

FOX SMD Pick & Place System

Version 2.0, November 2016

Configuration

		FOX1-PP-SA	FOX1-PPD-SA	FOX1-PP-C	FOX1-PPD-C	FOX2-PP-SA	FOX2-PPD-SA	FOX2-PP-C	FOX2-PPD-C
Machine base	Pick & Place head with 1 spindle	●	●	●	●				
	Pick & Place head with 2 spindles					●	●	●	●
	Stand Alone type (PCB table, magnetic PCB holder, support pins)	●	●			●	●		
	In Line type (Conveyor 3 stage, support pins, manual width adjust.)			●	●			●	●
	Dispensing preparation kit (Dot plate, purge and z-height calibration station)		●		●		●		●
	Interior lighting LED	●	●	●	●	●	●	●	●
PCB Handling	Signal tower (3 color)	○	○	○	○	○	○	○	○
	SMEMA interface			●	●			●	●
	Conveyor direction L/R, R/L, batch mode R/R, L/L			●	●			●	●
	Automatic width adjustment			○	○			○	○
	Conveyor extensions			○	○			○	○
	PCB inspection station on conveyor			○	○			○	○
Control and software	ePlace P&P/Disp. software (En, De, Ru, Pl, Zh, Es, Cs, Ja)	●	●	●	●	●	●	●	●
	Machine PC with Windows OS and touch screen	●	●	●	●	●	●	●	●
	Technical support software	●	●	●	●	●	●	●	●
Alignment systems	eVision (fiducials, chip, QFP, symm. BGA and leads)	●	●	●	●	●	●	●	●
	Cognex vision license	○	○	○	○	○	○	○	○
	Multi Field of View license (MFOV)	○	○	○	○	○	○	○	○
	Laser height measurement	○	○	○	○	○	○	○	○
Dispensing valves (Cartridge sizes)	Time/pressure valve (5, 10, 30 cm ³)		○		○		○		○
	Archimedean screw valve (5, 10, 30 cm ³)		○		○		○		○
	Jet valve (5, 10, 30 cm ³)						○		○
	Pneumatic-Jet valve (5, 10 cm ³)						○		○
	Cartridge level control		○		○		○		○
Various	Basic User Level Management	●	●	●	●	●	●	●	●
	Bad mark sensing with vision	●	●	●	●	●	●	●	●
	Universal CAD conversion	●	●	●	●	●	●	●	●
	Automatic Placement constraints	●	●	●	●	●	●	●	●
	Basic calibration set P&P	●	●	●	●	●	●	●	●
	Maintenance kit	●	●	●	●	●	●	●	●
	Process Improvement Tool Pick & Place (PIT1)	○	○	○	○	○	○	○	○
	Disp. Process Control Adjustment & Stabilization (PCAS)		○		○		○		○
	Second touch screen for machine backside	○	○	○	○	○	○	○	○

