









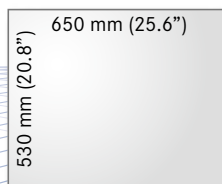
LPKF ProtoMat X60

Big in Rapid PCB Prototyping

Product: LPKF ProtoMat X60
Part no.: 109643
Ordering info: See front sleeve

Applications

-  Milling/drilling 1- & 2-sided PCBs
-  Multilayer PCBs up to 8 layers
-  Contour routing circuit boards
-  Front panels/sign engraving
-  Machining cut-outs in front panels
-  SMD stencil cutting
-  Depanelizing
-  Inspection templates



**Specifically for
large substrates**



The LPKF ProtoMat X60 is the pro for machining large substrates. Despite the large working space it offers the stability, speed and precision LPKF machines are known for. It features a non-contact, pneumatic depth working limiter for delicate substrates.

- For large material sizes up to 650 mm x 530 mm (25.5" x 20.8")
- Spindle speed up to 60,000 rpm, resolution 1 μ m, repeatability 0.001 mm
- Optical fiducial recognition optional
- Pneumatic non-contact working depth limiter
- Reliable, solid technology

Features

Maximum material size

The ProtoMat X60 features an extended layout area of 650 mm x 530 mm (25.6" x 20.8") and is ideal for large PCBs, antennas and depanelizing, but also for engraving plastics and soft metals. The ProtoMat X60 can quickly and easily engrave or mill 19" front plates.

60,000 rpm spindle motor

The ProtoMat X60 delivers superior precision: the resolution of the ProtoMat X60 yields up to 1 µm (0.04 mil). The circuit board plotter is ideal for producing fine structures in any material including RF- and microwave PCBs. The powerful 60,000 rpm spindle motor makes the X60 the first choice for Rapid PCB Prototyping large, high-quality PCBs.

Non-contact working depth limiter

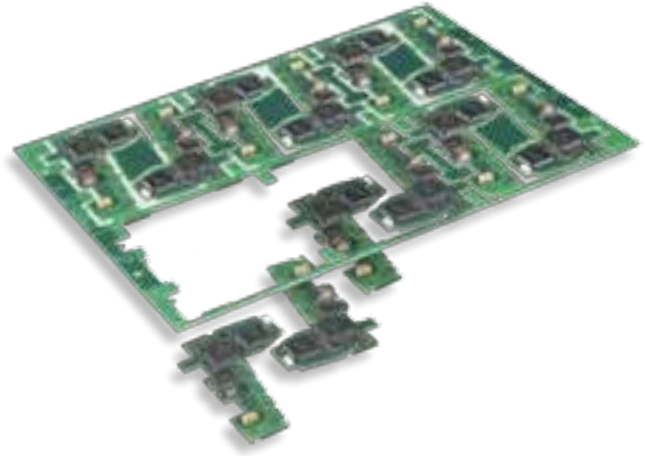
The pneumatic non-contact working depth limiter glides across the surface of the base material on an air cushion. Only the tool touches the base material for machining.

Options & accessories

- Dust extraction (Part no. 114647)
- Compressor incl. 50 l tank (Part no. 104863)
- Optical fiducial recognition (Part no. 114487)
- Brush head (Part no. 113815 plus 109688 [micrometer screw])

Other options and tools start on page 19.

Applications



The LPKF ProtoMat X60 is a cost-effective and flexible option in utilizing production lines to full capacity, for example when depanelizing unpopulated PCBs. Even complex contours, cut-outs and other routings can easily be programmed.



Technical Specifications: LPKF ProtoMat X60	
Part no.	109643
Max. material size and layout area (X/Y/Z)	650 mm x 530 mm x 14 mm (25.6" x 20.8" x 0.55")
Resolution (X/Y)	1 µm (0.04 mil)
Repeatability	± 0.001 mm (± 0.04 mil)
Precision of front-to-back alignment	± 0.02 mm (± 0.8 mil)
Milling spindle	Max. 60,000 rpm, software controlled
Tool change	Manual, quick-change holder
Milling width adjustment	Manual
Tool holder	3.175 mm (1/8")
Drilling speed	120 strokes/min
Travel speed (X/Y)	Max. 100 mm/s (3.94"/s)
X/Y-drive	3-phase stepper motor
Z-drive	Pneumatic, 14 mm (0.55")
Machine baseplate	Al-Plan precision plate
Dimensions (W x H x D)	750 mm x 420 mm x 900 mm (29.5" x 16.5" x 35.4")
Weight	69 kg (151.8 lbs)
Operating conditions	
Power supply	115/230 V, 50 – 60 Hz, 300 W
Compressed air supply	6 bar (87 psi), 100 l/min (3.5 cfm)
Required accessories	Exhaust, please refer to page 21