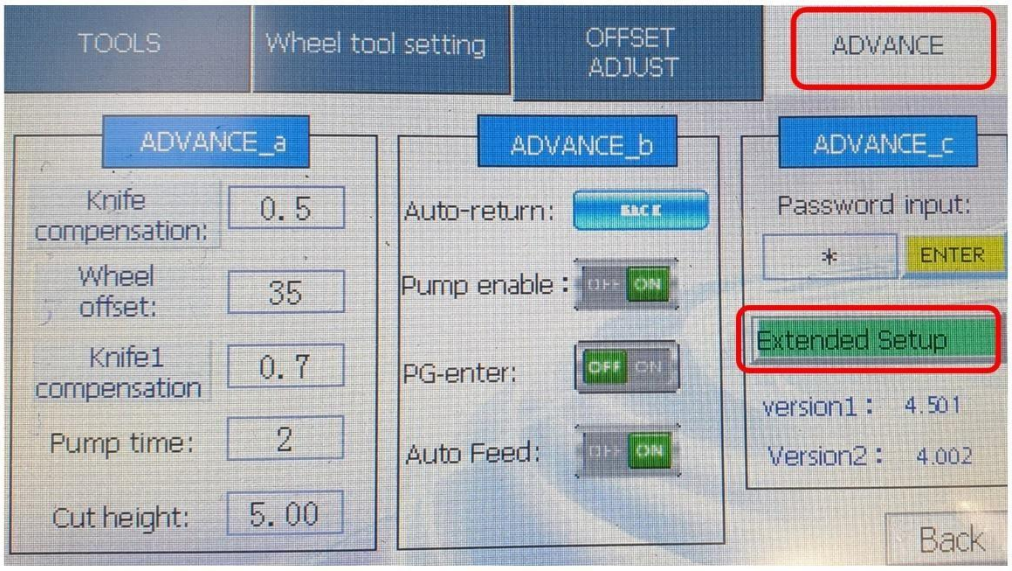
Duplo

DPCONNECT

Installation and user manual

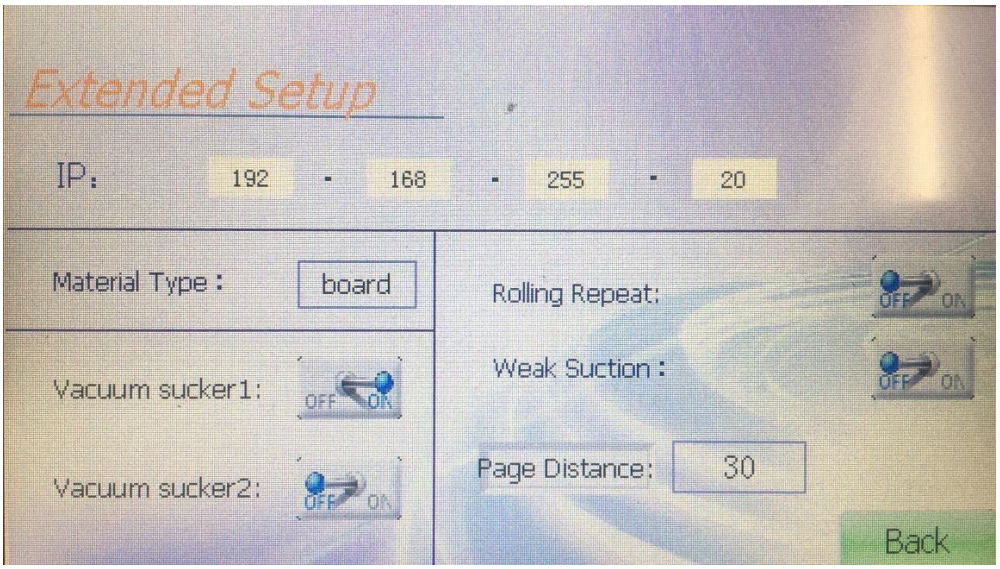
1. Set machine IP address

Enter the settings at the cutter control panel and navigate to the *Advance_c tab*, then hit *Extended Setup.*



k

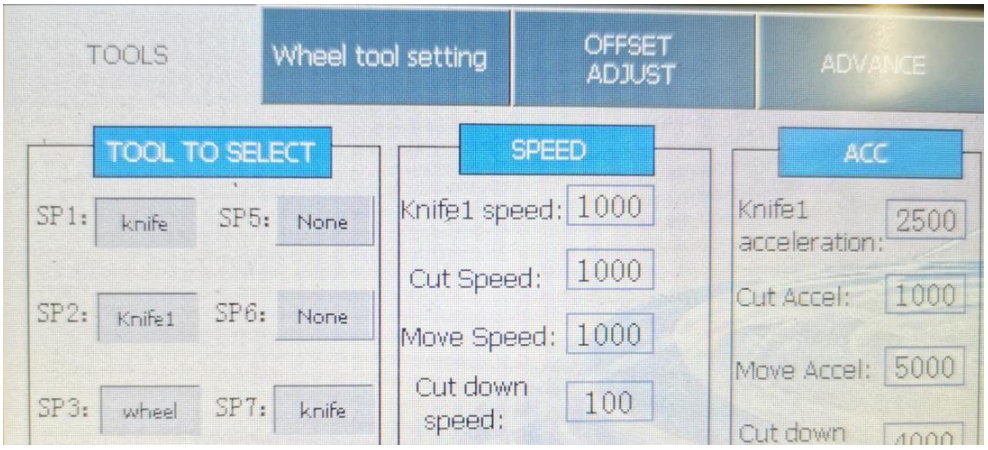
If connecting to the local network enter a valid, free and static IP address in your local network.



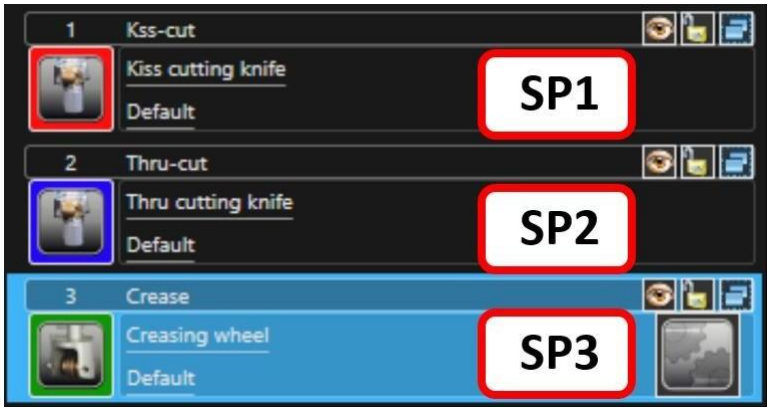
2. Tool setup

Enter the machine tool setup and assign the tools according to the following screenshot.

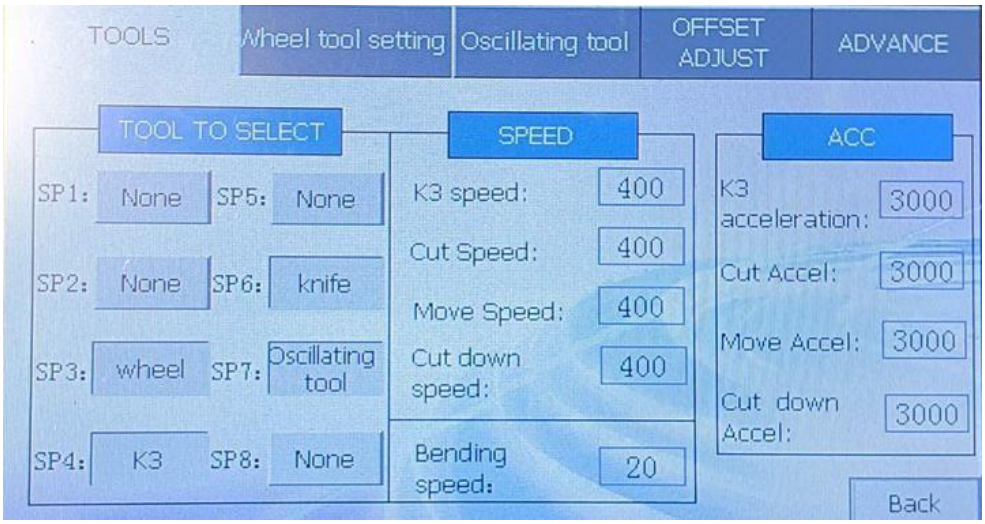
- **DPC-600**



SP1	=	knife	=	k	Kiss cutting knife
SP2	=	Knife1	=	k1	Thru cutting knife
SP3	=	wheel	=	wheel	Creasing Wheel



- **DPC-600**



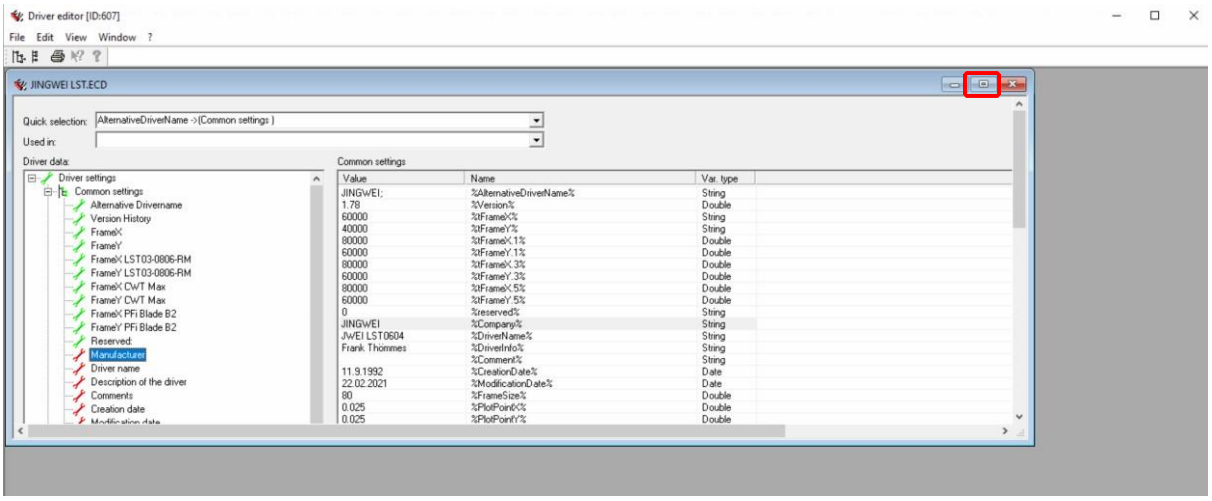
SP3	=	wheel	Creasing Wheel
SP4	=	K3	Drag knife/drawing pen
SP6	=	knife	Kiss cut/ thru cut knife
SP7	=	EOT	Oscillating knife

Enable “AutoFeed” on the control panel of the machine (Setup - Advanced menu).

The default tools selection is set up for DPC-400 machine: drag kiss / thru cut knife and creasing wheel.

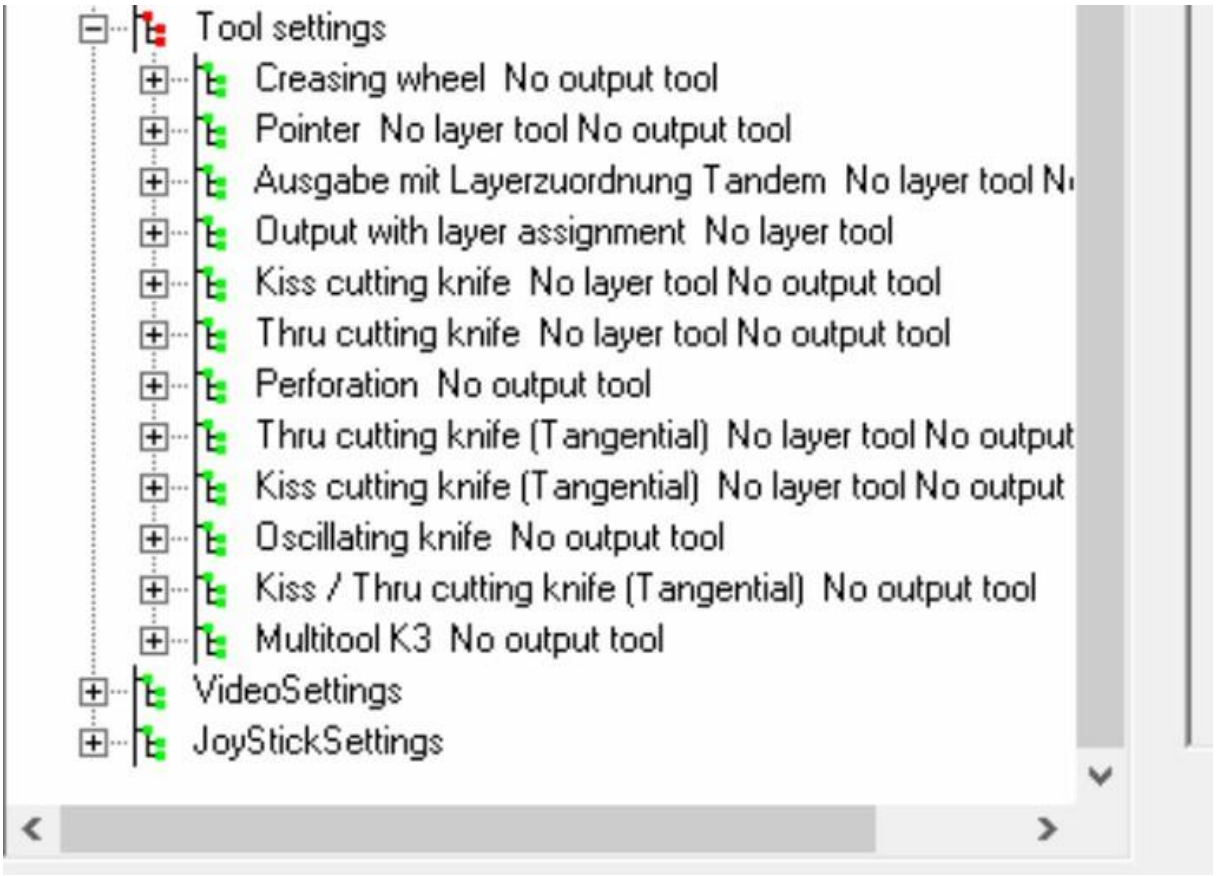
To activate tools for DPC-600 machine: multitool K3, kiss / thru cutting knife and oscillating knife followthe procedure:

Open the DPC Connect – click on the working area - Press Ctrl+Shift+P on the keyboard to open adriver editor – a new window will be displayed.

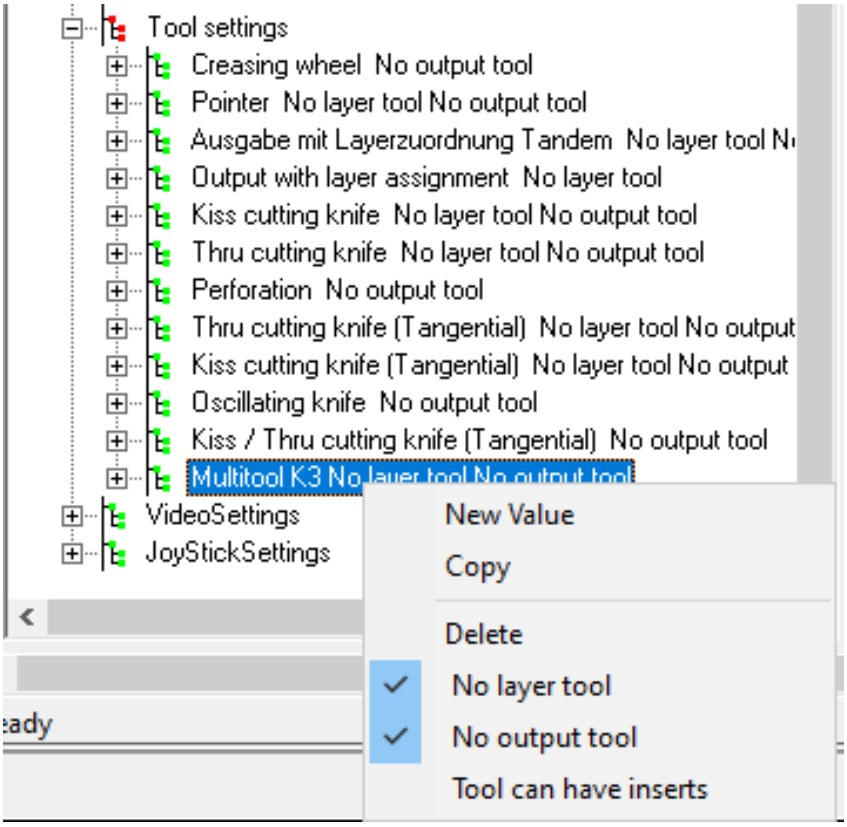


For better view select Maximize.

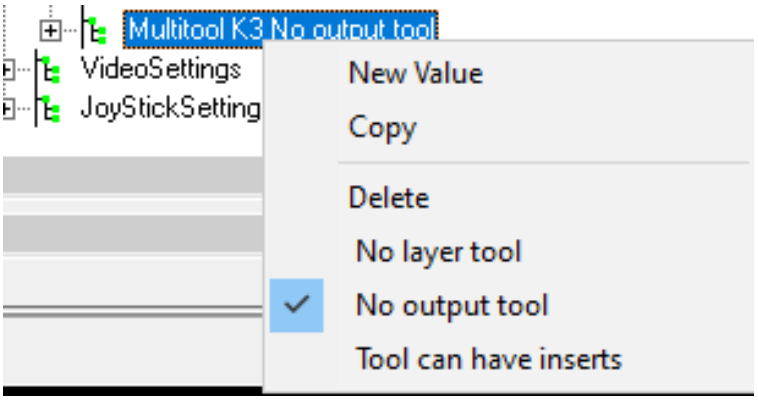
Go to tool settings to disable / enable the required tools.



Select a tool – right click – deselect 'No layer tool'. 'No output tool' must be selected.



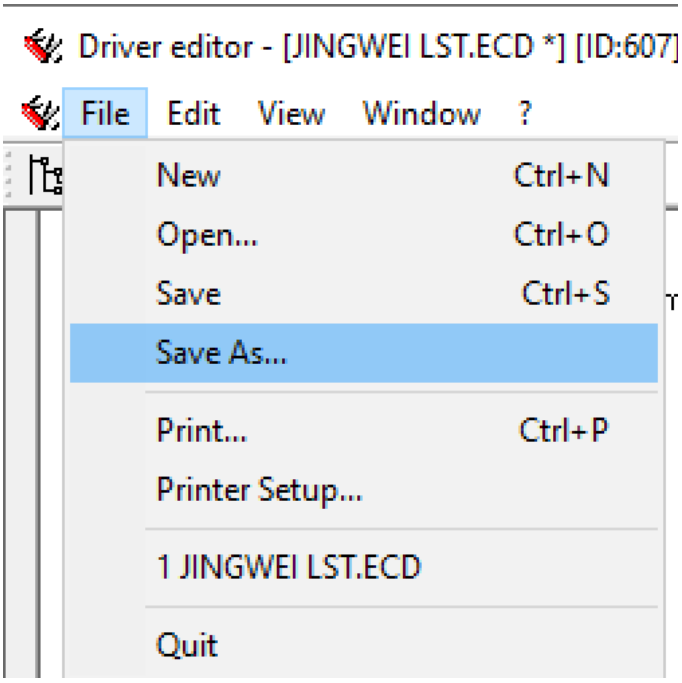
The correct tool settings are:



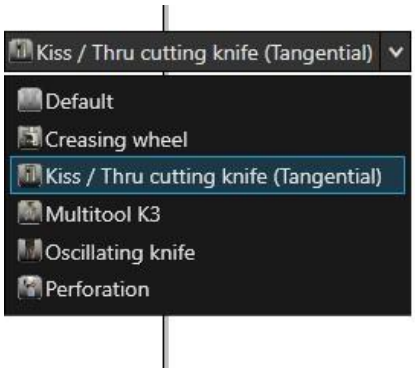
Repeat the steps for kiss / thru cutting knife (tangential) and oscillating knife.

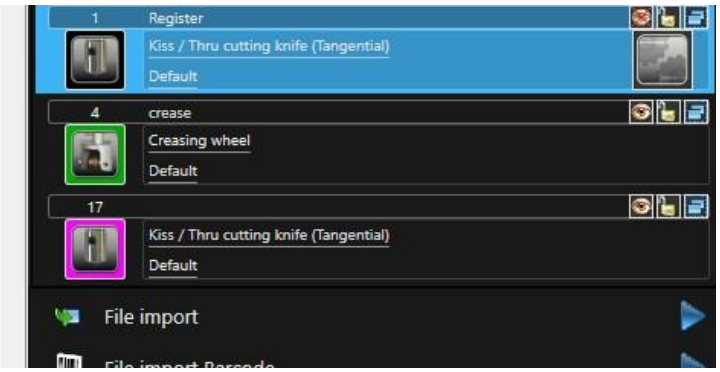
For kiss cutting knife and thru cutting knife make sure that both options are selected ‘No layer tool’, ‘No output tool’.

Go to File – Save As to save the settings. Close the Driver editor.



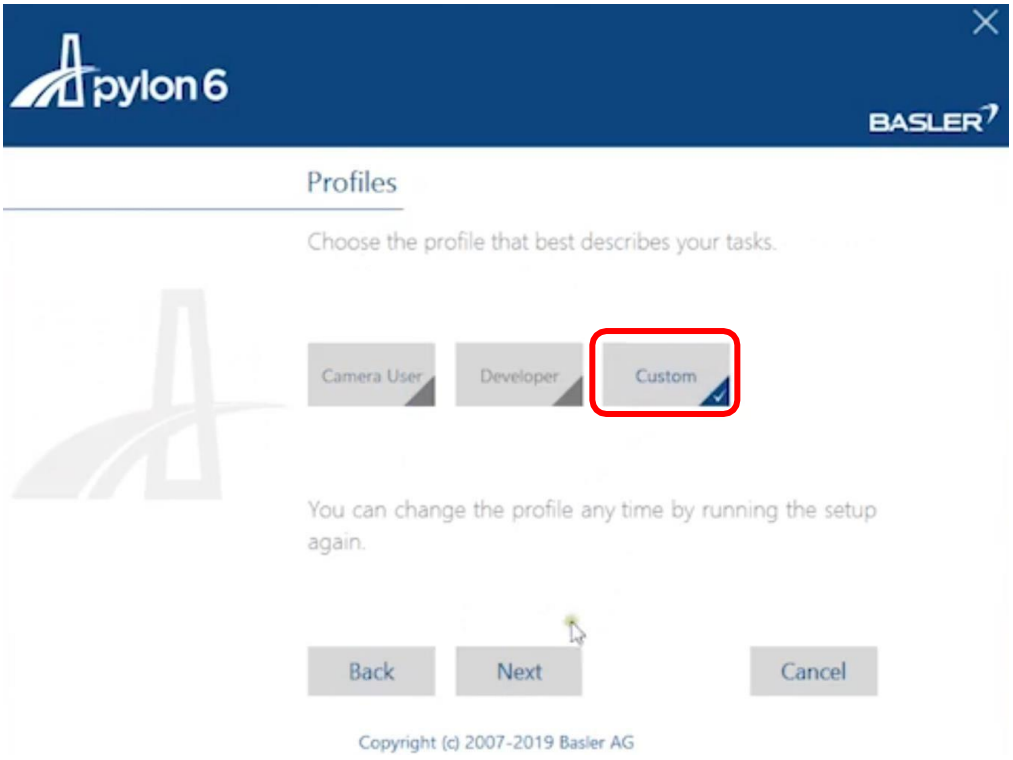
New tools will be available.





