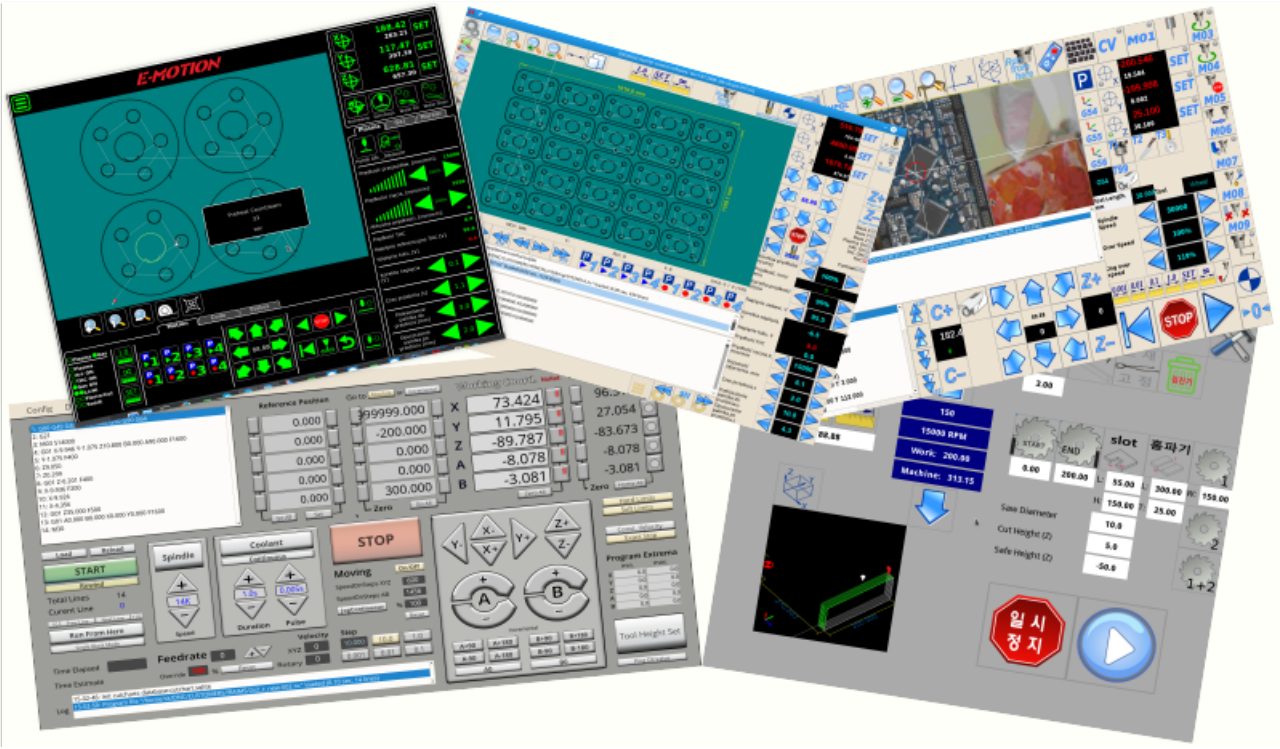
myCNC Software Main Features

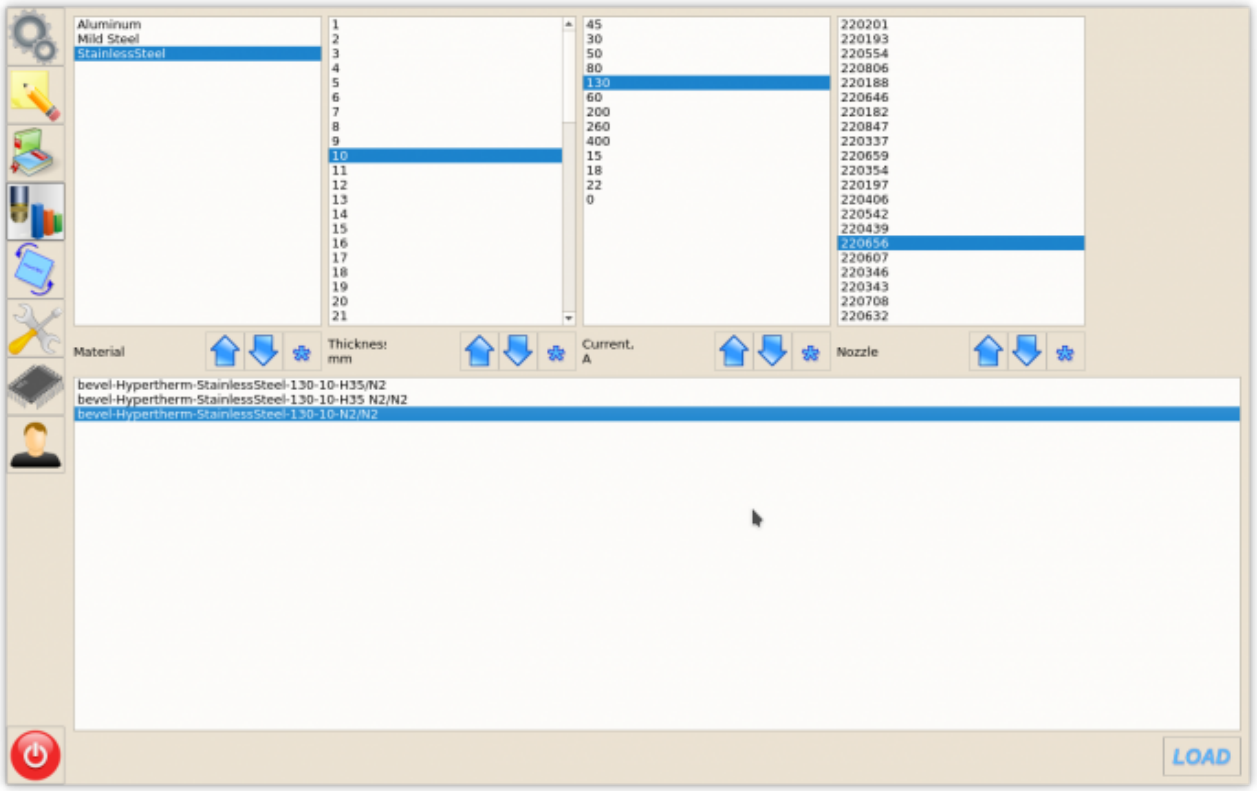
myCNC is multi-tasking and multi-platform CNC Control Software working under MS Windows (7, 8, 10), Linux, Embedded Linux Operating systems. myCNC can be run on Desktop PC, Industrial PC, Laptop or Single Board Computer (SBC) like Raspberry Pi 2/3, Odroid-C2/XU4, Asus Tinker Board, Rock64, Cubieboard2 and some others.

