

TARANTULA Automatic Dispensing System Version 1.1, November 2017

Specifications

		TARANTULA	
Process	Dispensing speed up to ¹⁾	Piezo Jet valve 145'000 dots/h Pneumatic Jet valve 77'000 dots/h Time/pressure valve 26'000 dots/h Archimedean screw valve 22'000 dots/h Volume dispenser valve 22'000 dots/h	
	Dispensing mode	dot, line, 3D, curve, interpolated curves on multiple layers 2)	
	Programmable z-stroke	80 mm (3.35")	
	Process height	± 18 mm (0.71") from zero height ³⁾	
	Number of processes	Up to 3x valves simultaneously	
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	560 x 610 mm (22 x 24")	
	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")	

Machine Dimensions, Packaging and Supplies

Machine dimensions	Machine footprint without hood (L x W)	1380 x 1330 mm (54 x 52")	
	Machine footprint with hood (L x W)	1557 x 1357 (61 x 53") 2500 x 2200 mm (98 x 87") 1582 mm (62") / 1942 mm (76")	
	Operating floor space (L x W)		
	Machine height (without / with light tower)		
	Approx. machine weight	1670 kg (3680 lb)	
	Approx. floor loading	910 kg/m² (1.3 lb/sq.in)	
	Packaging weight	80 kg (176 lb)	
Supplies	Electrical	3 x 400 VAC/50Hz (or 3 x 208VAC/60Hz with optional transformer)	
	Power consumption (peak)	3 kW	
	Entry Fuse	16A / 400V	
	Min. Wire cross section	1.5 mm ²	
	Electrical connector	400V, CEE-16, 16A, 400V, 5P 3L+N+PE 6h, red 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/m³)	
	Air consumption	max. 60 NI/min (2.1 cfm)	
	Air connection	Push-in connector for outer hose Ø8 mm	
Environment	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)	



Configuration

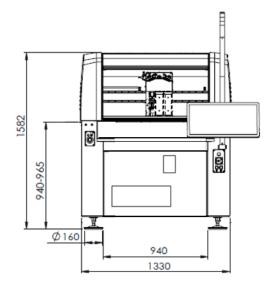
		TARANTULA
Machine base	In Line type	
Macrinic base	(Conveyor 3 stage, support pins, manual width adjust.)	•
	Dispensing basic kit	
	(Dot plate, purge and z-height calibration station)	•
	Interior lighting LED	•
	Signal tower (3 color)	•
	Clean room compatible ISO7 (class 10'000)	•
PCB Handling	SMEMA interface	•
	Conveyor direction L/R, R/L, batch mode R/R, L/L	•
	Automatical width adjustment	0
	Conveyor extensions	0
	PCB inspection station on conveyor	0
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	Jet valve (5, 10, 30 cm³)	0
(Cartridge sizes)	Pneumatic-Jet valve (5, 10 cm³)	0
(**************************************	Time/pressure valve (5, 10, 30 cm³)	0
	Archimedean screw valve (5, 10, 30 cm³)	0
	Volume Dispenser valve (10, 30, 50 cm³)	0
	Cartridge level control	0
	Dispenser Needle Heating	0
Dispensing options	Laser height measurement 5)	•
3-1	High precision scale (only for Jet valves)	0
	Jet valve heating system (only for Piezo Jet valve)	0
	Vacuum cleaning station for needles	0
	Cartridge level control	0
	Disp. Process Control Adjustment & Stabilization (PCAS)	0
	Lifting table with heating or vacuum	0
Various	Second touch screen for machine backside	0
(extract)	Keyboard and mouse holder underneath monitor	0
(Basic User Level Management (software)	•
	Bad mark sensing with vision (software)	•
	Universal CAD conversion (software)	•
	Key Performance Indicator (KPI) (software)	0
	Barcode Reading over Top Camera (software)	0
	Disp. Process Control Adjustment & Stabilization (PCAS) (software)	0
	Full Traceability Package for medium and valves	0
	Calibration set Dispensing	•

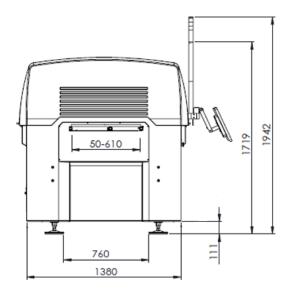
• standard feature • O optional feature • mandatory option, model to choose

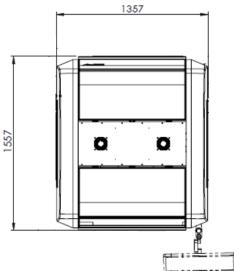




Dimension Drawings







- 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 1) temperature / humidity range
 All 2.5D/3D applications need to be checked and approved by Essemtec Applications Department
- 2)
- 3) 4) 5) Other heights on request
 Conditions: Full speed, dot size 1.0 mm, fluid Loctite 3621, zero height level and within performance temperature / humidity range
 Mandatory option: Two laser models available, to choose depending on needed application

For more information ask for the TARANTULA System Description and Product Notes.

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