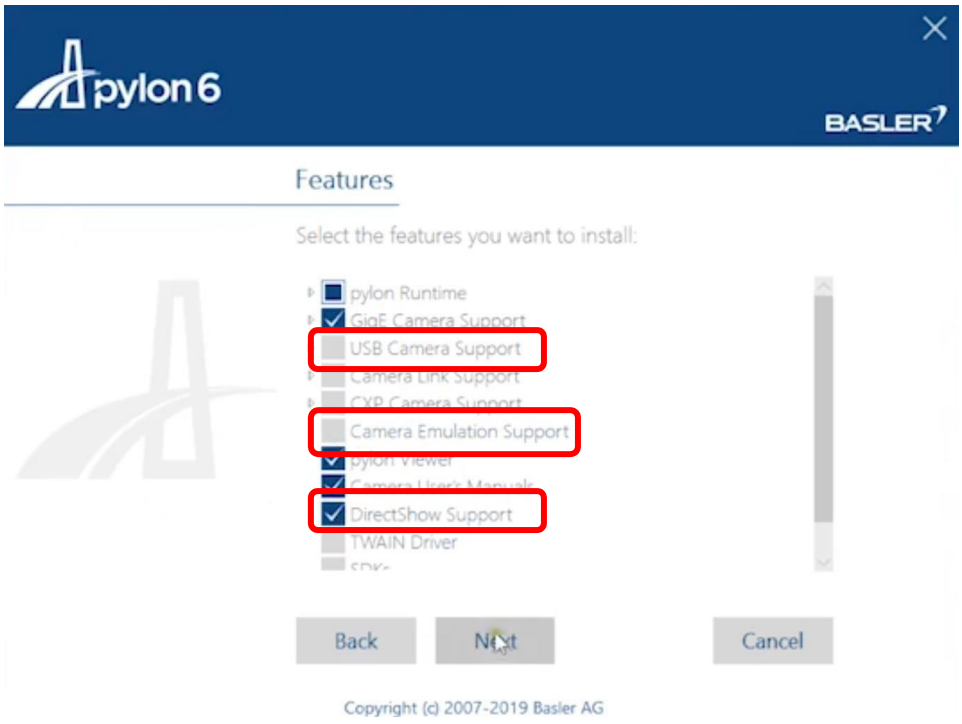
3. Camera setup

Install Basler pylon suite.

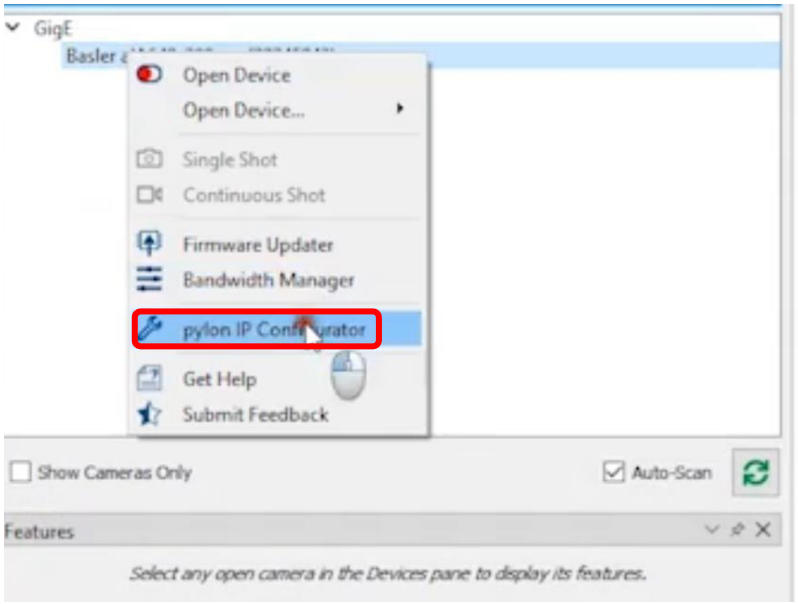


Run the installer in *custom* mode and disable *USB Camera Support*, *Camera Emulation Support* and enable the

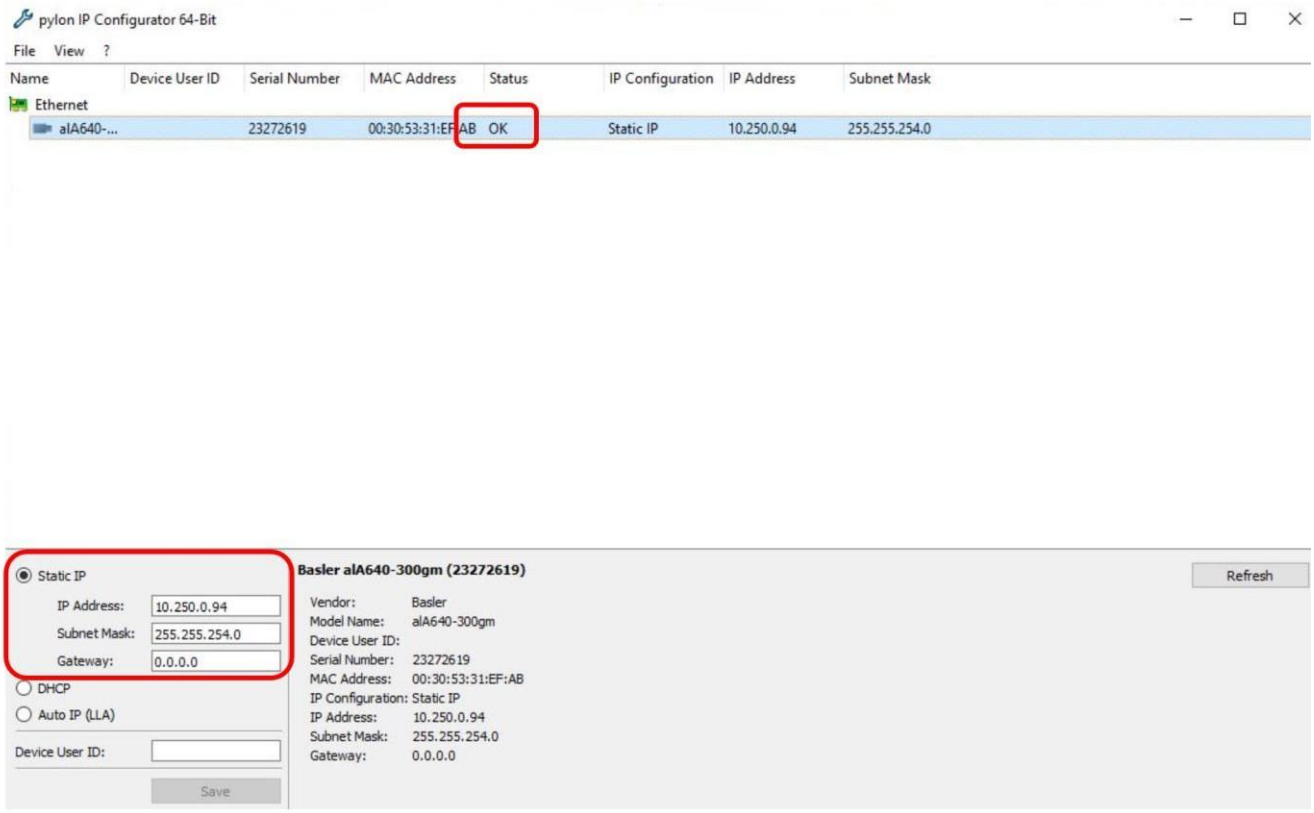
DirectShow support option



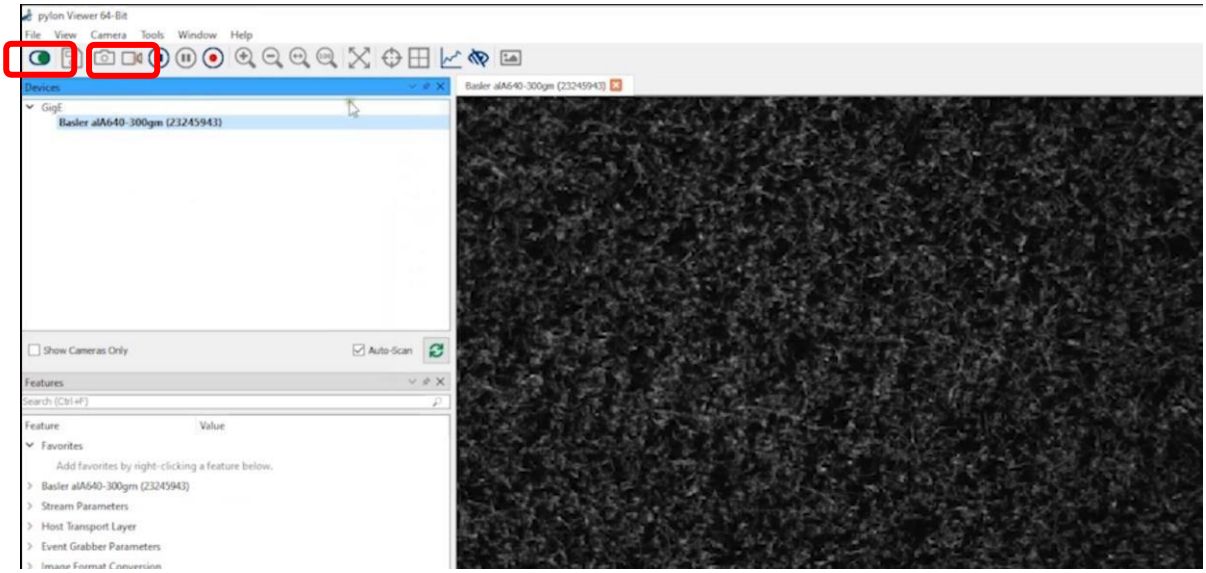
Open Pylon Viewer – select Basler – right click – pylon IP configurator



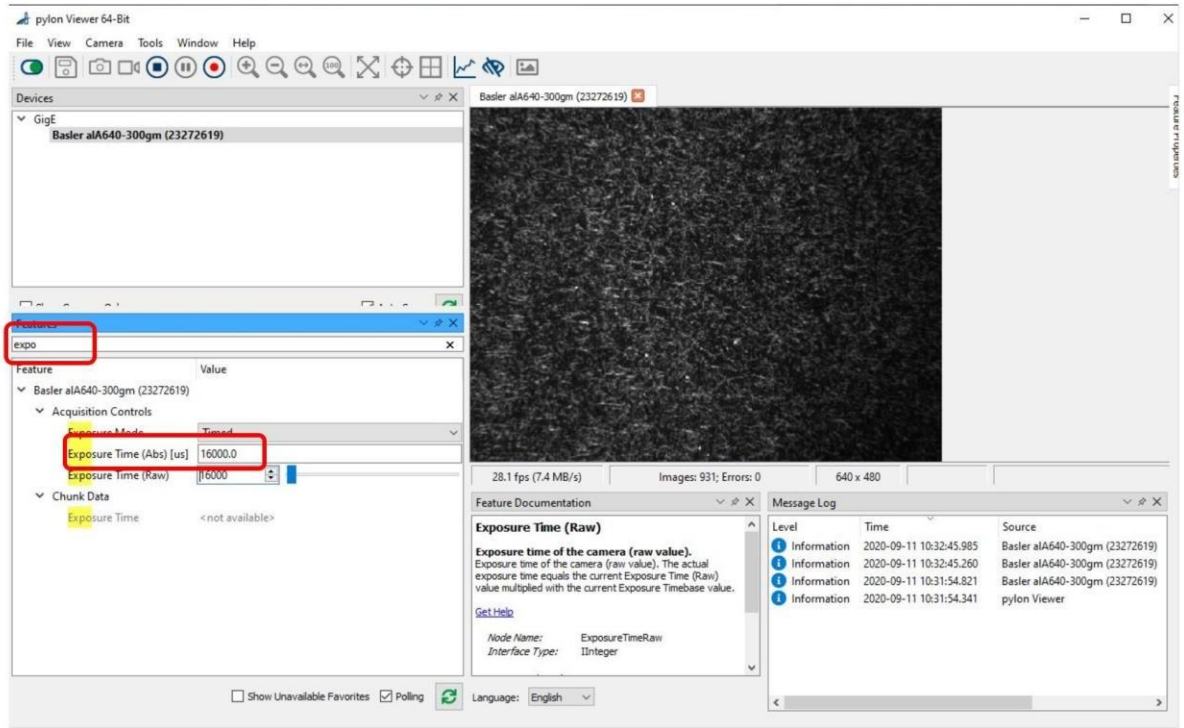
The Status OK and static IP address will show that the camera is connected properly.



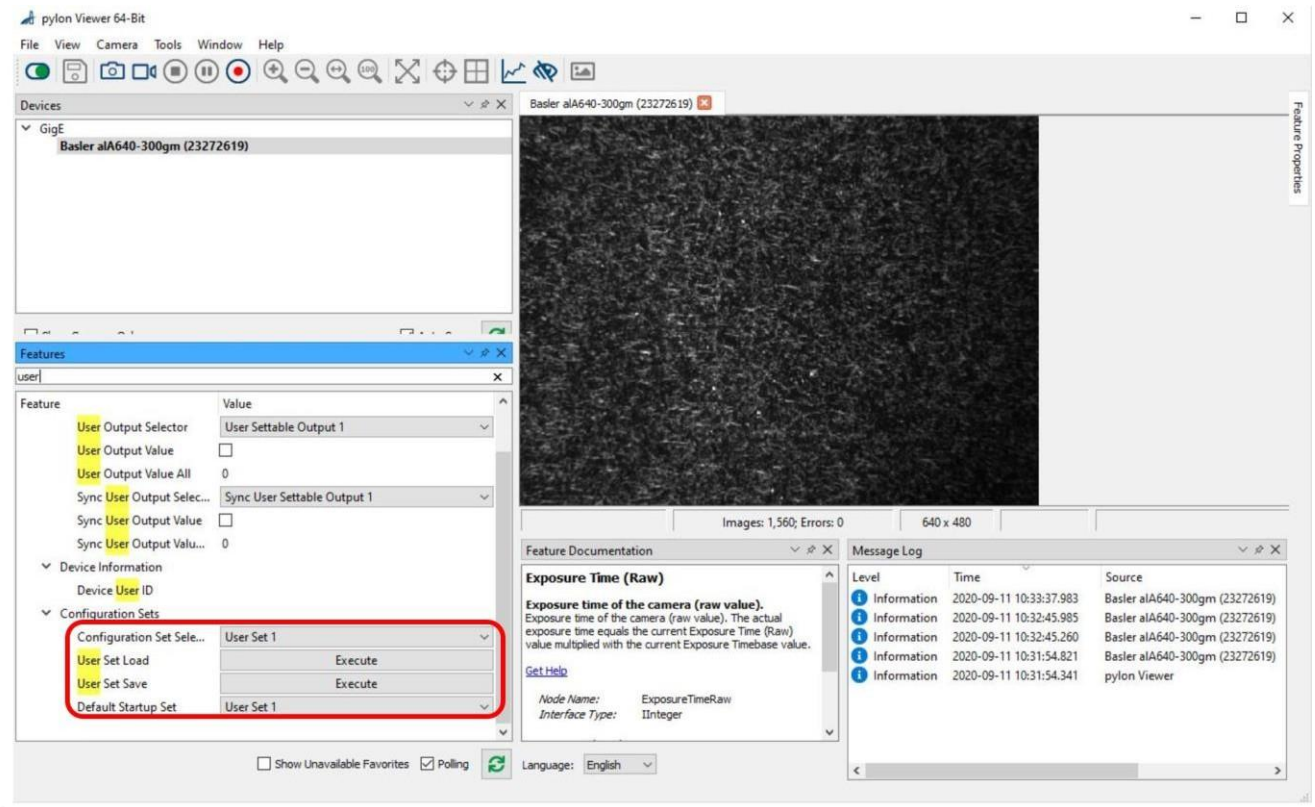
If the status is 'Not reachable' add the Static IP address based on the machine IP address. Check if the subnet mask is correct.
To check if the camera is connected properly turn on the camera and select continuous shot.



If the image is too dark, type in the search box 'exposure' to find the Exposure time setting. The default setting is set to 5000. Depend on the light above the machine this value might need to be changed. Change the value until the image is not dark.



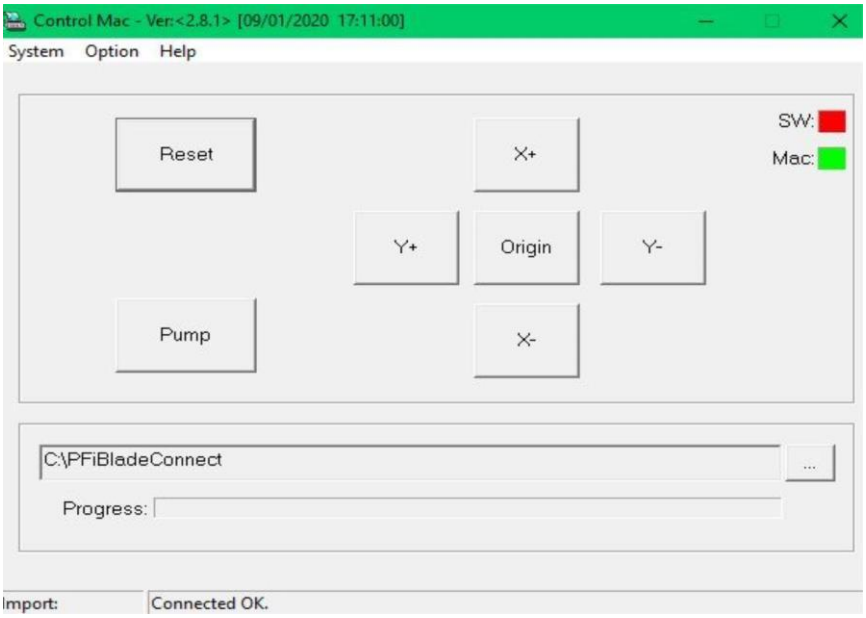
To Save the settings type in the search window 'user'. To save the setting Stop live image by using the stop button. Change the Configuration Set to User Set 1, Default Startup Set to User Set 1 and Select Execute in User Set Save.


pylon Viewer 64-Bit
File View Camera Tools Window Help
Devices
GigE
Basler alA640-300gm (23272619)
Basler alA640-300gm (23272619)
Feature Properties
Features
user
Feature
Value
User Output Selector
User Settable Output 1
User Output Value
User Output Value All
0
Sync User Output Selec...
Sync User Settable Output 1
Sync User Output Value
Sync User Output Valu...
0
Device Information
Device User ID
Configuration Sets
Configuration Set Sele...
User Set 1
User Set Load
Execute
User Set Save
Execute
Default Startup Set
User Set 1
Images: 1,560; Errors: 0
640 x 480
Feature Documentation
Exposure Time (Raw)
Exposure time of the camera (raw value).
Exposure time of the camera (raw value). The actual exposure time equals the current Exposure Time (Raw) value multiplied with the current Exposure Timebase value.
Get Help
Node Name: ExposureTimeRaw
Interface Type: IInteger
Message Log
Level
Time
Source
Information 2020-09-11 10:33:37.983 Basler alA640-300gm (23272619)
Information 2020-09-11 10:32:45.985 Basler alA640-300gm (23272619)
Information 2020-09-11 10:32:45.260 Basler alA640-300gm (23272619)
Information 2020-09-11 10:31:54.821 Basler alA640-300gm (23272619)
Information 2020-09-11 10:31:54.341 pylon Viewer
Show Unavailable Favorites
Polling
Language: English

4. Install PrintDriver application

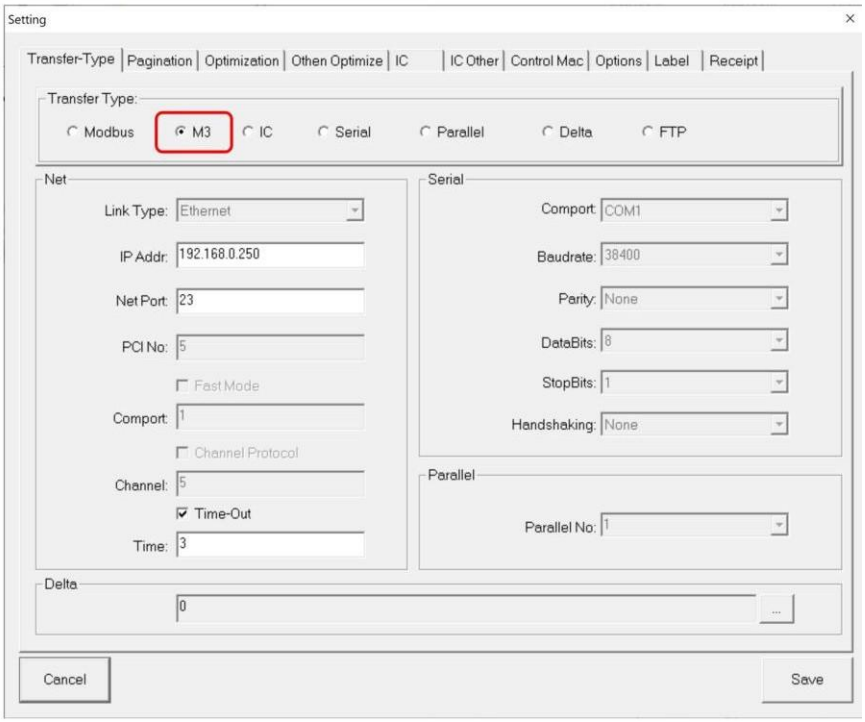
- Run the *Jingwei Driver English Setup.exe* installer and follow the instructions
- Start JWEIDriver from the Windows start menu and enter the IP address set at the machine control panel.

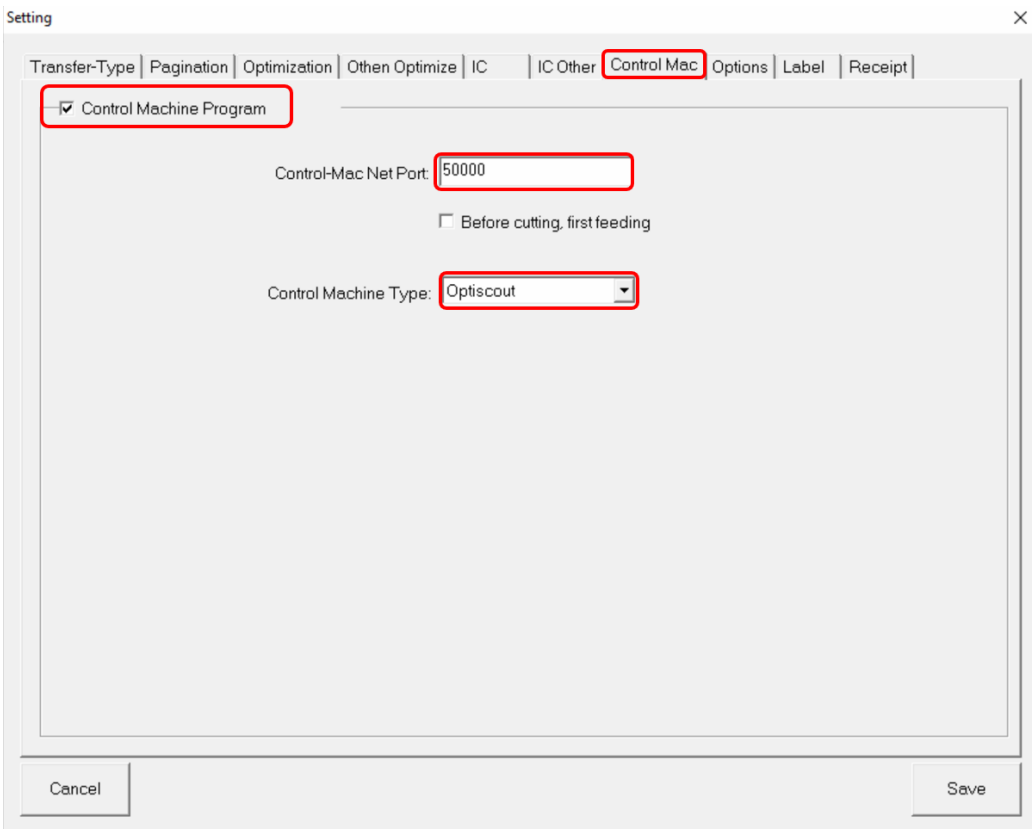
Hit the C*ontrol* button in the centre to connect to the machine. The machine has to idle! The IP address has to match the Machine IP address on the control panel. If the connect is successful, you will get the following screen.