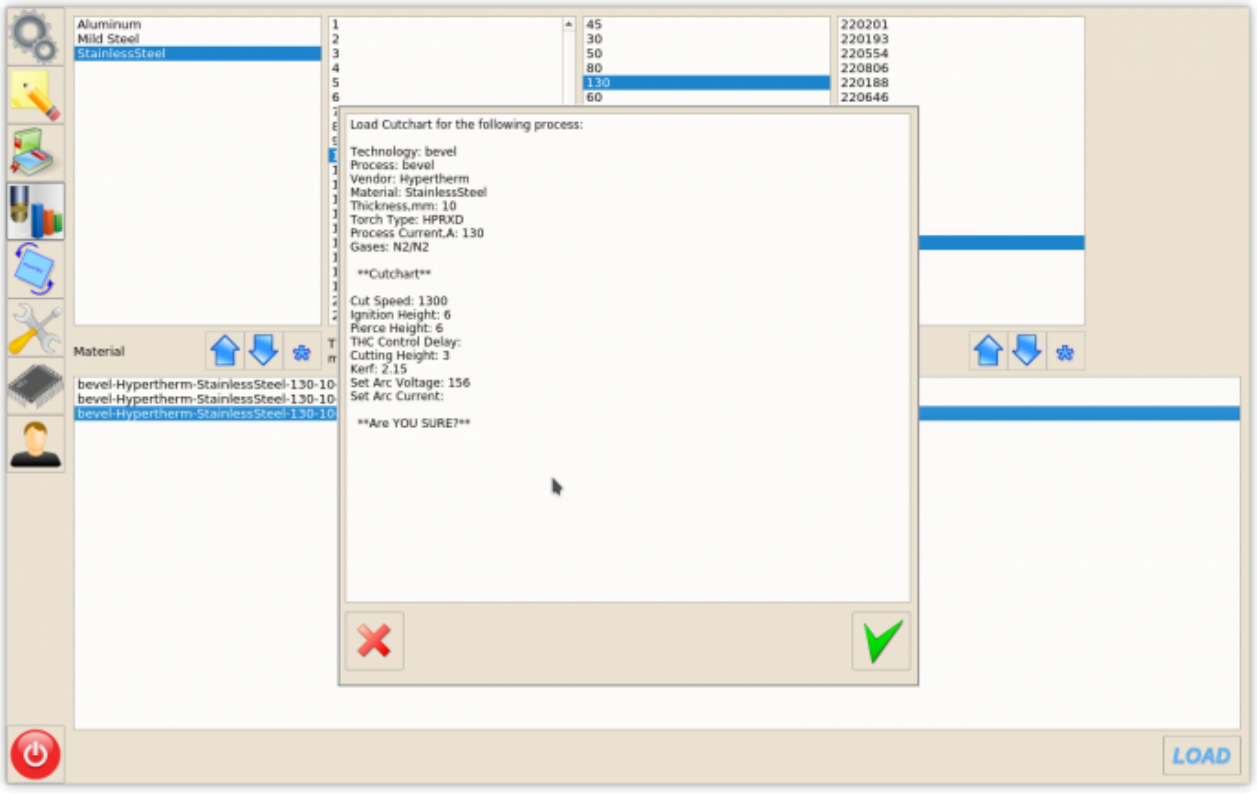
myCNC Control features

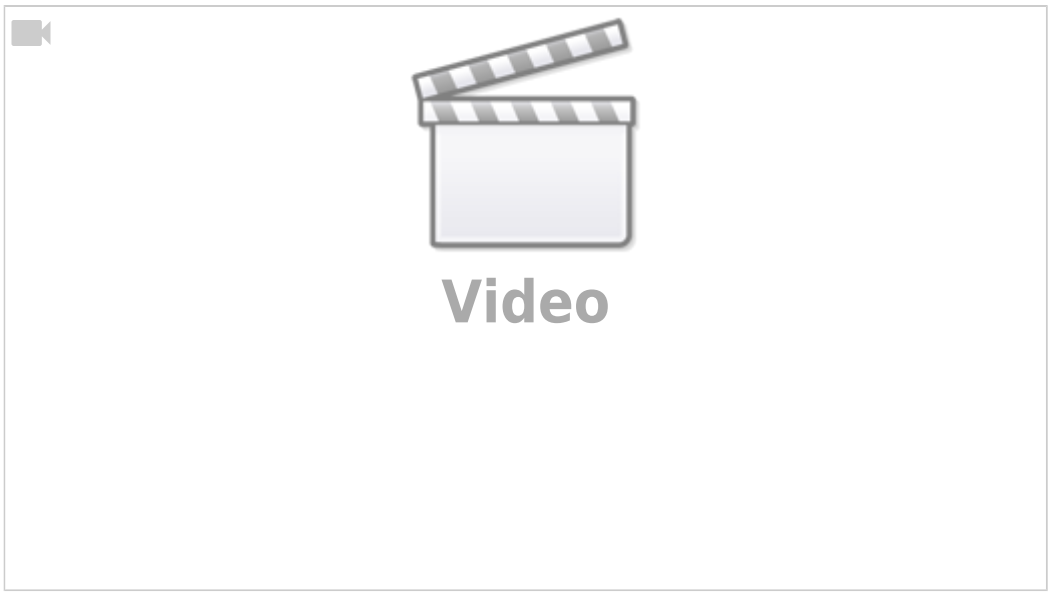
1. **6 Axes motion** control with **S-curve** speed profile for smooth machine motion;
2. G-code with **Macro Language** extension support;
3. Built-in **PLC** controllers and built-in PLC Builder IDE for flexible peripherals control;
4. Support special-purpose G/M codes for wide range of applications - mill, lathe, routers, tangential knife, plasma, oxyfuel, laser cutting, Torch Height Control (THC), ATC
5. **Big G-code files** up to 1GB supported
6. **Flexibly customized GUI**



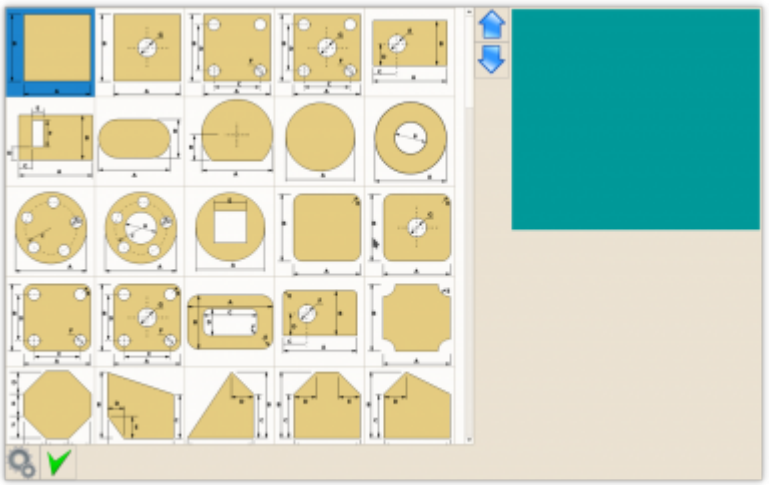
7. **Cutcharts** - Load cutting parameters from tables or g/m-codes and automatical setup CNC control and peripherals unit (like plasma power source, auto gas console etc)

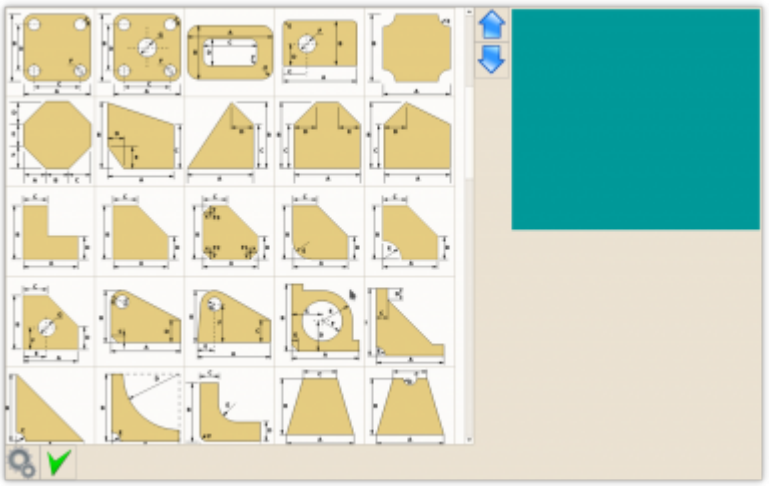

Aluminum
Mild Steel
StainlessSteel
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
45
30
50
80
130
60
200
260
400
15
18
22
0
220201
220193
220554
220806
220188
220646
220182
220847
220337
220659
220354
220197
220406
220542
220439
220656
220607
220346
220343
220708
220632
Material
Thickness mm
Current. A
Nozzle
bevel-Hypertherm-StainlessSteel-130-10-H35/N2
bevel-Hypertherm-StainlessSteel-130-10-H35 N2/N2
bevel-Hypertherm-StainlessSteel-130-10-N2/N2
LOAD

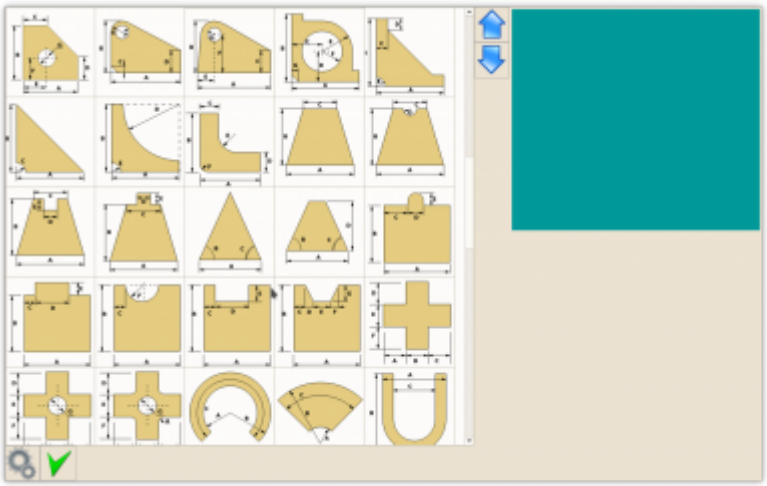

Aluminum
Mild Steel
StainlessSteel
Load Cutchart for the following process:
Technology: bevel
Process: bevel
Vendor: Hypertherm
Material: StainlessSteel
Thickness,mm: 10
Torch Type: HPRXD
Process Current,A: 130
Gases: N2/N2
Cutchart
Cut Speed: 1300
Ignition Height: 6
Pierce Height: 6
THC Control Delay:
Cutting Height: 3
Kerf: 2.15
Set Arc Voltage: 156
Set Arc Current:
Are YOU SURE?
Material
LOAD

