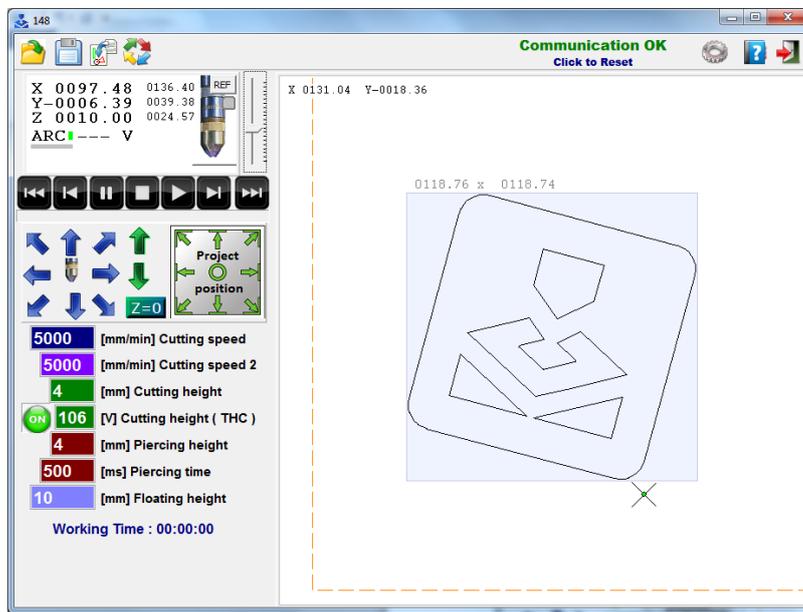# MyPlasm CNC System

Short user guide

Main program window :

 Open / Save cut patch (only MyPlasm CNC files).

 Import file / draw DXF, HPGL, G-Codes – Opening import and My Mini CAM modul window to prepare cut patch base on draw.

 Detailed patch preview

 Information about actual CNC controller connection status.

 Opening program configuration window

 Actual torch coordinates according to project/patch. Right mouse click allow to manual modification of actual position (project position according to actual torch position).

 Actual absolute / machine torch coordinates.

 Automatic reference moving / Coordinates reset if homening switches are unactive.

 Actual plasma arc voltage

Automatic cut buttons – from left – rewind to first object. Rewind one object back. Pause. Stop. Start program from actual choosen patch. One patch forward. Rewind to last object.
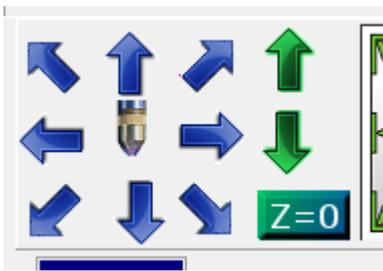
To start simulation program with torch disable press START botton with SHIFT .

To start cut choosen object by reverse patch press START with press CTRL

(Allow to cut object easlie after fault of cut patch).

Progress bar / actual choosen / cutting patch – left mouse click allow to quick rewind program to any posititin.

Manual machine control / XYZ axis moving also available by pressing keyboard arrows + PgUp / PgDown.

Pressing CTRL key slows manual operating speed downto 20 %.

Pressing SHIFT key increase speed to maximum.

button allows to manual torch on / off.

button useing to reset material position (actually shown by torch touch).

Standard manual movements are available within limit switches/soft limits/machine work range area only.

To ignore limits areas and/or limit / home switches use right mouse key.
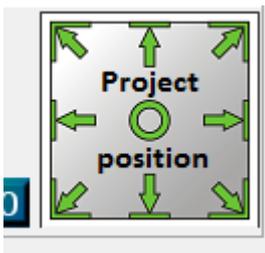
Project positioing buttons according to actual torch position.

For example if You want to cut project in up right corner you should show this point by torch and click up right arrow.

5000	[mm/min] Cutting speed
5000	[mm/min] Cutting speed 2
4	[mm] Cutting height
ON 106	[V] Cutting height (THC)
4	[mm] Piercing height
500	[ms] Piercing time
10	[mm] Floating height

Automatic cut parameters : cutting speed 2 is using for small ojects/holes with disable THC system.

Cutting height [mm] is using if THC is disable or/and for small objects. If arc voltage controll THC [V] is on then cutting height [mm] is not applied.

Piercing height [mm] is acctive for piercing time >= 500 ms only.

