

Double Flexibility Double Value

# DECAN Series

smartSMT Line Solutions



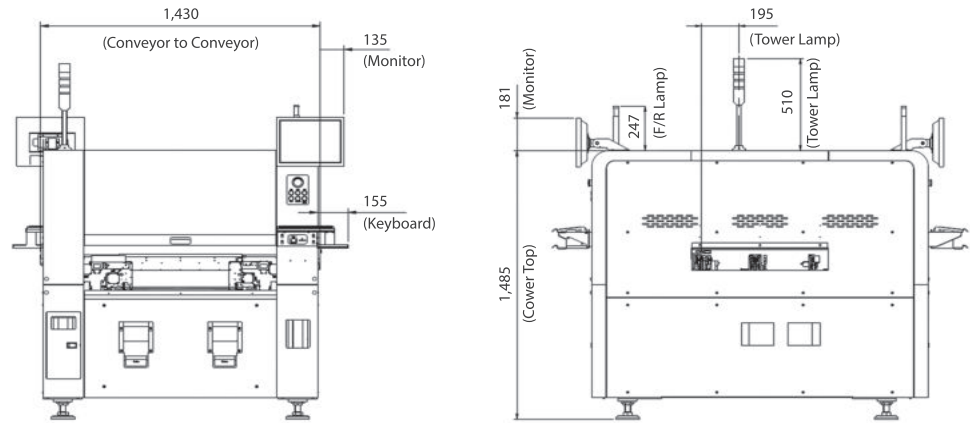
## Specifications



Model Name			DECAN S2	DECAN F2	DECAN L2
Alignment			Fly Camera + Fix Camera (Option)		
The Number of Spindles			10 Spindle x 2 Gantry	10 Spindle x 2 Gantry	6 Spindle x 2 Gantry
Placement Speed			92,000 CPH (Optimum)	80,000 CPH (Optimum)	56,000 CPH (Optimum)
Placement Accuracy	Chip		±28 μm @ Cpk ≥ 1.0 (03015 Chip) ±25 μm @ Cpk ≥ 1.0 (IC)	±40 μm @ Cpk ≥ 1.0	
	QFP		±30 μm @ Cpk ≥ 1.0		
Component Range	Fly Camera		03015 ~ □12 mm	0402 ~ □16 mm	0402 ~ □21 mm
	Fix Camera (Option)		~□42 mm ~□55 mm (MFOV) ~ L75 mm Connector (MFOV)		
	Max. Height		10 mm (Fly) 15 mm (Fix)		12 mm (Fly) 25 mm (Fix)
	PCB Size (mm)	Single Lane	Min.	L50 x W40**	
Max.			L510 x W460 ~ L610 x W460 (Option), ~ L740 x W460 (Option), ~ L810 x W460 (Option), ~ L850 x W460 (Option)		L510 x W460 ~ L610 x W460 (Option), ~ L740 x W460 (Option), ~ L810 x W460, ~ L1,200 x W460 (Option)
Dual Lane		Min.	L50 x W40		
			L510 x W250, ~ L610 x W250 (Option) ~ L740 x W250 (Option), ~ L1,200* x W250 (Option)		
		Max.	L510 x W460, ~ L610 x W460 (Option) ~ L740 x W460 (Option), ~ L1,200* x W460 (Option)		
2 PCB					
	1 PCB				
PCB Thickness (mm)			0.38 ~ 4.2		
Feeder Capacity (8 mm standard)			120 ea / 112 ea (Docking Cart)		
Utility	Power		3 Phase, AC 200 / 208 / 220 / 240 / 380 / 415V ±10% (50/60 Hz)		
	Air Consumption		Max. 5.0 kVA		
			5.0 ~ 7.0 kgf/cm²		
			50 Nℓ/min		
Weight (H900 mm standard)			Approx. 1,760 kg		
External Dimension (Standard)			L1,430 x D1,740 x H1,485 mm		

\* L1,200mm(length of the PCB) is available for Full dual(2-2-2) lane mode.  
\*\* If the PCB length is more than 740mm, the minimum width of the PCB could be changed.

## Dimension



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• The dimensions, product specifications and values in this catalog are actual values measured under conditions designated by our company.  
• The above items may differ depending on actual operating conditions. For the details related to options, please contact the person responsible for sales.