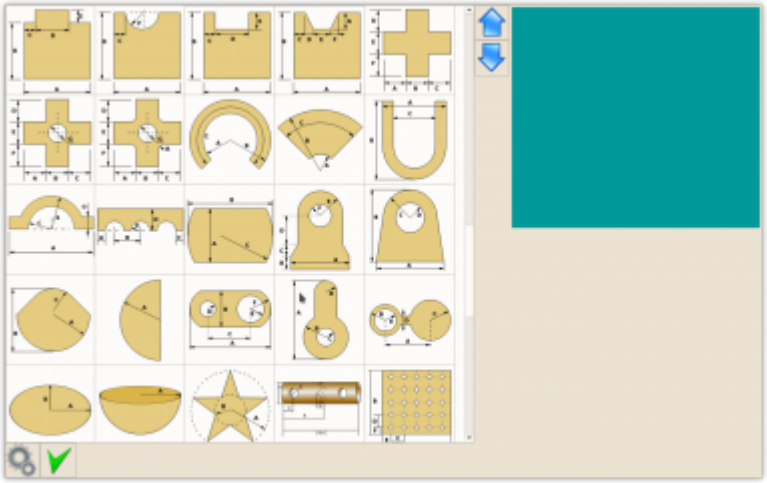


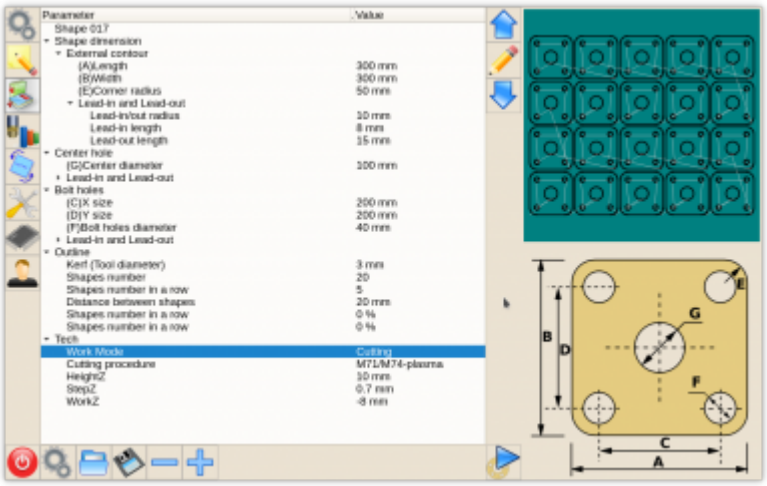
8. **Shape Library** - has a good set of parameterized shapes with row&column nesting features and several cutting technologies supported (plasma-gas cutting, engraving, multi-pass cutting). New shapes can be easily added to the Shape library by customers, examples available



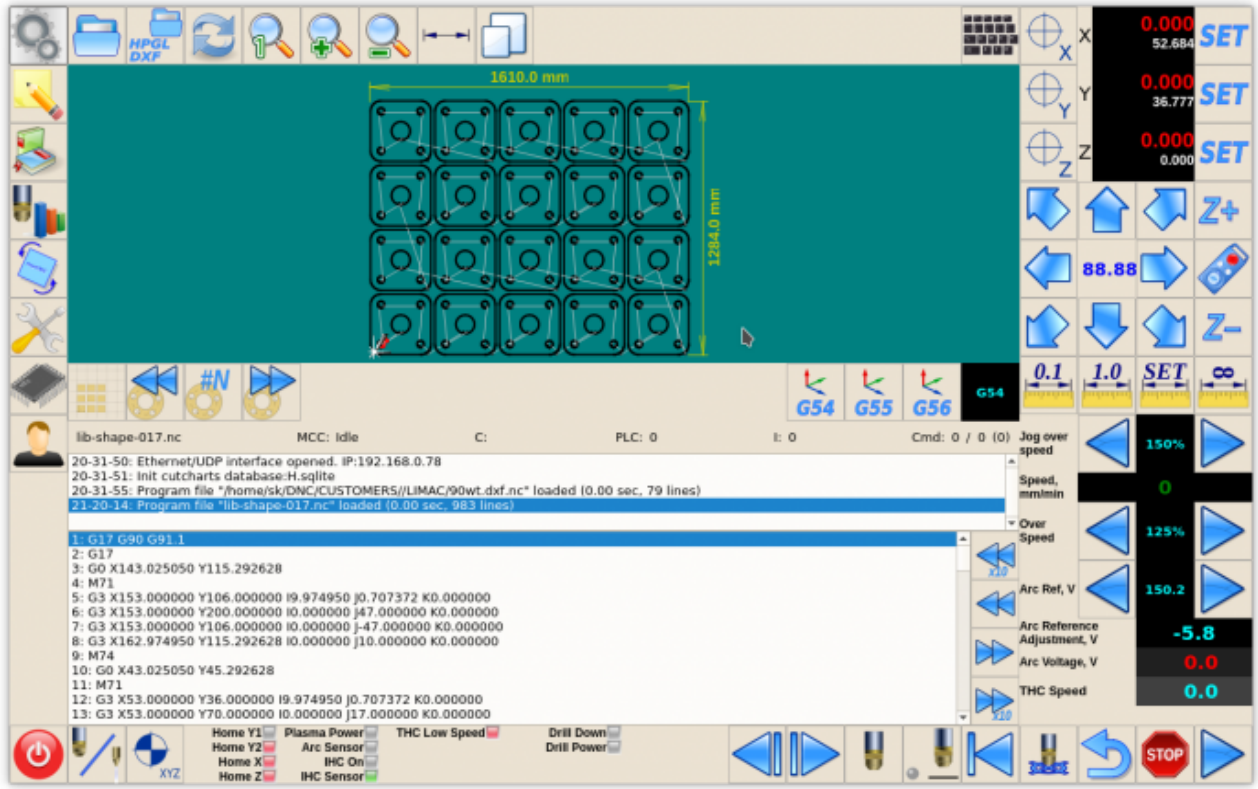


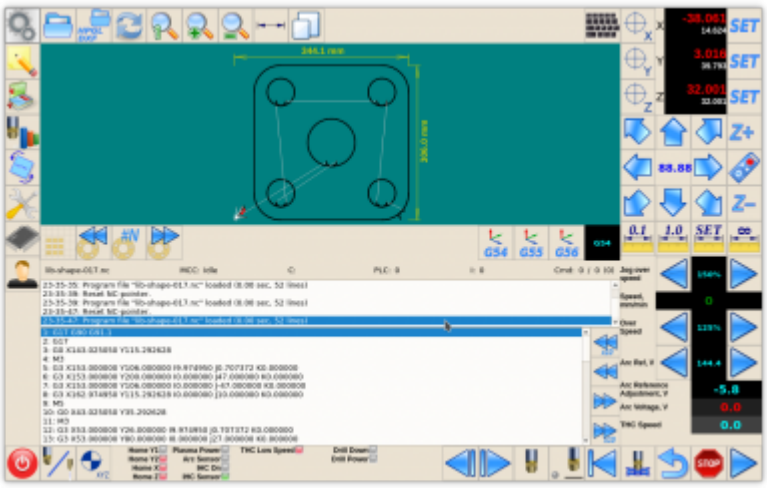


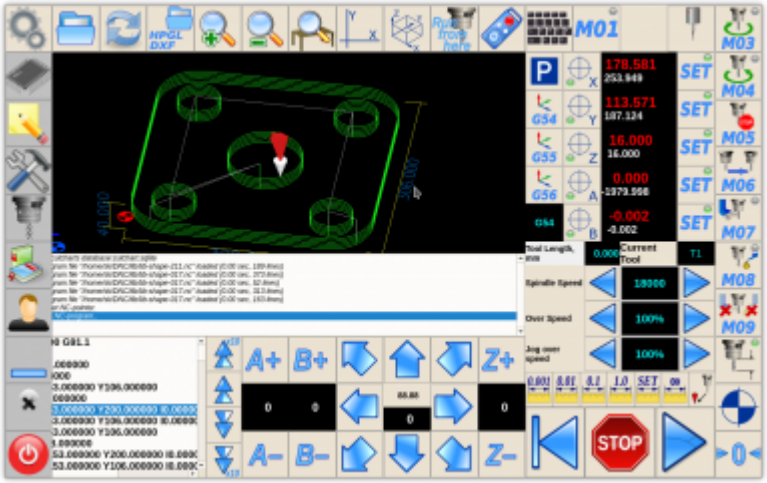



Parameter
Value
Shape 017
Shape dimension
External contour
(A)Length 300 mm
(B)Width 300 mm
(E)Corner radius 50 mm
Lead-in and Lead-out
Lead-in/out radius 10 mm
Lead-in length 8 mm
Lead-out length 15 mm
Center hole
(G)Center diameter 100 mm
Lead-in and Lead-out
Bolt holes
(C)X size 200 mm
(D)Y size 200 mm
(F)Bolt holes diameter 40 mm
Lead-in and Lead-out
Outline
Kerf (Tool diameter) 3 mm
Shapes number 20
Shapes number in a row 5
Distance between shapes 20 mm
Shapes number in a row 0 %
Shapes number in a row 0 %
Tech
Work Mode Cutting
Cutting procedure M71/M74-plasma
HeightZ 10 mm
StepZ 0.7 mm
WorkZ -8 mm
E
G
B
D
F
C
A