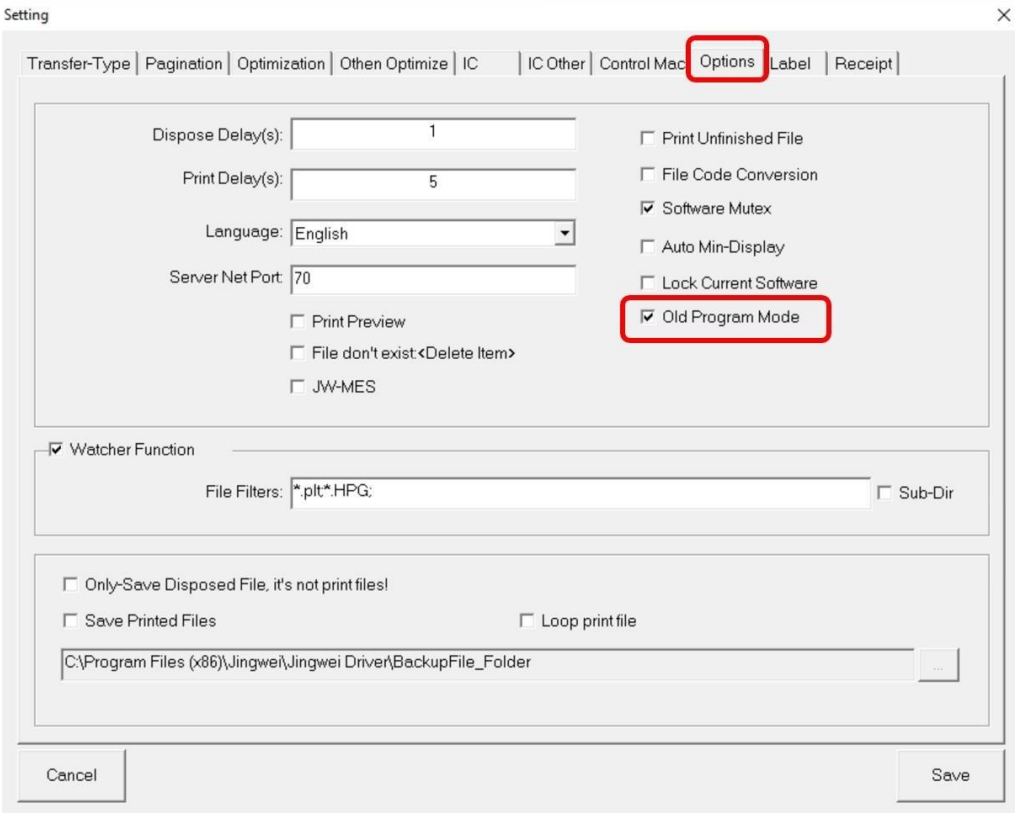


The Green indication behind Mac shows that the panel is connected to the machine.
The red indicator shows that DPC Connect is currently not connected to the panel. This panel acts as a bridge between the machine and DPC Connect. It has to be active before sending anyjob to the machine.

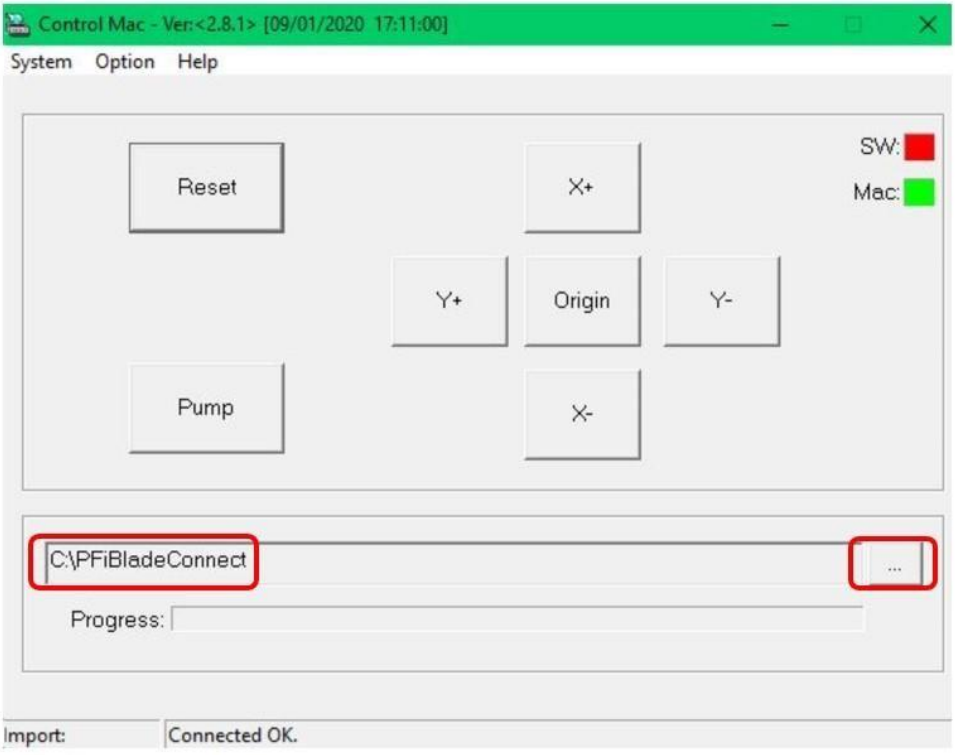
Please change the below settings in Options - Settings.







Create “Hotfolder” *c:\DPC Connect* for cut files and select the folder in the JingWei driver.



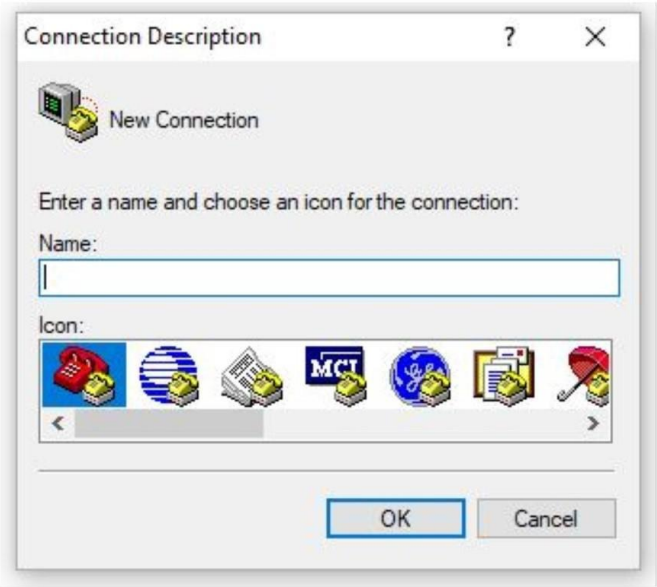
6. Update cutter Firmware

Open your browser and enter the IP address of the machine.

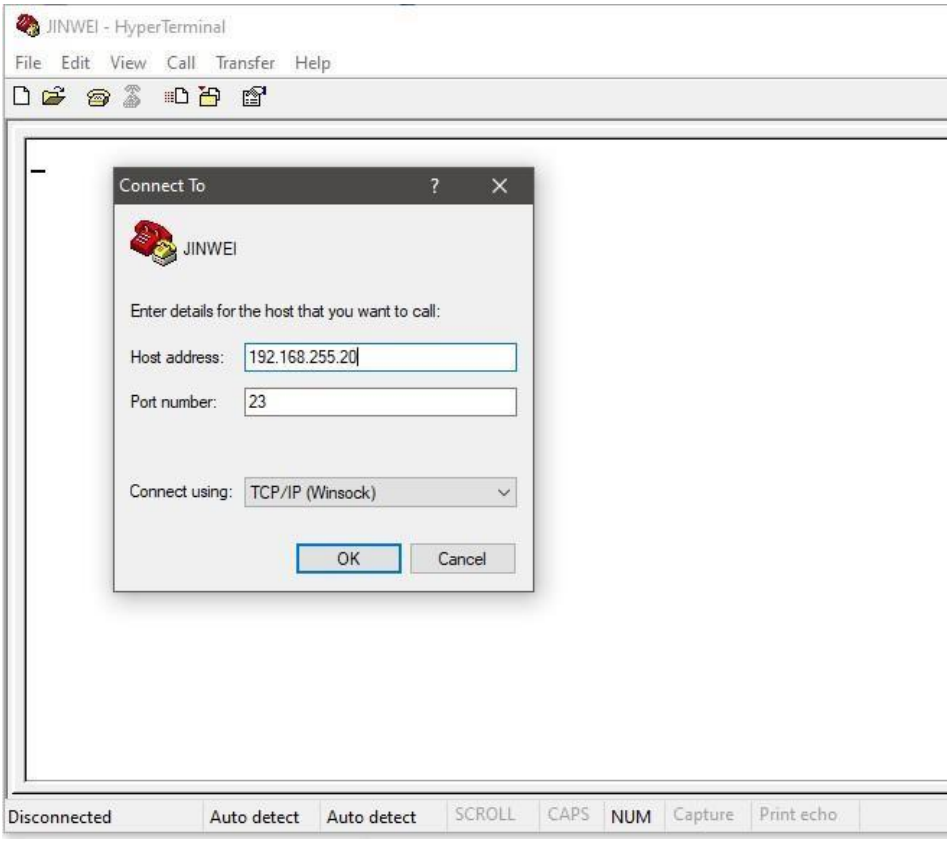
Enter the user name „admin“ and the password „sys“ Click

File upload and select the program.bin file.

Hit send and reboot the cutter
Run *Hyperterminal*. Type a name e.g 123 and select ok.



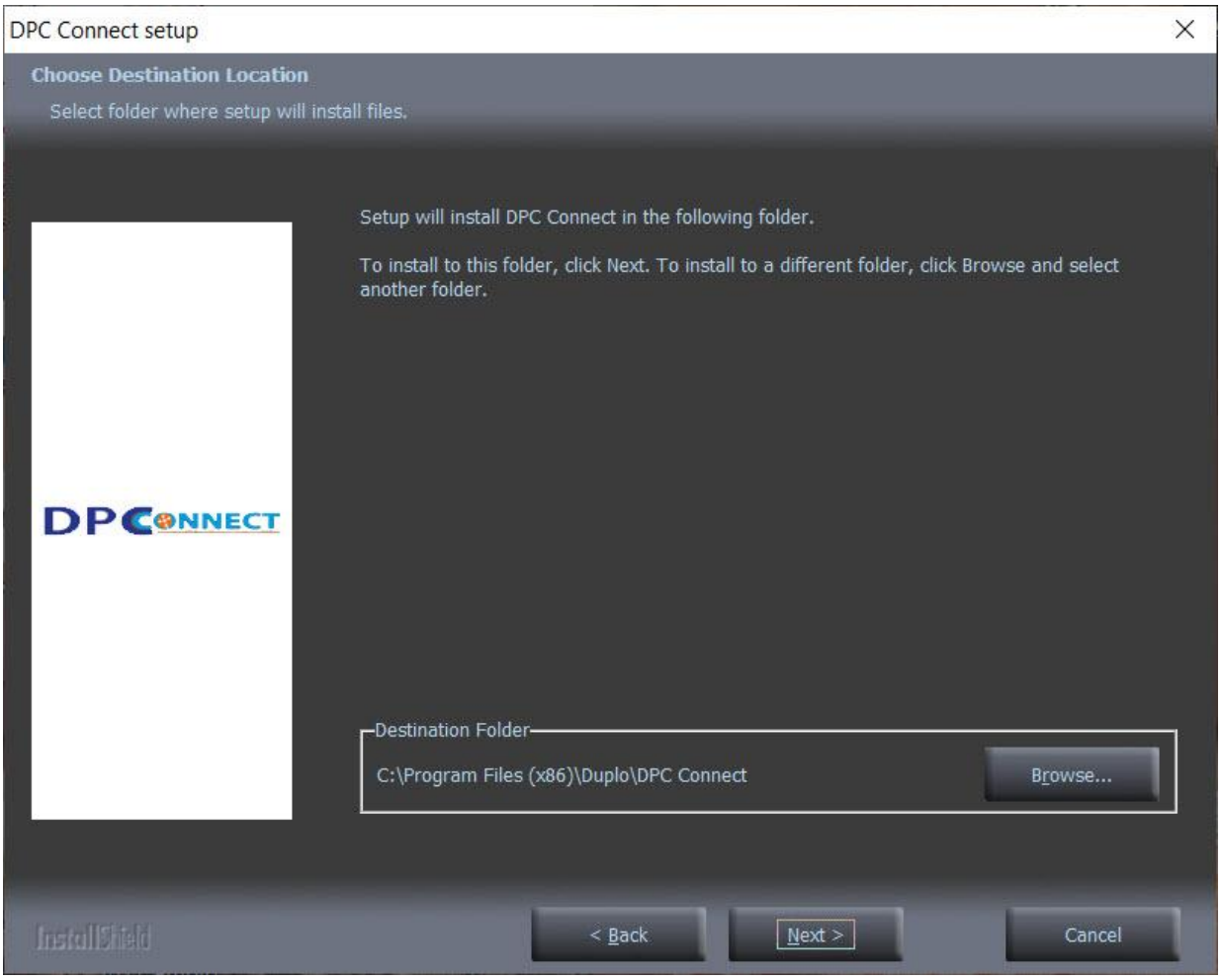
Change the 'Connect using' from COM3 to TCP/IP. Type the machine IP address on port 23.



If you are connected, enter *_program_* . Wait until the *reboot machine* message appears.

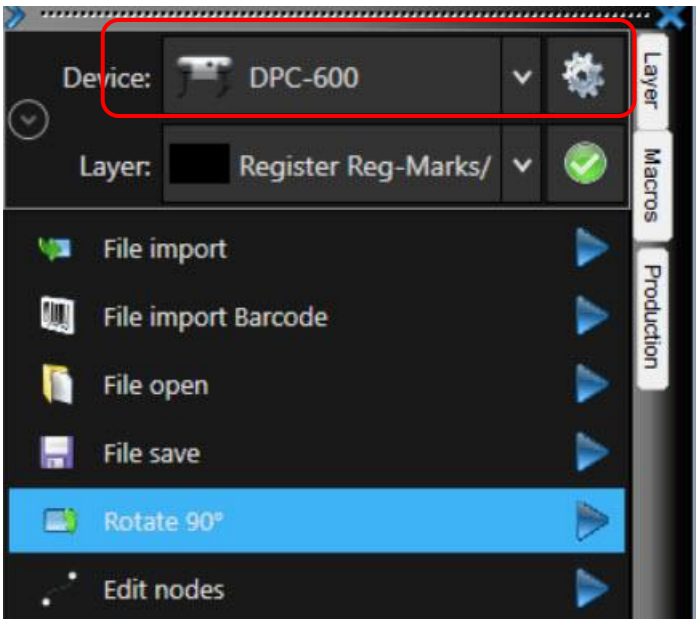
5. Install DPC Connect

Run the *dpcconnect.exe* installer and follow the instructions on the screen. Setup will automatically add the device driver and set the communication IP address for the local computer to 127.0.0.1. This device driver will communicate with the JingWei Print driver.

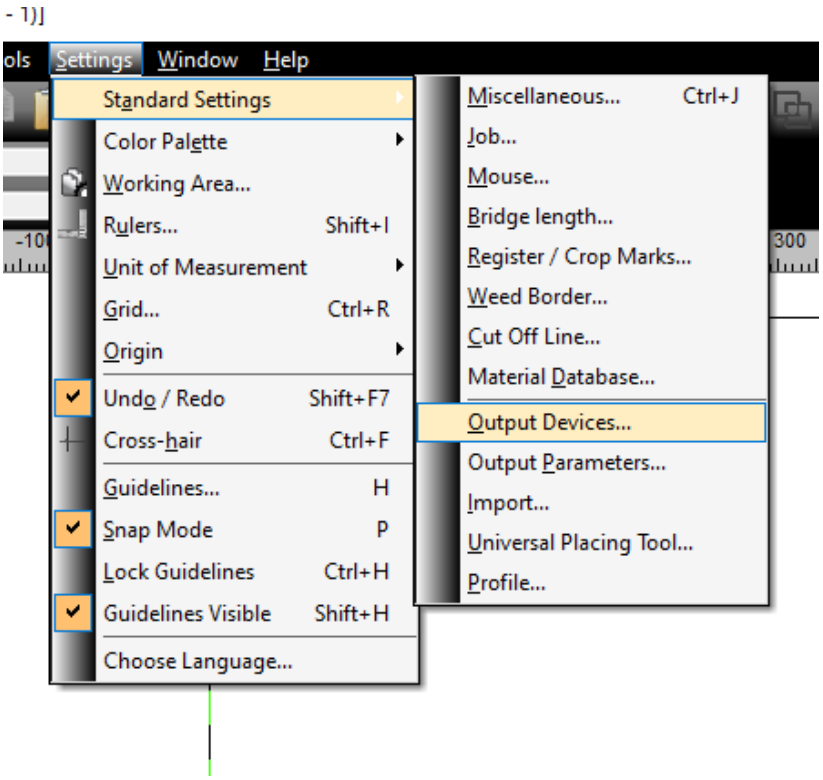


6. DPC Connect Setup

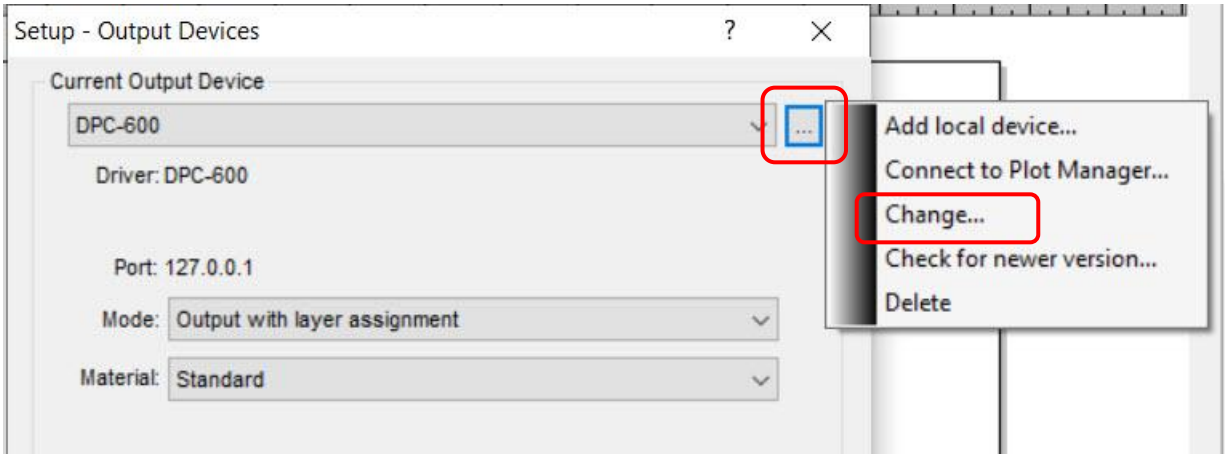
6.1. Check if the device is DPC-600.



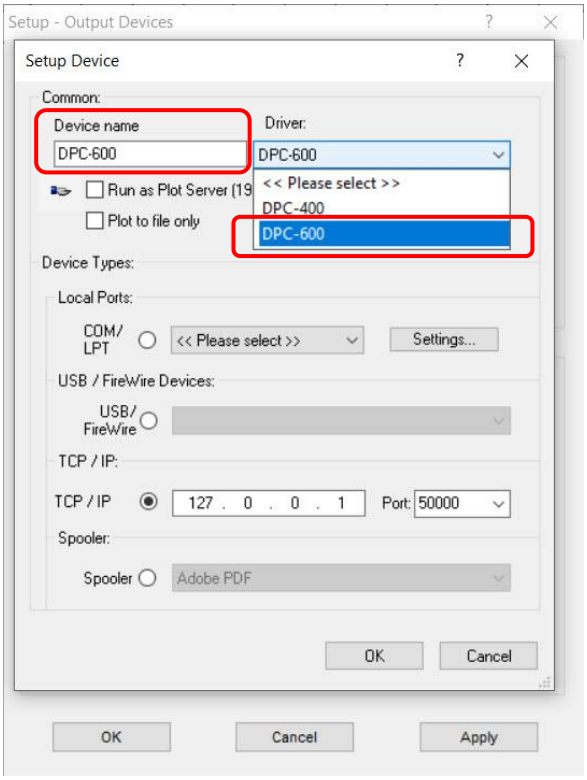
6.2. If the device is not correct – select settings – standard settings – Output device.



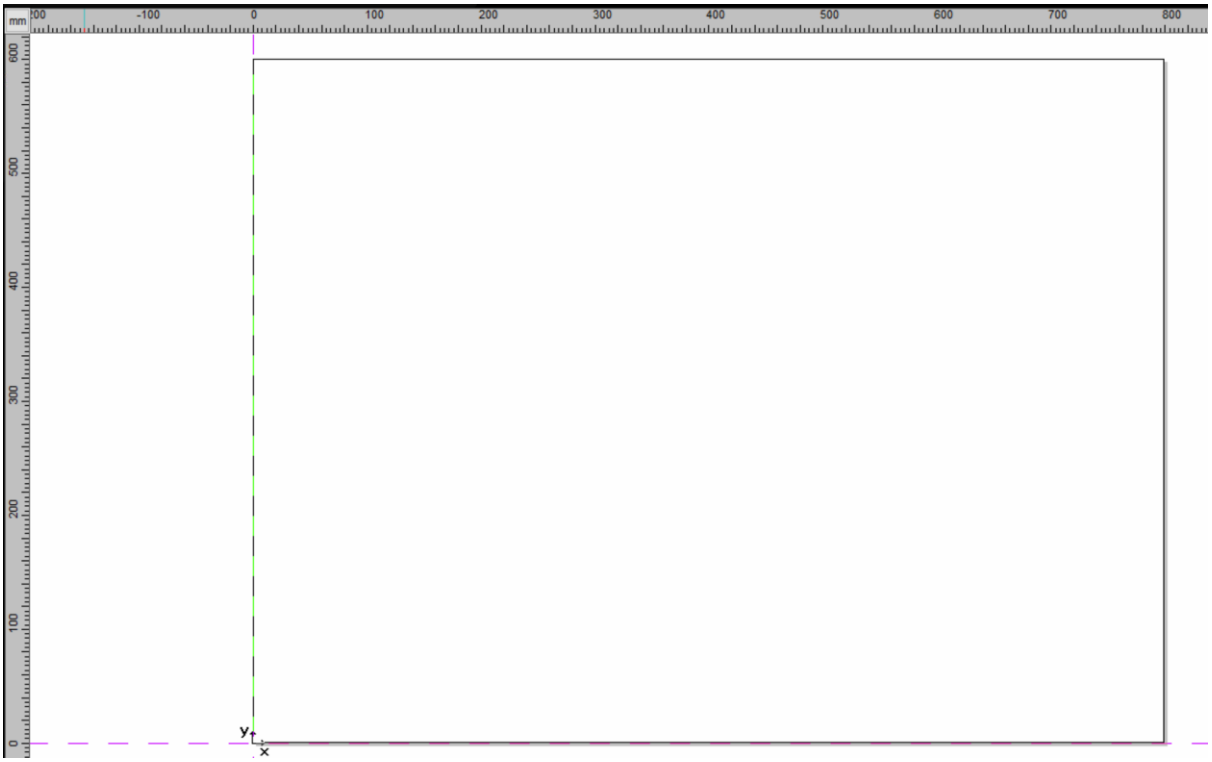
6.3. Select 3 dots next to the device name - change



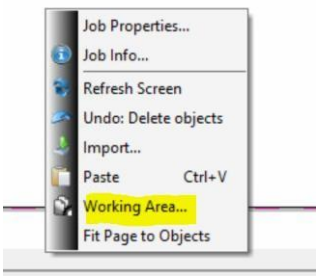
6.4. Select arrow down next to the driver name and select DPC Connect and change the device name – then OK.