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# DECAN Series



**DECAN Series**



- 92,000 CPH
- 03015 ~  
Max. □ 55mm (H15mm)



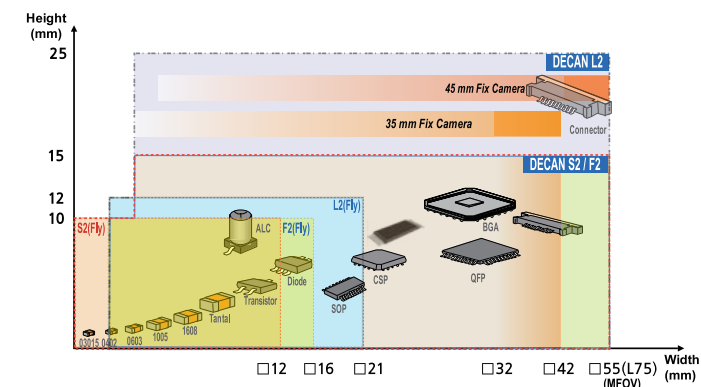
- 80,000 CPH
- 0402 (01005 inch) ~  
Max. □ 55mm (H15mm)



- 56,000 CPH
- 0402 (01005 inch) ~  
Max. □ 55mm, L75mm (H25mm)



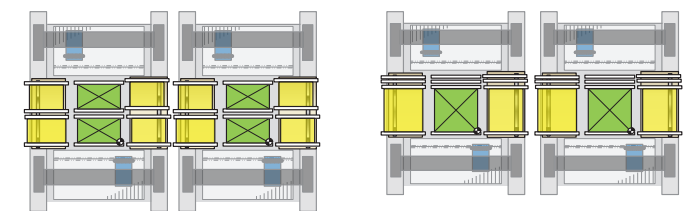
- Part capability of 03015 ~ □55mm (H25mm)
- Performs placement by recognizing the characteristics of the LED and Lens



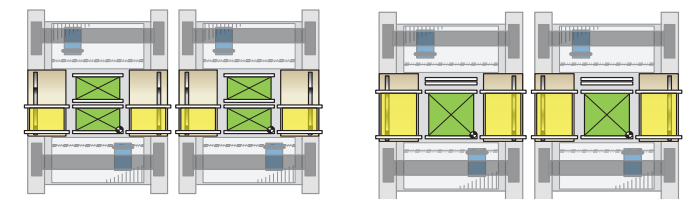
## Various PCB transfer systems

- Various structures maximizing productivity
- Long boards (1,200 x 460mm)
- Dual lane as standard

## Full Dual Conveyor

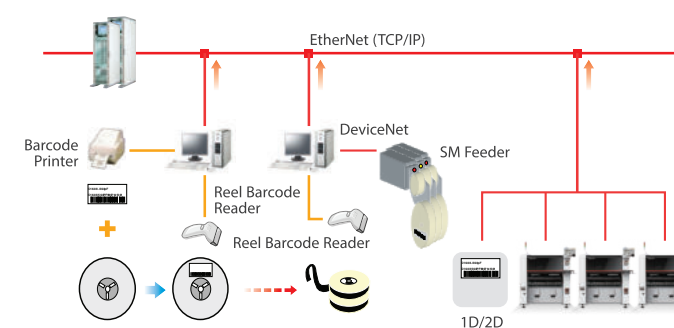


## Shuttle Dual Conveyor



## Verified production history management solution

- Parts verification (Prevents misplacement)
- T-LTS : Lot tracking for traceability



## High speed placement

- Minimizes the placement cycle time by recognizing the picked part and correcting the placement angle while moving to the placement position after picking the part





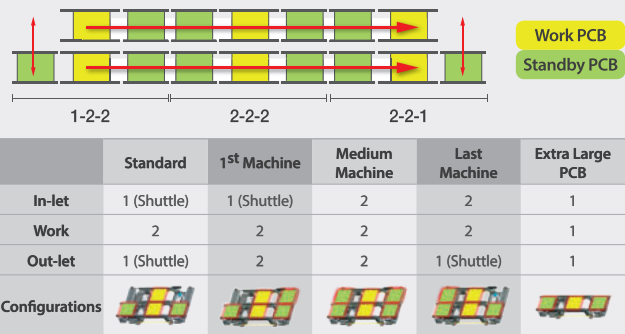
# Why DECAN?