Row and column Nesting for library Shapes



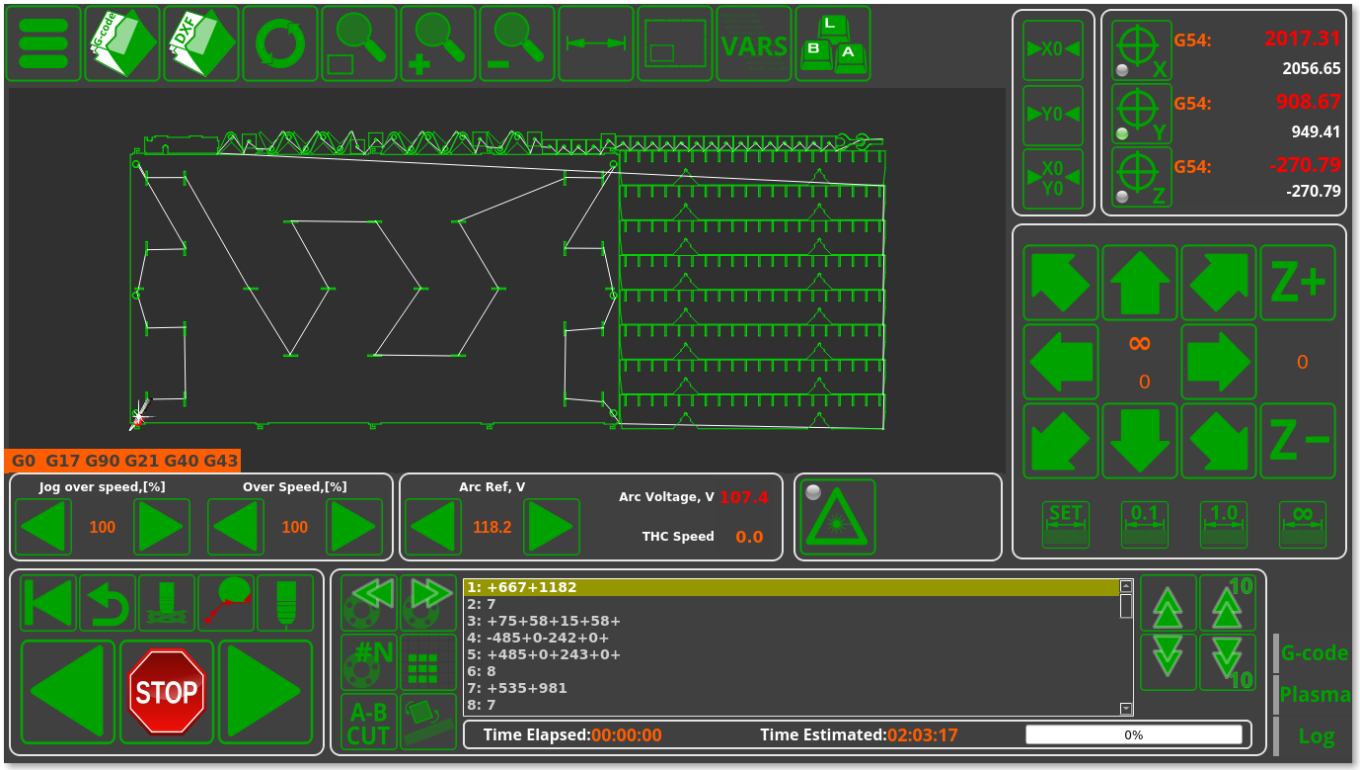


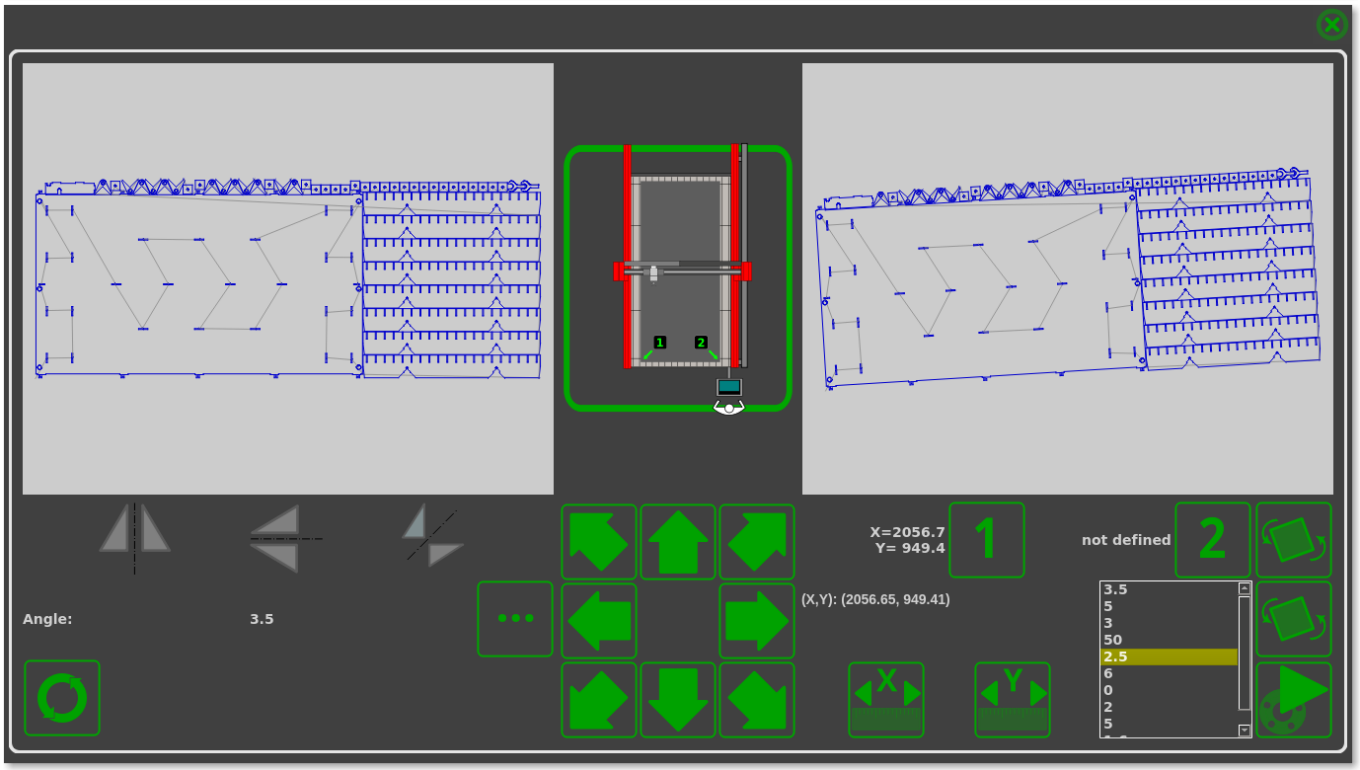


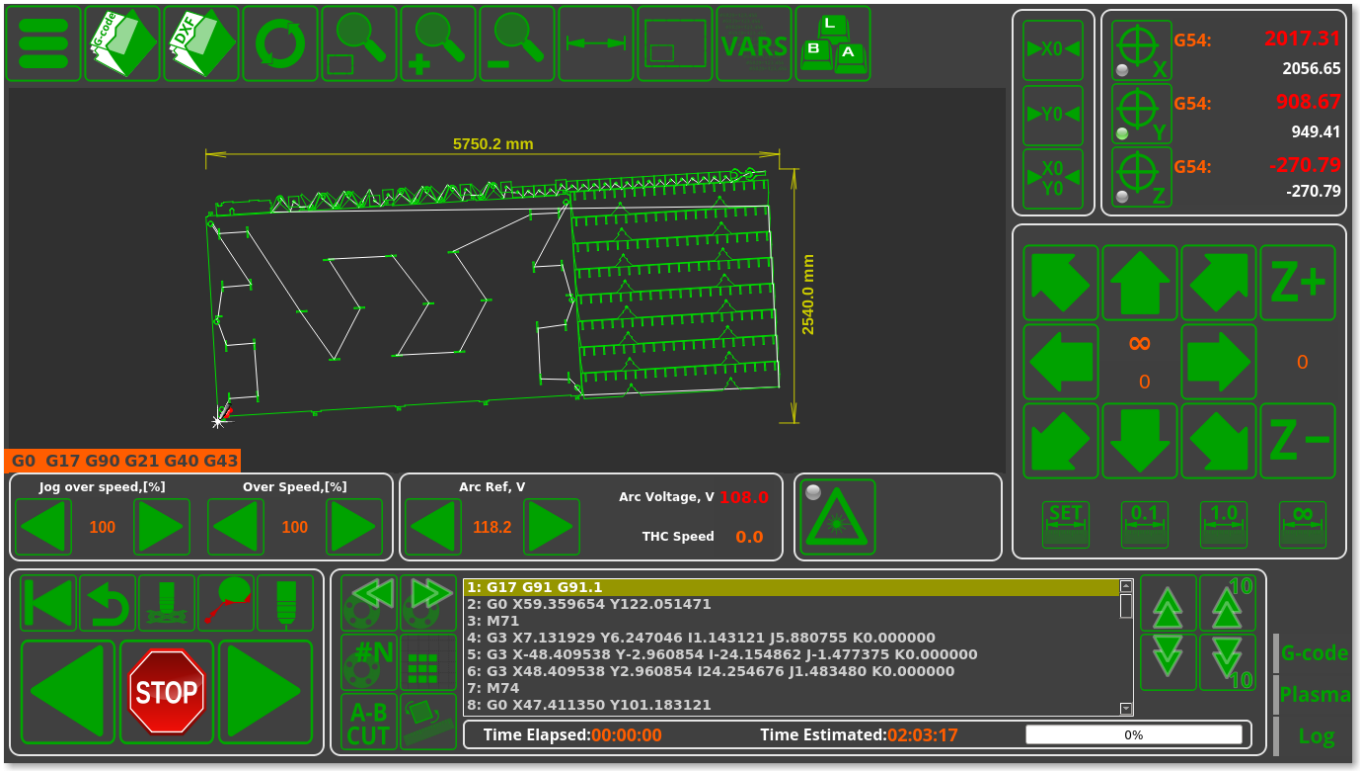
Different cutting technology supported in Shape Library - like automatic insert Lead-In/Lead-outs for Plasma/Gas Cutting or Multi Pass cutting and Engraving for Routers/Mill

