



Precision Placement Machines, Inc.

**FLEXIBLE
SOLUTIONS**
FOR **Electronics Assembly
Automation**

MV - 100

High Precision Semi Automatic Screen Printer

The MV-100 uses production-proven 100 Series technology. It is fitted with sophisticated menu-driven control software for fast set-up and ease of use, making it one of the most user-friendly printers available. The tooling system is SMEMA compliant and will provide the most densely populated, double sided PCBs.

The MV-100 represents fine pitch printing and provides accuracy, repeatability and reliability in the most demanding surface mount applications. With an established reputation for being a solid dependable solder past printer, it also exemplifies a strong Vision System technology. The Vision System is controlled simply and effectively by on-screen menus and a light pen. Board alignment is checked before every print and can be quickly adjusted by the operator if necessary.



Features and Benefits

- SMEMA compliant tooling system, and will provide the most densely populated double sided PCBs.
- Menu-driven control software for fast set-up and ease of use.
- Compact Footprint with 0.4mm ultra-fine pitch capability.
- Designed for accuracy, reliability, high yield, and ease of use with minimum down time.
- Max stencil frame: 508 x 508mm (20 x 20in)
- Print Area:
 - 400 x 450mm (15.7x17.7in) twin squeegee
 - 420 x 450mm (16.5x17.7in) single squeegee
- Advanced Vision Alignment features an adjustable field of vision from 3 x 4mm to 8 x 6mm.
- Upgrade Options Available:
 - Screen frame adaptors
 - Power-driven vision alignment
 - Host management system
 - Underside stencil/screen cleaning

MV-100 - Specifications

Print Area	400 x 450mm (15.7 x 17.7in) (twin squeegee) 420 x 450mm (16.5 x 17.7in) (single squeegee)
Screen frame size	508 x 508 x 25mm (20 x 20 x 1.0in) (internal dimensions). Cast or hollow section
Screen frame adaptor plates	Universal and custom options available within maximum screen frame dimensions
Squeegees	Metal or polyurethane, widths from 75mm - 470mm (3in to 18.5in)
Registration accuracy	+/- 10 microns
X/Y screen alignment range	+/- 10mm (0.4in)
Radial screen alignment range	+/- 4.0
Resolution	Infinite
Squeegee pressure	0 - 15kg (0-6.8 lb)
Print speed	10-70mm/sec (0.4 - 2.75in/sec)
Snap off (print gap)	25mm (1.0in) maximum, depending on tooling
PCB size	450 x 500mm (17.7 x 19.7in) maximum
Print modes	Print/print, print/flood, flood/print
Number of depositions	1 or 2
Snap off speed	1-20mm/sec (0.04 - 0.8in/sec)
Cycle time (less print time)	10 sec
Bottom side clearance	12.7mm (0.5in)
Minimum board edge clearance	Zero
PCB supports	Diameters from 2mm to 16mm (0.08 to 0.62in)
Parameter storage	30 memory locations (standard)
Parameter increments	Squeegee pressure: 0.1kg (0.045lb) Print speed: 1.0mm/sec (0.04in/sec) Carriage position: 5.0mm (0.2in) Print Gap: 0.05mm (0.002in) Snap-off speed: 1% Process delays: 1 sec
Other control functions	Clean screen Vacuum selection Auto squeegee pressure compensations for snap off Diagnostics
Control panel	Positive action membrane key pads Super high twist illuminated LCD
Print head location	4 point (2 software controlled electromagnetic)
Power supply	Single phase 80-240v, 50 or 60 Hz
Power consumption	1 kW max
Air supply	5 bars clean air
Dimensions	Height 1000mm, depth 837mm, width 694mm
Weight	Packed 273kg, unpacked 225kg

Manual Vision System Technical Specifications

Field of vision	Adjustable from 3 x 4mm to 8 x 6mm
Magnification	34:1
Viewing capability	450 x 500mm
Teach window	Full screen
Fiducials	Pads or standard fiducials
Post print inspection	Available
Operator interface	Light Pen
Ultra fine pitch	0.4mm (0.016in) or below
OPTIONS	Screen frame adaptors Power driven Vision Alignment Host management system Underside stencil/screen cleaning

Control System

Machine functions are controlled via a touch-sensitive membrane panel incorporating an LCD display. The control software is menu-driven for simplicity and ease of use, allowing the MV-100 to be operated with minimum training. A lock-out feature can be activated to prevent unauthorised adjustment of set-up parameters. Set-up parameters and control functions can hold up to 30 PCBs to memory.

Positioning System

The optional Host Management System enables set-up parameters to be stored on disk files and recalled as required. Using a barcode reader and machine mounted computer, it can be set up automatically from bar codes on stencil frames or PCBs. Set-up parameters held on file can be displayed or printed out as required. A note pad facility enables additional process information to be attached to the relevant production file and this can be displayed or printed. This system ensures the fastest possible set-up and configuration, minimising production down-time.

Diagnostics

The comprehensive diagnostic features of the MV-100 control system will identify and test machine functions. The operator can selectively test all the control system inputs and outputs. In diagnostic mode the system inputs and reports whether or not a sensor has been tested. The diagnostic menu also allows machine configuration and language options to be selected.