- Wide part handling capability and flexible conveyor options suitable for various PCBs
- Reduces production time by optimizing the motion sequence and sharing the data with other machines
- Reinforces odd-type part recognition by applying a 3D lighting system and improving the Camera algorithm
- High reliability of machine operation and increased convenience of operation by listening to customers' requirements

## FLEXIBILITY

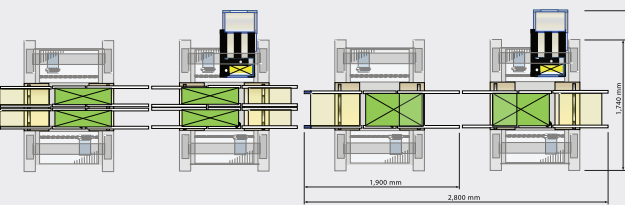
### Modular conveyor system for various production environments

- Allows optimum conveyor module combination according to a production line by applying a modular conveyor that can be replaced on site (Shuttle ↔ Dual)



### Machine applicable to large PCBs that can be modified on site

- The standard machine can be modified on site to handle large PCBs
- Applicable to Max. 1,200 x 460mm PCBs
- Possible to produce 1,200mm long boards on dual lane



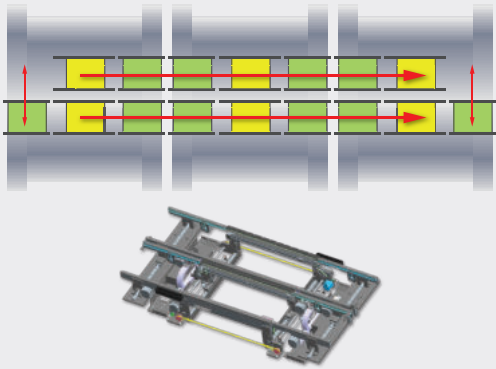
### Places high precision Can Connector parts and LED/LED lenses



## PRODUCTIVITY

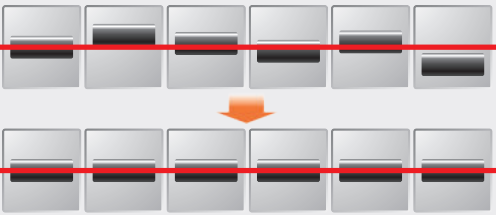
### Dual lane PCB transfer system for the improvement of productivity

- Zero PCB loading/unloading time by loading the PCB on the opposite lane and having it stand by during operation (Productivity increases by 15% compared to a single lane machine)



### Maximizes productivity by increasing simultaneous pickup rate

- Increases the simultaneous pickup rate by automatically correcting pickup positions



### Reduces the cycle time by sharing bad marks with other machines

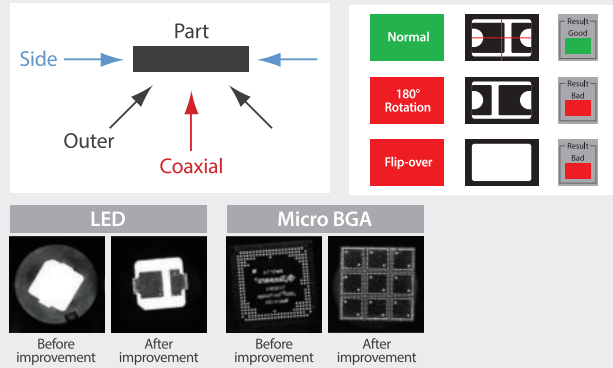
- Shares the information of the bad mark of the PCB recognized by the first machine with other machines in the line
- Reduces the placement cycle time since the bad mark inspection is omitted by sharing the bad mark information



## RELIABILITY

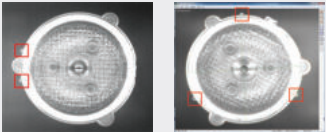
### Prevents reverse placement by recognizing the polarity mark at the bottom surface of a part

- Recognizes the polarity mark on the bottom surface of a part using the 3-stepped 3D lighting

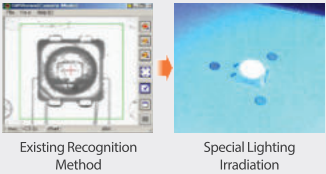


### Optimizes the placement of LED lenses

- LED direction and recognition of different types of LEDs
- Minimizes defective placement by recognizing the protruded positions