● standard feature ○ optional feature

Specifications

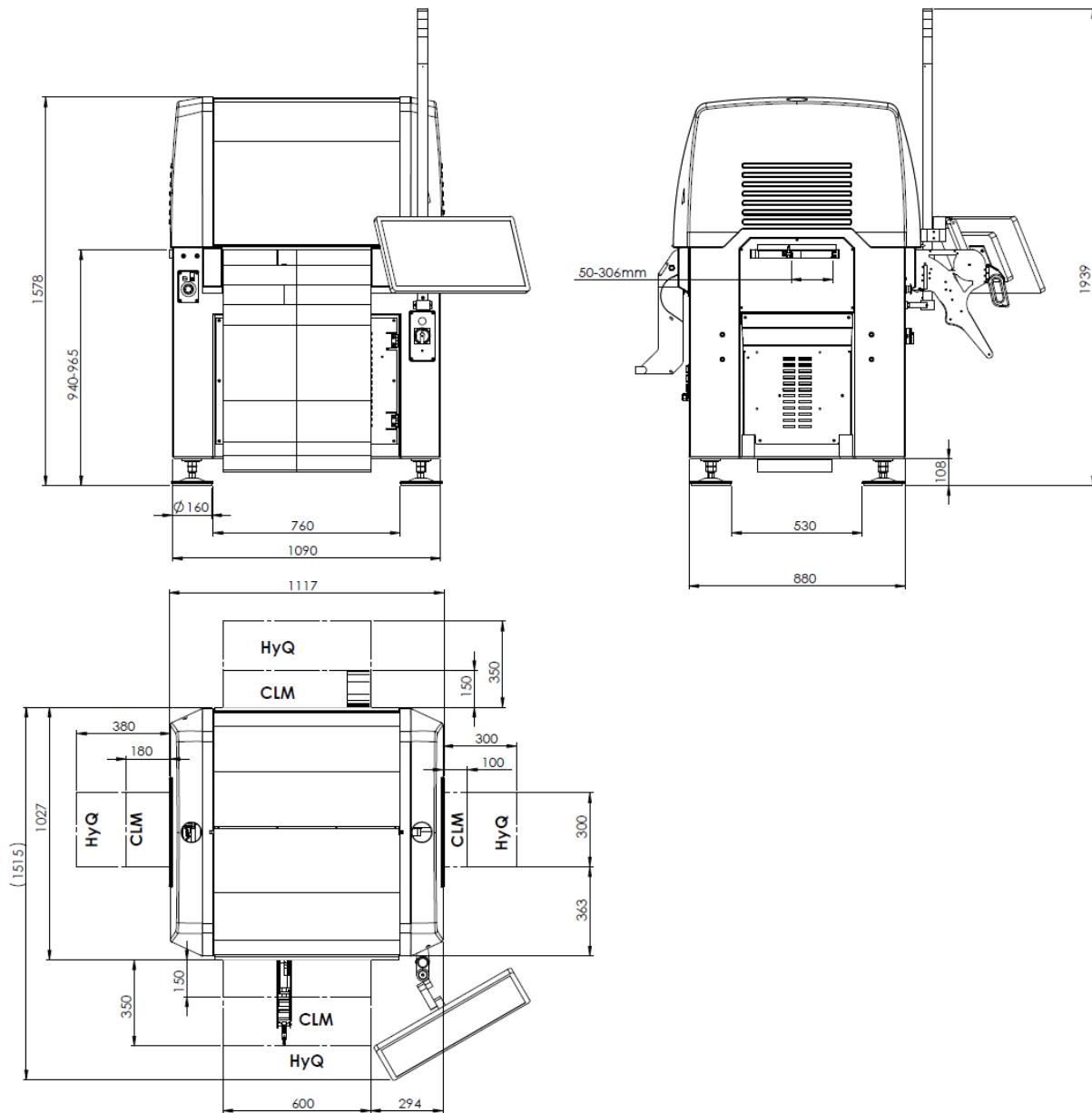
		FOX1-PP-SA	FOX1-PPD-SA	FOX1-PP-C	FOX1-PPD-C	FOX2-PP-SA	FOX2-PPD-SA	FOX2-PP-C	FOX2-PPD-C
Productivity	Max. placement speed / cycle time	5'000 cph / 714 ms				8'300 cph / 434 ms			
	Speed (IPC 9850A)	4'500 cph (@ 50 μm, 3σ)				7'500 cph (@ 50 μm, 3σ)			
	Job changeover time	< 1 min (loading job, adjust conveyor/table, restart production)							
Feeder	Feeder system	CLM (intelligent cassette feeder)				CLM (intelligent cassette feeder) hyQ (intelligent single feeder)			
	Feeder capacity (8mm tape)	180		120		180		120	
Components	Component size range	0201 – 33 x 33 mm incl. leads				01005 ^(*) – 33 x 33 mm incl. leads			
		0201 – 80 x 33 mm incl. leads (with optional MFOV license)				01005 ^(*) – 80 x 33 mm incl. leads (with optional MFOV license)			
		(*) only with hyQ feeder type							

