

SWIFT-CUT PLASMA CUTTER

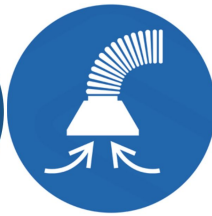
1250 mm x 1250 mm surface

0.5-25.0 mm thickness

Aluminium, stainless steel, mild steel



SAFETY



This is a brief manual. Consider also **manufacturer's manual** and **ask supervisor in case of doubts**.

- Stay away from the machine while it is running
- Be aware of moving parts and keep distance
- Nobody else must be around the machine when you operate it
- Wear safety shoes
- Wear fire resistant clothing
- Park and deactivate machine before approaching it
- Wear gloves to handle metal
- Wear dark safety glasses
- Do not touch the water bath: chemical hazard ->
- Hearing protection is advised



DO NOT STARE AT THE PLASMA!



PLACE SHEET ON THE BED

Place your sheet on the bed of the machine. It should be aligned (by eye) with the axes of the machine.

Make sure that **NOTHING STICKS OUT** from the sheet - it must be completely flat. Otherwise the machine might hit the protruding object while cutting.



TURNING ON THE PLASMA CUTTER

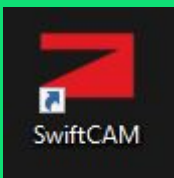


Computer

After logging in the ACOS terminal you will be able to **turn on the PC with the button just right under the display**. The machine will turn on automatically with the PC. You can check if everything is right if you see a laser x coming out of the nozzle.

Opening the program

Once the PC is on you can now open the SwiftCAM software from the desktop.

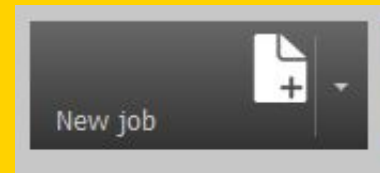


PREPARING THE FILE



Creating a new job

Click on “New job” to create a new file where you will then be able to add your .dxf or change a prefab (macro) chosen between the many the software offers.



Inserting the data

You can now give a name to your job, the classification is not important but keep it in mind to find your file more easily later on. The classification will become a folder, the file will be named by the file name.

It is imperative that you insert the correct material and thickness (-> next page). Make also sure to insert the correct sheet size to be sure your design will fit on the metal.

All other parameters have to be the same as the following picture. When you are ready press “ok”.

The screenshot shows a job setup dialog box with the following fields and values:

- Classification: Machine intro (dropdown)
- Job Name: Test_1 (text input)
- Sheet dimensions x: 1250 mm (text input)
- Sheet dimensions y: 1250 mm (text input)
- Material: MSFC (dropdown)
- Thickness: 3 (text input)
- Trim x -: 10 mm (text input)
- Trim x +: 10 mm (text input)
- Trim y -: 10 mm (text input)
- Trim y +: 10 mm (text input)
- Part spacing: 6 mm (text input)

Red arrows point to the Job Name, Sheet dimensions x, Material, and Thickness fields. The dialog box has OK and Cancel buttons at the bottom right.

MATERIAL & AMP SELECTION

Note: Generally, lower amperage cutting processes offer better angularity and surface finish; however, cutting speeds will be slower and dross levels will be higher.

Material	Thickness t [mm]	Setting
Mild Steel	$t \leq 4$	MSFC
	$4 < t \leq 6$	MS45A
	$6 < t \leq 8$	MS65A
	$8 < t \leq 10$	MS85A
	$10 < t \leq 20$	MS105A
Stainless Steel	$t \leq 4$	SSFC
	$4 < t \leq 6$	SS45A
	$6 < t < 8$	SS65A
	$t = 8$	SS85A
	$8 < t \leq 20$	SS105A
Aluminium	$t \leq 6$	AL45A
	$6 < t < 8$	AL65A
	$t = 8$	AL85A
	$8 < t \leq 20$	AL105A

