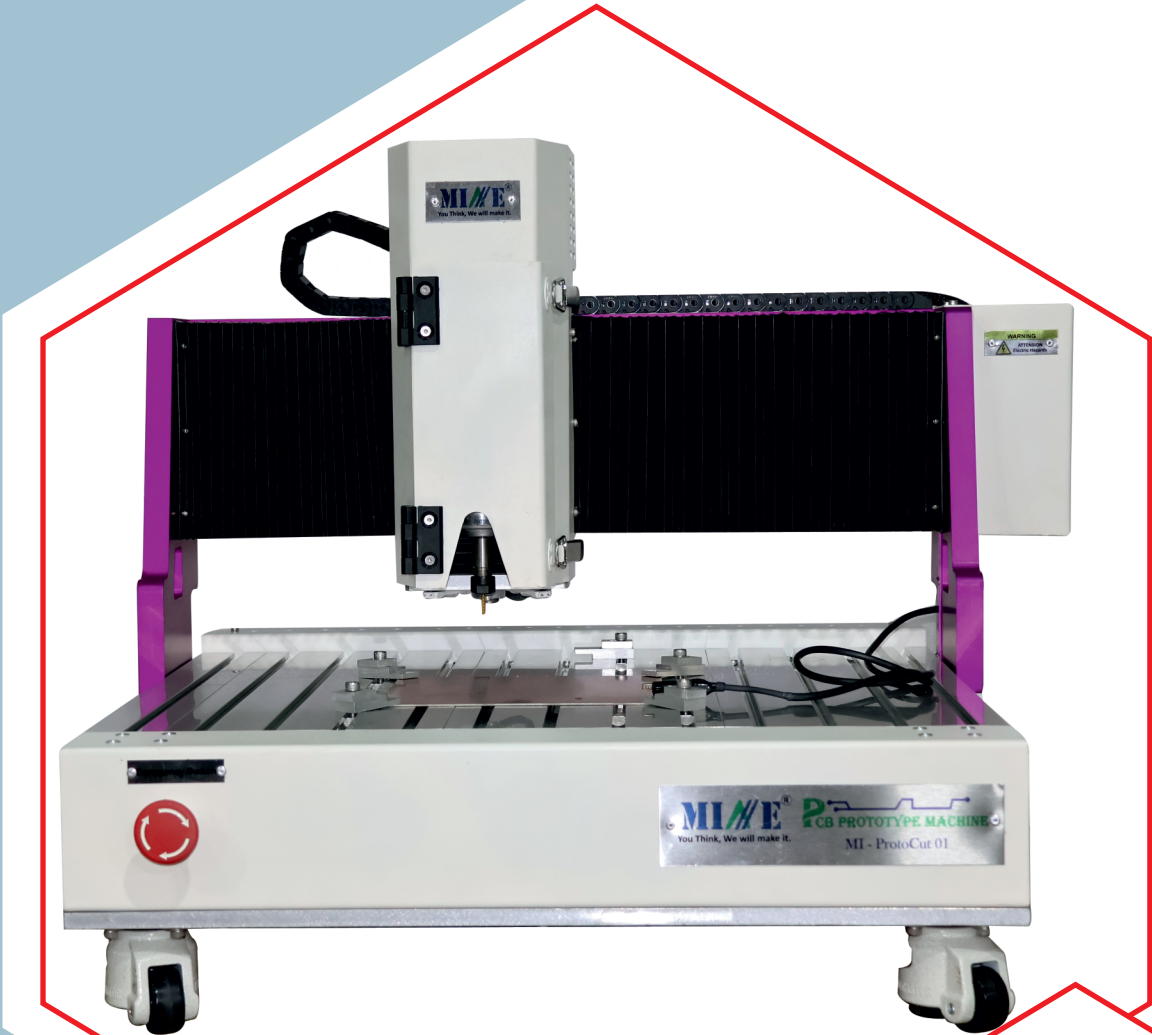


PCB ProtoType Machine

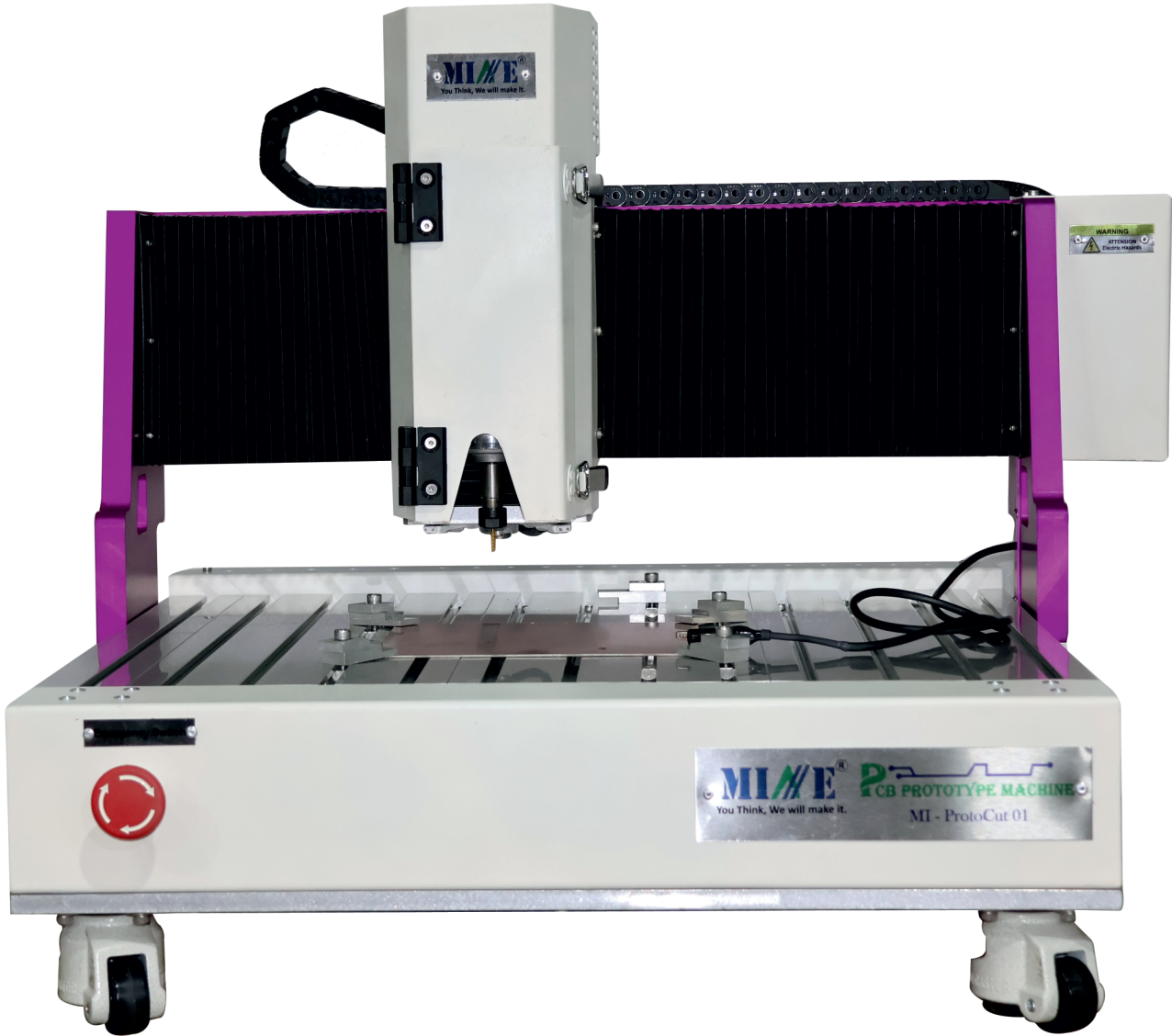
MI-ProtoCut 01



Mine Instruments Pvt. Ltd.

An ISO 9001:2015 Certified Company

About



Mine MI-ProtoCut 01 PCB Prototype Machine, A fully assembled & configured 3 Axis PCB Milling Machine which can cut, Engrave or drill materials like Plastics, PCBs, & light metals like silver, aluminum, copper and Brass.

