

IPE-V™

V Series Post Etch Punch

Built in the tradition of Multiline's Optiline PE, the PC industries first post etch punch, the IPE-V offers lower volume pcb manufacturers all the advantages of superior post etch punch registration. The IPE-V is manufactured to the same exacting tolerances as all Multiline registration equipment. Accuracy and repeatability are assured for the long term due to the proven technology and features that separate Multiline from any other registration equipment.

The four post die-set construction offers many advantages. Since all the punches enter the material at the same time, driven by a hydraulic powered die-set, even thin innerlayers are held flat and punched accurately. An internal platen is incorporated into the machine which holds the material flat during punching. A solid die plate with replaceable die inserts and easily removable punches allows easy maintenance without disassembly and minimizes down time.

The small footprint and economical price make the IPE-V the perfect machine for prototype facilities, small to medium sized pcb facilities producing high layer count boards or as a back up machine to your other Multiline punches. The IPE-V can also serve a dual function as an artwork punch and an innerlayer punch. As production increases a VSAP artwork punch or a Multiframe VA (automatic vision exposure frame) can be added.



Affordability Without Compromise

Specifications:

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| Camera Configuration | Two camera; reflective lighting |
| Adjusting the configuration: | Manually repositions punches through the top plate of the machine Cameras manually positioned via two hand cranks |
| Panel Delivery: | Manual Load / Manual unload through the front Recesses in the tooling plates allows the operator to pre-panel in view of the cameras. |
| Panel Size Range: | 12" x 14" (304 x 355mm) to 24" x 30" (610 x 762mm) |
| Panel Thickness Range: | 0.002" to 0.039" (0.05 to 1.0mm) |
| Tooling Configuration: | 4 slot, 0.187" x 0.280" (4.76 x 7.11mm) flatted round |
| Panel Sizes Accomodated: (common panel sizes) | X axis (long axis) 14", 16", 18", 21", 24", 26", 28", 30" (355, 406, 457, 533, 610, 711, 762 mm) Y axis (short axis) 12", 14", 16", 18", 21", 24" (305, 355, 406, 457, 533, 610 mm) |
| Camera / Panel Orientation: | Standard Multiline Technology panel configuration |

Performance Specifications:

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|--------------------------------------|--|
| Set-up Time / lot: | Under three minutes |
| Cycle Time: | 13 to 15 seconds (including loading and unloading) |
| Punch Position Accuracy: | +/- 0.0005" (+/-12.7µm) |
| Punch Repeatability: | +/- 0.0003" (+/-7.6µm) |
| Tooling to Target Accuracy: | +/- 0.0008" (+/-20.3µm) |
| Vision System Resolution: | 0.00008" (2.0µm) |
| Panel Positioning Resolution: | 0.00005" (1.3µm) |
| Edge Tooling Available | |



MANUFACTURERS OF REGISTRATION SYSTEMS
AND LAMINATOR FIXTURES FOR THE MULTI-
LAYER PRINTED CIRCUIT BOARD INDUSTRY.

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