		FOX1-PP-SA	FOX1-PPD-SA	FOX1-PP-C	FOX1-PPD-C	FOX2-PP-SA	FOX2-PPD-SA	FOX2-PP-C	FOX2-PPD-C
Components	Mass moment of inertia	60 g x cm ²							
	Min. lead pitch	0.3 mm (12mil)							
	Min. ball diameter / pitch	0.2 mm							
	Min. component height	> 0.0 mm							
	Max. component height	18 mm (25 mm) ¹⁾							
	Process height	± 18 mm (0.71") from zero height							
Accuracy	Linear encoder resolution (x,y)	0.2 µm							
	Rotation axis resolution	0.007°							
	Overall placement accuracy XY Chips	50 µm (3σ) ²⁾							
	Overall placement accuracy XY QFP 64/100	45 µm (3σ) ²⁾							
PCB	Min. PCB dimensions	20 x 20 mm (0.8 x 0.8")	50 x 50mm (2 x 2")	20 x 20 mm (0.8 x 0.8")	50 x 50mm (2 x 2")				
	Max. PCB dimensions	406 x 305 mm (16 x 12")							
	PCB thickness	0.5 – 3.5 mm (0.02 – 0.13")	0.5 – 5.0 mm (0.02 – 0.2")	0.5 – 3.5 mm (0.02 – 0.13")	0.5 – 5.0 mm (0.02 – 0.13")				
	PCB edge clearance	3.0 – 5.0 mm (0.11 – 0.2") (varies with PCB thickness)	Top: 3.0 mm (0.11") Bottom: 5.0 mm (0.2")	3.0 – 5.0 mm (0.11 – 0.2") (varies with PCB thickness)	3.0 – 5.0 mm (0.11 – 0.2") (varies with PCB thickness)				
	Max. Board weight	-	4 kg (8.8 lb)	-	4 kg (8.8 lb)				
	Conveyor height	-	SMEMA 940 – 965 mm	-	SMEMA 940 – 965 mm				
	Clearance below PCB	40 mm (1.57")							
	Supplies	Electrical	230V / 50Hz or 120V / 60Hz (with optional transformer)						
Power consumption (average / peak)		0.75 kW / 1.7 kW							
Entry Fuse		13A / 230V							
Min. Wire cross section		1.5 mm ²							
Electrical connector		230V, CEE-16, 16A, 230V, 3P L+N+PE 6h, blue color 120V, CEE-16, 16A, 120V, 3P L+N+PE 4h, yellow color							
Compressed air		6 – 7 bar (87 – 102 psi), clean and filtered, dry, ISO 8573-1: class 3 (max. part diameter 5µm, dew point < -20°C, oil ≤ 1 mg/m ³)							
Air consumption		max. 60 NI/min (2.1 cfm)							
Environment	Air connection	Push-in connector for outer hose Ø8 mm							
	Performance temperature range / humidity	22 – 24°C / 50 – 70% RH							
	Operational temperature range / humidity	15 – 30°C / 30 – 70% RH (non condensing)							
	Noise level	max. 75 dB (A)							

Machine Dimensions and Packaging

Machine dimensions	Machine footprint without hood (L x W)	880 x 1090 mm (34.7 x 43")
	Machine footprint with hood (L x W)	1027 x 1117 mm (40.4 x 44")
	Operating floor space (L x W)	1395 x 1650 mm (55 x 65")
	Machine height (without / with light tower)	1578 mm (62") / 1939 mm (76")
	Approx. machine weight (without / with feeder)	875 kg (1929 lb) / 1020 kg (2249 lb)
	Approx. floor loading (without / with feeder)	912 kg/m ² (1.3 lb/sq.in) / 1065 kg/m ² (1.51 lb/sq.in)
	Packaging weight	80 kg (176 lb)

Dimension Drawings



- 1) On request
 - 2) Values reached with full speed. Only applicable at zero height and at performance temperature / humidity range
- For more information ask for the FOX System Description and Product Notes. We reserve the right to make changes without notice