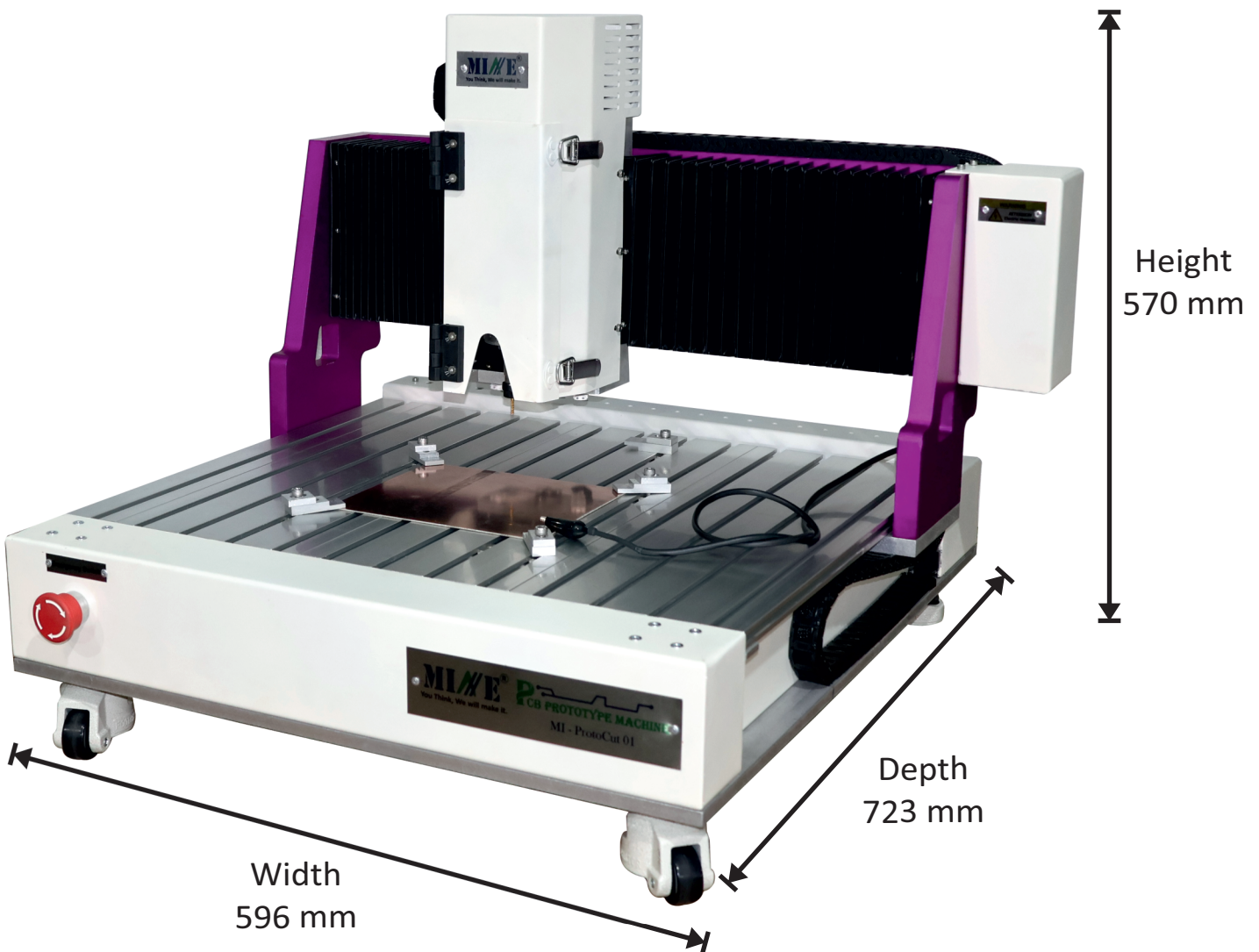
The machine is fitted with a Hybrid CNC Spindle Motors which provide high accelerations & speeds with better accuracy. Also machine have its unique own self probing system mounted on machine itself to achieve better engraving surface finish. Over all it is used for drilling, cutting & engraving also it gives a complete solution for desktop routing of soft materials.

