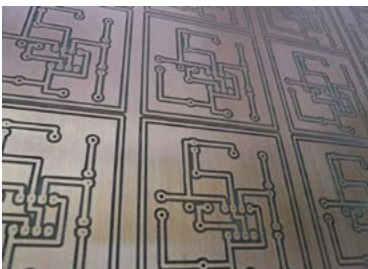


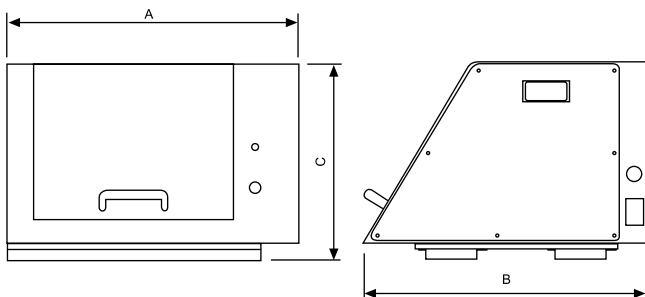
DENFORD

PCB Engraver

3 AXIS CNC PCB AND ENGRAVING MACHINE



The PCB Engraver is ideal for manufacture of PCB boards.



Machine Dimensions.

A 3 axis CNC PCB and Engraving Machine with totally-enclosed guarding, suitable for all levels of education and training. The PCB Engraver is supplied with operating software incorporating Gerber and DXF import facilities.

The PCB Engraver is ideal for cutting and engraving a range of resistant materials, including copper board, plastic and acrylic.

Denford's PCB Engraving Machine features the latest 'Floating Head' technology. The floating head allows manufacture of PCB's, and engraving of uneven surfaces. The PCB Engraver is also ideal for batch manufacture of PCB boards.



PCB Engraver

Denford's PCB Engraver is ideal for schools wishing to move away from traditional methods of chemical etching of PCB boards.

THE PCB ENGRAVER COMES AS STANDARD WITH:

- Powerful operating software that is simple to use and allows multiple designs to be made at once.
- High speed spindle motor and floating head technology.
- Basic tools and depth-setting device.
- Outlet for dust extraction.
- Sacrificial Table.
- Installation and Instruction Manuals.
- USB Connection.

The PCB Engraver software will import Gerber files or CNC G-Code files. Third party PCB software is required to create Gerber files, and QuickCAM 2D Design software would be an ideal addition to create CNC G-Code.

Please Note:

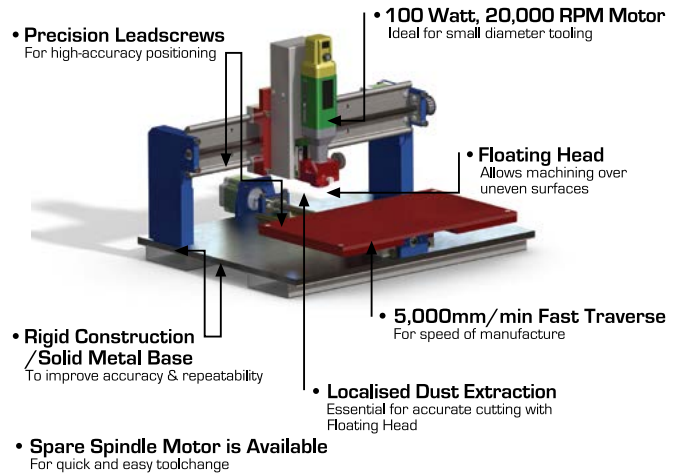
- Dust extraction is essential to allow the machine to function. The DP-50 is ideal - see page 22.
- The machine spindle has a 20 minute 50% duty cycle, so use of additional spindle motors for tool changing will increase productivity.

Tool changes are a simple process and allow drilling of larger holes, and the adjustable spindle speed and feedrate make the PCB Engraver ideal for cutting or engraving a range of resistant materials such as plastic, acrylic and copper board. The floating head combined with powerful new software, makes manufacture a quick and easy process.

QUALITY, PRECISION, MAINTENANCE FREE ROUTING

Denford supply CNC Routers with precision anti-backlash nuts/leadscrews, as they provide a highly reliable, accurate and almost maintenance-free solution and are perfect for use in a dusty environment. Anti-backlash nuts and lead screws provide a number of clear technical advantages:

Zero maintenance / No lubrication required / Lower particulate generation / Longer life with non-catastrophic failure / Quieter operation (no re-circulating ball noise) / High helix / Fast leads / Zero-backlash with very light pre-load / low drag

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- **Precision Leadscrews**
For high-accuracy positioning
 - **100 Watt, 20,000 RPM Motor**
Ideal for small diameter tooling
 - **Floating Head**
Allows machining over uneven surfaces
 - **5,000mm/min Fast Traverse**
For speed of manufacture
 - **Localised Dust Extraction**
Essential for accurate cutting with Floating Head
 - **Spare Spindle Motor is Available**
For quick and easy toolchange
 - **Rigid Construction / Solid Metal Base**
To improve accuracy & repeatability

Please note, diagram for illustration purposes only.

MECHANICAL DETAILS	PCB ENGRAVER
Machine Length (A)	570mm
Machine Depth (B)	585mm
Machine Height (C)	385mm
Machine Weight	43kg
Table Size	360 x 210mm
Travel X Axis	330mm
Travel Y Axis	210mm
Travel Z Axis	40mm
Float Z Axis	5mm
Beam Clearance	50mm
Max. Spindle Speed	20,000rpm
Spindle Speed Control	Manual
Max. Feed Rate	5000mm/min
Max. Contouring Feed Rate	1000mm/min
Mains Supply Requirements* [* Alternative supplies available on request]	Single Phase
Spindle Motor	100 Watts
Axes Motors	Stepper
Volts	230 Volts
Current	5 Amps
Hz	50/60 Hz