Specification

Model	MVM-100XD Mini Flex Mounter	Optional
Mounting area	Working area: 210mm (W) x 400mm (D) x15mm(H) Max PCB size: 210mm x 300 mm	Loading/unloading FPC shuttle
XY Movement actuators	High Resolution Stepper Motor	High Resolution Servo Motor
Mounting accuracy (under optimum condition)	Absolute accuracy (μ+3σ): 0.03mm/QFP Repeatability (3σ): 0.025 mm	0.05 mm/QFP 0.035 mm
Mounting rate (optimum condition)	100pin QFP: 1.110 CPH	
XY Axis Max Speed	1,000 mm/s (Yaxis), 800 mm(x-axis)	800 mm/s (y) and 600 mm/s (x)
Vacuum Nozzle (R-Axis)	Rotation Angle : ± 180 degree Resolution: 0.36 degree/step	
Components applicable for mounting	0603 chip to 30mm IC, SOP/SOI, QFP, PLCC, CSP/BGA, Connectors	
Vision Recognition	Two high precise cameras for IC inspection and Fiducial mark check. Resolution : 0.01Pix	Lower resolution vision systems
Reel feeder Dimensions	• Pitch of 8, 12, 16, 24, 32mm and others • Feeder adapter block enables using common market available component, IC/Connector feeders • 10 number of feeders (at 16mm pitch along X-axis)	
Tray Feeder	210 mm (Y) x 110 mm (X) (Flexible and changeable to various sizes to accommodate objects)	IC shuttles modules
Optional items	• LCD touch screen display and Monitors sizes • Component Feeder Adapters	- Semi-auto loading/unloading of PCB & IC Tray - Rotary working table - Special vacuum nozzle
Power Supply	AC 220/240V, 50/60 Hz Single phase	
Air Source	4 to 6 bars	
Safety Features	• Emergency stop button and limit sensors • Operational and Programming Error messages on touch • Alert buzzer sound	
Dimensions	690 mm(H) x 675 mm(W) x 806 mm(L)	
Weight	Approx. 38 kg	
Footprint	485 mm(W)x631 mm(L)	

Note: Specifications and appearance are subjected to change without prior notice

External Dimension

Contact Information

JSB TECH Private Limited
41 Science Park Road,
#04-02/02AThe Gemini,
Singapore Science Park II,
Singapore 117610
Tel: (65) 6778 0640 Fax: 6777 0460
Website: www.jsbtech.com

Patent Pending Application No: 200701348-5

JSB TECH Pte Ltd
A Division of VENTURA Group of Companies

FPC Assembly System

Mini Flex Mounter

High Precision Vision System

Desk-Top Structure

Cell Production Line Flexibility

Cost Effective SMT Mounter

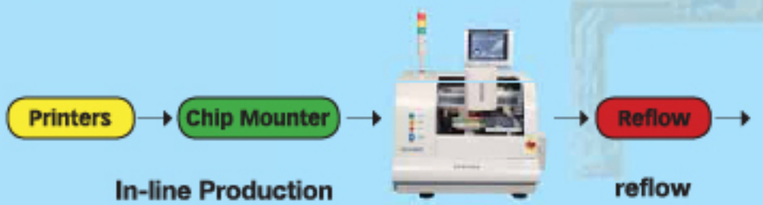
MINI FLEX MOUNTER

MVM-100XD

Technologies that supports high performance and flexibility

Ideal Applications for:

1. Replacement of expensive SMT IC mounters for rigid PCB component assembly.
2. Flexible Printed Circuit (FPC) fine-pitch component IC and Connectors mounting.
3. Cost effective Precision Placement of components for COB, COF and COM.



In-line Production

reflow

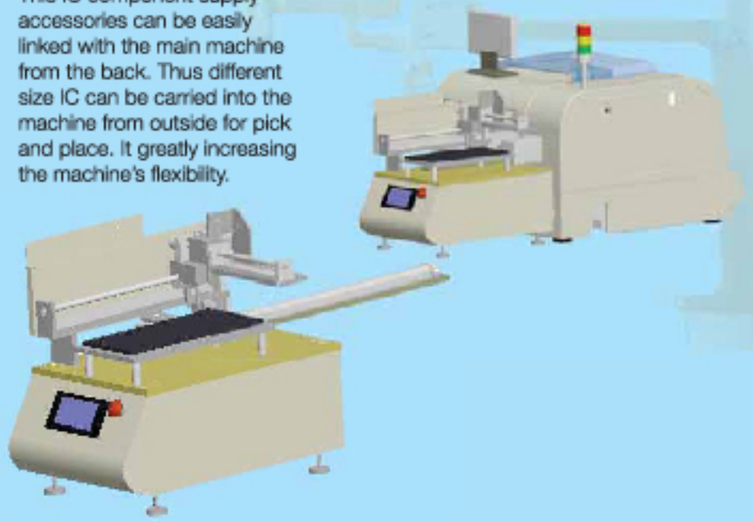
MVM is capable of linking up with other PCB assembly equipment to form in-line production and cell production