9. **G-code program Rotation, Mirror transformations** - g-code program can be mirrored

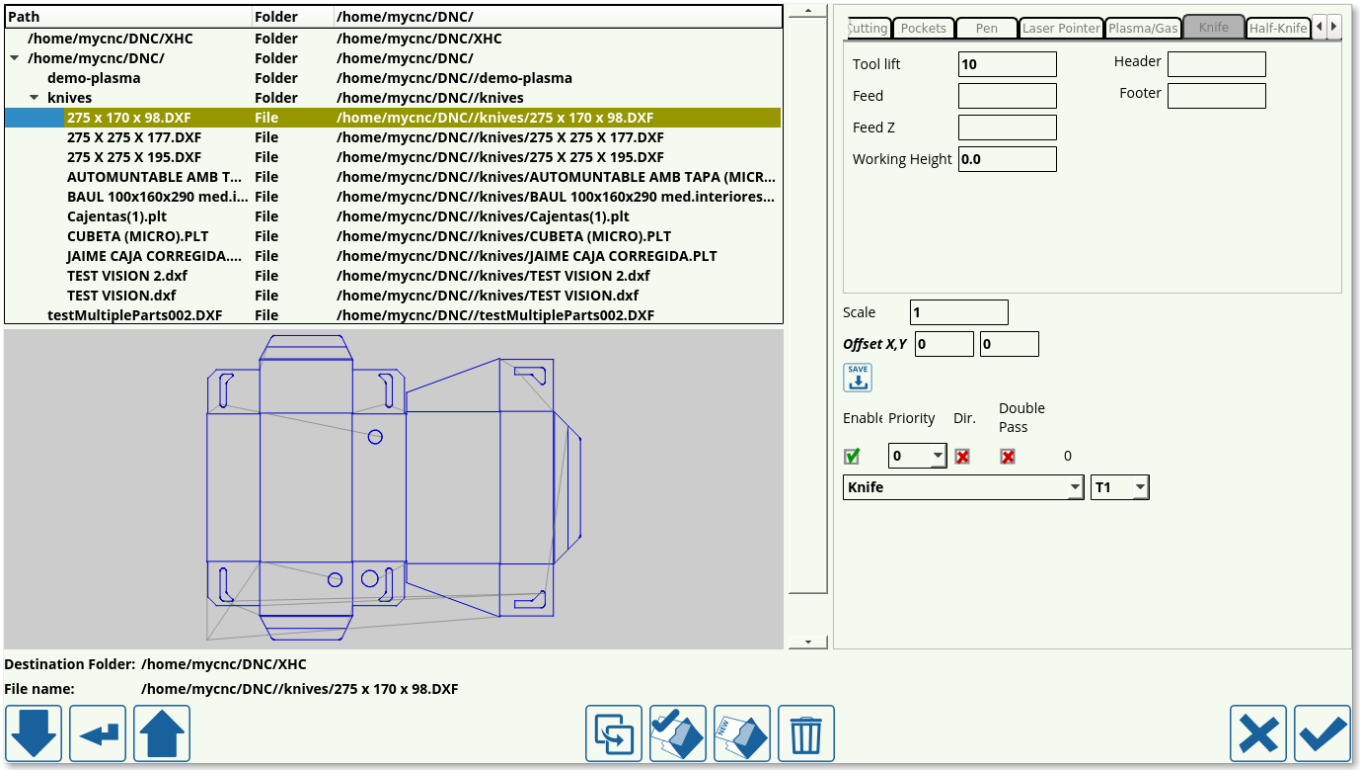
relative to (x=0), (y=0) or (x=y) lines or rotated for given angle or to angle calculated from 2 base points. This feature widely used for heavy plasma/gas cutting machines, routers, but might be useful for mill machines as well.

