



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION
Powai, Mumbai 400076.

Ref. PR No. 1000052772

RFx. No. 6100002743

Technical Description: Screen Printer – 1 No.

Sr No.	Item Description and Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1	Substrate material/type: PET sheet, glass, silicon, polyimide sheet, ceramics, etc.		
2	Substrate dimensions: <= 150 mm x 150 mm		
3	Substrate thickness: 0.100 mm – 9.500 mm		
4	Substrate transportation: manual		
5	Substrate loading/unloading: manual		
6	Power source: 240 VAC, 1-phase with transformer		
7	Air source: 0.5 MPa, 10 NL/min		
8	Path line: 950 mm +/- 20 mm above floor level		
9	Screen frame dimensions:		
	A: 320 mm x 320 mm, t = 16.5 mm		
	B: 380 mm x 380 mm, t = 20 mm		
10	Screen loading/removing: from operator side		
11	Screen fixing: pneumatic clamping of screen		
12	Screen height:		
	a) 955 mm above floor level		
	b) The parallelism between the printing table and the screen frame must be precisely maintained by adjusting the height of the adjustment screws provided at four locations of the screen frame receiving portion		

	c) Screen frame should be fixed to the operation switch of the clamp cylinder		
14	Print head:		
	a) Squeegee speed: Max. 300 mm/s		
	b) Squeegee stroke: Max. 300 mm		
	c) Squeegee attach angle: 60 – 80° (adjustable)		
	d) Squeegee pressure mechanism: Vertical float air balance method; squeegee pressure and counter pressure can be individually adjusted. Set range: 0 MPa – 0.5 MPa		
	e) Double squeegee: equipped		
	f) Drive guide: Servo motor with rotary liner		
	g) Squeegee: Squeegee length: 150 mm (no holder required; manual mechanical clamp)		
15	Additional technical requirements:		
	1. The weight of the squeegee head should be cancelled by upward applied pressure at the head so that the downward pressure is reduced to control the squeegee pressure. This should be achieved with a vertical float type air balance method.		
	2. Both the squeegee and the floor blade should have their fulcrums at the centre of the squeegee head to execute parallelism		
	3. For loading/removing the squeegee, flood blade, setting the screen frame, cleaning the screen, etc. the whole unit can be rotated upward for opening and closing.		
	4. The squeegee pressure and the counter pressure can be set from the touch-based control panel		
	5. The unit should be driven by servomotor driven liner-guide mounted on each side and timing belt.		

	6. Travelling speed of the unit should be in the range of 10 to 400 mm/s		
16	Snap-off distance set range: 0.01 – 10.00 mm (should be able to set the value on the touch-based control panel)		
17	Substrate fixation: suction with blower		
18	Height of print table: 950 mm +/- 20 mm above floor level		
19	Squeegee stroke delay: 0.0 – 10.0 sec, can be adjusted		
20	Squeegee ascent delay: 0.0 – 10.0 sec, can be adjusted		
21	Control: PLC of reputed make		
22	Safety		
	a. Measures: Emergency stop, door switch, signal tower and alarm		
	b. Signal tower: 3-clour LED indication with buzzer		
	c. Safety cover: overall safety cover with safety sensors		
	d. Emergency stop button: 1 position at front		
23	Accuracy		
	a. Parallelism between table upper surface and screen frame: +/- 0.05 mm		
	b. Parallelism between table upper surface and squeegee stroke guide: +/- 0.05 mm		
	c. Table horizontal stop position repeatability within 0.01 mm range		
	d. Table vertical stop position repeatability within 0.01 mm range		
	e. Alignment: manual with micrometer		
24	Other Requirements:		
	a. The vendor should have supplied at least 3 or more Screen Printer globally and atleast one to an organization in India.		
	b. Warranty: Warranty of 1 year from the date of installation.		