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PCB Machine Dimensions

Product Dimensions : Width = 596mm (Approx.)
Depth = 723mm (Approx.)
Height = 570mm (Approx.)

Weight : 75kg (Approx.)



Mechanical Specifications

Machine Dimensions (W*D*H)	: (W 596 × D 723 × H 570) mm Approx.
Machine Construction material	: 6061 & 6063 hard aluminum alloy for better mechanical stability
Maximum job height	: ≤ 25mm
Rail type	: LM GUIDE
Transmission unit	: BALL SCREW
Repeat positioning Accuracy	: 0.1mm ± 1%
Machine weight	: 75kg (Approx)

External Body cover of machine (Optional)

* Machine will be fully covered and have 3 side individual inspection windows made of clear Acrylic also have 2 individual drawers at the bottom with individual lock and individual handle on it, also have 4 locking caster wheels for easy shifting of machine, the body of the cover should not be less than (810W X 1200H X 900D) mm.

Technical Specifications

Working Area (X*Y*Z)	: 305*305*35 mm (Approx)
Minimum drill hole size	: 0.2mm
Minimum cutting trace/space	: 0.2mm(8mil)
X/Y Resolution	: 0.06mm
Operating Voltage	: 220V AC, 50 Hz
Software supporting Operating System	: Windows 7/8/10 & Linux
Z-axis Stroke	: 25mm maximum, Engraving depth depends on the length of the tool edge.
Depth sensing and adjustment	: Automatic, software controlled
Tool change	: Manual
Tool holder	: 1/8 inch & ER11 Collet
Main application	: Engraving, Cutting & Drilling for PCB, plastics, acrylic & Metals (copper, aluminum, brass & silver etc.)

Spindle Motor

Spindle Speed (Max RPM)	: 12000 RPM
Spindle Motor	: 300W
Spindle Control	: Manual