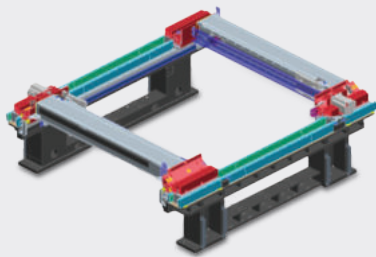
- Places a lens based on the light source by recognizing the LED light source



Patent Registration  
No. 1472444

### Utilising linear motors reducing noise and vibration

- Applies the twin servo control and linear motor to the Y-axis to realize low noise and vibration



## EASY OPERATION

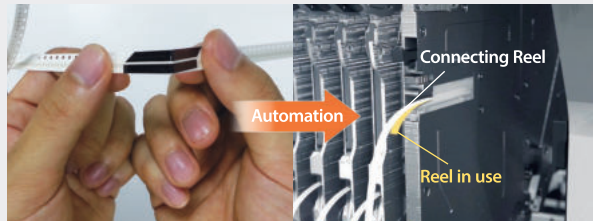
### Increased convenience of machine software operation

- The built-in optimization software allows a PCB program to be easily created and edited
- Provides various PCB information through a large LCD screen



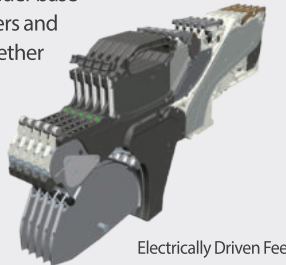
### Automatic tape connection reduces the work volume by half (Smart Feeder)

- Utilising the automatic tape loading and splicing for the first time in the SMT industry - Minimizes the part reel replacement time by automating the tape loading and splicing that was previously performed manually
- Zero cost for consumables for tape splicing



### Allows mixed use of an electrically driven feeders and pneumatic feeders

- Allows mixed use of electrically driven feeders and pneumatic feeders in the same feeder base
- Allows the electrically driven feeders and pneumatic feeders to be used together with existing feeders, which helps reduce production costs



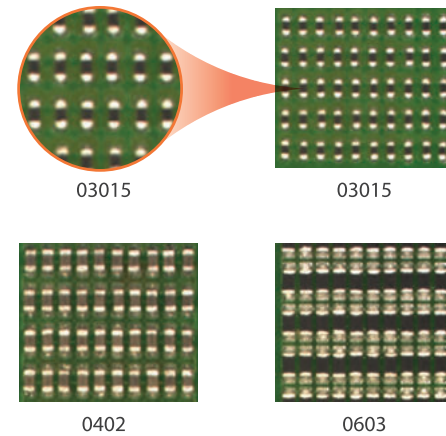
# Double Flexibility Double Value

## Advanced Chip Shooter

### DECAN s2

Increases the speed/accuracy for the placement of microchips (03015)

- Speed : **92,000 CPH (Optimum, HS10 Head)**
- Structure : 2 Gantry x 10 Spindles/Head
- Accuracy :  $\pm 28\mu\text{m}$  Cpk $\geq 1.0$  (03015 Chip)  
 $\pm 25\mu\text{m}$  Cpk $\geq 1.0$  (IC)
- Parts Size : **03015 ~**  
**Max. □ 55mm (H15mm)**
- PCB Size : 50 x 40  
~ 510 x 460mm, ~ 610 x 460mm (Option),  
~ 740 x 460mm (Option), ~ 810 x 460mm (Option),  
~ 1,200 x 460mm (Option)

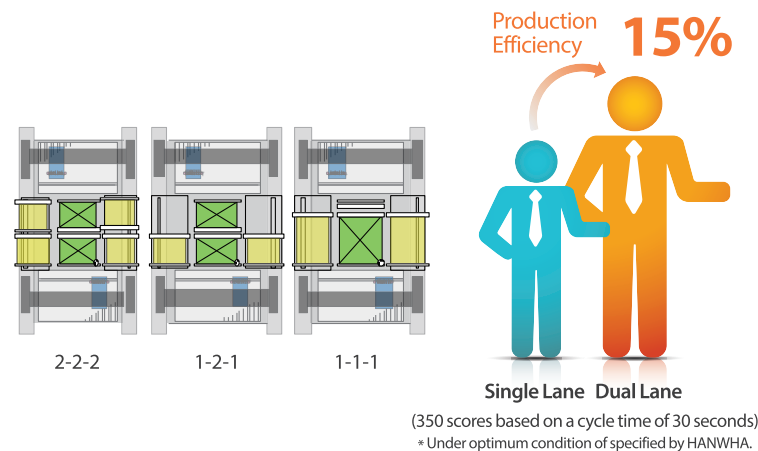


## Advanced Flexible Placer

### DECAN F2

Applicability to a wide range of parts and high speed placement available simultaneously!

