

Mandatory Technical Specifications - Pick & Place Machine

Pick & Place Machine		Yes/No	Reference Document & Page
Number of Head	8 (Minimum)		
Speed	20,000CPH(Max)		
Position Accuracy	±0.01mm (Maximum)		
Camera Configuration	Dual Mark Camera+Front Flying Camera+IC Camera		
Component Range			
Flying Camera	0201-22mmx22mm (Minimum)		
IC Camera	0201-40mmx40mm (Minimum)		
Max Height	16mm		
PCB Size			
Min.	without IC tray holder 450mm*1500mm		
Max.	with 1 IC tray holder 395mm*1500mm		
PCB Thickness	0.2mm-3.5mm (Minimum)		
Feeder Capacity			
Tape & Reel	80pcs(33 front+47 rear) (Minimum)		
IC Tray	1 (Minimum)		
Automatic Nozzle Change	Yes		
Support Pins to Hold PCB	Yes		
Power	600W, Single phase, 220V/110V, 50Hz/60Hz		
Air Source	0.6Mpa-0.8Mpa		
Flow rate	37L/min (Maximum)		
XY Drive Type	WON Linear Guide/THK Grinding Screw C5-2040		
XY Drive Motor	Panasonic A6 750W Servo Motor		
XY Motion Feedback Control	SPM/IBG Magnetic Linear Encoder		
Weight	1,000kgs (Maximum)		
Dimension	1289mmx1254mmx1386mm (Maximum)		
Packing Size	1320mmx1290mmx1456mm (Maximum)		
Monitor			
Mouse			
Keyboard			
Nozzle station			
40 x Nozzles			
Short IC Tray Holder			
Extended conveyor for 1.5m PCB			
PCB Loader, 2 loading magazines			
PCB Unloader, 2 unloading magazines			
Signal Tower			

Mandatory Technical Specifications - Feeders

Feeders	Qty	Yes/No	Reference Document & Page
Fixed Tape Feeders			
8mm Feeder set	40		
12mm Feeder set	10		
16mm Feeder set	5		
24mm Feeder set	3		
Pneumatic Reel Feeders			
8mm Feeder	80		
12mm Feeder	15		
16mm Feeder	5		
24mm Feeder	3		
32mm Feeder	1		
44mm Feeder	1		
56mm Feeder	1		
Vibra Feeder	1		
Electronic Reel Feeders			
8mm Feeder	10		

Mandatory Technical Specifications - Automatic Solder Paste Printer

Automatic Solder Paste Printer		Yes/No	Reference Document & Page
Paper Towel			
PCB Parameter			
Maximum board size (X x Y)	450mm x 350mm		
Minimum board size (X x Y)	50mm x 50mm		
PCB thickness	0.4mm~6mm		
Warpage	1% ≤1%Diagonal		
Maximum board weight	3Kg		
Board margin gap	3 mm - Configuration to 3mm		
Maximum bottom gap	20mm		
Transfer speed	1500mm/s(Max)		
Transfer height from the ground	900+40mm (Max)		
Transfer orbit direction	L-R,R-L,L-R,R		
Transfer mode	One stage orbit		
PCB clamping method	Programmable elastic side clamp + Automatic adjustment plate thickness + Midge locking of base plate pressing (Option: 1. Bottom integral cavity type vacuum;2.Bottom multi-point local vacuum)		
Support method	Magnetic thimble + Equal high block.(Optional:1.vacuum suction cavity;2.special workpiece fixture)		
Printing parameters			
Printing head	Floating intelligent printing head (two independent direct connected motors)		
Template frame size	470mm x 370mm~737 mm x 737 mm		
Maximum printing area (X x Y)	450mm x 350mm		
Squeegee type	Steel/Glue Squeegee (Angel 45°/50°/60° matching the printing process)		
Squeegee length	300mm (optional with length of 200mm-500mm)		
Squeegee height	65±1mm (Max)		
Squeegee thickness	0.25mm Diamond-like carbon coating		
Printing mode	Single or double Squeegee printing		
Demoulding length	0.02 mm - 12 mm		
Printing speed	0 ~ 200 mm/s		
Printing pressure	0.5kg - 10Kg		
Printing stroke	±200 mm (From the center)		
Cleaning parameters			
Cleaning mode	1. Drip cleaning system; 2. Dry, wet and vacuum modes		
Length of cleaning and wiping	380mm (300mm , 450mm , 500mm) (optional with 300mm, 450mm, 500mm)		
Image parameters			
Field of view	8mm x 6mm (Min)		
Platform adjustment range	X:±5.0mm,Y:±7.0mm,θ:±2.0°		
Benchmark point type	Standard shape benchmark point (SMEMA standard), solder pad/openings		
Camera system	Independent camera, upwards/downwards imaging vision syste, geometric matching location		
Performance parameters			
Repeat position accuracy	±10.0μm @6 σ , Cpk ≥ 2.0		
Repetition accuracy	±20.0μm @6 σ , Cpk ≥ 2.0		
Cycle time	< 7s (Exclude printing and cleaning)		
Product changeover	< 5min		
Equipment			
Power requirements	AC220V±10%,50/60HZ,15A		
Compressed air requirements	4~6Kg/cm ²		
Operating system	Win7		
External dimension	1152mm(L) x 1415mm(W) x 1540mm(H) (Without light,monitor and keyboard)		
Machine weight	1000Kg Appro.1000Kg		

