SPIDER Automatic Dispensing System

Version 1.2, May 2017

Configuration

			SPIDER
Machine base	In Line type (Conveyor 3 stage, support pins, manual width adjust.)		●
	Dispensing basic kit (Dot plate, purge and z-height calibration station)		●
	Interior lighting LED		●
	Signal tower (3 color)		●
PCB Handling	SMEMA interface		●
	Conveyor direction L/R, R/L, batch mode R/R, L/L		●
	Automatical width adjustment		○
	Conveyor extensions		○
	PCB inspection station on conveyor		○
Control and software	ePlace Dispensing software (En, De, Ru, Pl, Zh, Es, Cs, Ja)		●
	Machine PC with Windows 10 OS and 21.5" touch screen		●
	Technical support software		●
Alignment systems	Cognex Base Vision license (extended fiducial recognition)		●
Dispensing valves (Cartridge sizes)	Time/pressure valve	(5, 10, 30 cm³)	○
	Archimedean screw valve	(5, 10, 30 cm³)	○
	Volume Dispenser valve	(10, 30, 50 cm³)	○
	Jet valve	(5, 10, 30 cm³)	○
	Pneumatic-Jet valve	(5, 10 cm³)	○
	Cartridge level control		○
	Dispenser Needle Heating		○
Dispensing options	Laser height measurement [1]		◉
	High precision scale (only for Jet valves)		○
	Jet valve heating system (only for Piezo Jet valve)		○
	Vacuum cleaning station for needles		○
	Cartridge level control		○
	Disp. Process Control Adjustment & Stabilization (PCAS)		○
	Lifting table with heating or vacuum		○
Various (extract)	Second touch screen for machine backside		○
	Clean room option ISO7 (class 10'000)		○
	Basic User Level Management (software)		●
	Bad mark sensing with vision (software)		●
	Universal CAD conversion (software)		●
	Key Performance Indicator (KPI) (software)		○
	Barcode Reading over Top Camera (software)		○
	Disp. Process Control Adjustment & Stabilization (PCAS) (software)		○
	Calibration set Dispensing		●

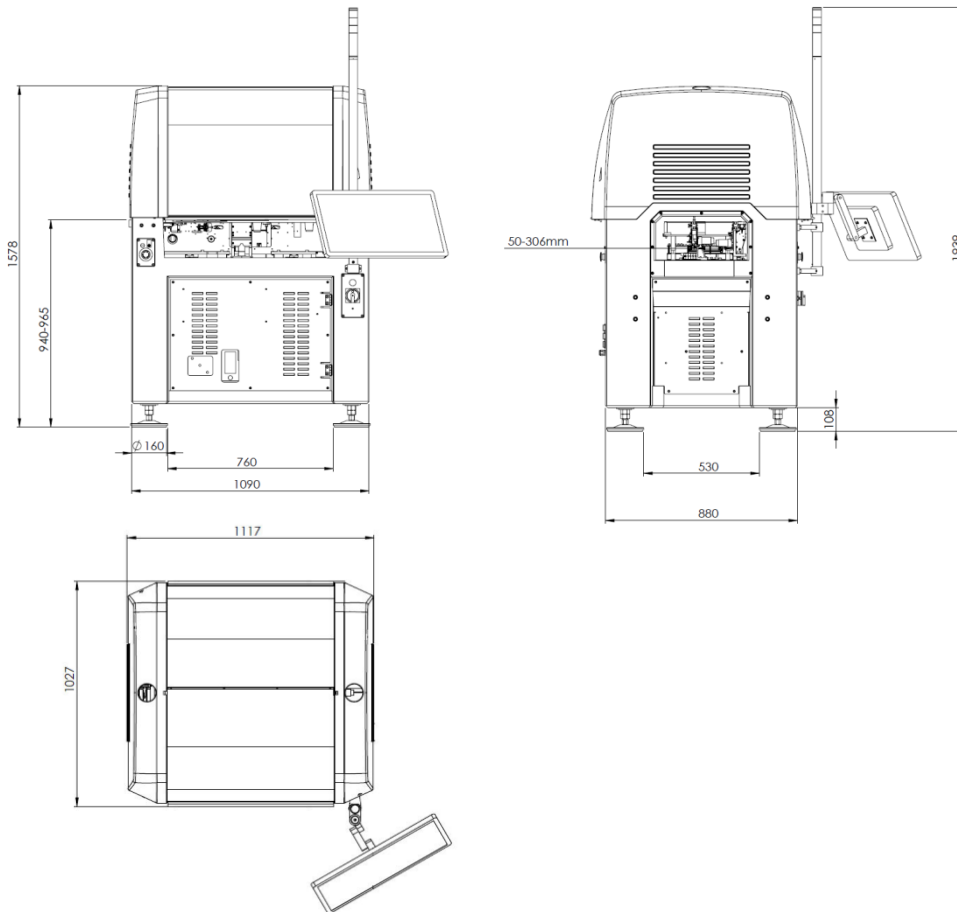● standard feature   ○ optional feature   ◉ mandatory option, model to choose

Specifications

		SPIDER	
Process	Dispensing speed up to[2]	Piezo Jet valve	150'000 dots/h
		Pneumatic Jet valve	80'000 dots/h
		Time/pressure valve	28'000 dots/h
		Archimedean screw valve	24'000 dots/h
	Dispensing mode	dot, line, 3D, curve, interpolated curves on multiple layers	
	Programmable z-stroke	80 mm (3.35")	
	Process height	± 18 mm (0.71") from zero height [3]	
Accuracy	Linear encoder resolution (x,y)	0.2 µm	
	Dispensing accuracy XY dots	± 40 µm (3σ)[4]	
	Positioning accuracy Z axis	± 20 µm (3σ)	
PCB	Min. PCB dimensions	50 x 50mm (2 x 2")	
	Max. PCB dimensions	406 x 305 mm (16 x 12")	
	PCB thickness	0.5 – 5.0 mm (0.02 - 0.2")	
	PCB edge clearance	Top side 3.0 mm (0.11") Bottom side 5.0 mm (0.2")	
	Max. Board weight	4 kg (8.8 lb)	
	Conveyor height	SMEMA 940 – 965 mm	
	Clearance below PCB	40 mm (1.57")	

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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. 25 Nl/min. (0.9 cfm) (depends on valve and application)
	Air connection	Push-in connector for outer hose Ø8 mm
Environment	Performance temperature / humidity range	22 - 24°C / 50 – 70% RH
	Operational temperature / humidity range	15 – 30°C / 30 – 70% RH (non condensing)
	Noise level	max. 75 dB (A)

Machine Dimensions and Packaging

		SPIDER
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")
	Approx. operating floor space (L x W)	1050 x 1150 mm (41.3 x 45.3")
	Machine height (without / with light tower)	1578 mm (62") / 1939 mm (76")
	Approx. machine weight	875 kg (1929 lb)
	Approx. floor loading	912 kg/m² (1.3 lb/sq.in)
	Packaging weight	80 kg (176 lb)

Dimension Drawings

1) Mandatory option: Two laser models available, to choose depending on needed application
2) Conditions: Full speed, dot size 0.5mm, dot matrix 0.8 x 0.8 mm, 1000 x dots, fluid Loctite 3621, zero height level and within performance temperature / humidity range.
3) Other heights on request
4) Conditions: Full speed, dot size 1.0 mm, fluid Loctite 3621, zero height level and within performance temperature / humidity range

For more information ask for the SPIDER System Description and Product Notes. We reserve the right to make changes without notice

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