Features

High RPM Spindle Motor

Versatile PCB prototyping

LED Light for work area

Micro drilling & milling

Chemical free operation

Emergency Stop button

USB Interface

Pause/Resume option

Robust Design

Fast operation

Bellow Cover

Auto depth adjustment

Energy efficient

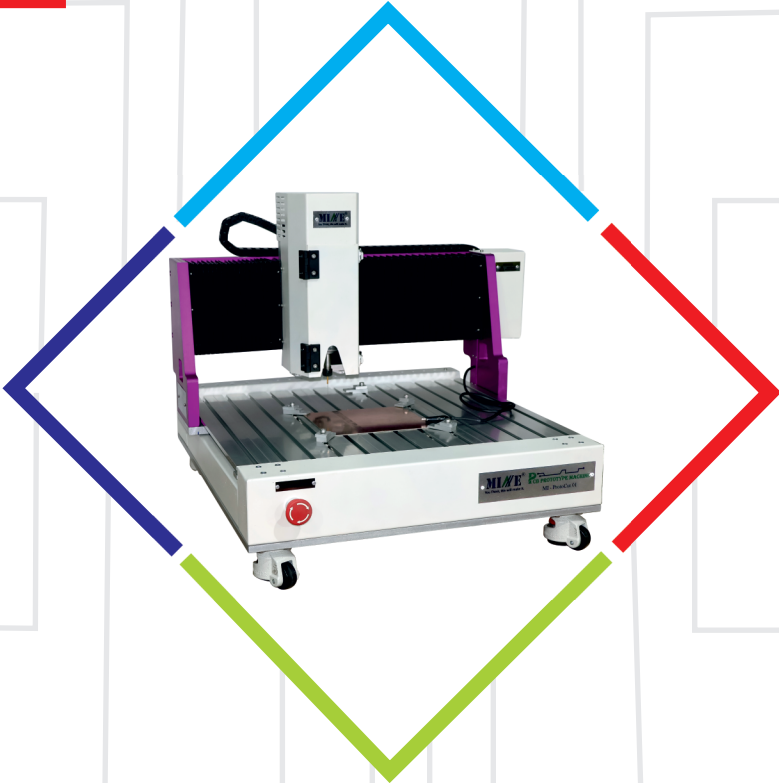
Simple & Easy to operate

Works with PCB, acrylic, plastic & even soft metals like aluminum

Create single as well as double-layer PCB

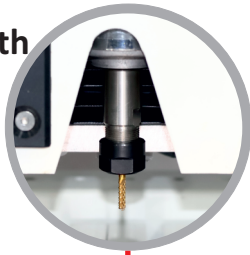
PC-based software with interactive GUI

Software support extended Gerber files from all CAD Software

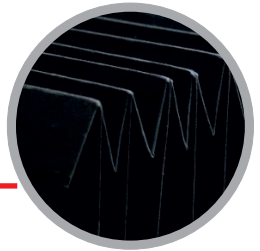
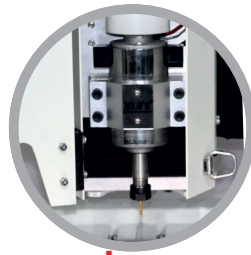


Product Parts

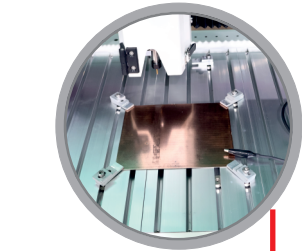
ER11 Collet Chuck with multiple bit option



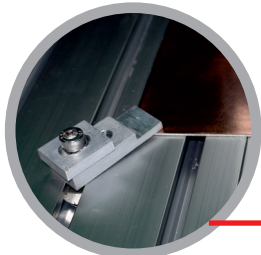
Heavy duty Spindle Motor



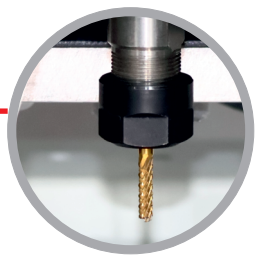
Bellow Cover (protect from dust)



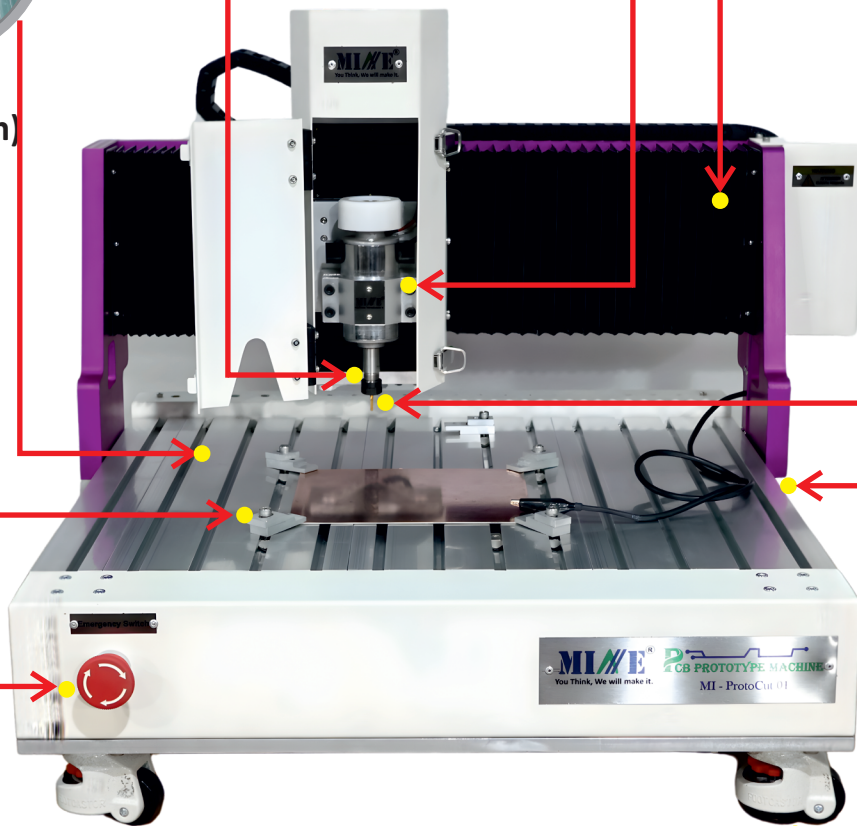
Working Area (300x300x35mm)