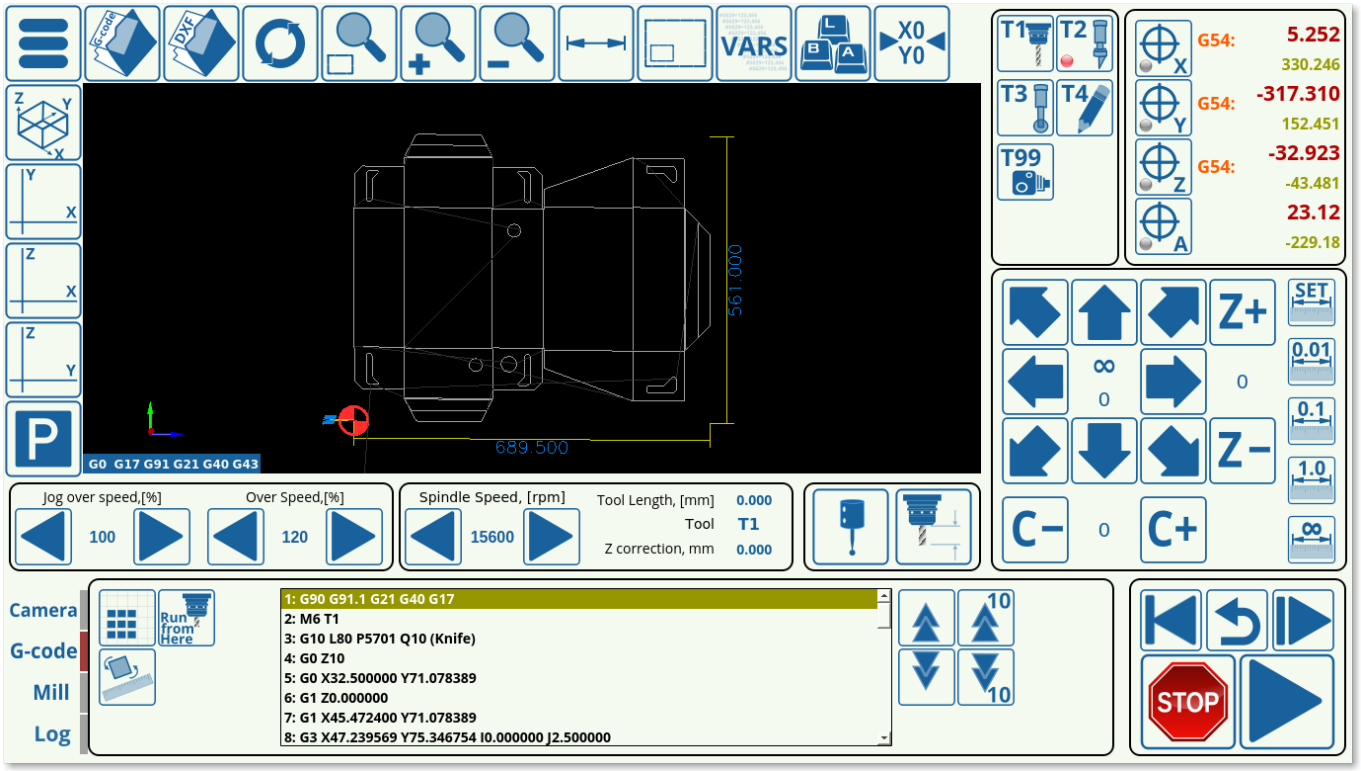




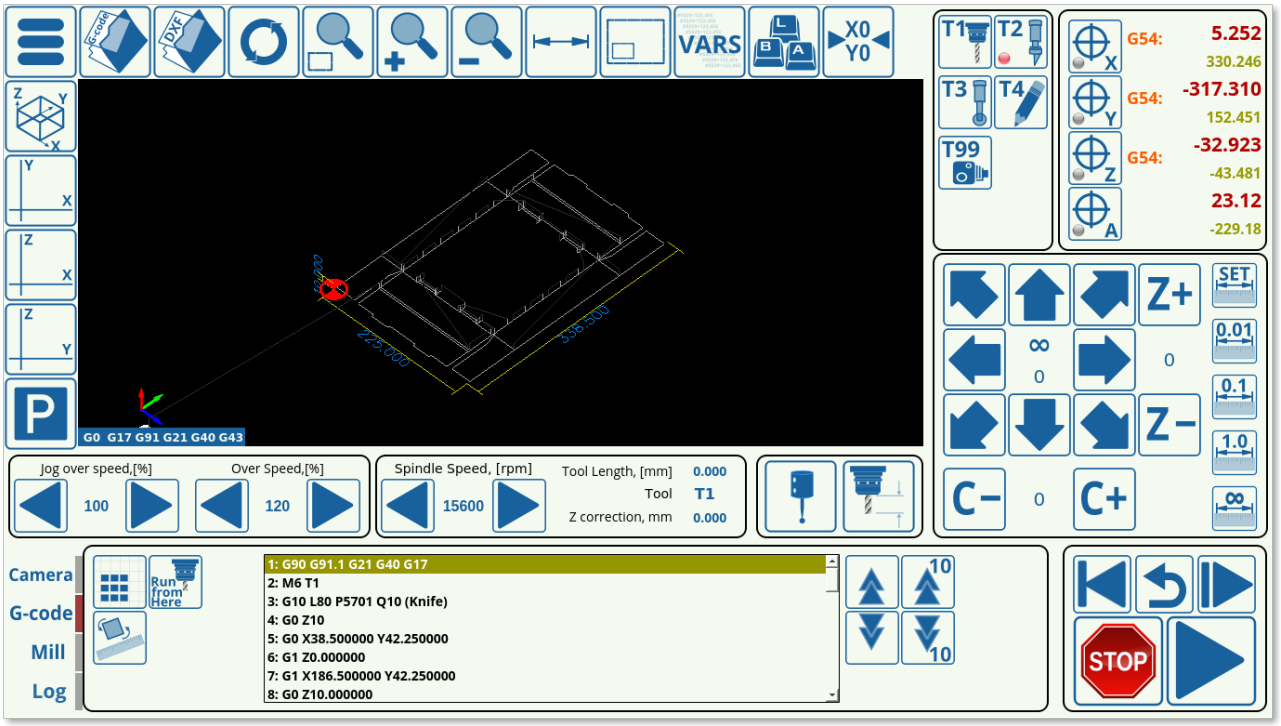


1. **DXF/HPGL import and convert to G-codes** with multi-head multi-technology support. Every layer of DXF file (or every Pen for HPGL) can be assigned to different technology and myCNC control will generate G-code accordingly:



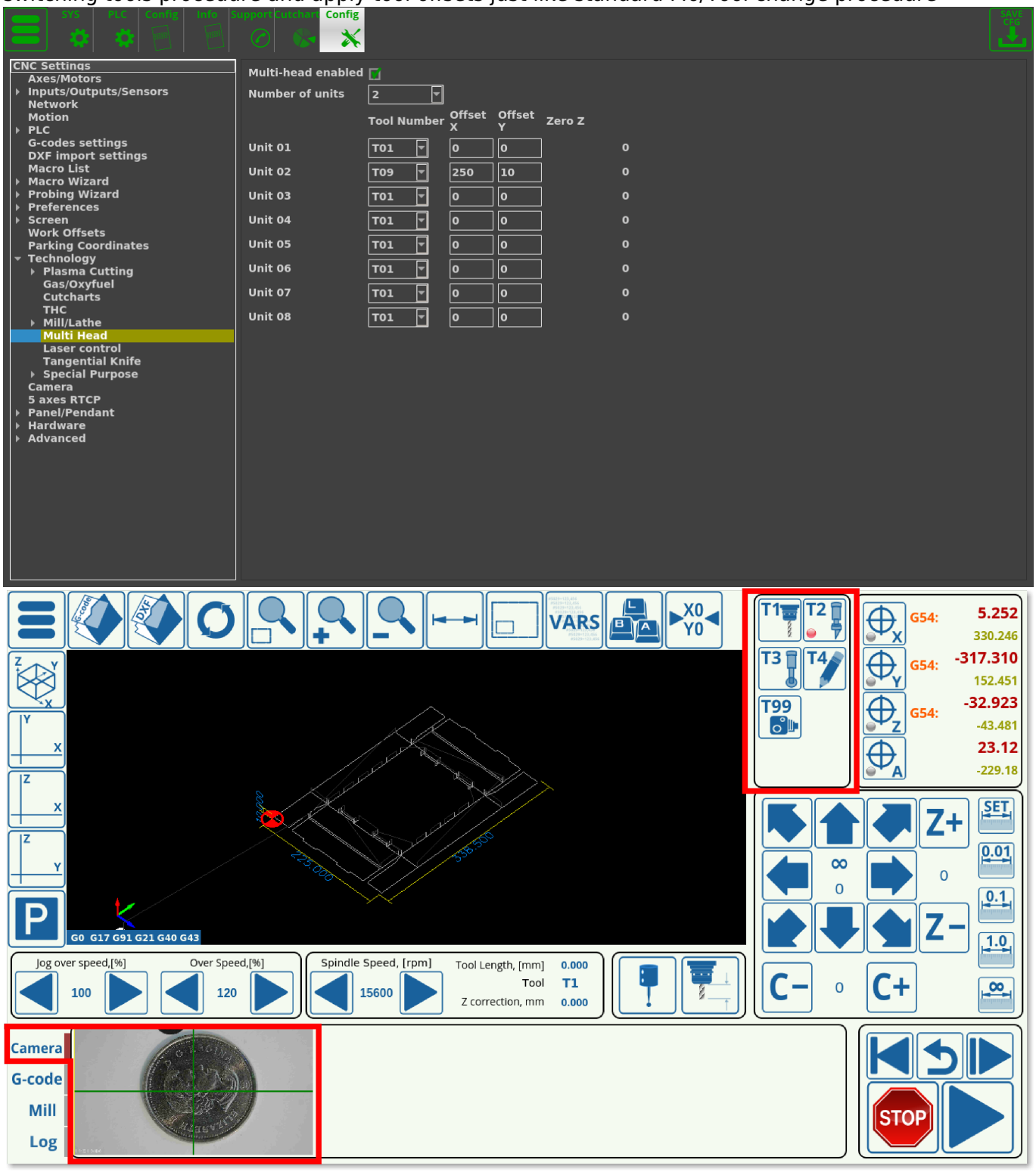


1. Add **Lead-in/Lead-outs for Plasma-Gas-Laser** cutting
2. Add **Lift Up/Cut down Tool for each Engraving** contour
3. Add **Several Cut Passes** for **Multi-Pass Mill**
4. Generate **Pockets** for Pockets Layer
5. Add **Knife Lift Up/Cut down** codes for **Tangential Knife** Layer
6. Add **Computer Vision** codes for Camera Layer
7. **Tangential Knife support**. If Tangential Control activated, myCNC control software automatically add Knife Lift Up/Down and knife rotation to follow path direction, so standard 2D (or 2.5D) g-code programming is enough to run Tangential Knife with myCNC.