- Speed : **80,000 CPH (Optimum)**
- Structure : 2 Gantry x 10 Spindles/Head
- Accuracy :  $\pm 40\mu\text{m}$  Cpk $\geq 1.0$  (0402 (01005") chip)  
 $\pm 30\mu\text{m}$  Cpk $\geq 1.0$  (IC, Fix Camera)
- Parts Size : **0402 (01005 inch) ~**  
**Max. □ 55mm (H15mm)**
- PCB Size : 50 x 40  
~ 510 x 460mm, ~ 610 x 460mm (Option),  
~ 740 x 460mm (Option), ~ 810 x 460mm (Option),  
~ 1,200 x 460mm (Option)

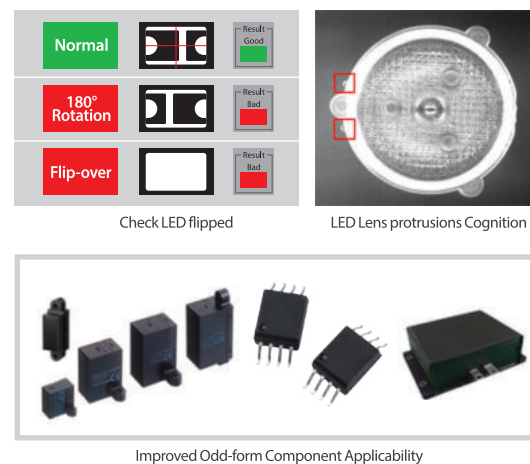


## Advanced Multi- Functional Placer

### DECAN L2

Optimized for the placement of odd-type parts as well as LEDs and LED lenses

- Speed : **56,000 CPH (Optimum)**  
0.55 sec/component (QFP100 0.5P)
- Structure : 2 Gantry x 6 Spindles/Head
- Accuracy :  $\pm 40\mu\text{m}$  Cpk $\geq 1.0$  (0402 (01005") chip)  
 $\pm 30\mu\text{m}$  Cpk $\geq 1.0$  (IC, Fix Camera)
- Parts Size : **0402 (01005 inch) ~**  
**Max. □ 55mm, L75 (H25mm)**
- PCB Size : 50 x 40  
~ 510 x 460mm, ~ 610 x 460mm (Option),  
~ 740 x 460mm (Option), ~ 810 x 460mm (Option),  
~ 1,200 x 460mm (Option)



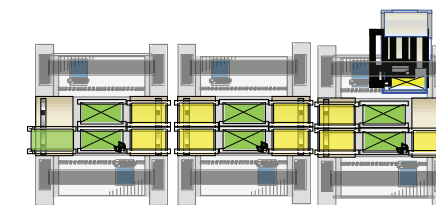
## Small Job Line



- Machine : F2 / L2
- Speed : 80,000 / 56,000 CPH
- Feeder Slot : 84 / 120 / 112 Slot
- Length : 1,430 / 2,130 mm

- Machine : S2 + L2
- Speed : 148,000 CPH
- Feeder Slot : 240 / 204 Slot
- Length : 2,860 mm

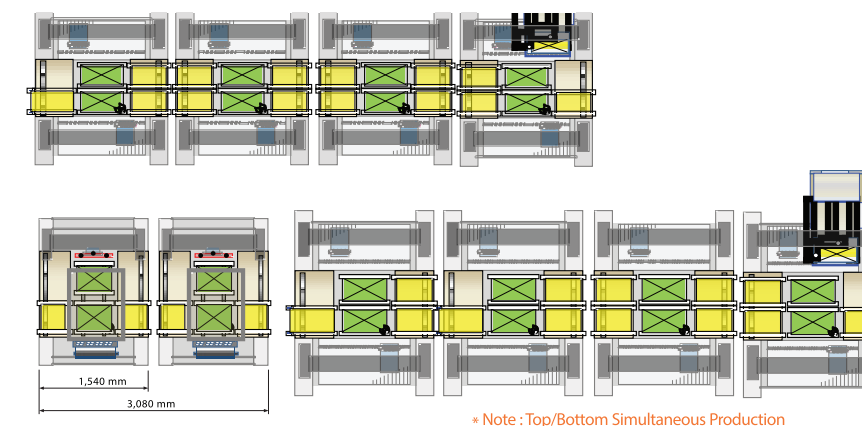
## Recommend Line



- Machine : S2 + F2 + L2
- Speed : 228,000 CPH
- Feeder Slot : 324 Slot
- Length : 4,290 mm