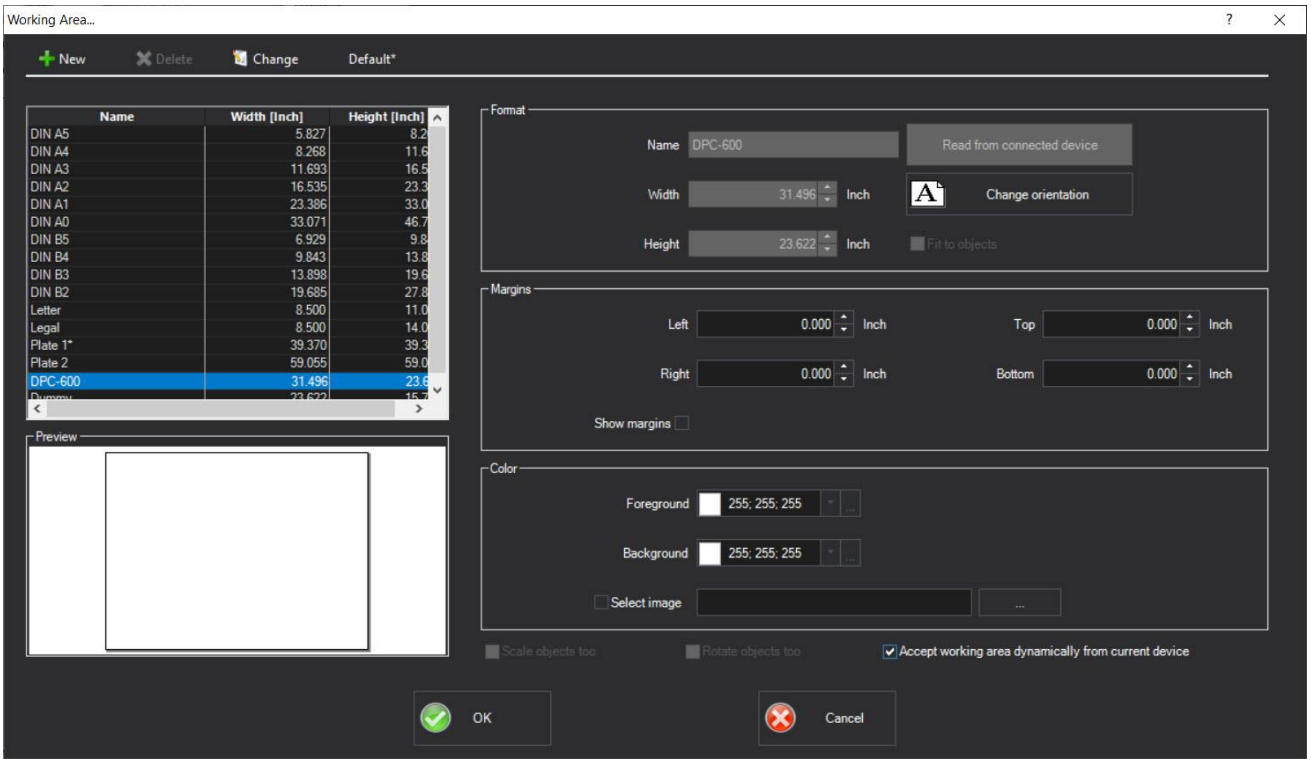


6.5. Once the device is selected check if the working area is 800 x 600.

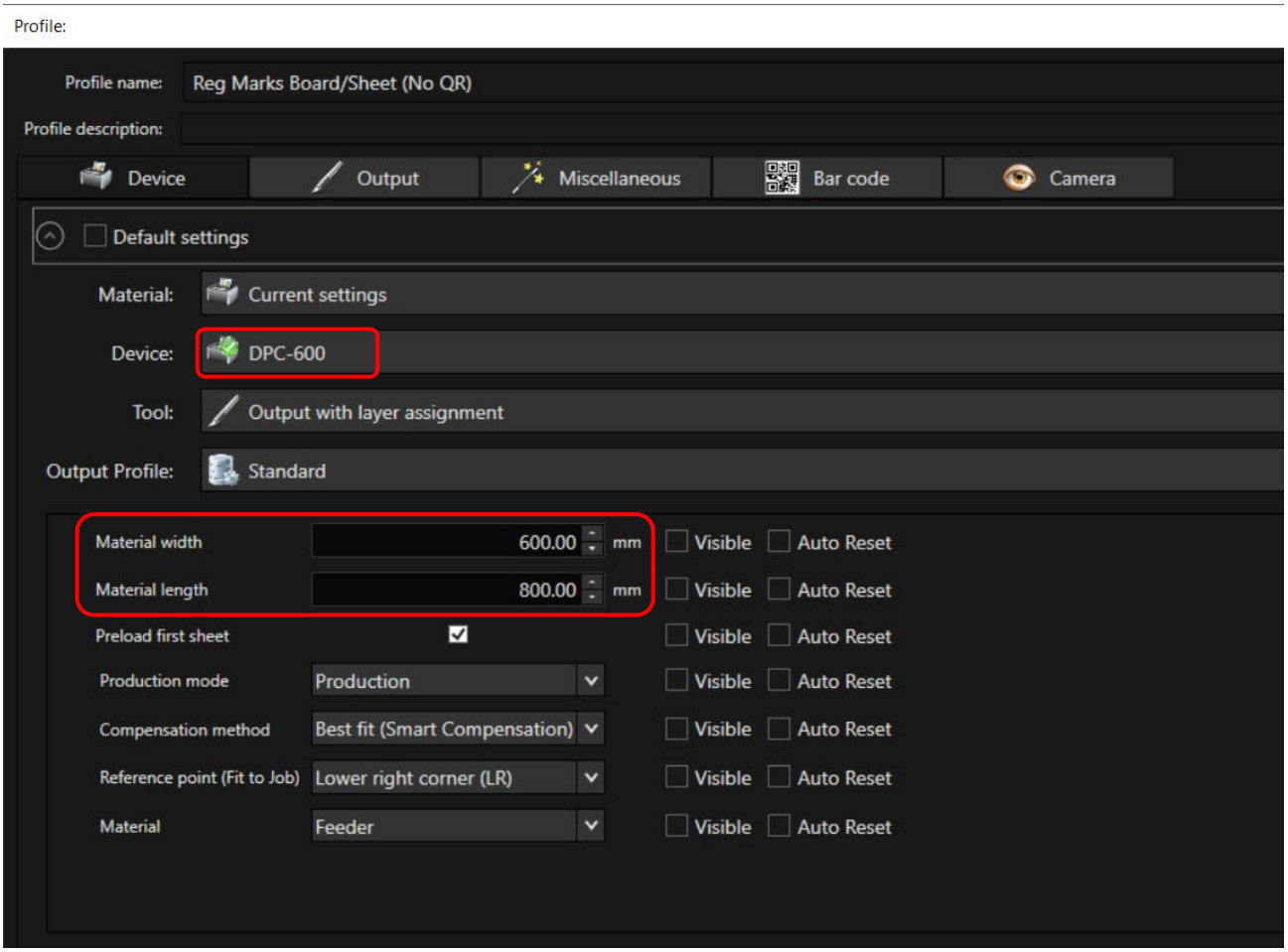


6.6. If not correct – right click on the working area – select working area – select DPC-600.





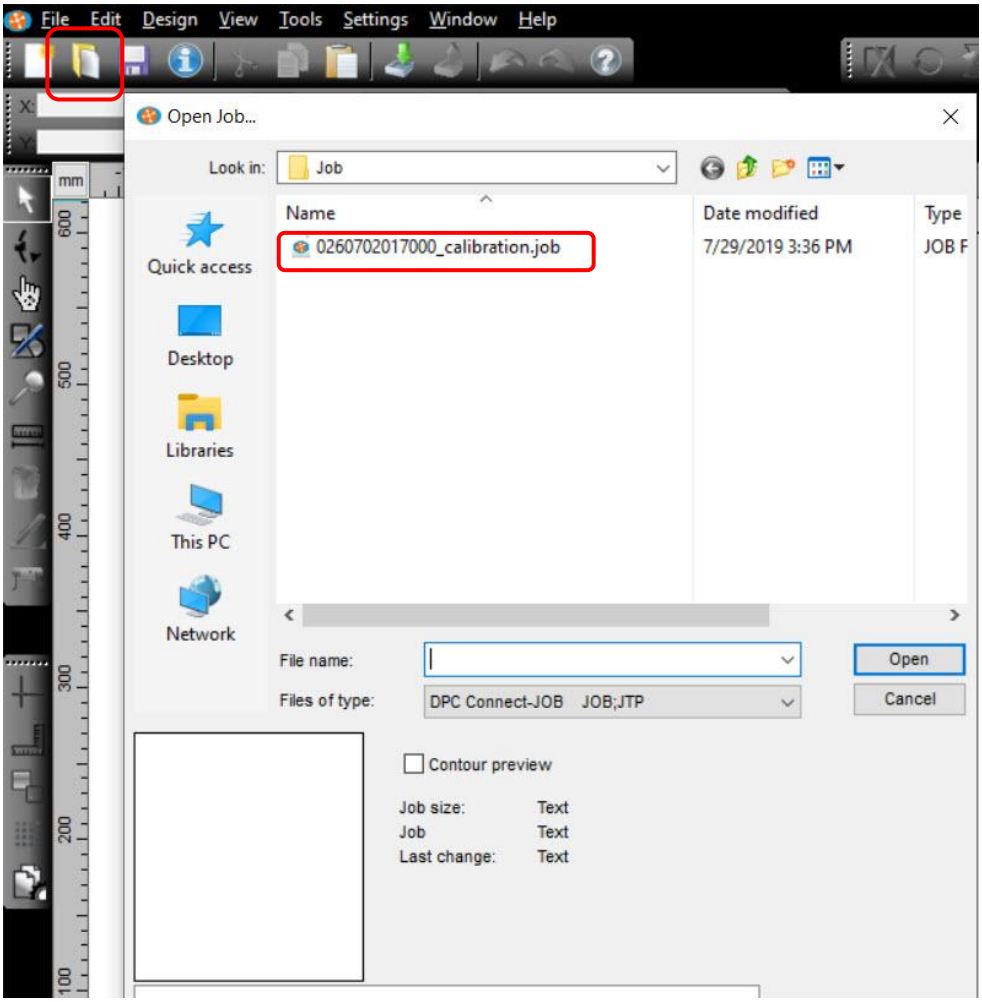
6.7. Check if the production profiles have the correct device selected and material width/length set up. Edit – edit profile.



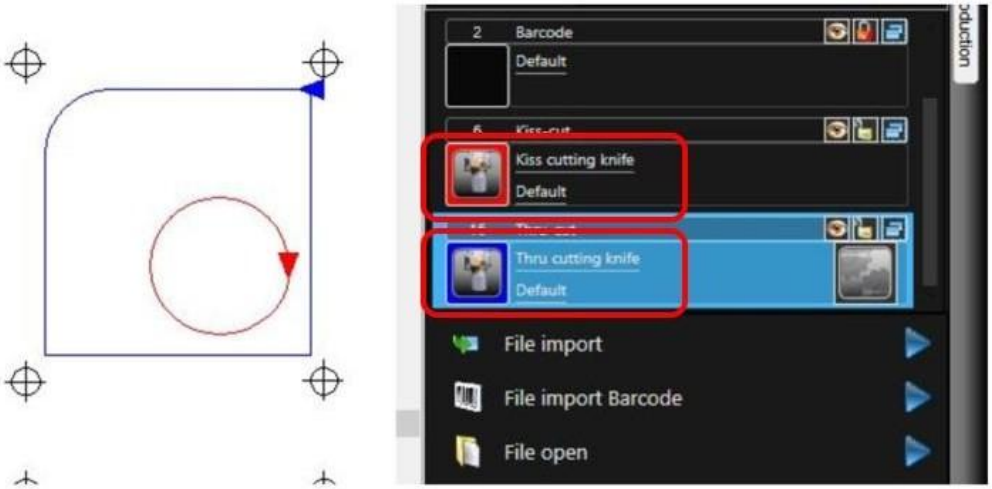
6.8. If the settings are not correct change it for each production profile.

7. Measure camera offset

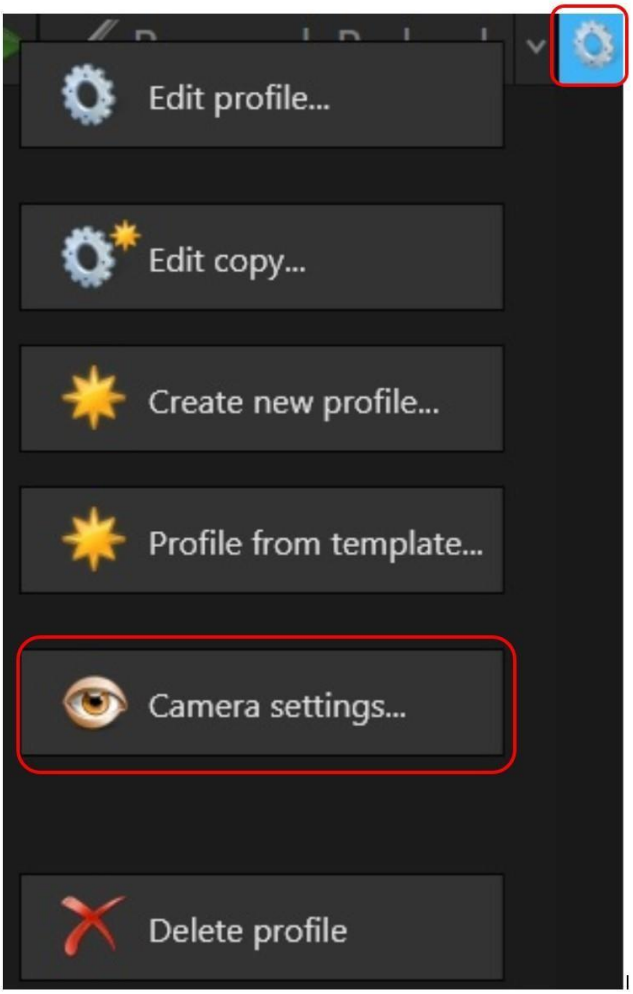
Open “0260702017000_calibration.job” from the DPC Connect Job folder. Print the sheet ona desktop printer. If no printer is connected, export the file (File – Export) to PDF in order to print the file from another computer. When printing select 'Actual size' on the printer settings. Use 150-170gsm stock.



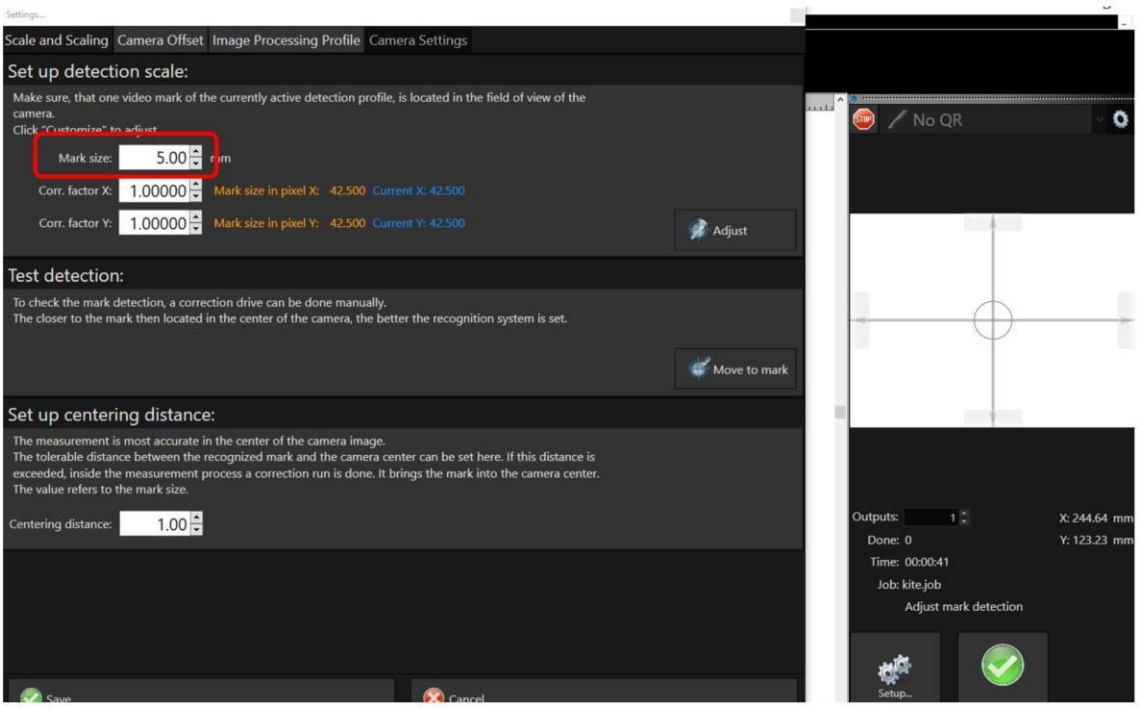
Assign the tools for Kiss-cut and Thru-cut layer. Adjust the knife depth for Kiss and Thru cutting on the machine.



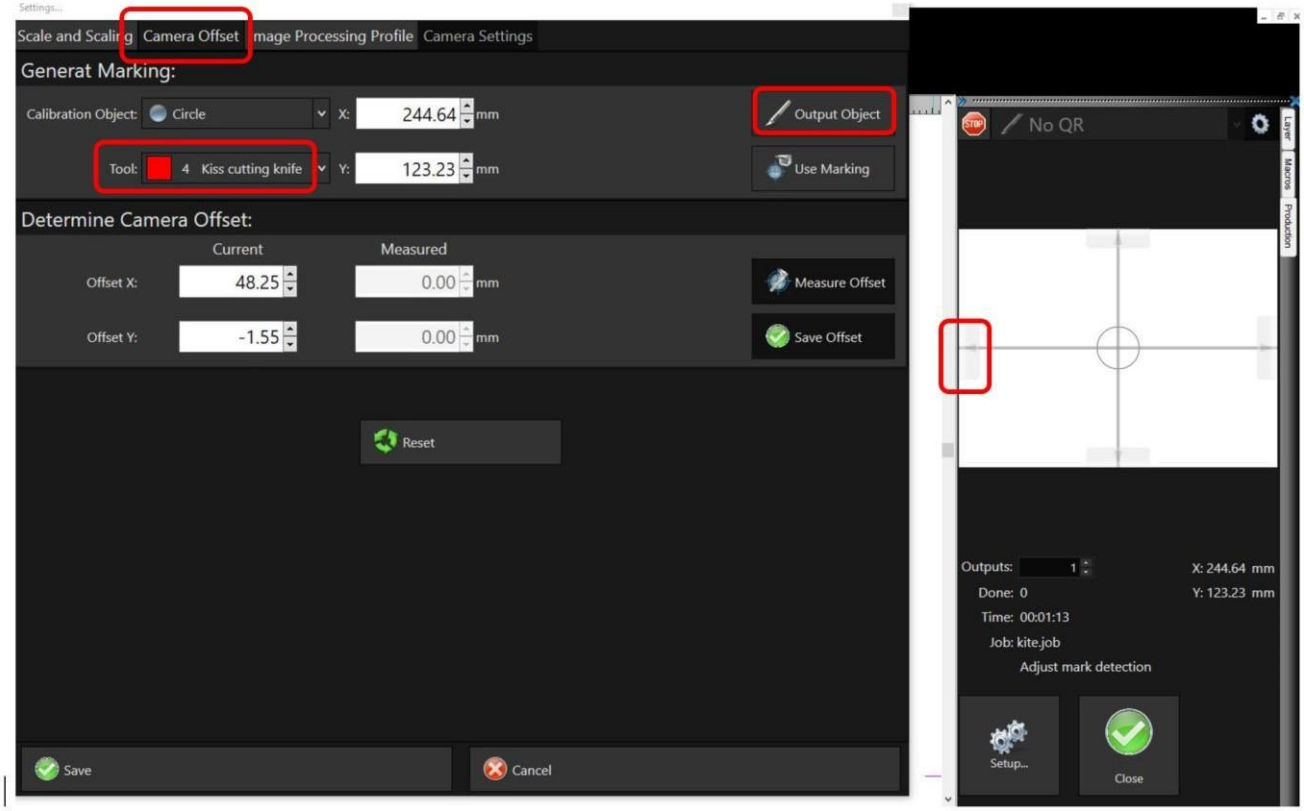
Put a non-printed sheet onto the conveyor mat, turn the machine in online mode and run the JWDriver application.
Place a blank 150-170gsm paper on the mat. Change to the **Production** tab and select Camera settings by the Edit profiles button.