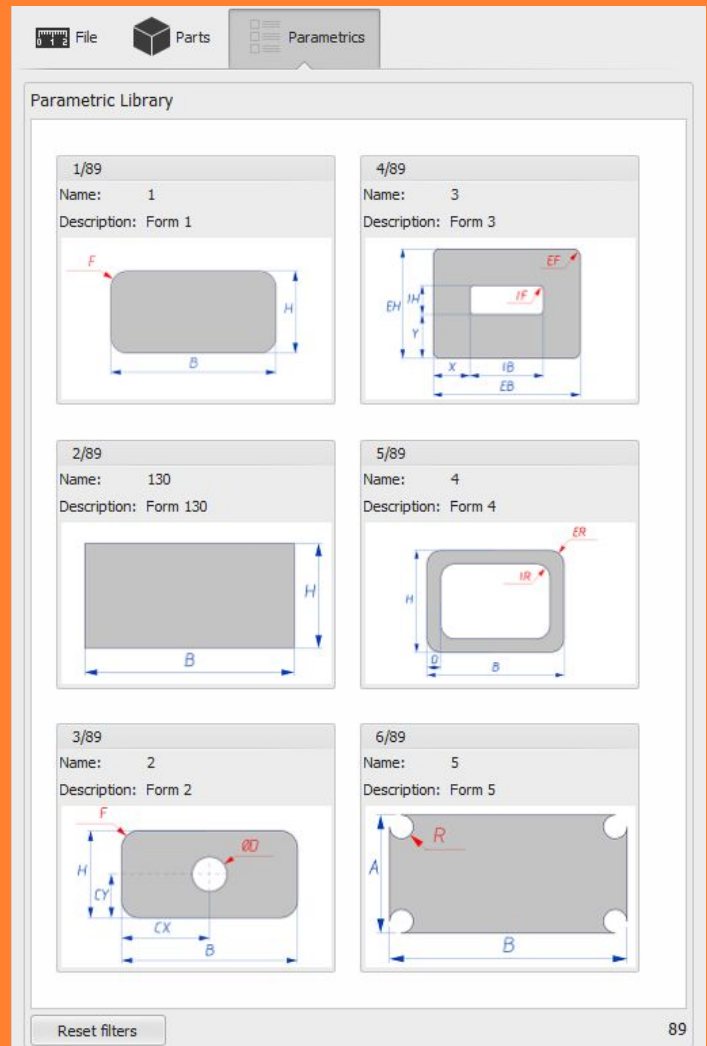
PREPARING THE FILE



Parametric design

If don't have a specific design you can search something that could fit your needs under the parametric designs offered by the software. Each design is customizable on its way to fit your needs.

In blue or red on the preview you can see the parameters that can be changed.