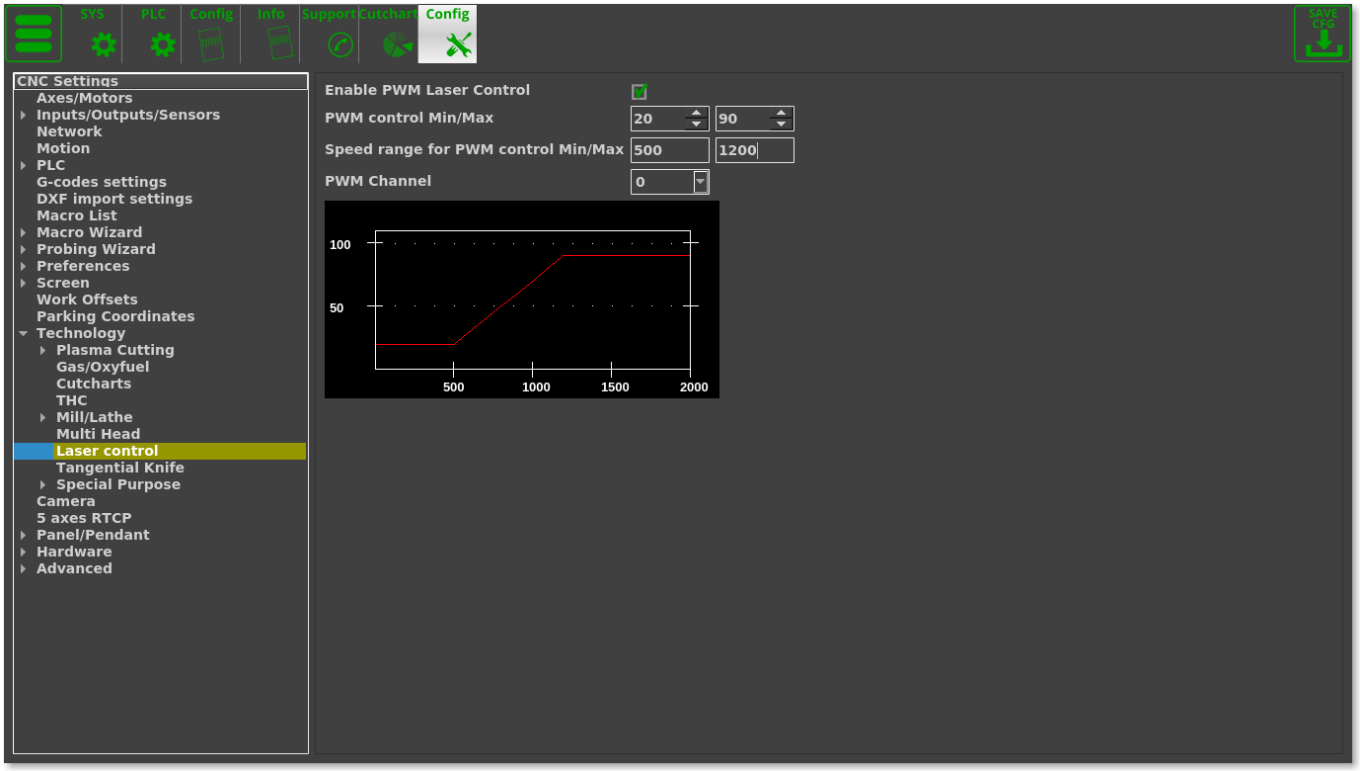


ATC (Automatic Tool Change) is supported for any myCNC control board. myCNC contains Macro Wizard to generate Tool change macros for different kind of Tool changers (linear, drum/rotary, chain)

Multi-Tool support. If several tools is installed on machine head myCNC control software can handle switching tools procedure and apply tool offsets just like standard M6/Tool change procedure



Laser Strength Control. myCNC software allows the user to adjust the laser strength depending on the speed with which the laser beam is moving across the surface of the material. This is highly useful to eliminate overheating from the laser beam that would otherwise occur at corners and parts of the program where the beam slows down.

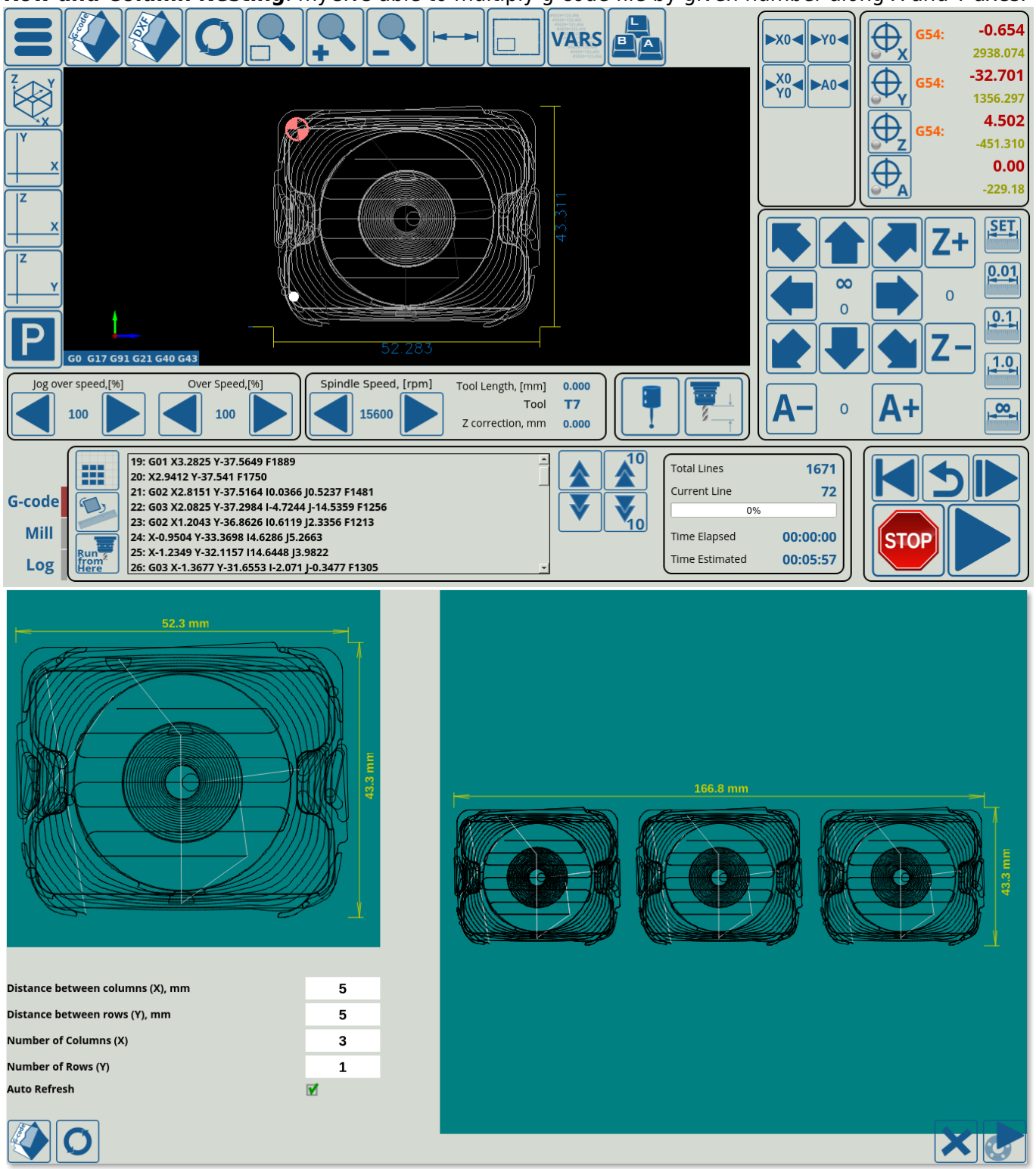


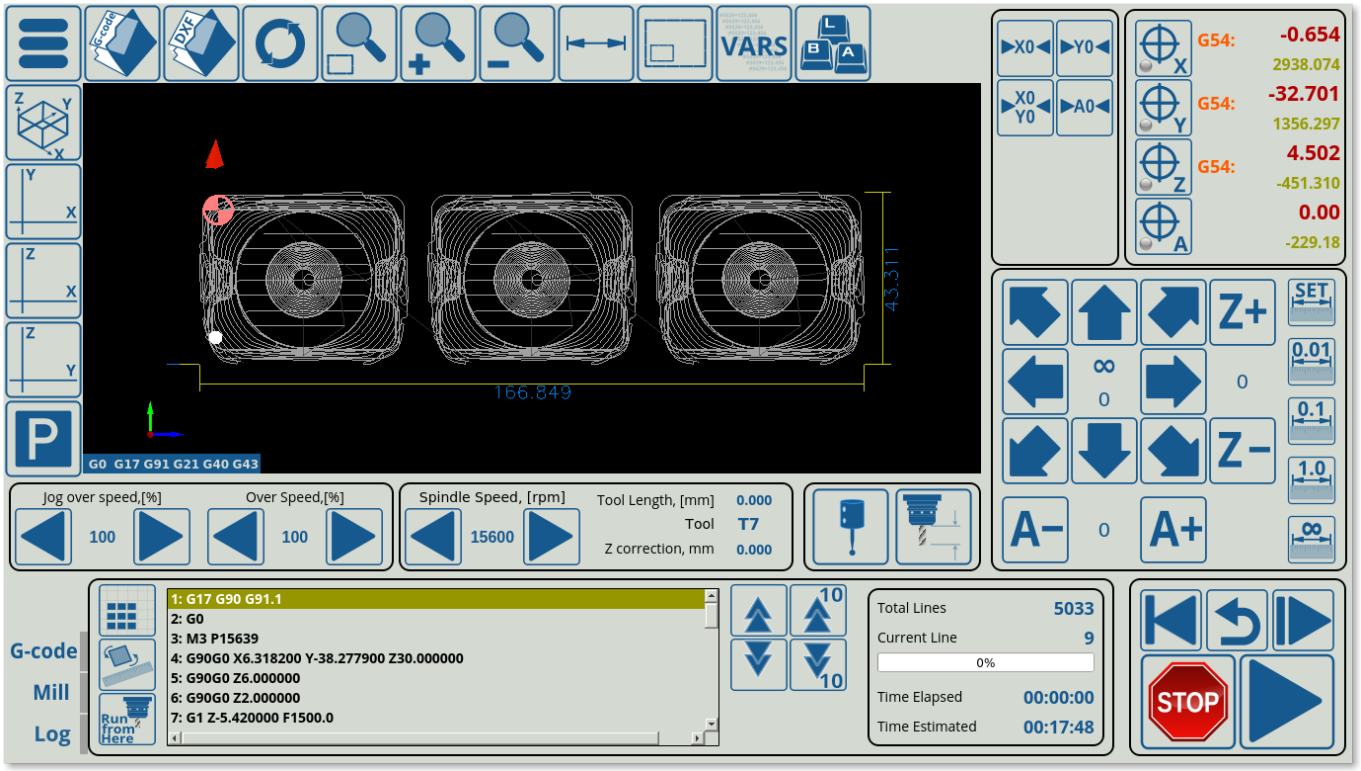
Wireless Pendant control support. myCNC supports a number of Wireless Pendant Controls