Program configuration
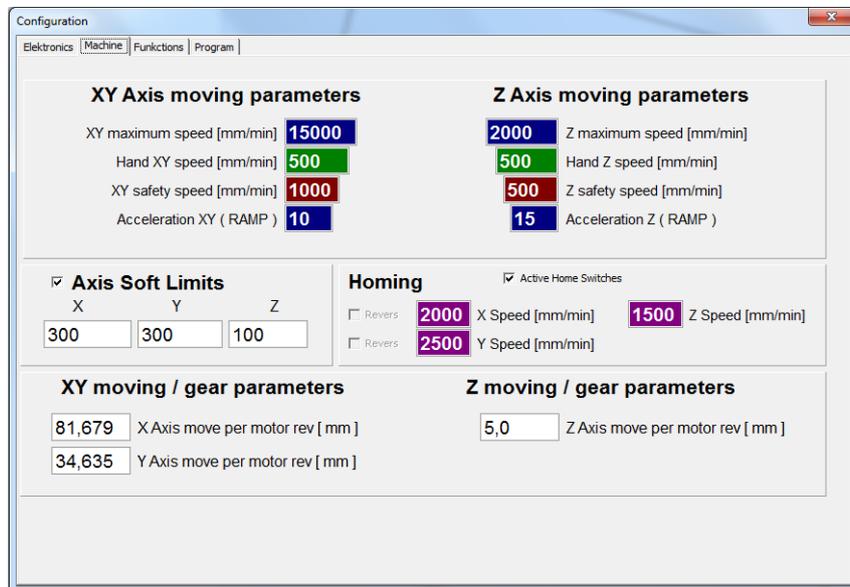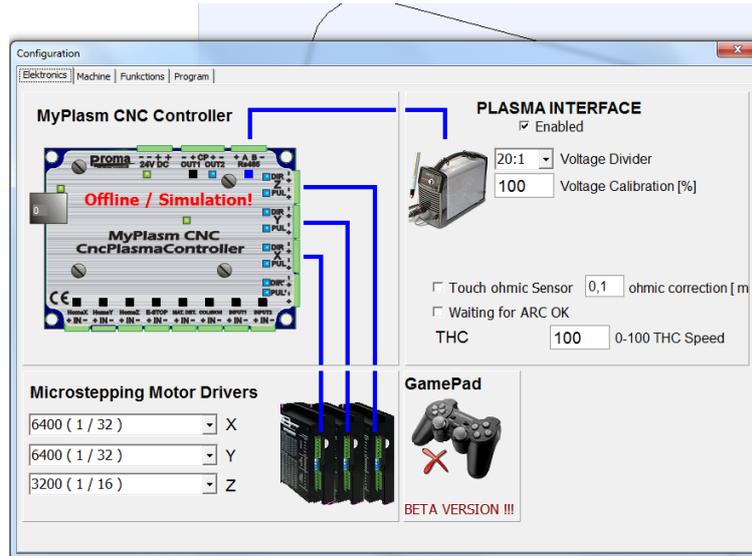
Floating speed.

maximum speed [mm/min] `15000`

Manual movment speed (**Hand XY speed [mm/min]** `500` JOG)

XY safety speed [mm/min] `1000`   Speed useing on tight curves or corners.

If too fast – can put machine into knocking or/and loosing motor steps. If too slow – work dynamic can be deacrease.

Acceleration XY (RAMP) `10`   Acceleration/deceleration ramp lenght. If too short – can put machine into knocking or/and loosing motor steps. If too long – work dynamic can be deacrease.

Axis Soft Limits

X	Y	Z
300	300	100

Software limitations of machine work area.

Homing — ☑ Active Home Switches

☐ Revers **2000** X Speed [mm/min] **1500** Z Speed [mm/min]

☐ Revers **2500** Y Speed [mm/min]

Automatic homing/reference moving to home switches.

If enable then axis will homing according to sequence : Z axis moves Up to Z Home Switch , assign Z limit value to actual Z axis position. X axis moves Left to X Home Switch, assign 0 value to actual X axis position. Y axis moves Down to Y Home Switch, assign 0 value to actual Y axis position.

XY moving / gear parameters	Z moving / gear parameters
81,679 X Axis move per motor rev [mm]	5,0 Z Axis move per motor rev [mm]
34,635 Y Axis move per motor rev [mm]	

Driving gears transfer parameters – controller calculate distance base on this settings and microstepping drivers cofiguration.

Enter moveing distance for one motor turn.

You can easlie check configuration corectness by compering real move distance with shwon coordinates.

Software functions

Elektronics | Machine | Funkctions | Program |

Z axis initial height

| Test | 3,0 | ARC Initial Height [mm] / Transfer Height |

☐ Touch ohmic Sensor   0,1 ohmic correction [mm]

☐ Floating head switch   0,5 switch correction [mm]

10 detection height [mm]   500 detection speed

Automatic material surface position detection is made at beginig of every patch.