Select 5mm mark size

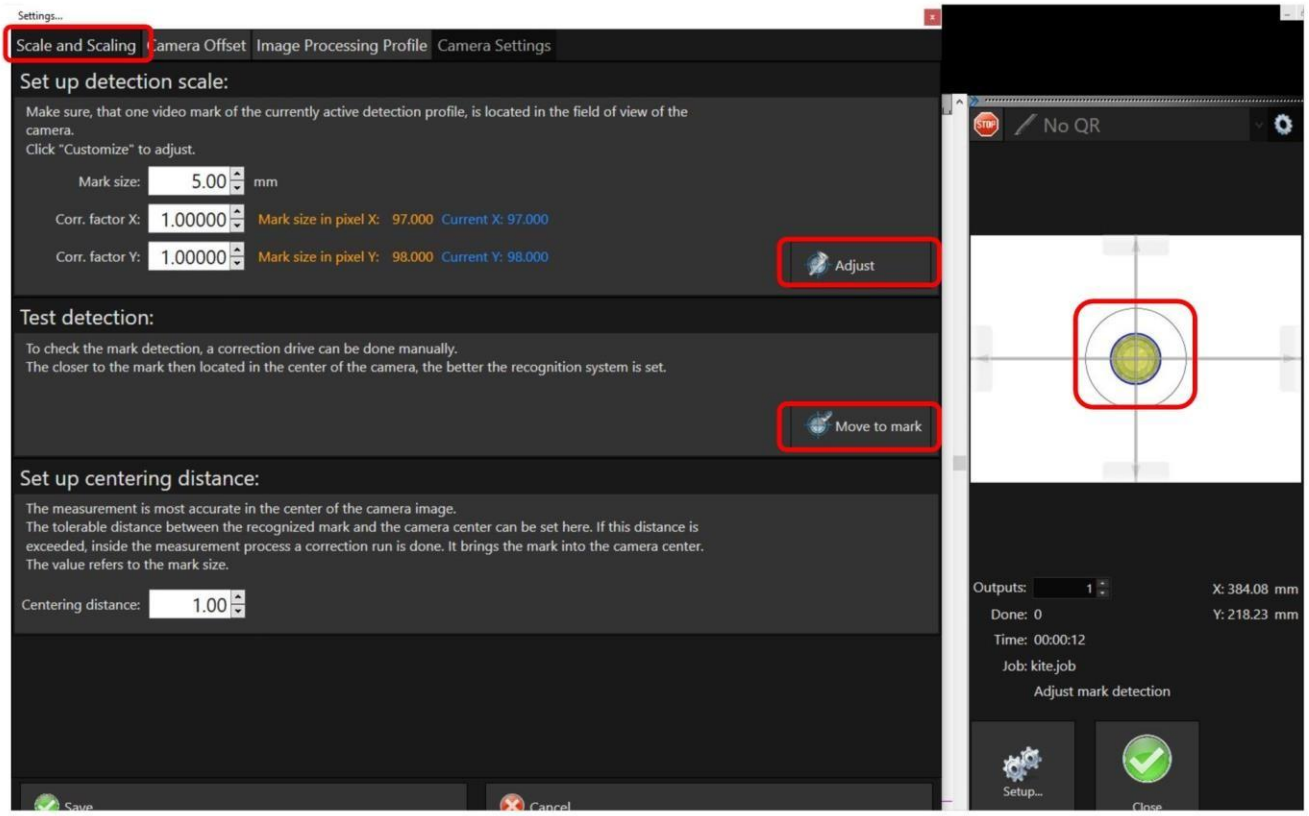


In the Camera Offset tab select Kiss cutting knife. Please make sure that the kiss cutting knife can cut through the paper. Move the knife over the paper and select Output Object.

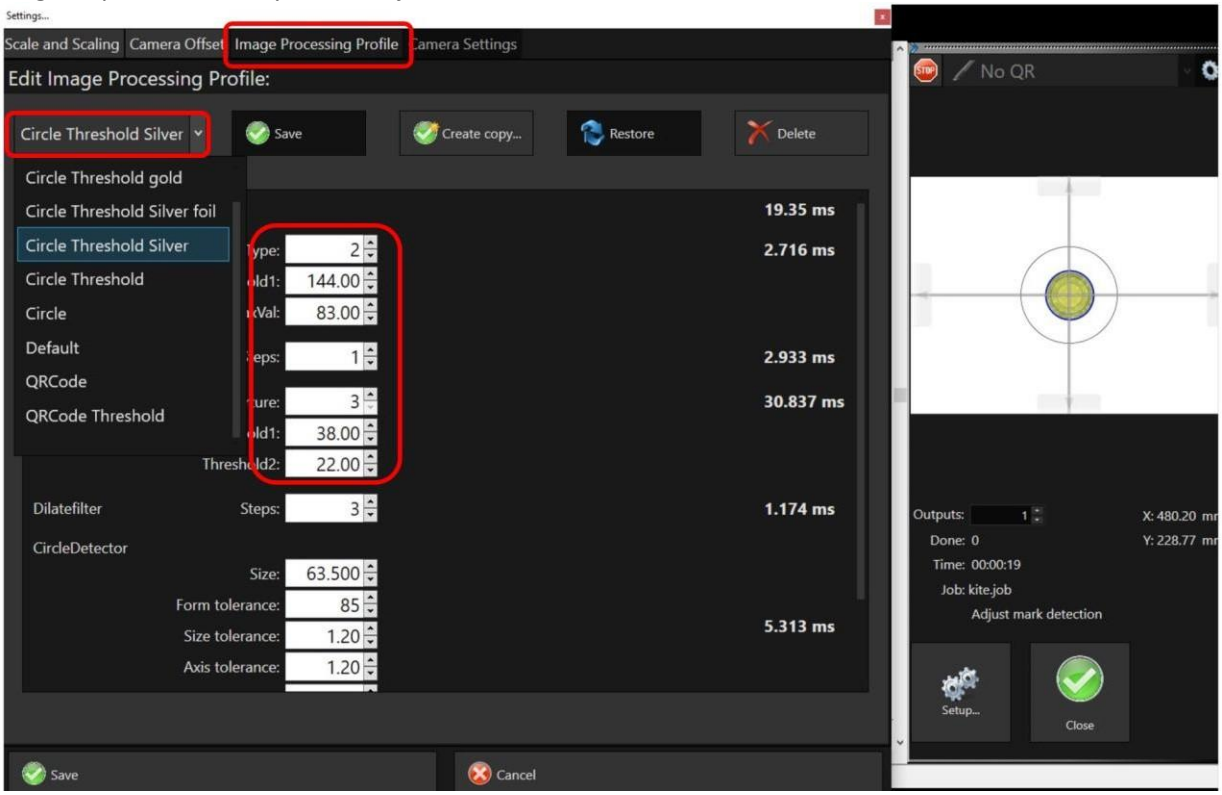


Remove the inner part of the circle and move the camera above the circle.

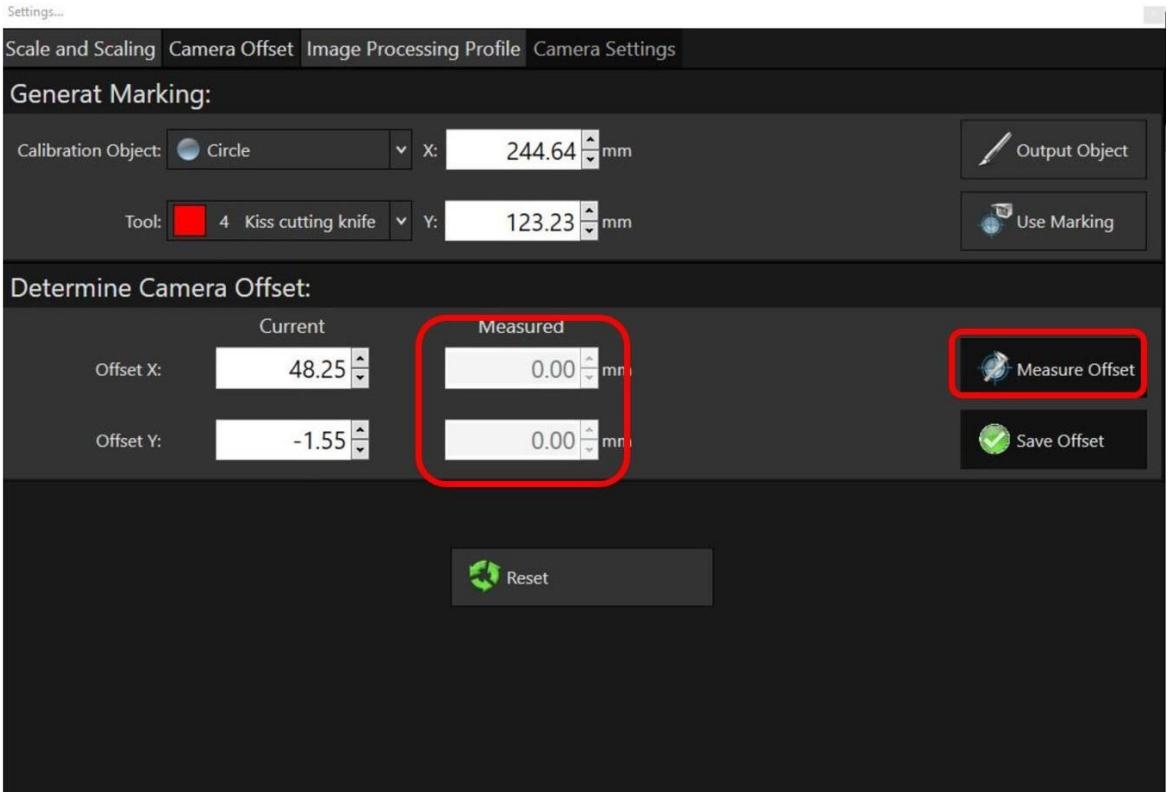
If the software recognizes 5mm cut the circle will be green.
In the Scale and Scaling tab, select adjust - the software will calculate pixels for 5mm mark.
Click 'Move to mark' to move the circle to the middle of the cross. Keep pressing until the circle is in the middle. Select 'Adjust' again to finish pixel adjustment.



If the 5mm circle is not recognized, the mark will not be green. In the Image Processing Profile select other Circle Threshold profiles to see if the reg mark is changed to green. If it's still not recognized using the profiles already saved adjust the filter values.

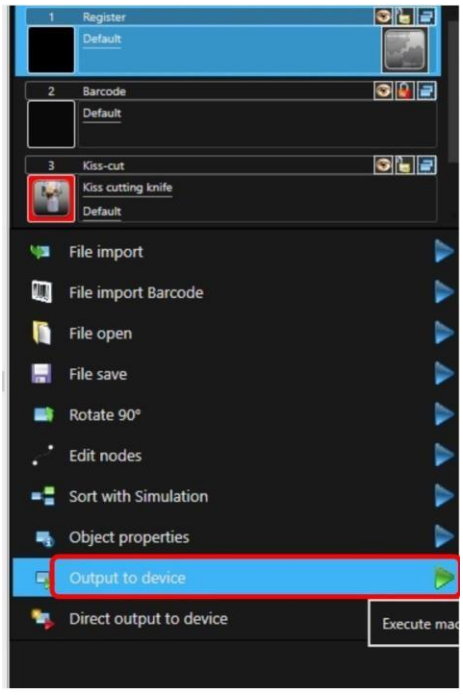


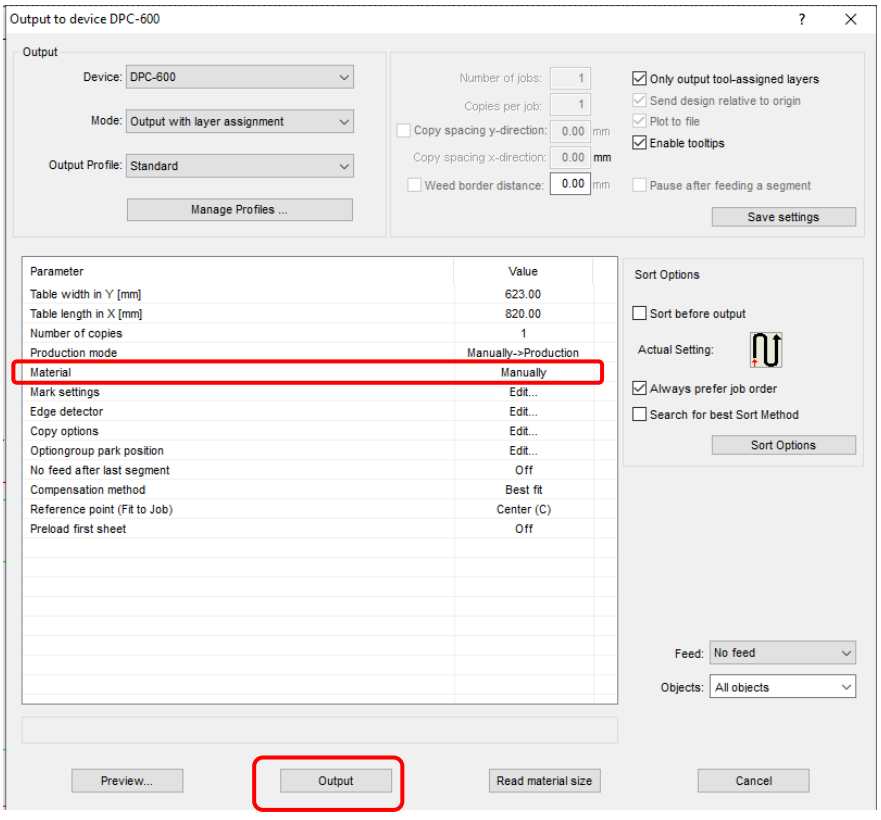
In the Camera Offset tab select Measure Offset. The value will change. Then select Save Offset, then Save.



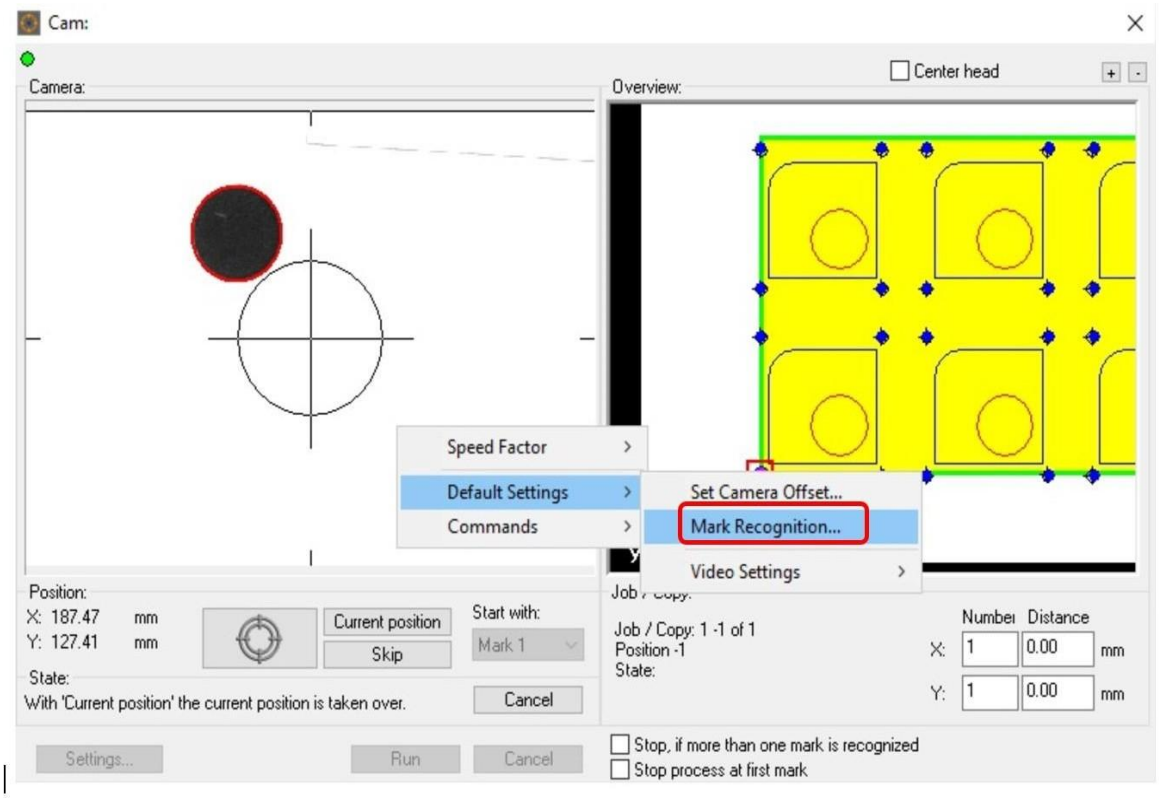
Exit the camera settings, put the printed sheet “0260702017000_calibration.job” – sheet onto the conveyor mat (make sure the rotation is correct) and cut the file in order to verify the measured camera offset.

In Macros tab select Output to device - check if the Material is changed to Manually. Select Output

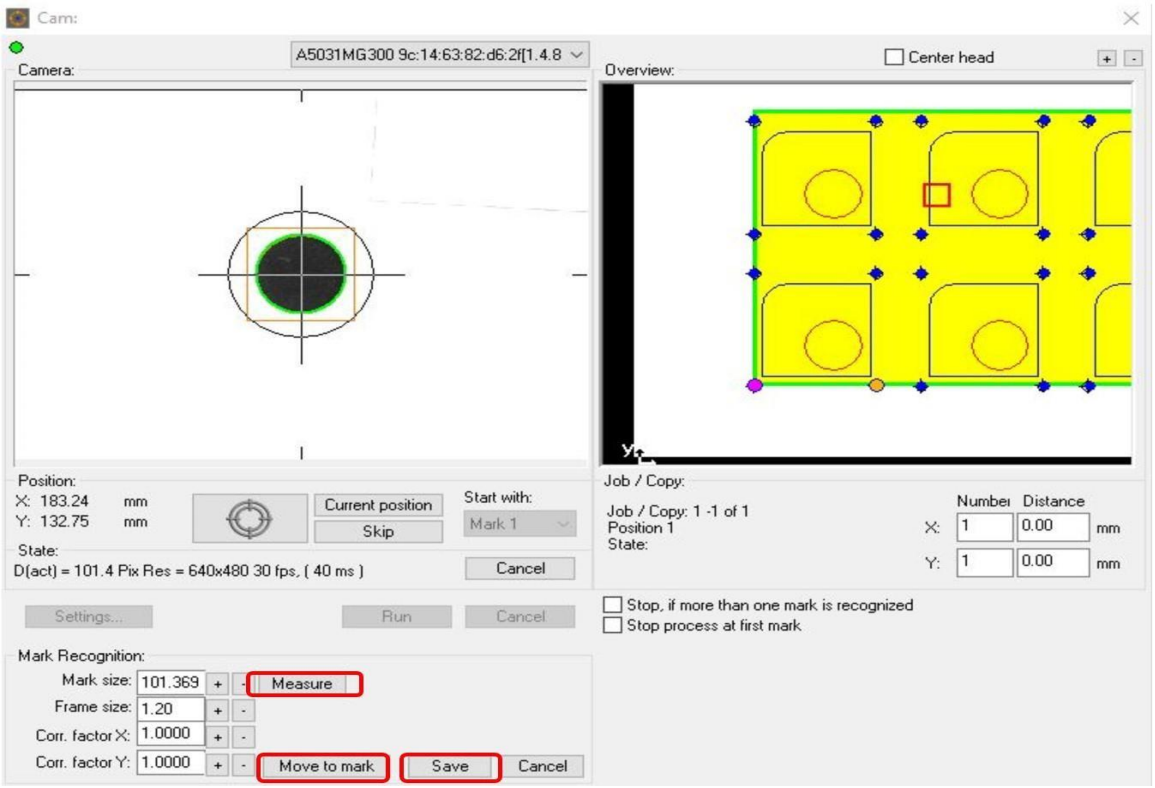




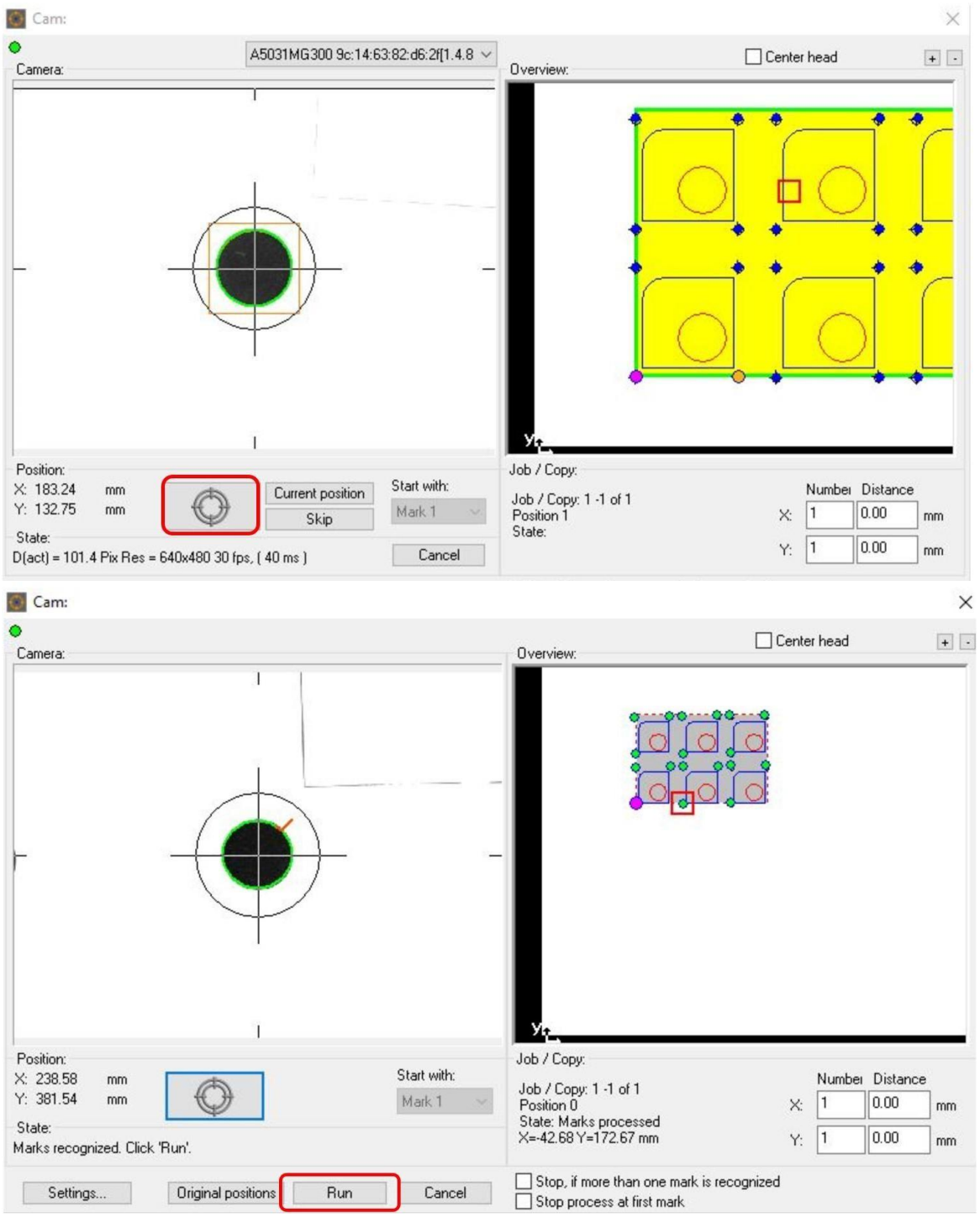
Move the head over the first registration mark using the keyboard arrows. Right click on the camera screen and select Mark Recognition.



Select Move to mark to move the reg mark to the center. Select Measure, and then Save.