Mandatory Technical Specifications - Automatic SMT Conveyor

Automatic SMT Conveyor		Yes/No	Reference Document & Page
Power supply	Single Phase 220V 50/60HZ 100W		
Conveying Belt	ESD belt		
Conveying speed	0.5 to 400mm/min		
Packing Size (cm)	110*26*73cm (Max)		
PCB size (mm)	50*50-990*380 (Max)		
G.W. (kg)	53 (Max)		
Speed adjustable			

Mandatory Technical Specifications - Conveyor Type Control Industrial Reflow Oven

Conveyor Type Control Industrial Reflow Oven		Yes/No	Reference Document & Page
Chain Conveyor for double-sided PCBs			
Oiling System for chain conveyor			
PC Controller & PID closed-loop Temperature Control			
Peak Power(KW)	22 (Max)		
Working Power(KW)	4.5-6		
Input Voltage(V)	220V/380V 3 Phase		
Transmission	Conveyor+mesh		
Control Type	PC controlled		
PCB Maximum Size	on conveyor max.300mm, on belt max.400mm		
Available max.height going through oven inside	30mm above rail& 20mm down rail		
Heating Zone Length	2080mm (Max)		
Cooling Zone Length	530mm (Max)		
Heat up time	20-30 min		
Max temperature	400 deg C		
File storage	Yes		
Temperature control method	PC+PID Close loop control		
Temperature control accuracy	±1°C		
PCB temperature distribution deviation	±2°C		
Length*Width*Height (mm)	3500*1100*1250 (Max)		
Packing Size(mm)	3600*1200*1350 (Max)		
G.W(KG)	600 (Max)		

Mandatory Technical Specifications - Automatic Optical Inspection Machine

Automatic Optical Inspection Machine		Yes/No	Reference Document & Page
Inspection Capabilities			
Typical Scanning Speed	150 cm ² /sec (23.25 in. ² /sec)		
Minimum Component Size	0402 (0.04x0.02 in.) ,1005 (1 x 0.5 mm)		
Board Length	Min. 50 mm (2 in.)/ Max. 457 mm (18 in.)		
Board Width	Min. 50 mm (2 in.)/ Max. 308 mm (12 in.)		
Component Height Clearance (max)	35 mm (1.378 in.)		
Board Edge Clearance (min)	3.0 mm (0.125 in.) – bottom side only		
Component Types Inspected	Standard SMT (chips, J-lead, gull-wing, BGA, etc.), through-hole, odd-form, clips, connectors, header pins, and others		
Component Defect Categories	Missing, polarity, tombstone, billboard, flipped, wrong part, gross body and lead damage, and others		
Solder Joint Defects Categories	Solder bridge, opens, lifted leads, wettability, excess and in sufficient solder, debris, and others		
Other Items Detected	Gold-finger contamination, pin-in-hole, bent pins, debris, and many others		
Component Measurement	Component X, Y position and Rotation		
Categories			
Measurement Gage R&R	< 10% (down to 0402 (0.04x0.02 in.) ,1005 (1 x 0.5 mm) components)		
Vision System			
Imagers	80 Megapixel Sensor		
Image Transfer Protocol	PCIe		
Lighting	Strobe White Light (with dark/bright field)		
Resolution	12 µm pixel size		
Image Processing	Statistical Appearance Modeling (SAM™) Technology. Option: Autonomous Image Interpretation (A ²) Technology		
Programming	Simple inline or offline		
CAD Import	Any column separated text file (Standard information required – ref. designator, XY, Angle, Part no..)		
Monitor			
Mouse			
Keyboard			
Signal Towers			
System Specifications			
Conveyor Height	Adjustable to 835 – 990 mm (33 – 39 in.)		
Machine Interface	SMEMA, RS232 and Ethernet		
Power Requirements	100-120V, 15 Amp max or 220-240V 10 Amp max, 50/60 Hz		
System Dimensions	100 x 88.6 x 132.1 cm		
Weight	Weight ~219 kgs (483 lbs.)		
Machine Installation	<1 hour		
SPC Software, Offline Defect Rework Station, Sensor Alignment Target, Barcode Readers (1D/2D)			