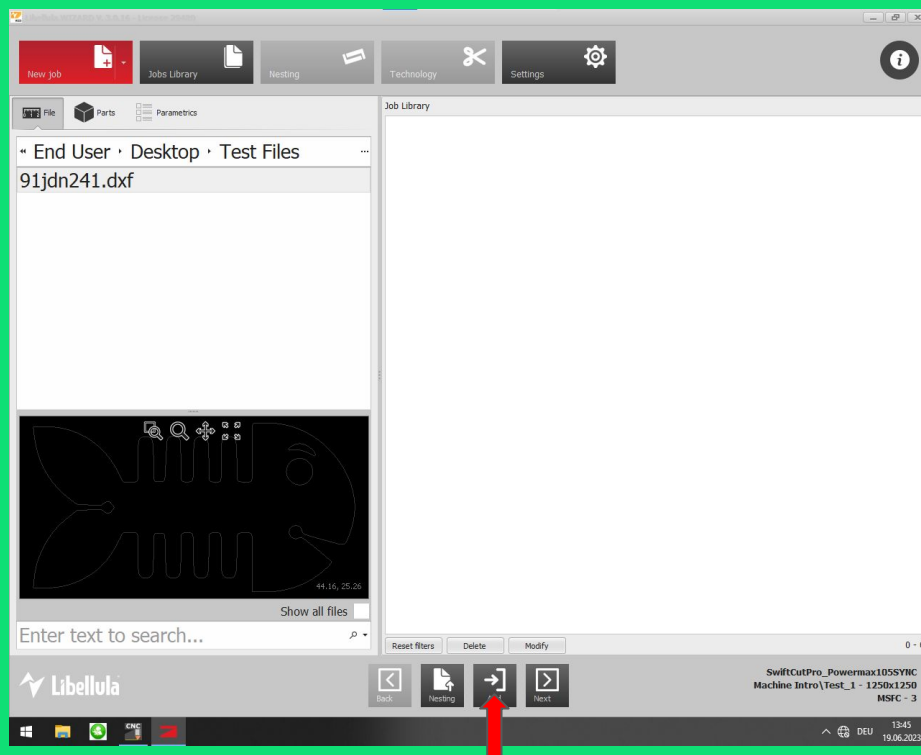


PREPARING THE FILE



Importing your designs

You can also import your designs in .dxf format by selecting the “file” option and searching for them. It is easier if you put the design temporarily on the desktop and then search for it. **If the design does not appear it can be you have to restart the SwiftCAM(Libellula) software after moving your file to a easy to find location.**



Once you have found your design you can select it and press on the “Add” button.

PREPARING THE FILE



Adding your file

- The first page that is going to open is going to show you all layers of your file. You can choose the ones you need and press “next”.
- Now you will have to select the lines you want to cut, engrave or ignore.

You can do so by selecting the tool on the left and then selecting the lines.

Blue lines will be cut.

Green ones will be engraved.

You will have a preview on the right window.

When you are happy select “next”.

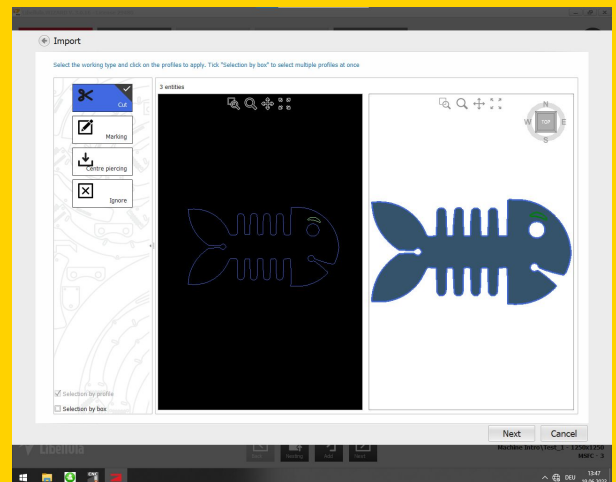
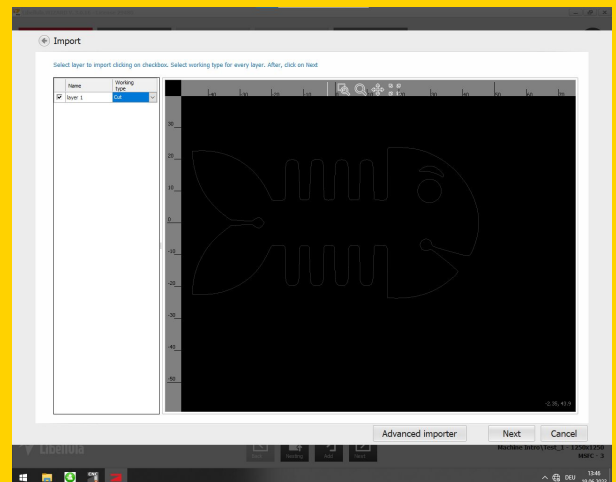
- Now you have to save the part.

Check that the machine is the right one (as in the picture).

Save the part with a name that makes sense.

Check that material and thickness are correct.

Press “save”.