Cell production

Operation Panel
Simple switches on this panel provide easy and speedy operation

IC tray shuttle feeder-
This IC component supply accessories can be easily linked with the main machine from the back. Thus different size IC can be carried into the machine from outside for pick and place. It greatly increasing the machine's flexibility.

IC tray shuttle link up with main MVM



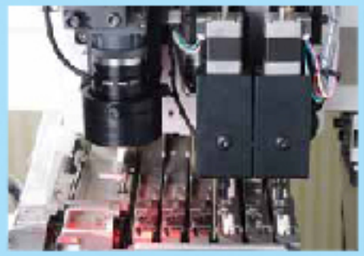
Fast PCB or FPC loading/unloading Shutter
This shuttle automatically shift the completed PCBs and empty PCBs. Zero-loading/unloading time can be achieved during operation. It greatly Increases the productivity.

Patent Pending Application No: 200701348-5

Precision Robotic Axis Arm

Structure of this mini flex mounter is build up with 6-axis manipulators (X, Y, Z1, Z2, R1 and R2). The two actuators are high precision ball screw slide and enable very high accuracy and machine repeatability.

The actuators movements are controlled at point-to-point movement without interpolation at a resolution of 0.03 mm. The XY table is designed to have a standard working envelope of 210 mm (X-axis) x 400 mm (Y-axis). Ideal mounting area size 120 mm (X) x 200 mm (Y) and extendable to larger working area.

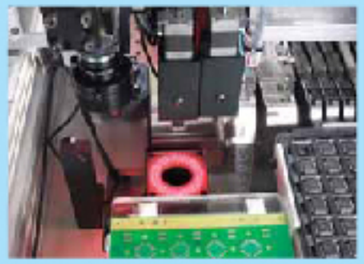


High Accuracy Pick-up Head

The pick up head is consist of a two vacuum nozzles driven by two separate precision Z-axis motors and two separate R-axis motors.
The Z-axis module enables the nozzles to move up and down independently in Z-axis direction at a resolution of 0.035 mm.
R-axis module enable the nozzle to rotate 180 degrees in both clockwise and counter clockwise directions at a resolution of 0.36 degree/step.

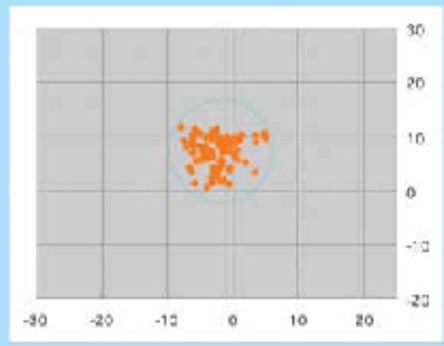
SMT Reel and Tray Feeders SMT

SMT components such as Chip components, IC, QFP, BGA, Fine Pitch Connector and other odd-shape components are packaged in reel or tray forms. Both packaging formats can be utilized in the machine.
Standard 10 (max 20) reel form component feeders slots are available. One IC tray stand with size of standard size of 120 mm (X) x 230 mm (Y) is allocated for tray feeding. This tray can be flexibly used for feeding other surface mount components or parts such as Dom switch, IC dies mounting for COB, COF and COM.



Vision Recognition System

The multi-camera high resolution vision recognition system with 0.03 mm or 0.05mm resolution to perform precision mounting of SMT components.
Teaching of machine for component pick up, recognition and mounting is conducted by using the LCD Touch-Screen console and monitor. Programming and teaching procedure on the machine is user friendly and fast as there is no standard components library required.
Programs can be saved in the machine and external computer.



Machine Repeatability Analysis

The machine repeatability and accuracy were measured using very high precision CMM machine with accuracy of +/- 1um.
X-axis standard deviation (σ): 2.93um
X-Y repeatability: 12.09 um
X-axis repeatability (3σ): 8.77um
Y-axis standard deviation: 2.77 um
Y-axis repeatability (3σ): 8.31um

Measurement tool: CMM machine with accuracy of +/-1 um
Components: Two square gauges with dimensions of 10 x 10 mm and accuracy of +/- 5µm.

Patent Pending Application No: 200701348-5