Clamp set with T nut



Tool Bit (0.2 to 3mm)



Emergency Stop button



PCB Machine Controller



DH24 PIN & 4 PIN DIN Connectors



Heavy-Duty Adjustable Footrest with Casters

PCB Machine Controller

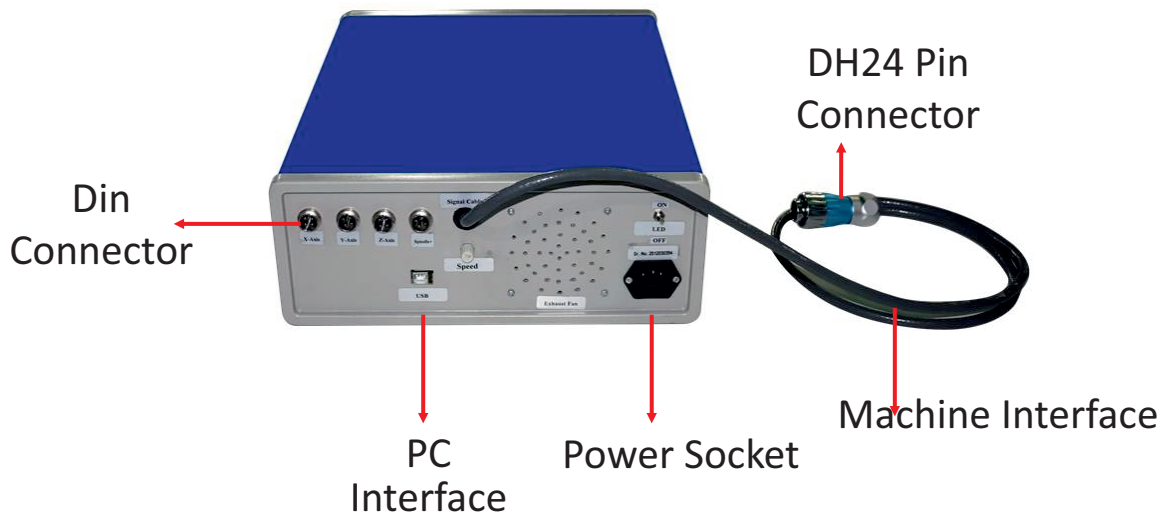
1. Front side of PCB Machine Controller



2. Dimensions

- Length : 421mm
- Width : 305mm
- Height : 120mm

3. Back side of PCB Machine Controller



4. Front Panel Controls

- Power ON indicator
- Power ON & OFF Switch
- Emergency Stop button
- Start Button
- Pause/Resume Button
- Abort Button

5. Back Panel Interface

USB interface

Power socket

PCB Prototype interface

- (i) 4 Pin Din Connector 3 qty.
- (ii) 5 Pin Din Connector 1 qty.
- (iii) DH24 Pin Connector 1 qty.

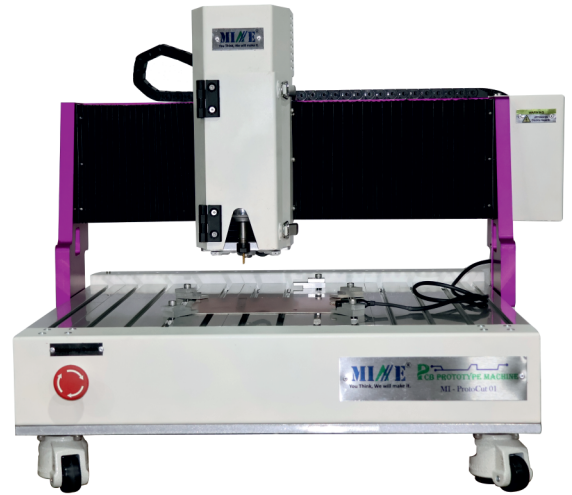


6. Technical Specifications

- OFF Load Current consumption : 0.6amp
- ON Load Current consumption : 0.26amp
- Operating Voltage : 230VAC, 2A 50Hz
- Total Power Consumption : 59.8 Watt
- Operating Temperature : 40–110°F(4-43°C)

7. Bellow Cover

- (a) Bellows are used as machinery protection in a wide variety of industries & Lab.
- (b) Protect areas where machinery could prove dangerous to a user.
- (c) No maintenance is required.
- (d) Protect from dusting.