- Machine : F2 + F2 + F2
- Speed : 240,000 CPH
- Feeder Slot : 324 Slot
- Length : 4,290 mm

## High Performance Line



- Machine : S2 + S2 + F2 / L2 + L2
- Speed : 320,000 CPH
- Feeder Slot : 444 Slot
- Length : 5,720 mm

- Machine : SP1-W x 2  
S2 + S2 + F2 / L2 + L2
- Speed : 320,000 CPH
- Feeder Slot : 444 Slot
- Length : 8,800 mm

\* Note : Top/Bottom Simultaneous Production



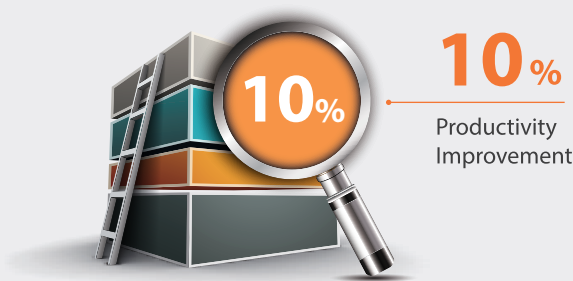
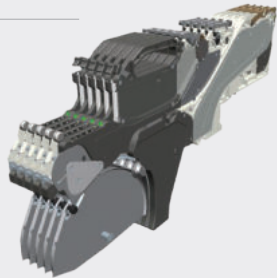
# Accessories

## Tray Feeder

### SME Feeder

Maintains the feeding accuracy of a feeder and allows a more stable and faster supply of components by using the SME feeder.

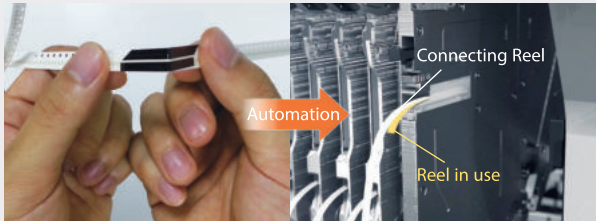
- Aligns the pickup positions automatically for the improvement of the simultaneous pickup rate
- Can set the feeding speed for stable component supply
- Recognizes the feeding pitch automatically
- Allows mixed use with a pneumatic feeder in the same feeder base



Type	Occupy (slot)	Capacity (ea)	Width (mm)	Feeder Pitch (mm)	Reel Diameter (mm)
W4P1	1	60	8	1, 2	Φ 178 ~ 180
8 mm	1	60	8	2, 4	Φ 178 ~ 180
8 mm L	2*	30	8	2, 4	Φ 178 ~ 330
12 mm	2	30	12	4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44(2)	Φ 178 ~ 380
16 mm	2	30	16		Φ 178 ~ 380
24 mm	3	20	24		Φ 178 ~ 380
32 mm	4	15	32		Φ 178 ~ 380
44 mm	4	15	44		Φ 178 ~ 380
56 mm	5	12	56		Φ 178 ~ 380
72 mm	7	8	72		Φ 178 ~ 381
88 mm	8	7	88		Φ 178 ~ 381

### SME SMART Feeder

Allows continuous production without stopping the machine by automatically performing tape loading and replacement which have been performed manually.

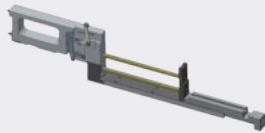


Type	Occupy (slot)	Capacity (ea)	Width (mm)	Feeder Pitch (mm)	Reel Diameter (mm)
8 mm	1	60	8	2, 4	Φ 178 ~ 180

## Accessories for SME Feeder

### Feeder Extension Jig

Allows easy replacement of a tape feeder reel without stopping the machine.