Flycut process allows to go through the laser cutting/engraving process much faster than the conventional setup when thin materials are used. The flycut process can maintain precision up to a 0.1 mm at working speeds up to 100 meters/minute by syncing the laser cutting/movement processes. The M64/M65 codes turn the corresponding exit ON and OFF, while M164/M165 allow for on-the-fly pulse-width modulation.

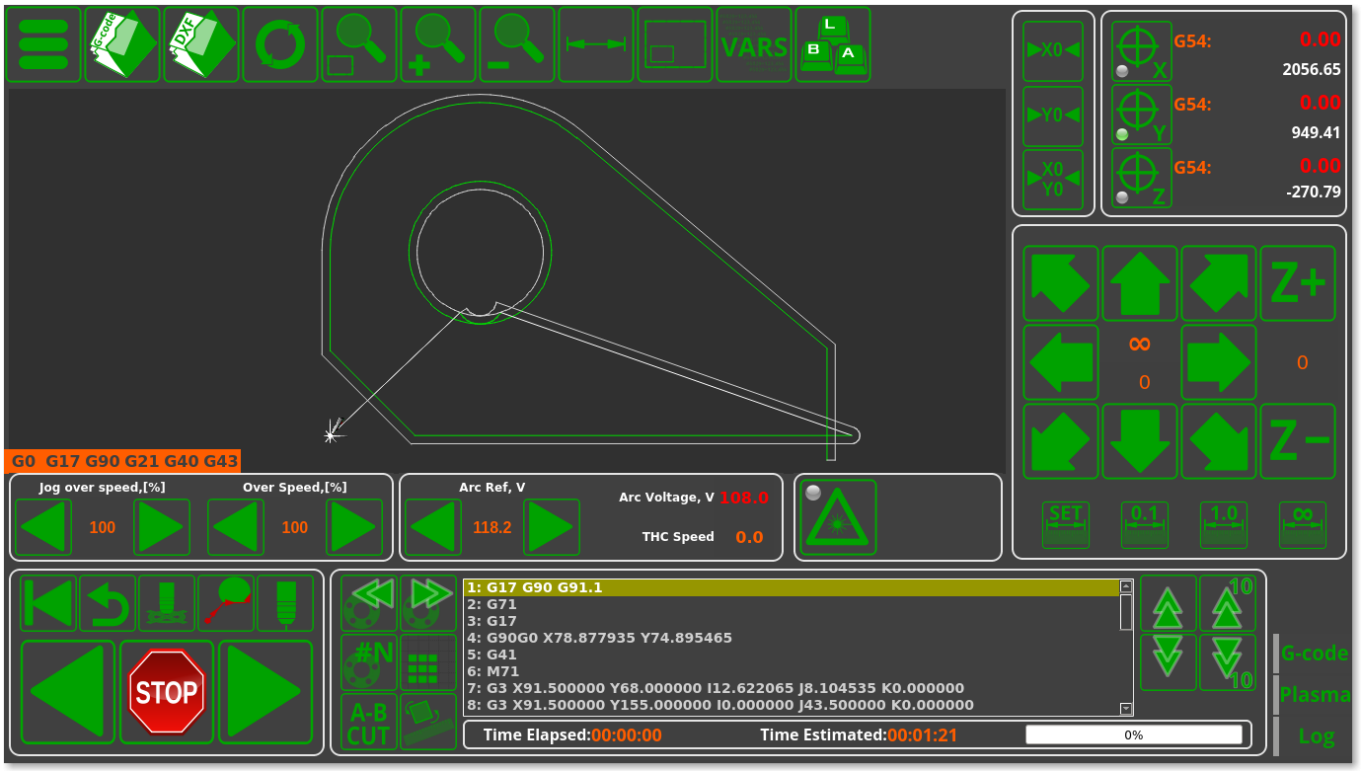
Advanced 2D/3D visualization, real-time IO monitoring,

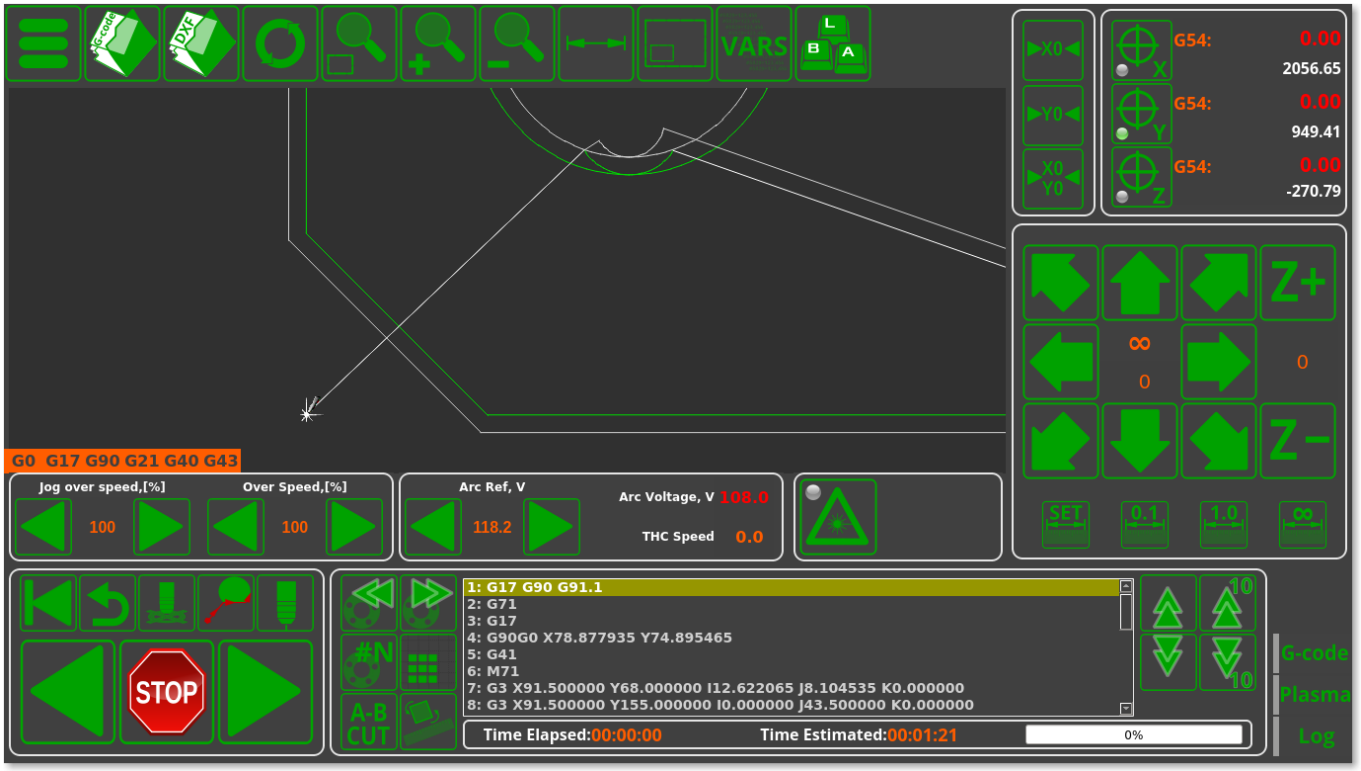
Row and Column Nesting. myCNC able to multiply g-code file by given number along X and Y axes.





Tool Radius Compensation with visualization. myCNC does Tool Radius compensation according G40-G42 codes and Tool Table and able to show results on Visualization widget to visual control.





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