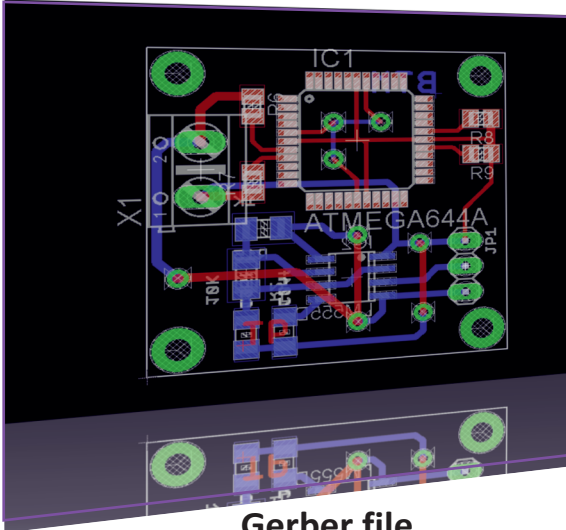


Back Side view

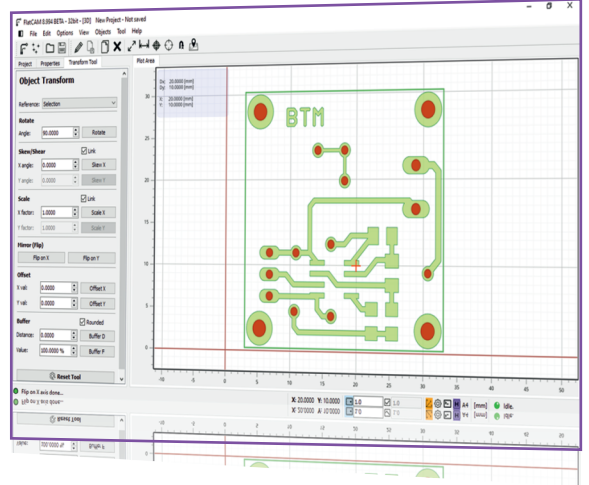
Advantages

- (1) PCB milling is beneficial for PCB prototyping and making special PCB designs.
- (2) PCB milling is much safer than chemical etching process.
- (3) It is provide highly accurate result with good reliability and user-Friendly
- (4) Secure & Safe

