Standard of Mid-class

SM Series

Model Name			SM471 PLUS	SM481 PLUS	SM482 PLUS	SM485
Alignment			Fly Camera	Fly Camera + Fix Camera		
The Number of Spindles			10 Spindle x 2 Gantry	10 Spindle x 1 Gantry	6 Spindle x 1 Gantry	4+1 Spindle x 1 Gantry
Placement Speed			78,000 CPH (Optimum)	40,000 CPH (Optimum)	30,000 CPH (Optimum)	22,000 CPH (Optimum)
Placement Accuracy	Chip		±40 μm @ ±3σ	±40 μm @ ±3σ	±40 μm @ ±3σ	±40 μm @ ±3σ
	IC, QFP		±50 μm @ ±3σ	±30 μm @ ±3σ	±30 μm @ ±3σ	±30 μm @ ±3σ
Component Range	Fly Camera*		0402 ~ □14 mm	0402 ~ □16 mm	0603 ~ □22 mm (0402 ~ □14 mm***)	0402 ~ □21 mm
	Fix Camera (Option)**		–	~□55 mm, L75 mm Connector		~□55 mm, L150 mm Connector
	Max. Height		12 mm (Fly)	10 mm (Fly) 15 mm (Fix)	12 mm (Fly) 15 mm (Fix)	15 mm (Fly) 26 mm (Fix)
PCB Size (mm)	Min.		L50 x W40****			
	Max.	Single Lane	~ L510 x W460 ~ L610 x W460	~ L460 x W400 ~ Max. L1,500 x W460 *****	~ L460 x W400 ~ Max. L1,200 x W510	~ L460 x W400 ~ Max. L740 x W460
		Dual Lane	~ L460 x W250 ~ L610 x W250	–		
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)			
			Max. 5.0 kVA	Max. 3.5 kVA	Max. 3.5 kVA	Max. 3.5 kVA
	Air Consumption		5.0 ~ 7.0 kgf/cm2			
			350 N ℓ /min 50 N ℓ /min(Vacuum Pump)	160 N ℓ /min 50 N ℓ /min(Vacuum Pump)	180 N ℓ /min 50 N ℓ /min(Vacuum Pump)	180 N ℓ /min 50 N ℓ /min(Vacuum Pump)
Weight (H900 mm Standard)			Approx. 1,730 kg	Approx. 1,575 kg	Approx. 1,575 kg	Approx. 1,600 kg
External Dimension (Standard)			L1,650 x D1,690 x H2,045mm	L1,650 x D1,680 x H2,090mm	L1,650 x D1,680 x H2,090mm	L1,650 x D1,680 x H2,090mm

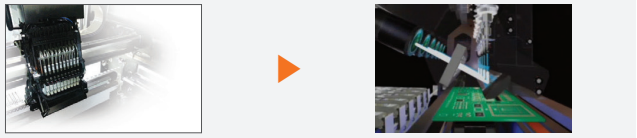
* SM471PLUS, SM481PLUS, SM485 Fly Camera Spec. : Based on Mega FOV 24mm (SM482 PLUS Fly Camera Spec. : Based on Mega FOV 25mm)
** SM481PLUS, SM482 PLUS, SM485 Fix Camera Spec. : Based on Mega FOV 45mm (Mega FOV 35mm : Option) *** SM482 PLUS can mount 0402 ~ □14mm when Fly Camera Maga FOV 16mm is applied.
**** If the PCB length is more than 740mm, the minimum width of the PCB should be 65 mm ***** Special order-made Max. L 2,000

※ The specification in this catalog is based on value measured at an optimized condition. The result may vary depending on the operating condition.

Minimizing Cycle Time

Component recognition and alignment with "On The Fly" method

- After the pick-up, using the fly camera, SM-Series machine recognizes and aligns components, while directly moving to a placement position without passing through the fix camera.
  - No need to distinguish Chip and Odd-forms.
    The most idealistic component recognition method.



