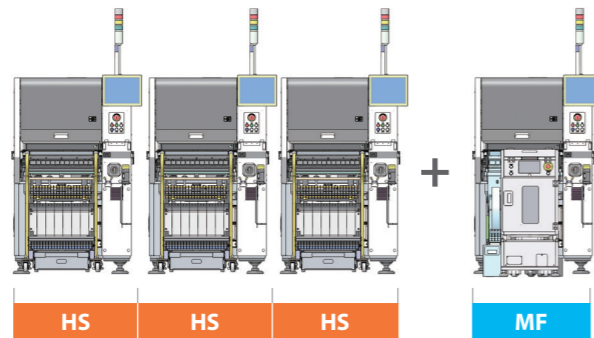
LED Electronic Display



LED Display
LED 1.5P
14,400 Point
Twin Mode



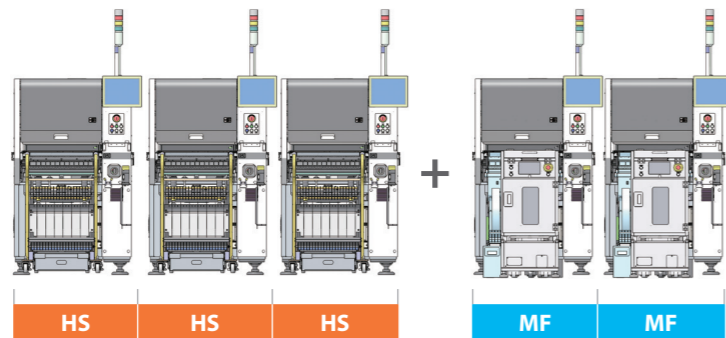
Small F-PCB Module



Battery Module
16 Arrays
608 Point
Twin Mode



Mobile Phone



Smart Phone
6 Arrays
2,700 Point
Join Mode

Tape Feeder

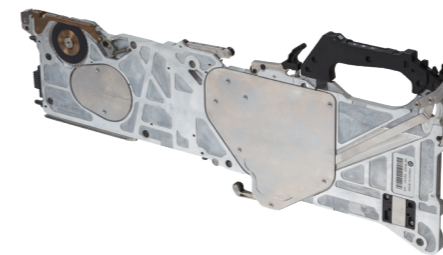
	W4P1	8 mm	12 mm	16 mm	24 mm	32 mm	44 mm	56 mm	72 mm
Tape Width (mm)	4	8	12	16	24	32	44	56	72
Feeding Pitch (mm)	1	2, 4	Min. 4 / Max. Tape Width						
Reel Diameter (mm)	Ø180	Ø178 ~ 330	Ø178 ~ 380	Ø178 ~ 380	Ø178 ~ 380	Ø178 ~ 380	Ø178 ~ 380	Ø178 ~ 380	Ø178 ~ 380
Application	HS	HS / MF	HS / MF	HS / MF	MF	MF	MF	MF	MF

ACCESSORY

HM Feeder

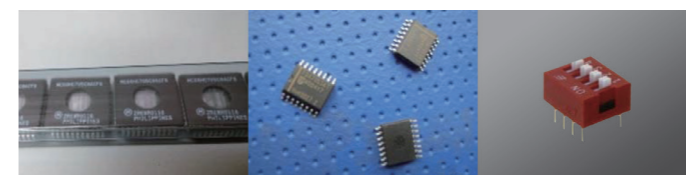
Developed a new HM feeder (8mm), which reduces feeding time by 24% compared to the conventional ones.

- HM 8 mm
- HM W4P1
- HM 8 mm LED



Stick Feeder

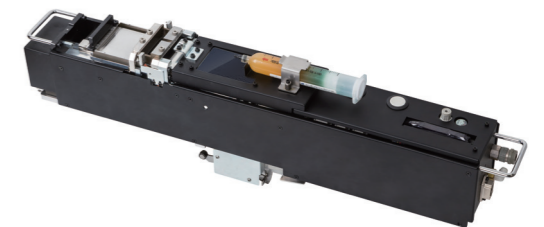
Applicable Stick Size (mm)	Min. 300(L) Max. 34(W) x 600(L) x 9 Max. Stick Width: 13mm (when applying 2 sticks)
Installable Stick Quantity	2
Number of Occupied Slots	5
Range of Applicable Components (mm)	Min. 5 x 5 x 1.5 Max. 31 x 31 x 6
Types of Applicable IC Chips	Small Odd-shape Component / Insert Component SOP Type (Small Outline Package) SOJ Type (Small Outline J-lead) QFP Type (Quad Flat Package) PLCC Type (Plastic Leadless Chip Carrier)



Flux Dipping Unit

Supports high-speed and precision POP by using Sliding type Flux deposition.

Flux Application Range (Thickness)	
Flux Film Forming Size	56.5 mm (X) x 56.5 mm (Y)
Actual Applicable Part Size	52.5(X) mm x 52.5(Y) mm
Film Forming Time	Less than 3 seconds (based on the squeegee reciprocating time)
Control Range	0.015mm ~ 0.35mm (Squeegee Gap)
Minimum Application Thickness Adjustment Unit	
	10 µm
Number of Occupied Slots When Installing	
	7



Tray Feeder

Outline Dimension (mm)	564.6(L) x 750(D) x 918.2(H)
Weight (kg)	Max. 190
Tact Time	4.6 seconds (Single staged → 10-staged)
Tray Size (mm)	Min. 200 x 100 Max. 320 x 230
Magazine	1 Tray / Pallet 10 Pallet / Magazine 2 Magazine / Tray Feeder



Tray Feeder Equipped with a Tape Feeder



Tray Feeder Equipped with a Flux Dipping Unit