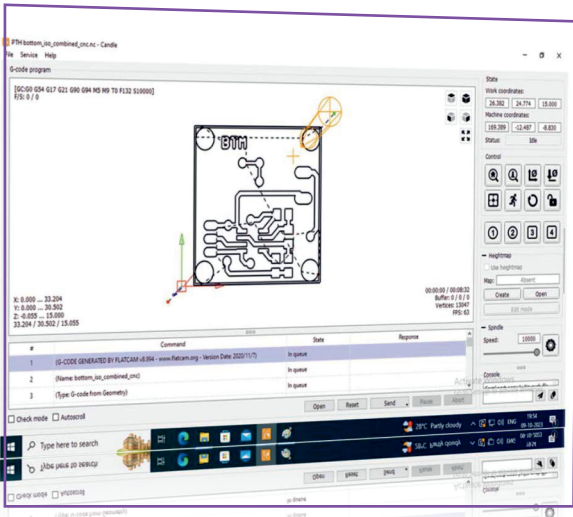
Software Window



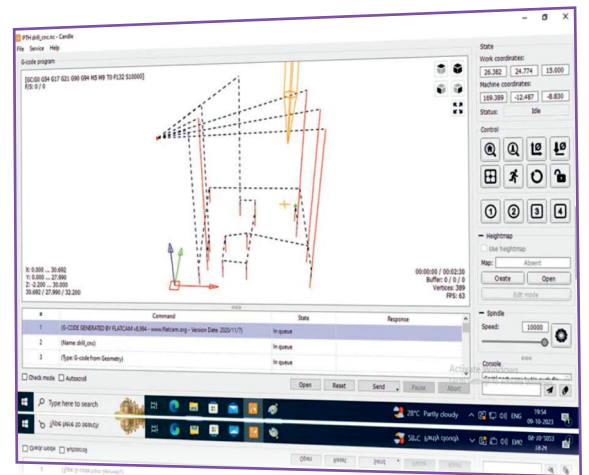
Gerber file



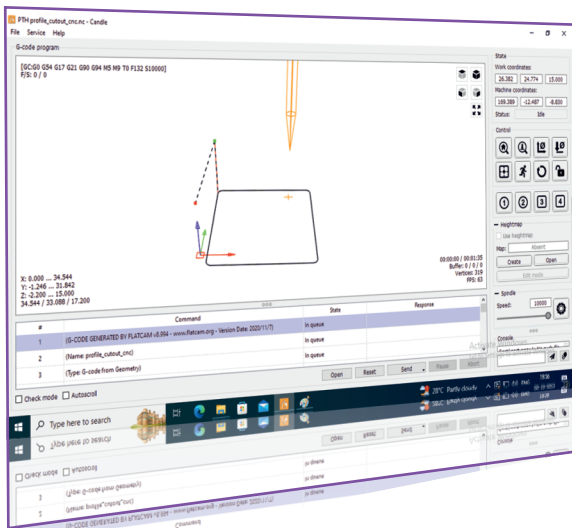
Gerber to G-code using FlatCam



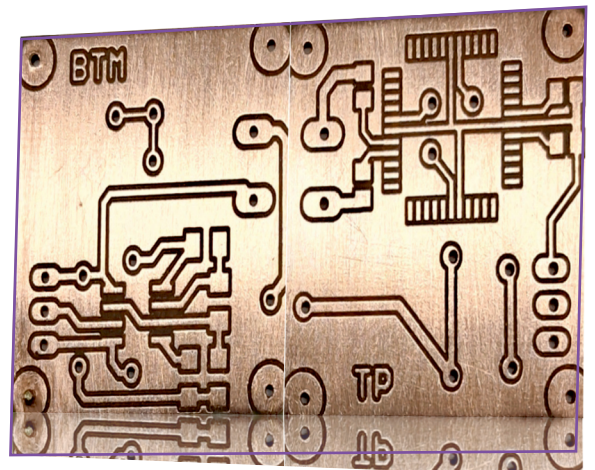
Bottom process in Candle



Operation for Drill PCB



Operation for Cut out PCB



Final Result

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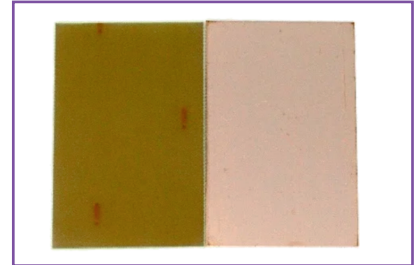
Accessories



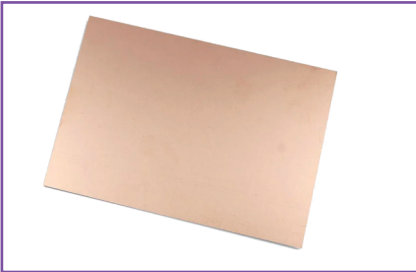
Drill Bits-10 nos.



Wrenches-2 nos.



Single Side PCB - 5 nos.



Double Side PCB - 5 nos.



Acrylic Plate 3mm - 3nos.



Vacuum cleaner - 01 nos.



USB Cable - 1 nos.



**Engrave/Milling bits
(0.2mm) - 10 nos.**



Power cable - 1 nos.



Operating Manual



Clamp set with T nut 10 nos.