### Docking Cart

Allows users to prepare a model change quickly and conveniently by replacing tape feeders collectively.

※ It is recommended that a docking cart be used for small volume production of many models



### Tape Cutter

Installed underneath the feeder base, cuts waste vinyl from the tape feeder.



Fixed base type

Docking cart type

### Feeder Calibration Jig

Improves the feeding accuracy of a feeder in use, or calibrates or checks the feeder so that a repaired feeder can maintain optimum function. Since customers can check and manage the feeder status by themselves, repair costs and down time can be reduced.

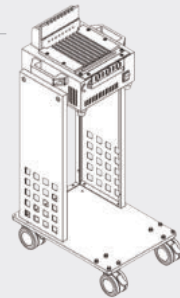
### Feeder Rack

Used to transport or store tape feeders. It can be loaded with a maximum of 100 feeders based on an 8mm feeder.  
(Upper section: 50 slots / Lower section: 50 slots)



### SME Setup Unit

The SME Setup Unit is a feeder setup unit to which power supply and pneumatic pressure are provided separately.



## Nozzle

Name	CN015	CN020	CN030	CN040	CN065	CN140	CN220	CN400	CN400N	CN750	CN110
External Shape											
Min. Component Width	0.15	0.2 ~ 0.5	0.3 ~ 1.5	0.5 ~ 1.25	0.8 ~ 2.5	2.5 ~ 4.0	4.0 ~ 7.0	7.0 ~ 10.0	7.0 ~ 10.0	10.0 ~	20.0 ~
Applicable Component	Dedicated to 03015 Chip	Dedicated to 0402 Chip	Dedicated to 0603 Chip	Dedicated to 1005 Chip	1608, 2012, 3216, Melf, Hemt, SSOP03, TR(23), TR2, Chip-Tantal (3012)	3216, 6432, Chip-Aluminum (5753), Chip-Tantal (7343), TR(13), Trimmer, SOP2(04), SOP(48), SSOP08	Chip-Aluminum (7268), SOP(48), Connector, QFP(48), Chip-Coil(8280), Chip-Tantal (8060)	Chip-Aluminum (9082), SOP(66), SOP2(50), QFP(44), LCC(18), SOJ2, Connector, TR(22), BGA(208G), Chip-Coil(1212)	SOP, SOP2	QFP (Medium)	QFP(256), BGA(388G)

# Accessories

## Multi Tray Feeders (STF100 series)

The feeders of the STF100 Series made to supply tray components to a chip mounter consist of 4 models of STF100D, STF100N, STF100S and STF100DL according to the purpose of use and function. They are designed based on productivity, stability and reliability.

### STF100D (Dual Tray Feeder)

- Operates the upper and lower magazines independently
- 12 pallets x 2 magazines (upper and lower structures)
- Possible to replace components without stopping the machine
- Large capacity tray feeder that can supply various odd-shape components



### STF100N

- Realizes a non-stop function in the unit of pallet
- 20 pallets x 1 magazine
- Designed to allow replacement of pallets without stopping the machine by moving to the upper Change Rack when pallets are exhausted



### STF100DL

- Based on the STF-100D, applicable to large pallets
- 12 pallets x 2 magazines (upper and lower structures)
- Can supply medium and large sized components
- Available Tray Size: 420 x 350mm



### STF100S (Side Tray Feeder)

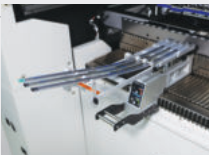
- Side Tray Component Supply Device
- 20 Pallet x 1 Magazine
- Possible to utilize the rear feeder base by 100%
- Equipped with a built-in conveyor, it can be used as a work table



## Stick Feeders

### Multi Stick Feeder

Refers to a vibration feeder that can supply 4 different stick (tube) components to each lane simultaneously



- Possible to supply small odd-shape components and insert components - SOP, SOJ, QFP, PLCC types, etc.
- Supplies components with various widths: Width of 6~84mm
- Interface function between a chip mounter and feeder

### Stack Stick Feeder

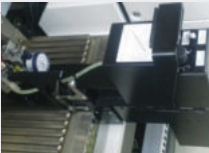
- Available for maximum 9-staged stacking (based on T 20mm stick)
- Non-stop stick component supply
- Allows easy removal and installation of feeders using the feeder slots as well as air and electricity of the component placer



## Etc.

### Flux Dipping Unit

- Installed on a feeder base in the same manner as a tape feeder is installed on it
- Component size available for flux dipping: ~□27mm



## Other Feeders

### Single Staged Tray Feeder

Refers to a feeding device that applies a one-touch fixing method by which feeders can easily be installed at, or removed from a feeder base.