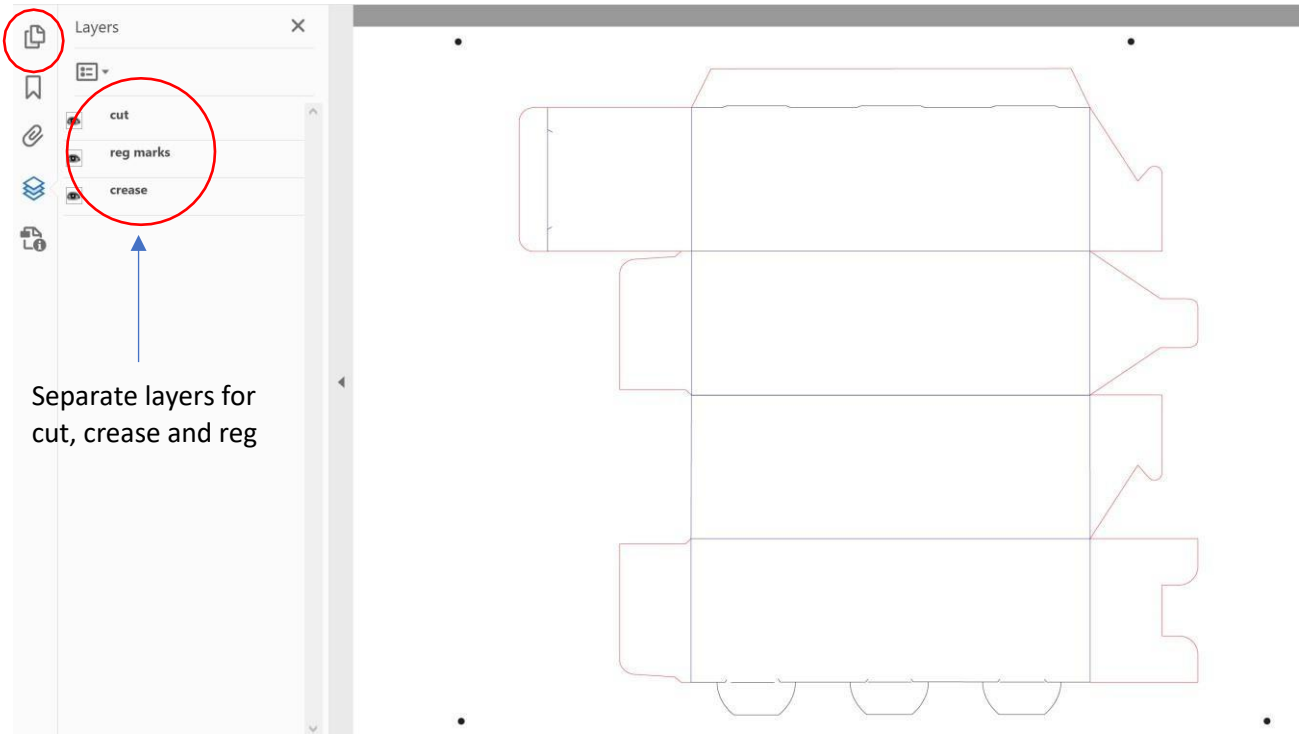


Select the bullet button - the camera will move each registration mark. Once it is finished select **Run**. The machine will cut the job.



8. File information

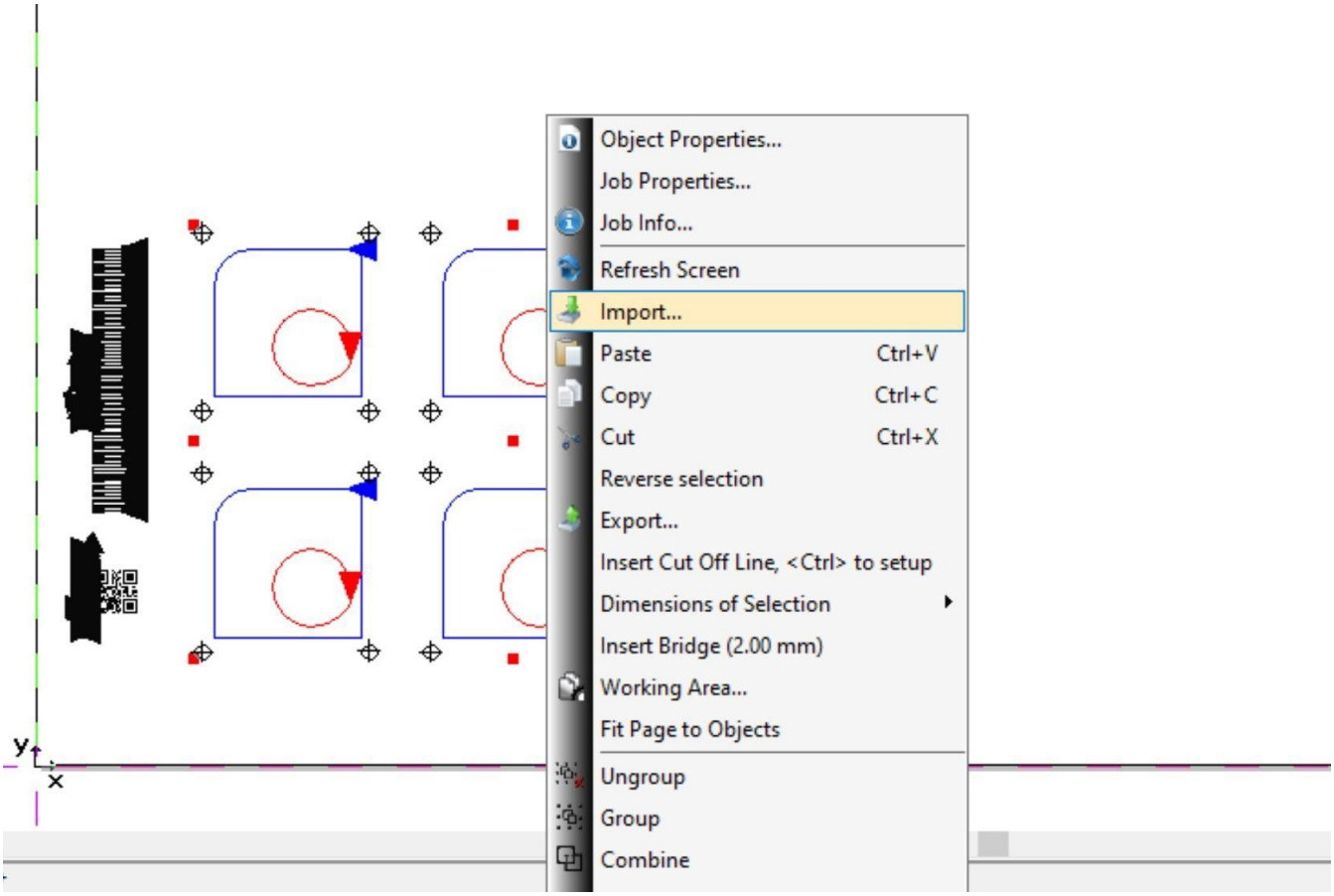
1. Job design.
   A separate layer has to be created for registration marks (e.g. reg marks), for thru cutting (e.g. cut), for creasing (e.g. crease) and kiss cutting (kiss cut).
2. Open a pdf file in Adobe Reader to check if the layers are created.



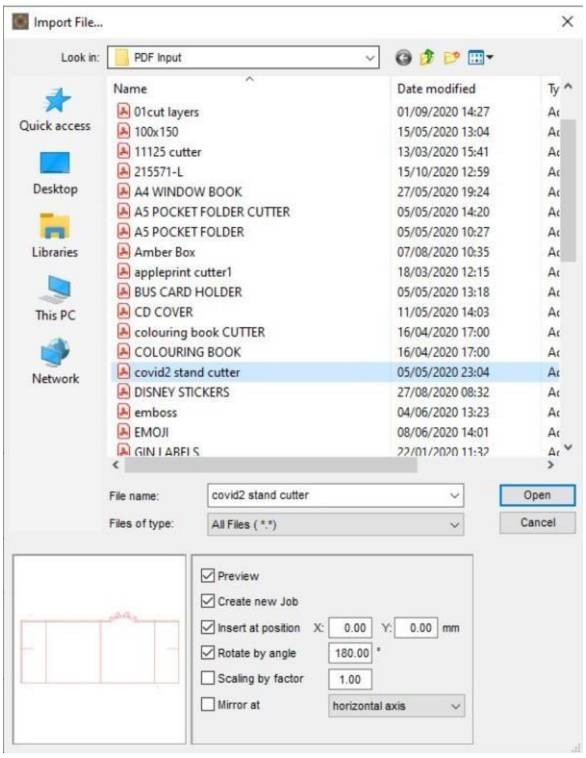
3. We recommend using 3mm black dots as a registration mark. For better workflow position of first reg marks should be in the same location on all jobs.
4. The QR code should be between 7-10mm. The QR code must match the file name. E.g QR – monkey; file name 'monkey'.
We recommend placing the QR code in the same position for all jobs.

9. Settings for 3mm reg mark

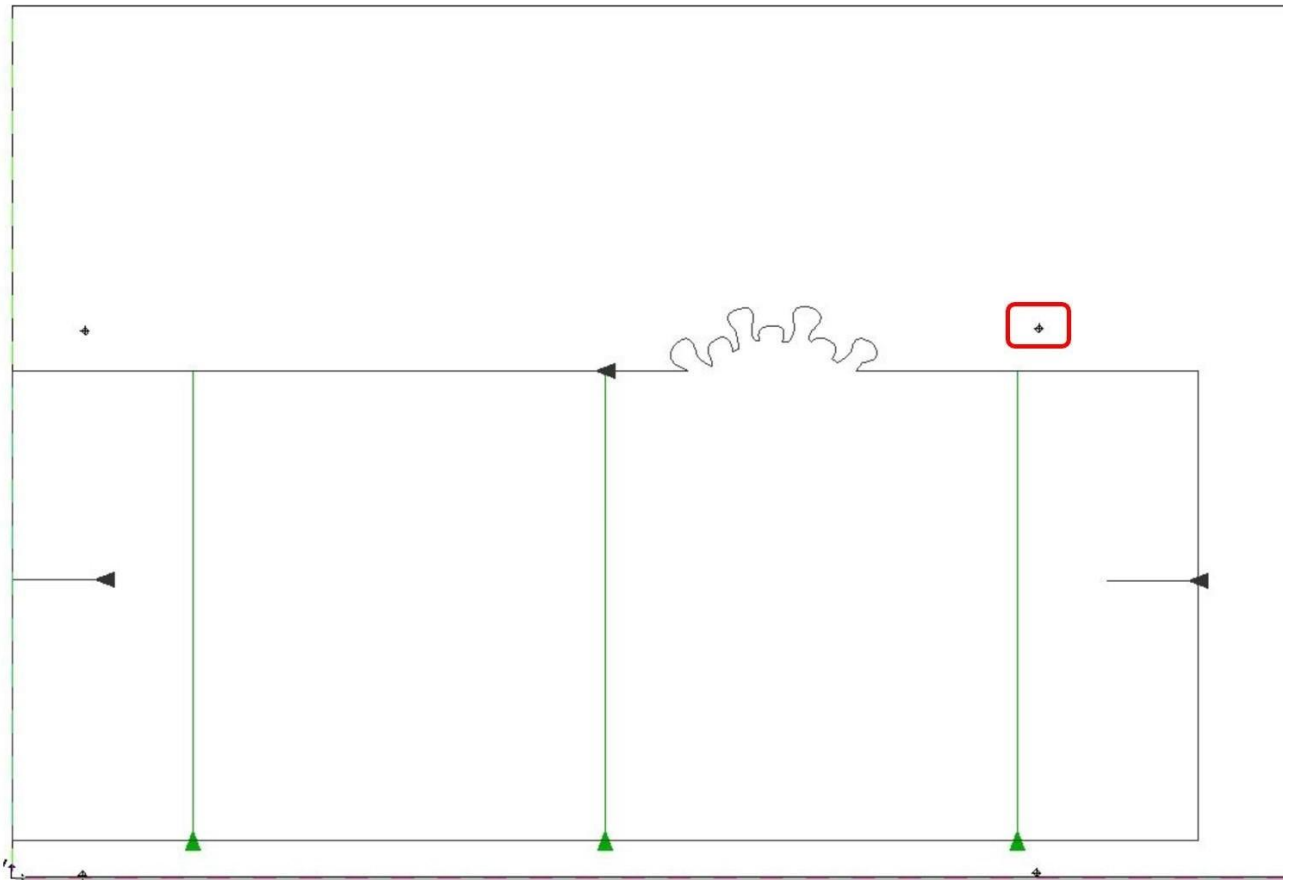
1. Import the pdf file with the job. (see page 29 how to import a pdf)



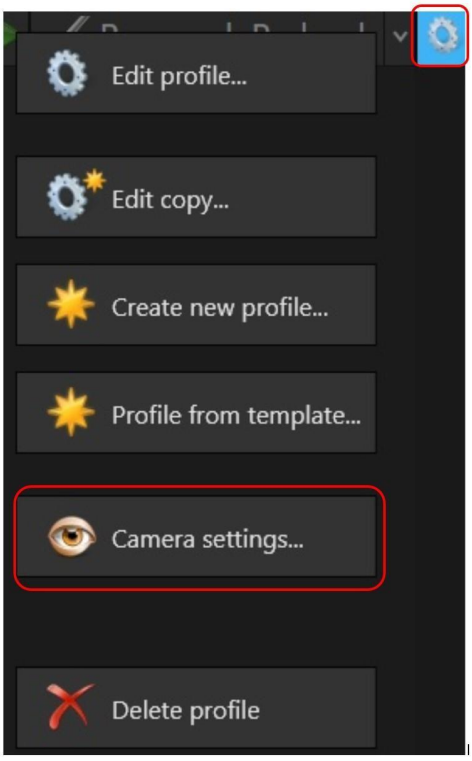
2. Select the file



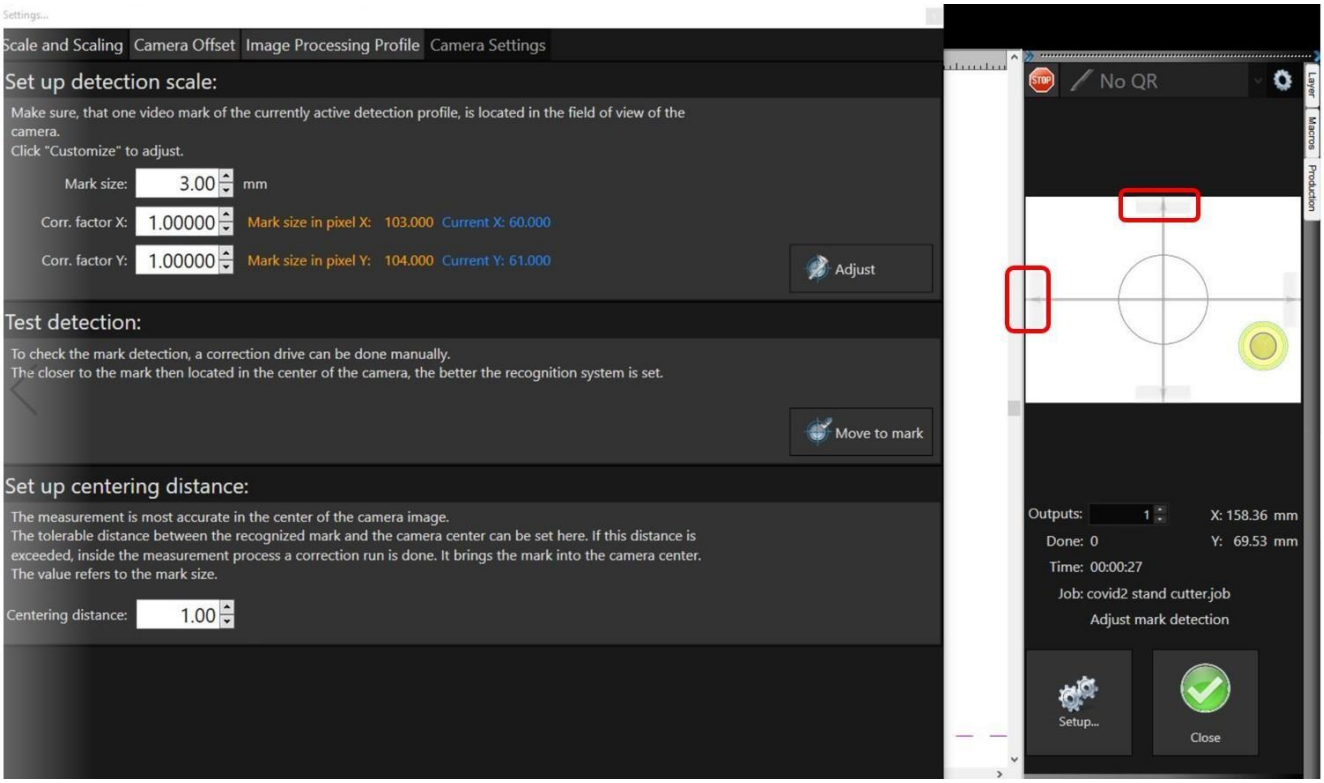
3. Check if the software recognizes reg marks (ref to page 39).



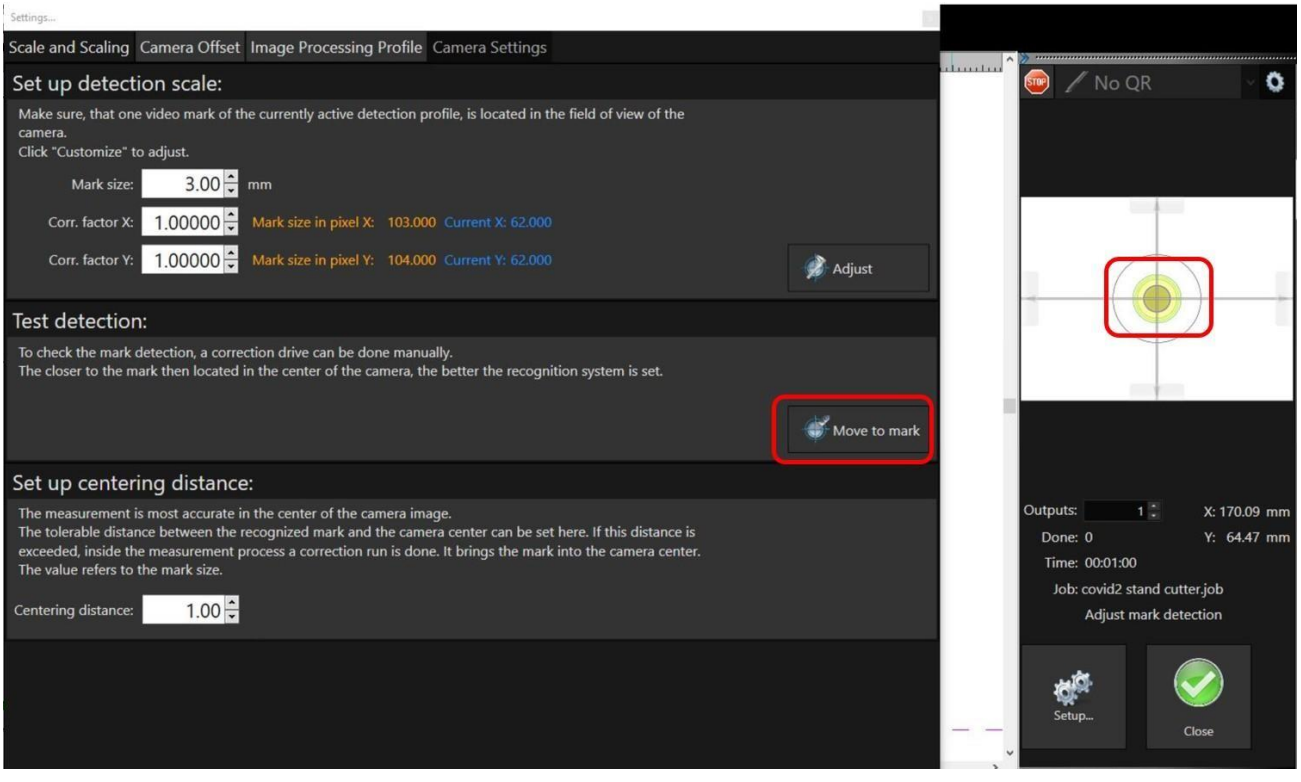
4. In production tab select NO QR profile, then Edit - Camera Calibration.



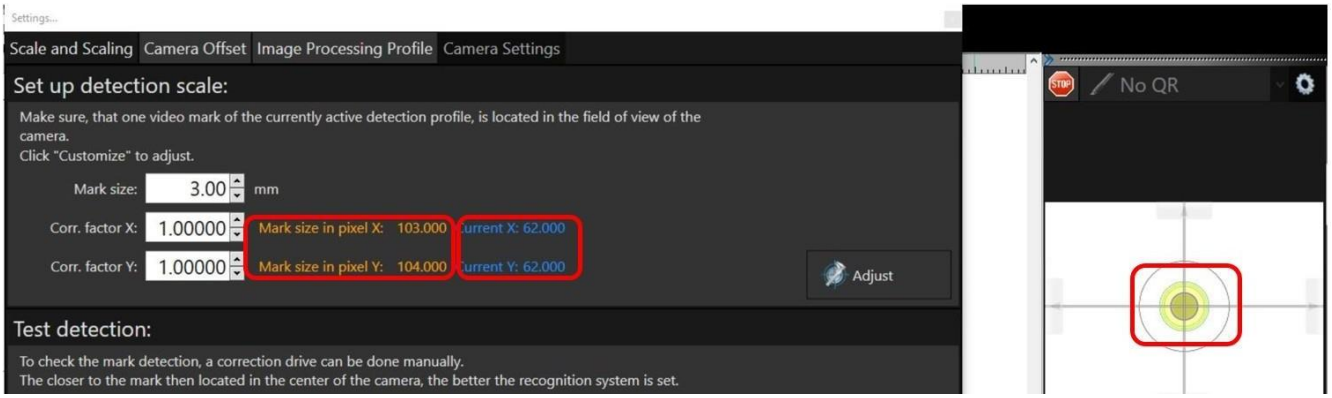
5. Move the camera over the reg mark using the arrows.



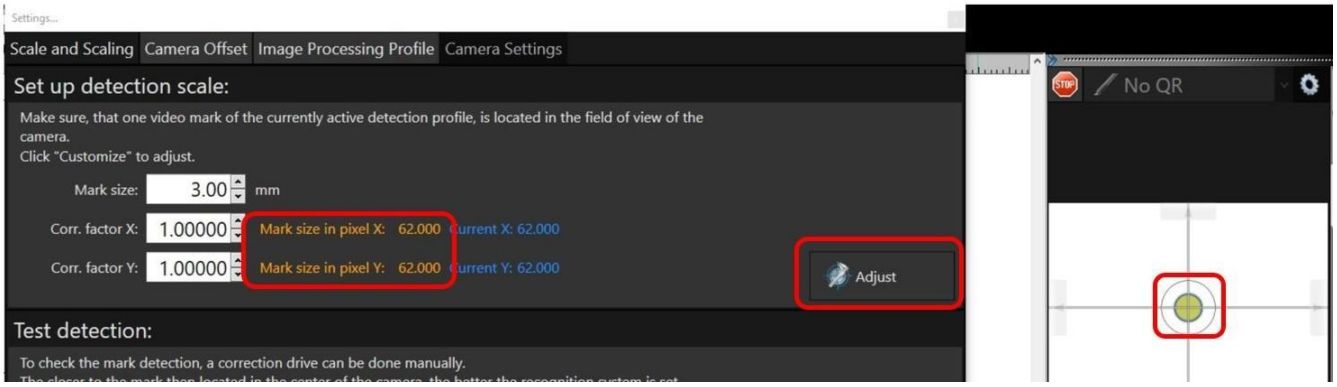
6. Click on 'Move to mark' to move the reg mark to the center. Continue until the reg mark is in the middle.