This function determine torch height position on transfer height where plasma will be turn on.

This function can be : Disable : torch will set up without detection on tranfer height (you have to reset axis Z position on material by Z=0 button before). Z=0

Enable : useing touch sensor (OHMIC SENSOR) do detection Z material position

useing floating head or both funtions – if OHMIC SENSOR fails (via dirty material for example) then floating head will be used as backup.

Configuration corectness can be checked by TEST button. Torch should positioning itself on defined transfer height (3 mm on example above).
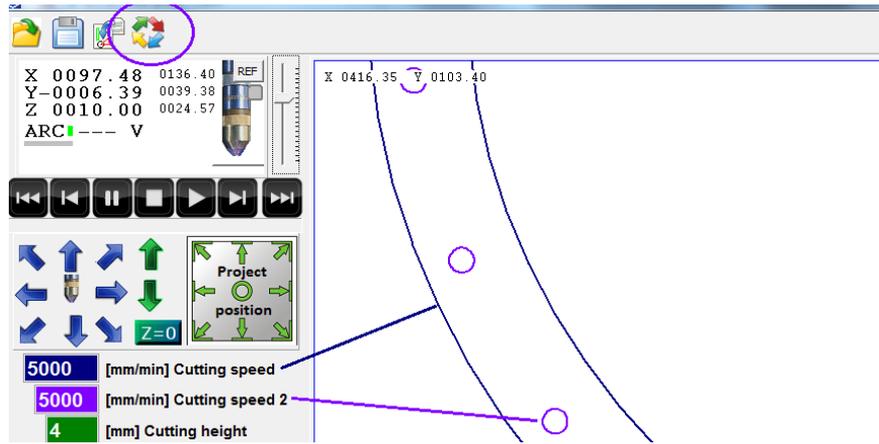
Objects

Apply Cutting Speed 2 for ojects smaller that [mm] **20**
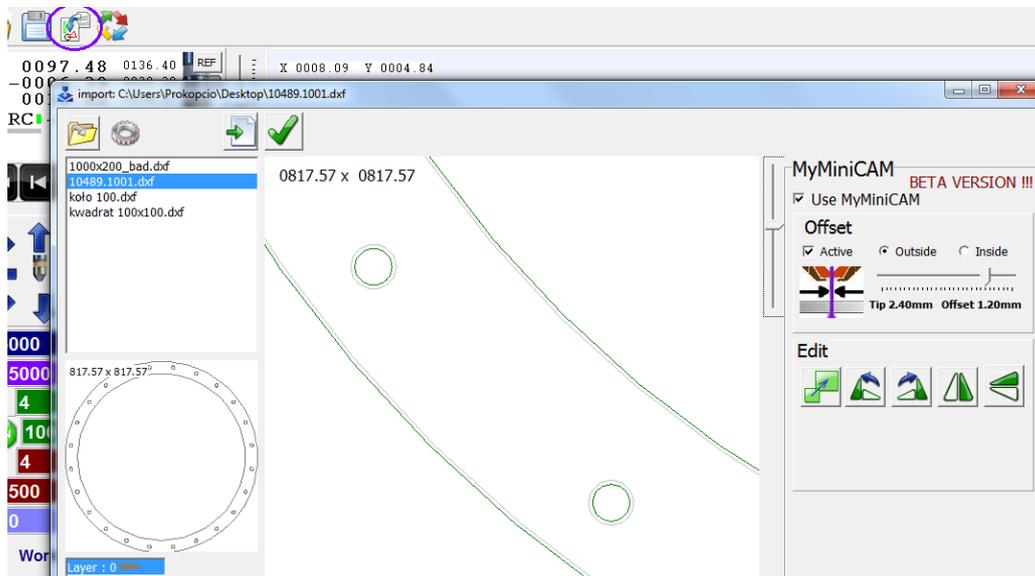
Small object and holes deteciotn function.

Smaller objects then defined will be cut with „cutting speed 2" and THC system   disabled.

 Deatiled patch review button allows to check corectness of this function :

Files import window

Software allows to import graphic files DXF, PLT and G-Code files wich are reading as 2D draws (whitout any other codes like material detection, speeds, etc.)

Draws can be processed via MyMinni CAM modul.

MyMinni CAM functions :

- automatic sort and section closing

- automatic cut directions set

- automatic outside and inside (holes) patches detecting

- automatic offset patch set

Modul allows to make simple operations like mirror reflection, skale changing or rotation. By clicink rotate button with left mouse key you can rotate project via 90 degrees or 5 degrees via right mouse key.

If file is prepared by external CAM program (for example SHEETCAM) „use MyMiniCAM" function should be set up as unable.