Fill all part data. Click on Finish to finalize the process and save the Part

Machine	SwiftCutPro1250_Powermax105SYNC
Part name	FishExample_1
Classification	Machine Introduction
Description	
Material	MSFC
Thickness	3

CREATING THE GCODE



Add your parts

All your parts will appear in the jobs library. You can add them all by following the previous steps.

If you need more pieces of the same part you can select the number of pieces at the end of the process.

Add your parts

For the next steps you can press on “next” or select “nesting”.

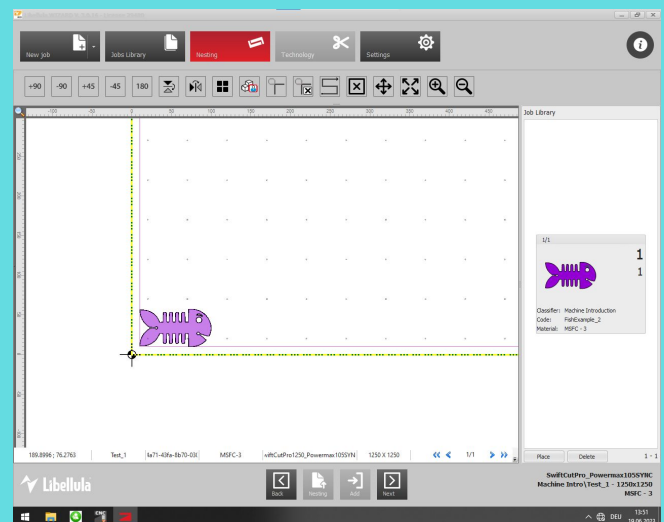
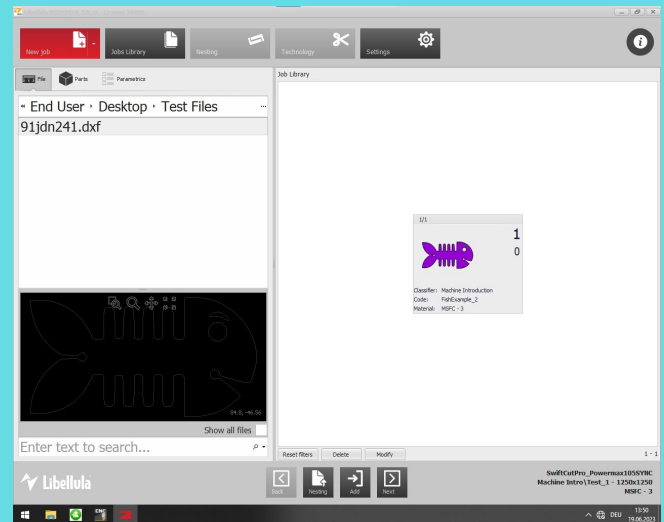
To organise the placement of your parts on your sheet metal you only have to select them and then “Place”.

You will see the sheet size in yellow/green and the usable area in red.

Your parts need to fit in the red area and need to have a space between them that is at least 10 mm.

When you have placed all your pieces you can press on “next”.

Now a pdf with all the data about the cutting will open automatically. Also, the GCODE will be saved automatically in the CNC Files folder.



STOP

Call supervisor to check your setup.

The supervisor will:

- **check the settings**
- **mount the proper nozzle**
- **zero the X and Y axes**
- **turn on the plasma power source**
- **Run the GCODE**

You must not proceed without confirmation from supervisor.

RETRIEVING THE PARTS

You can retrieve your pieces with the help of the magnetic stick or plastic gloves. **Be careful not to cut yourself: There are sharp edges!**

Do not use normal gloves or just your hands to retrieve the pieces it could cause issues with your skin due to the water (funghi, bacteria and chemicals to keep it clean-ish).

Cleanup

You can now turn off the power supply of the nozzle and save your files on a USB stick if you plan to use them in the future.

Then you only need to log off the machine and take the remains of your sheet and parts.