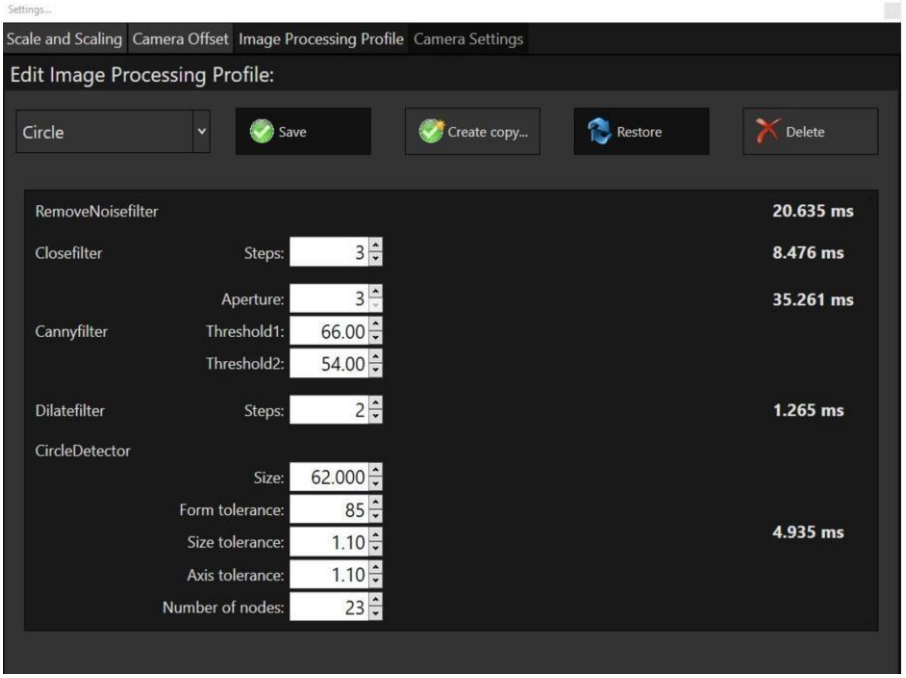
7. The software calculates the number of pixels for the reg mark. The camera calibration was done with 5mm reg mark. The pixels for 5mm reg marks is about 103. The current reg mark is 3mmso the number of pixels is 62.



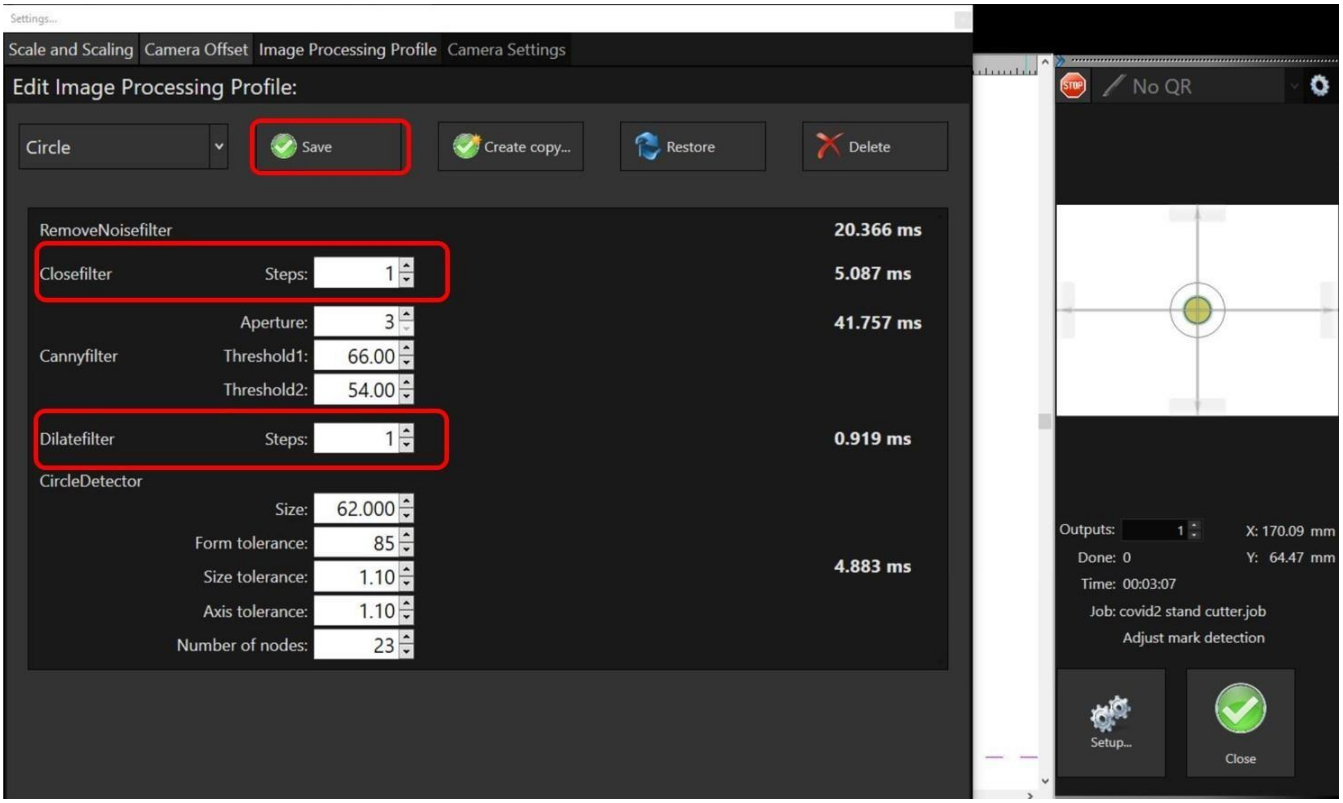
8. Click on 'Adjust' to replace the values from 5mm with the new values and the green circle will be aligned with the reg mark.



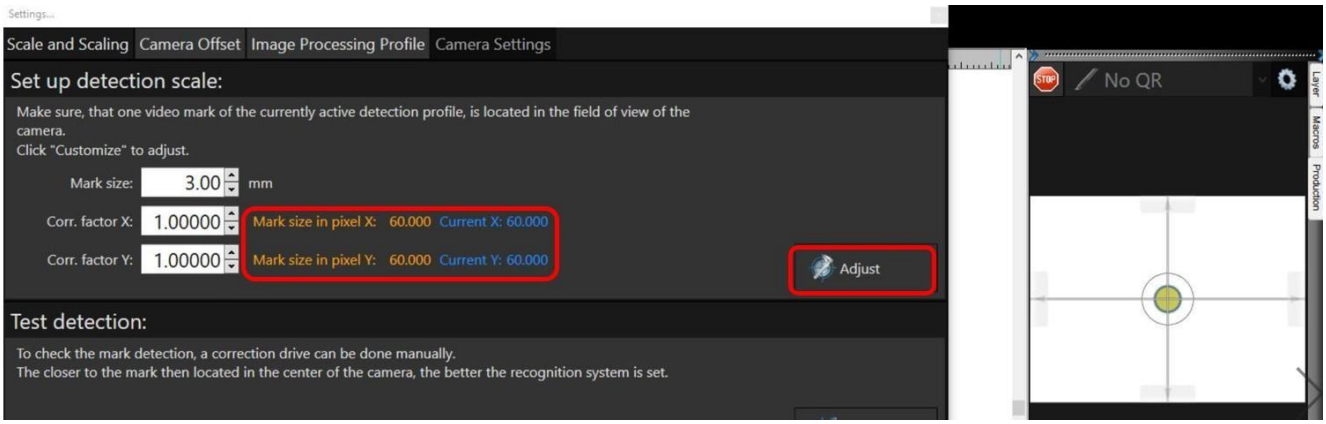
9. In the 'Image Processing Profile' select 'Circle' profile. This profile is used for good quality print and good contrast between reg mark and substrate.



10. The lower the value in the Closefilter and Dilatefiler the more accurate the reg mark reading and the more accurate the reg mark print needs to be. After the adjustment is done press 'Save'.

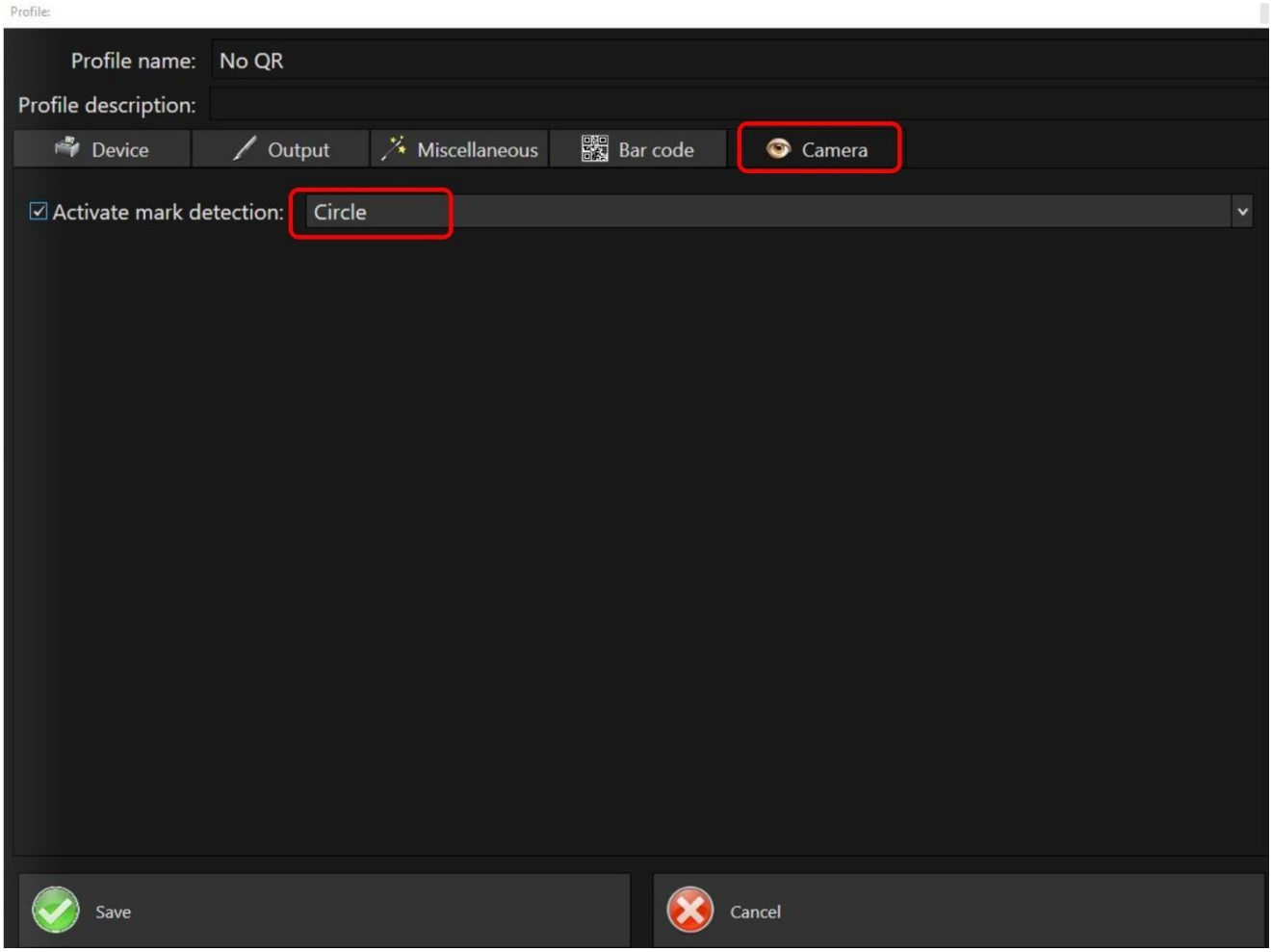


11. The pixels value now has been changed from 62 to 60. Select Adjust to replace the value.



12. Press Save to save the settings.

13. In NO QR - edit profile - select Camera tab and check if the 'Circle' profile is selected.



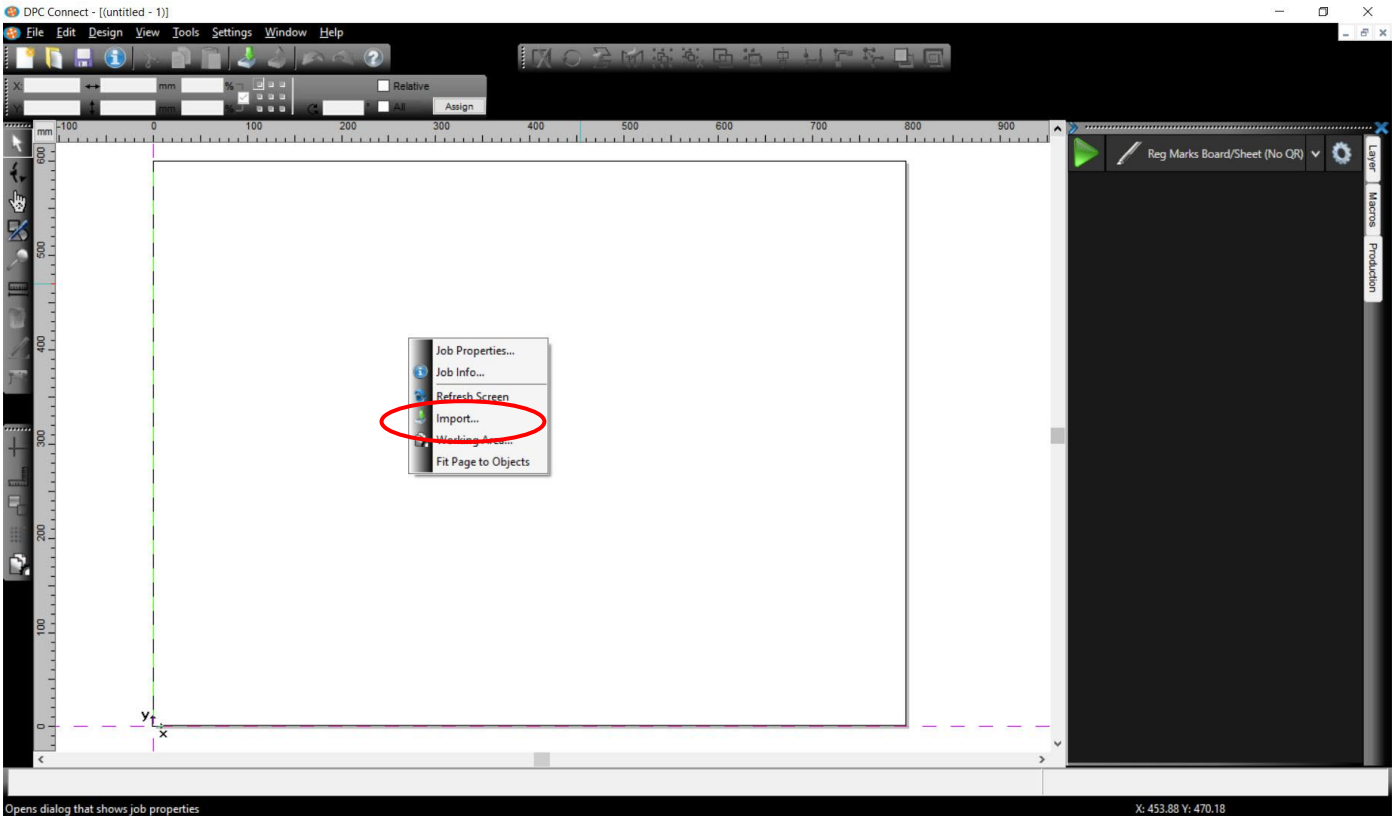
14. Repeat the steps for QR profile.

15. If new profile is created then this procedure needs to be followed again.

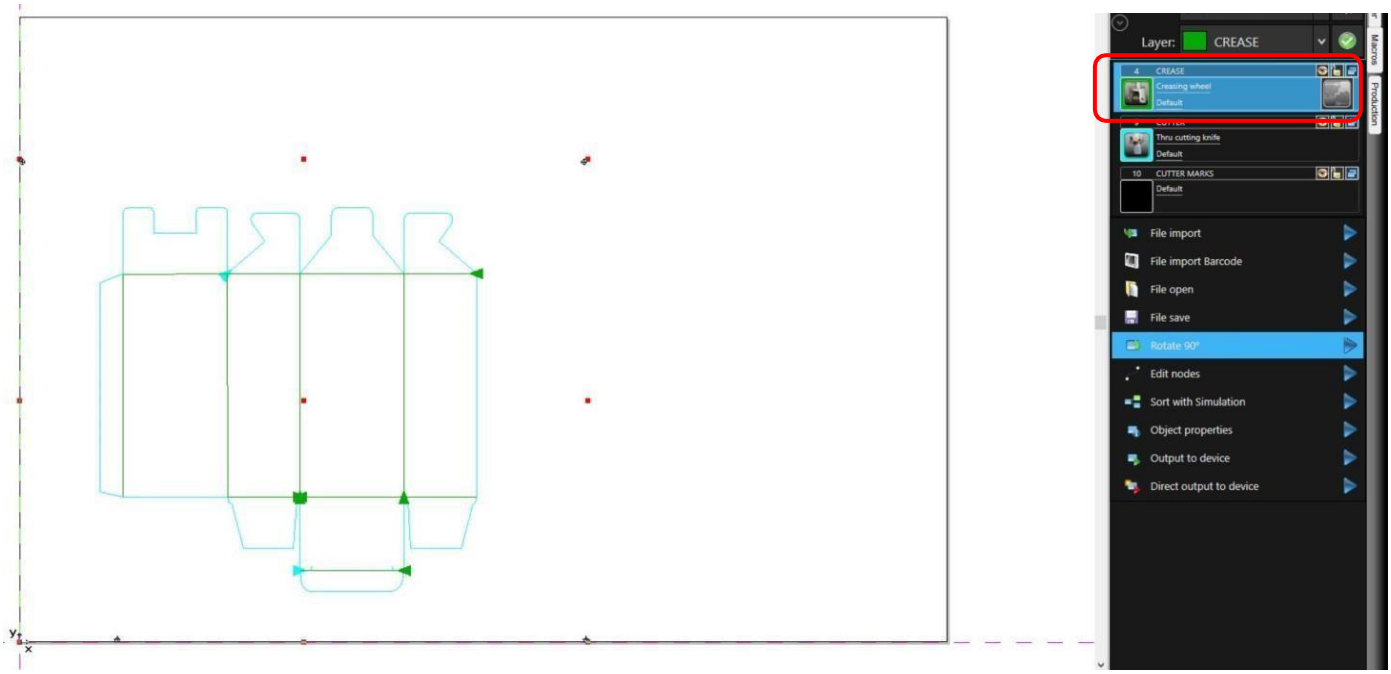
16. The lower quality print then the filter value may need to be adjusted or different image processing profile need to be selected.

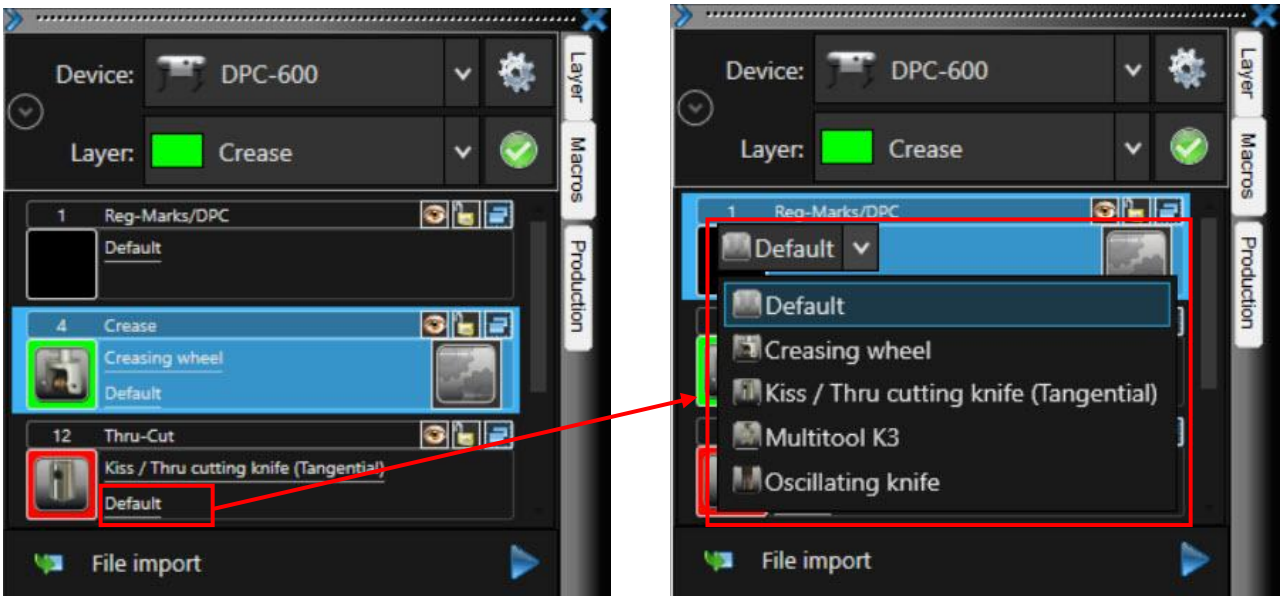
8. How to run a job with reg mark (no QR)

1. Import the pdf file. There are 4 ways how to import a file
a. File – Import
b. Right click on the working area – Import
c. Macros – File import
d. Import icon

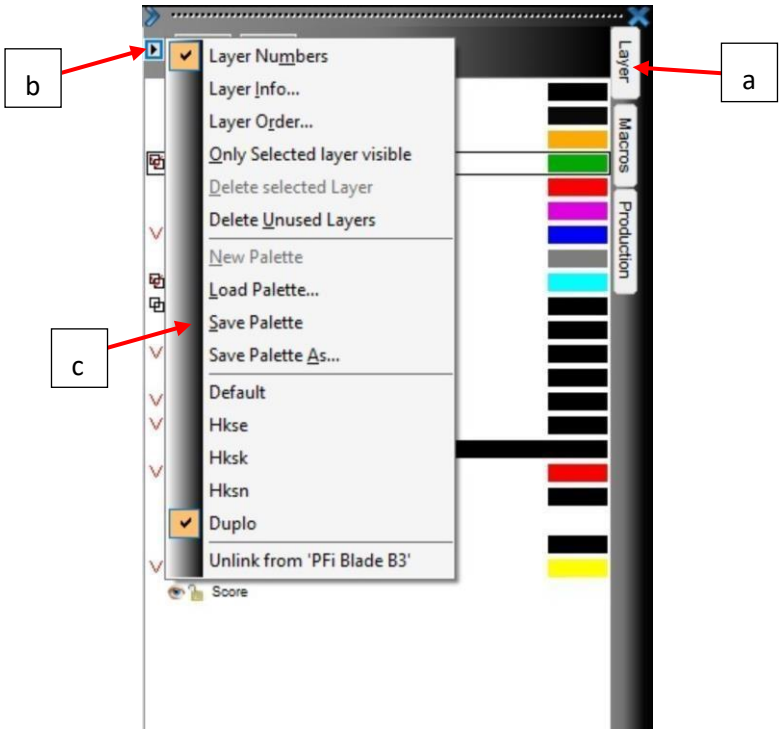


2. Assign the tool to each layer in Macros tab. If the tools where not assigned before click on Default to select correct tool.