- Possible to install the feeders lengthwise and widthwise according to the tray shape
- Applicable Tray: 2", 4", 136 x 316mm, 200 x 316mm, and 272 x 316mm
- Types: 2 trays (136 x 316mm) Single staged tray feeder

### Bowl Feeder

Refers to a feeding device used to place bulk type components on a PCB.

- Supplies bulk type components by aligning their direction by vibration.
- Possible to supply components through up to 3 columns (3 types)



### Label Feeder

Refers to a feeding device that can supply various label tape type components to a chip mounter.

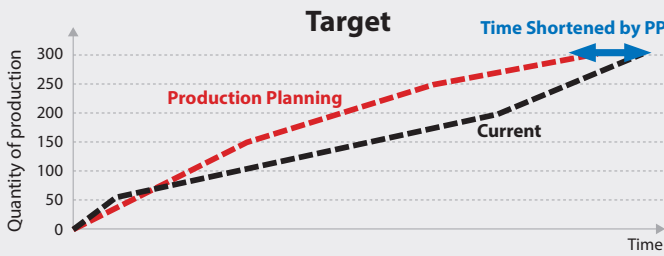
- Tape attaching section is custom-designed according to the tape characteristics (adhesiveness)
  - Possible to handle reel widths of up to Max. 105mm
- ※ It is required to discuss detailed specifications related to labels in advance



# Software Solutions

## Offline Programming (T-OLP)

Provides the function that can create a JOB program off line and download it to a machine in a production line.



## Production History Management System (T-LTS)

Manages production history by storing the production history of all PCBs individually.

Records the production information on the reel, board, feeder, etc., in the PCB Barcode ID(2D) during production. Therefore, when a defect occurs, it tracks the cause and range of the defect in the unit of reel or PCB board to minimize recall range and help repair PCB defect easily.

## Line Management (T-PNP)

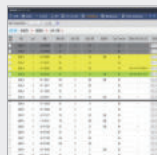
- Constant Monitoring of Major Indexes (Light / Standard / Full)
- Monitoring of Production Index Trend and Others (Standard / Full)
- Production History Inquiry and Reporting (Standard / Full)
- Analyzing and Reporting the Cause of Defect (Full)
- Warning of a Machine Error and Supporting Maintenance (Full)
- Automatic Control System Through Data Sharing between Inline Machines (Full)



KPI Management



Monitoring



Warning against model change



Alarm & Maintenance

## Offline Feeder Setting (T-Feeder)

Prepares a model change by connecting reel information to the feeder and after changing the model, verifies its conformity in the machine through network.



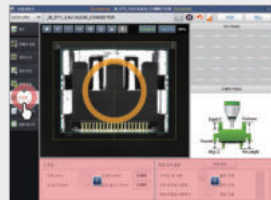
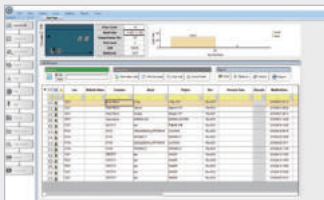
SM IT Setup Unit



SM Feeder Workstation

## Offline Component Registration and Management (T-ELITE)

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



## Component Reel Barcode Issue and Registration (T-SMART ID)

Creates and manages the component information by issuing a barcode to a component reel and registering it.



## Material Management (T-IT)

Prevents misplacement of a component by inspecting the conformity of the component in the machine as well as the production delay due to component shortage.

- Inspects collectively whether components supplied by the feeder are identical to those set in the PC program.
- Automatically manages the quantity of components remaining in the reel in use and when component shortage is expected, the machine sends an alarm, helping prepare components in shortage in advance.
- Prevents misplacement errors by checking whether a correct component reel is installed in the corresponding feeder slot.
- Prepares materials in shortage by making a remote request for the components to the Material Station and helps deliver them.

## Supporting Component Storage, Warehousing and Releasing (T-SMART Rack)

Provides information about component inventory and its location to prevent a releasing error.



## Mobile Monitoring and Remote Control (T-SMART App)

Monitors production status using a mobile device and supports remote control.