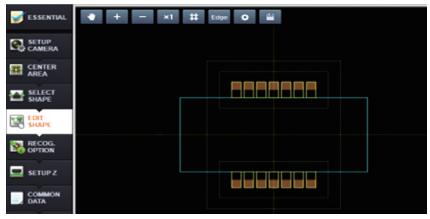
Reduced cycle time from shared 'bad mark' data between machines (Option)

- Shares 'bad mark' data from one machine to another.
- Reduced cycle time from skipping the 'bad mark' screening stage by sharing the data between machines.
  - Cycle time reduced by 37% (max)

Easy to Create a Program

Easy component registration (NPE: New Part Editor)

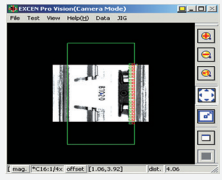
- Drag & Drop based component registration system to register component information. Possible to register with automatic recognition, image rotation and a simple click. (with ELITE II)



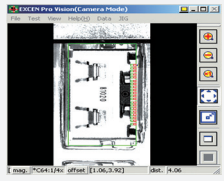
Increases user convenience by unifying the on-line/off-line component registration systems.

Easy Teaching on Large Components (Panoramic view)

- Recognizes large components by comprising sectional images on items exceeding the camera range (FOV).
  - Easy to teach the pick-up and placement position for large-sized components.



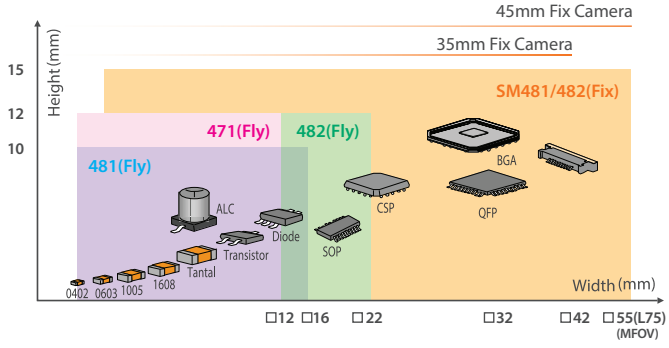
Example image of a Large Component Picked Up



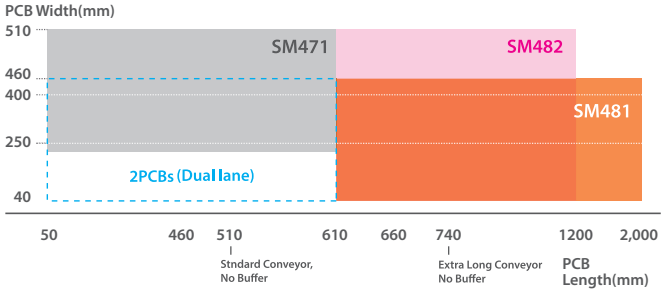
Combined Panoramic Image

Components and PCB Applications

Components



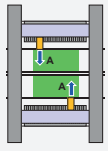
PCBs



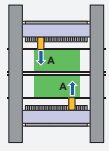
Various Production Modes and Load-Balancing

Production modes

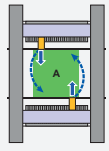
- Twin Mode : Independent production at the front / rear lane.
- Join Mode : Minimizes the number of nozzles and feeders.
  Zero PCB transfer time.
- Single Mode : Supports large PCBs.



Twin Mode



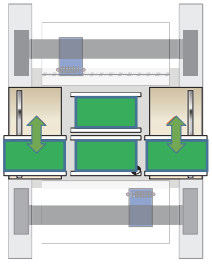
Join Mode



Single Mode

Optimized production and PCB transfer method

- One side of the lane is not interrupted in production even if there is an error or a component shortage on the other side.
  - There is a shuttle on the entry/exit on the machine to continue production, even if one lane is temporarily out-of-service.



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
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