Mandatory Technical Specifications - X-Ray Inspection Machine

X-Ray Inspection Machine		Yes/No	Reference Document & Page
X-Ray Tube Source			
Type	Sealed Micro-Focus X-Ray Tube		
Voltage Range	40-90KV		
Current Range	10-200 μA		
Max Output Power	8 W		
Micro Focus Spot Size	15μm (Max)		
Flat Panel Detector Specification			
Type	TFT Industrial Dynamic FPD		
Pixel Matrix	768*768(Max)		
Field of View	65mm*65mm(Max)		
Resolution	5.8Lp/mm(Max)		
Frame (1*1)	40fps		
A/D Conversion Bit	16bits		
Parameters			
Dimensions	L850mm*W1000mm*H1700mm(Max)		
Input Power	220V 10A/110V 15A 50-60HZ		
Max Sample Size	280mm*320mm		
Control System	Industrial PC WIN7/ WIN10 64bits		
Net Weight	750KG (Max)		
Signal Tower	Yes		

Mandatory Technical Specifications - BGA Rework Machine

BGA Rework Machine		Yes/No	Reference Document & Page
Power Supply	AC220V +- 50/60 Hz		
Power	Bottom Heater(1.2kw), Power 5.66KW(Max)		
	Top Heater(1.45KW),		
	IR Preheater (2.7KW)		
PCB Size	412 x 370mm(Max); 6x6mm(Min)		
BGA Chip Size	60x60mm(Max) ; 2x2mm(Min).		
IR Temp Zone Size	285x375mm		
Temp. Sensor	1PCS		
Operation Method	7" HD touch screen		
Control System	Autonomous heating control system V2 (With software copyright)		
Display System	15" SD Industrial display (720P front screen)		
Alignment System	2M pixels SD digital imaging, automatic optical zoom with lase red-dot indicator		
Vacuum Adsorption	Automatic		
Alignment Accuracy	+0.02mm		
Temp. Control	k-type thermocouple closed-loop control with accuracy up to -+3 degree C		
Feeding Device	No		
Positioning	V-groove with universal fixture		
Dimension	L685xW633xH850mm		
Weight	76 KG		
Vacuum Pump			
PCB Fixture with support & handle Screw			
Vacuum Sucker			
10 x 10mm Reflow Nozzle			
20 x 20mm Reflow Nozzle			
31 x 31mm Reflow Nozzle			
41 x 41mm Reflow Nozzle			
35 x 35mm Bottom Reflow Nozzle			
Flux Brush			
Temperature Sensor			
Hot Air Heater			
Infrared Heater			
K-type External Thermocouple			
Toolbox			
Monitor			

Mandatory Technical Specifications - PCB Loader

PCB Loader		Yes/No	Reference Document & Page
PCB Size(L*W)-(L*W)(mm)	50*50-460*330 (Max)		
Dimension (L*W*H)	1320*870*1300 (Max)		
Magazine Size(L*W*H)(mm)	460*400*565 (Max)		
Weight	185Kg (Max)		
Loading Time	~6s (Max)		
Magazine Exchange Time	~20s (Max)		
Power Supply	AC100-230V, single phase, maximum 300W		
Air source, Airflow	0.4-0.6KPa, maximum 10L/min		
Transmission Height	900±30mm(support to customize)		
Transmission Direction	L→R or R→L		
PCB Thickness	Thinnest 0.4mm		
Default Magazine Qty	1		
Step Picth	10mm, 20mm, 30mm, 40mm		
Maximum PCB Capacity	50pcs		
Signal Towers			

Mandatory Technical Specifications - Ergonomic Workbench

Ergonomic Workbench	Yes/No	Reference Document & Page
Height adjustable worktop (650-900mm)		
1,650mm length, 900mm depth		
RAL7005 & RAL7035 Epoxy coated frame & drawer cabinet		
Worktop 32mm Particle Board laminated		
with 3mm high pressure PVC		
Adjustable Shelf optional		
Overhead bracket with LED Light fitting & diffuser		
Power outlets – 3 x 16A 3-pin SA,		
1 x 10A 2-pin Euro		
Drawer cabinet with 1 x 150mm drawer		
• Frame supported by stiffener plate at the back		
• Klima Chair with adjustable height (580-670mm) & backrest		
2 x EW2.8 Workbench, with adjustable shelf & 8 power outlets each		
• 2 x EW2.8 Workbench, no adjustable shelf, with 4 power outlets each		
• 4 x Klima Adjustable Chairs		
• 4x ESD Mat with ground, wrist strap & bonding bracket		
• Local Engineer on site for installation		