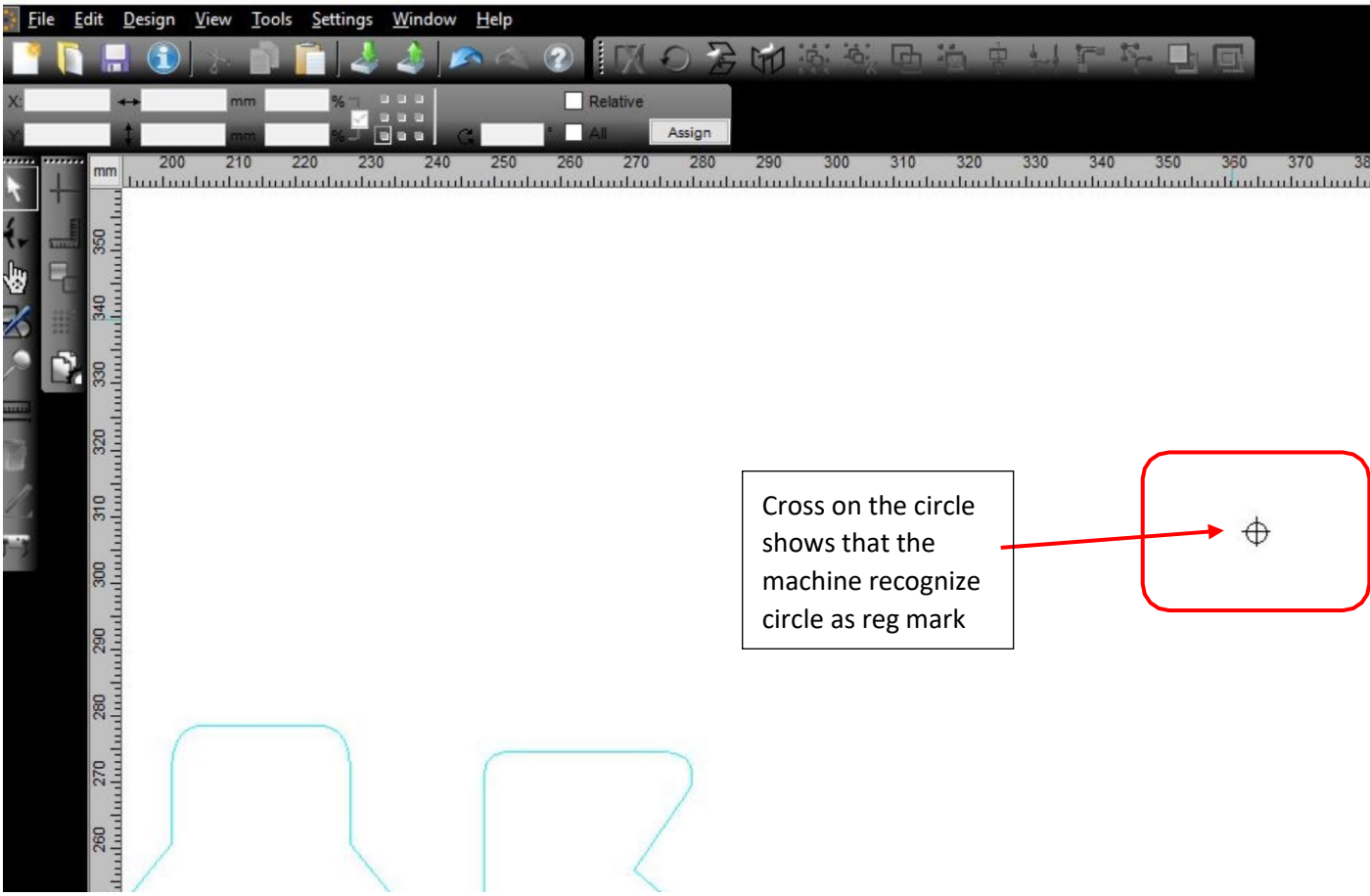




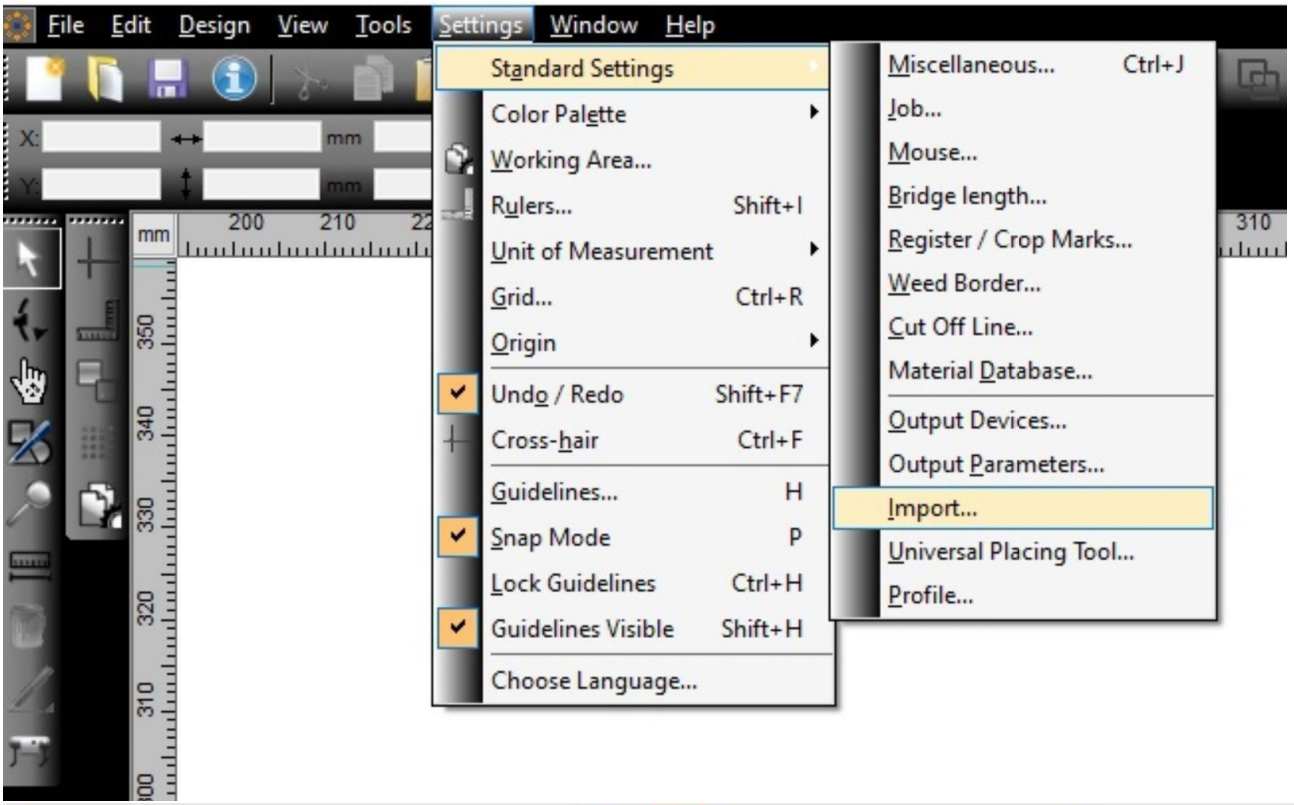
3. Save the layers in layer library.
    a. Layer tab
    b. Pallet menu
    c. Save Palette

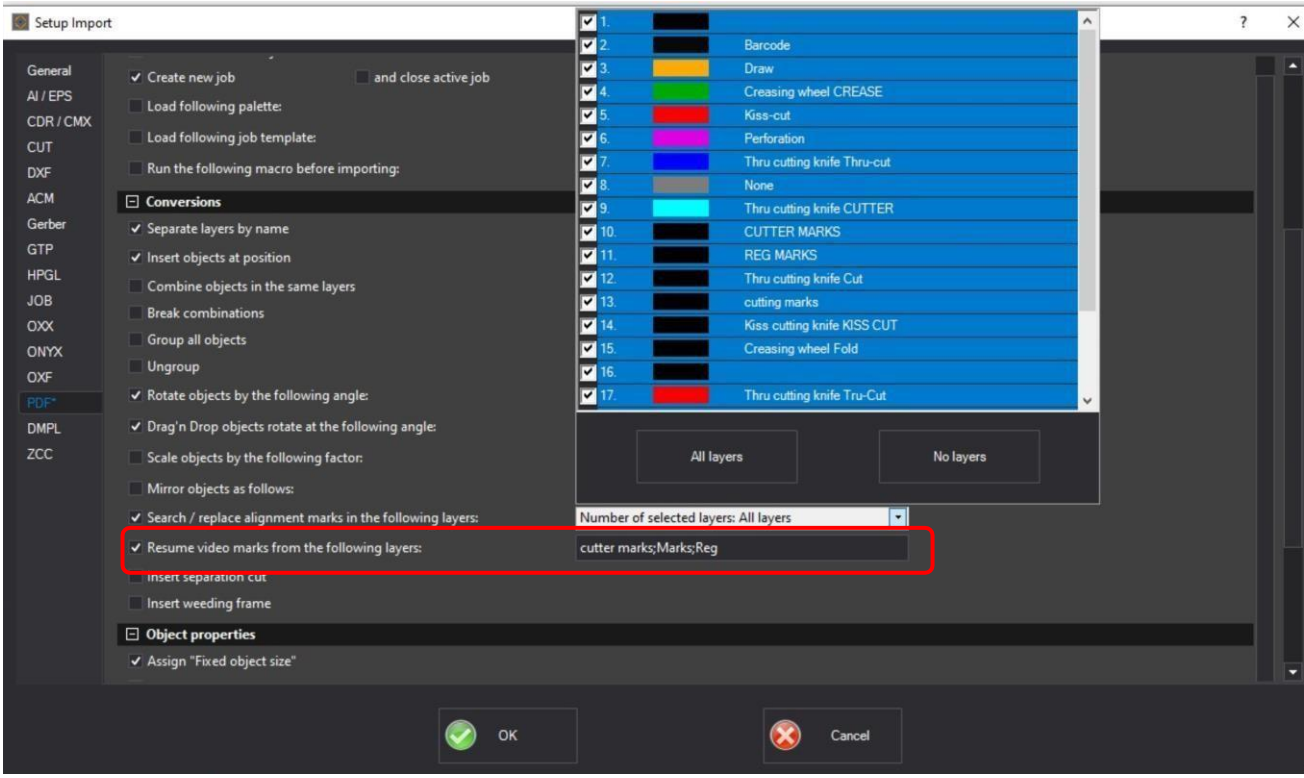


4. Check if the software recognizes reg marks. The reg mark circle will have a cross.

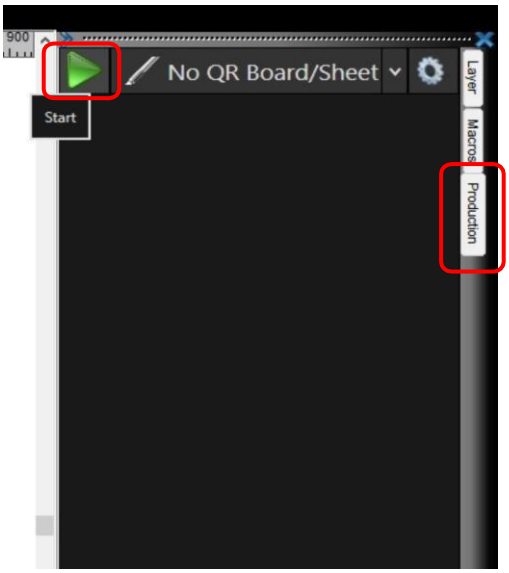


5. If the reg marks are not recognized (the reg mark circle will not have a cross) add the reg mark layer name to Settings – Standard settings – Import.

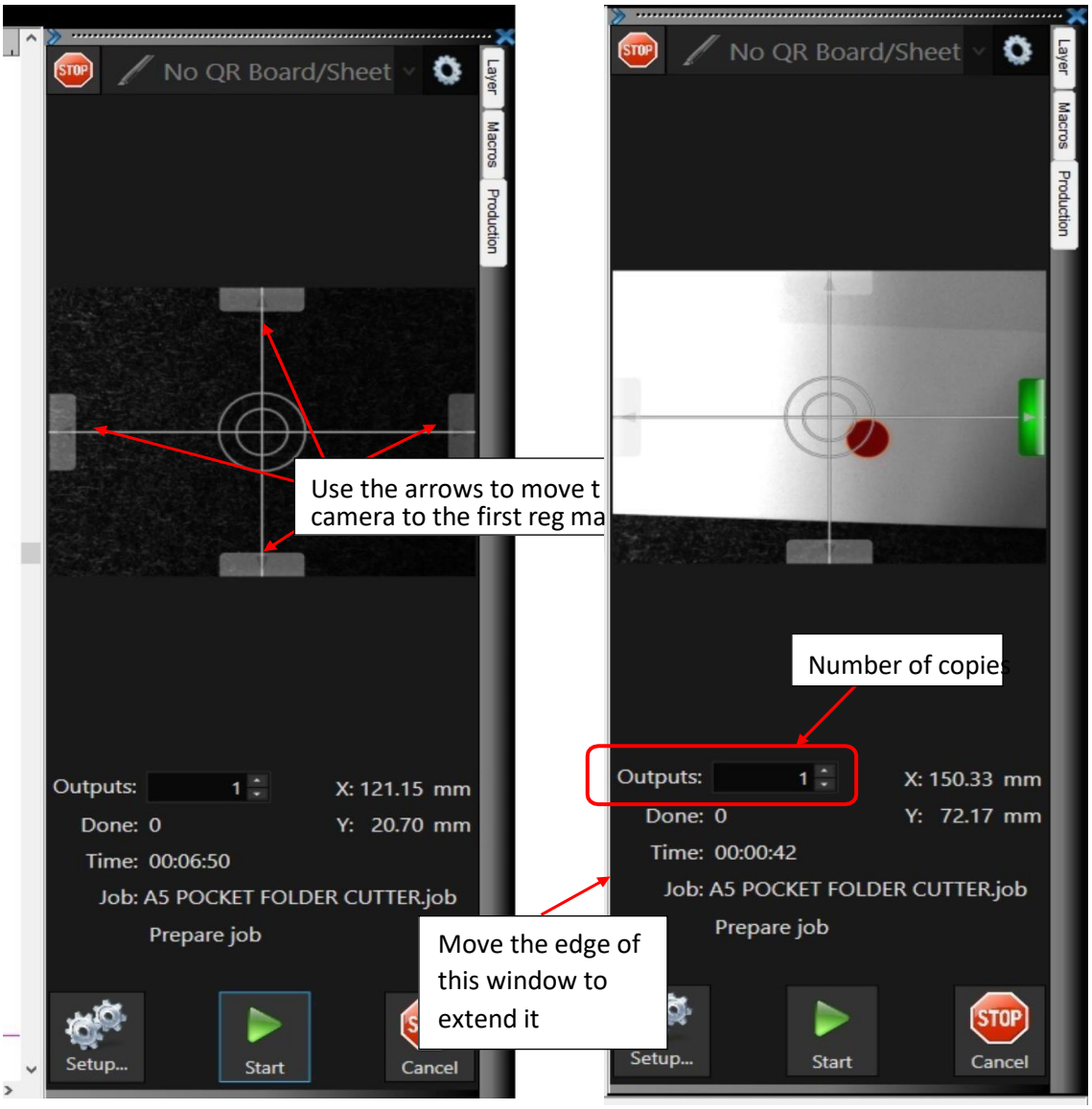




6. In Production tab select a NON QR profile and press start.



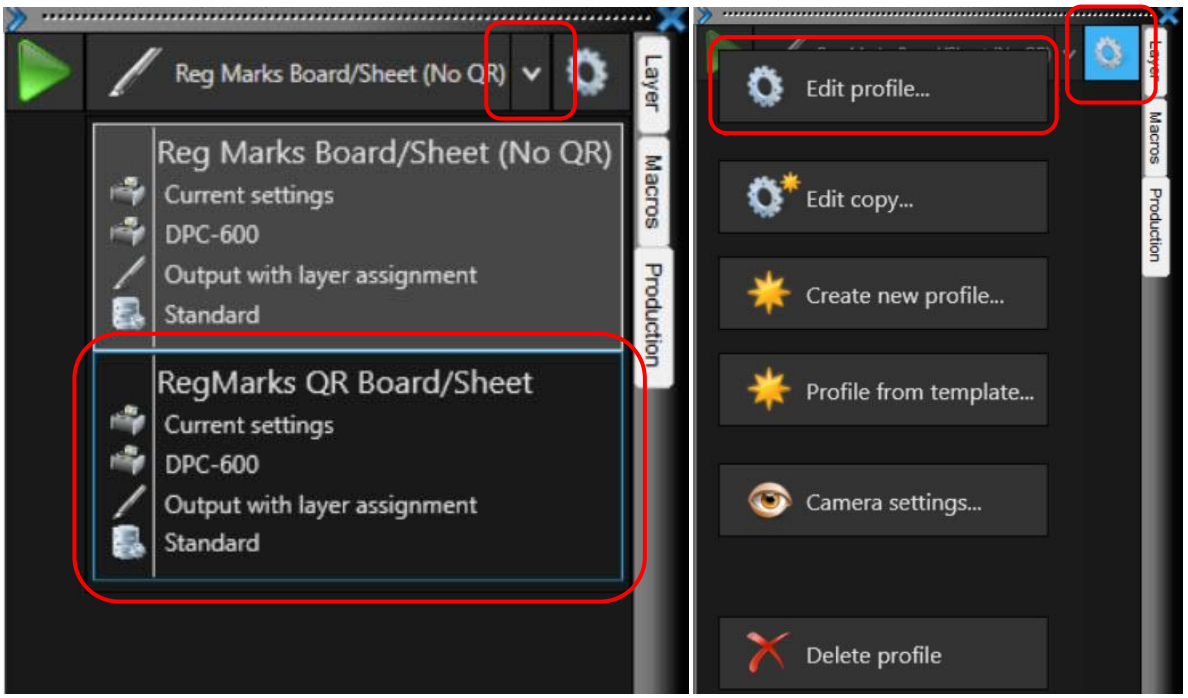
7. The machine will feed a paper and the camera will move to the location of the reg mark on the job run before. If the reg mark are in new position please use the arrows on the screen to move the head over the reg mark.



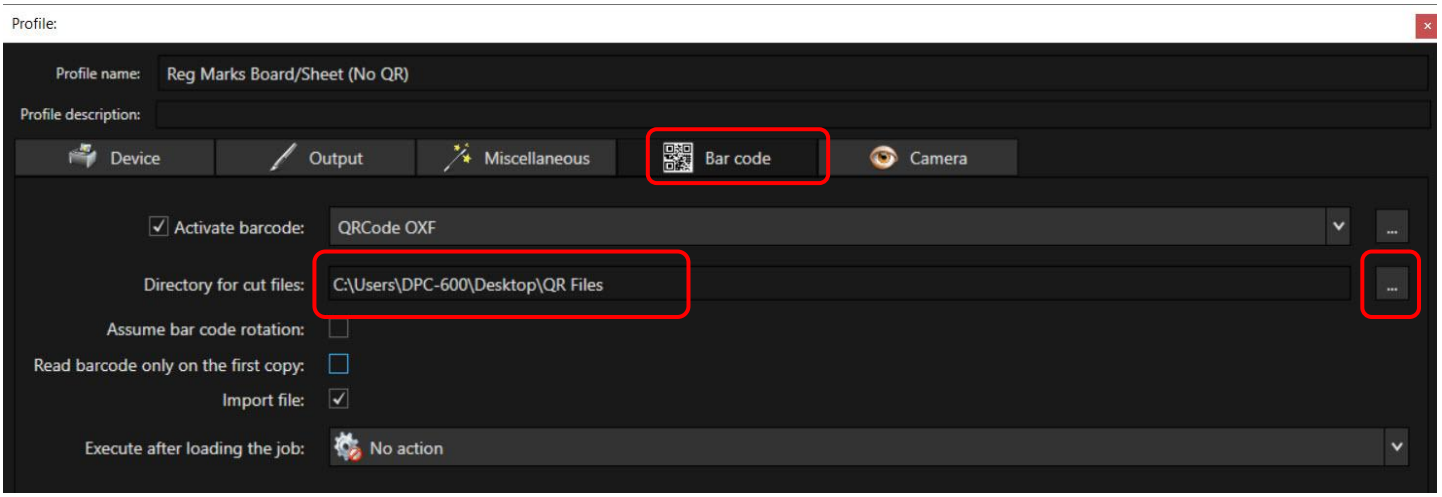
8. Once the reg mark is within camera screen (the dot will be green or red) double click on the reg mark to bring it closer to the middle.
9. Select how many copies you require, and press start. If the number of copies is not visible extend the window.
10. The last copy always stays on the matt.

10. How to run a job with reg marks and QR

1. In the Production tab - QR profile select edit profile (this step only on machine set up)



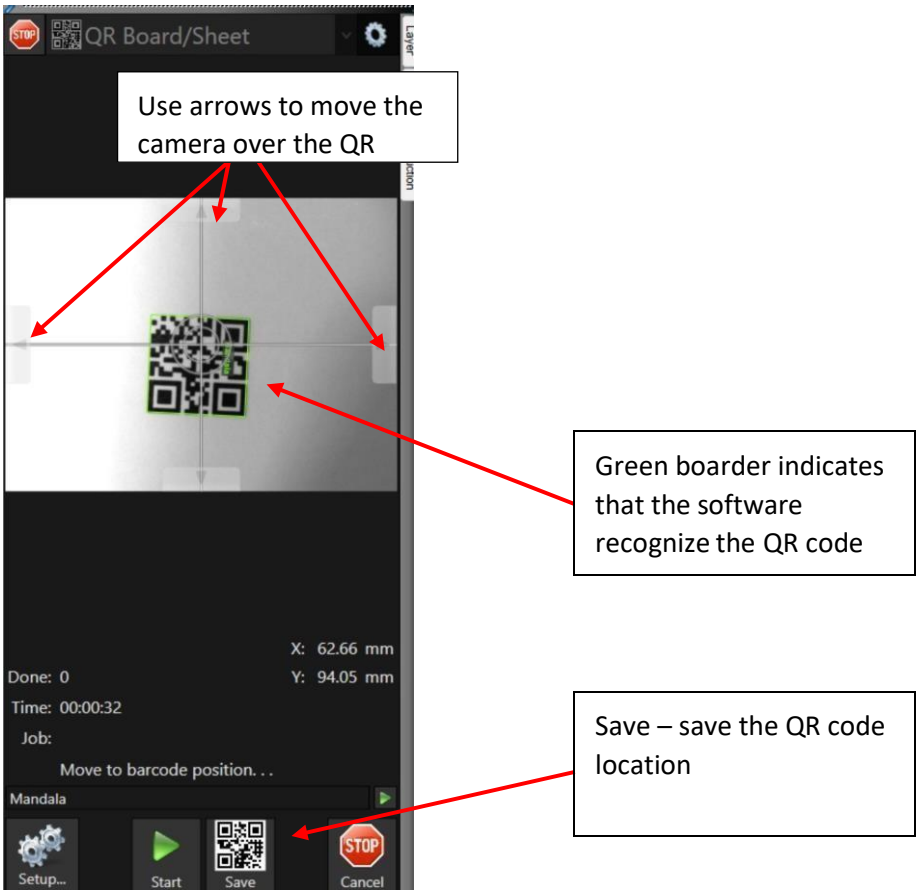
2. Specify the location of the files. All QR files must be saved in one folder (this step only on machine set up.



3. All files must have layers already saved in layer library and the reg mark layer added to import settings.

4. Press start.

5. The machine feeds the paper and the camera moves to the location of the job run previously. If the QR position is in different location move the head to the QR code. Select Save (to save this location). The software will import the correct file.

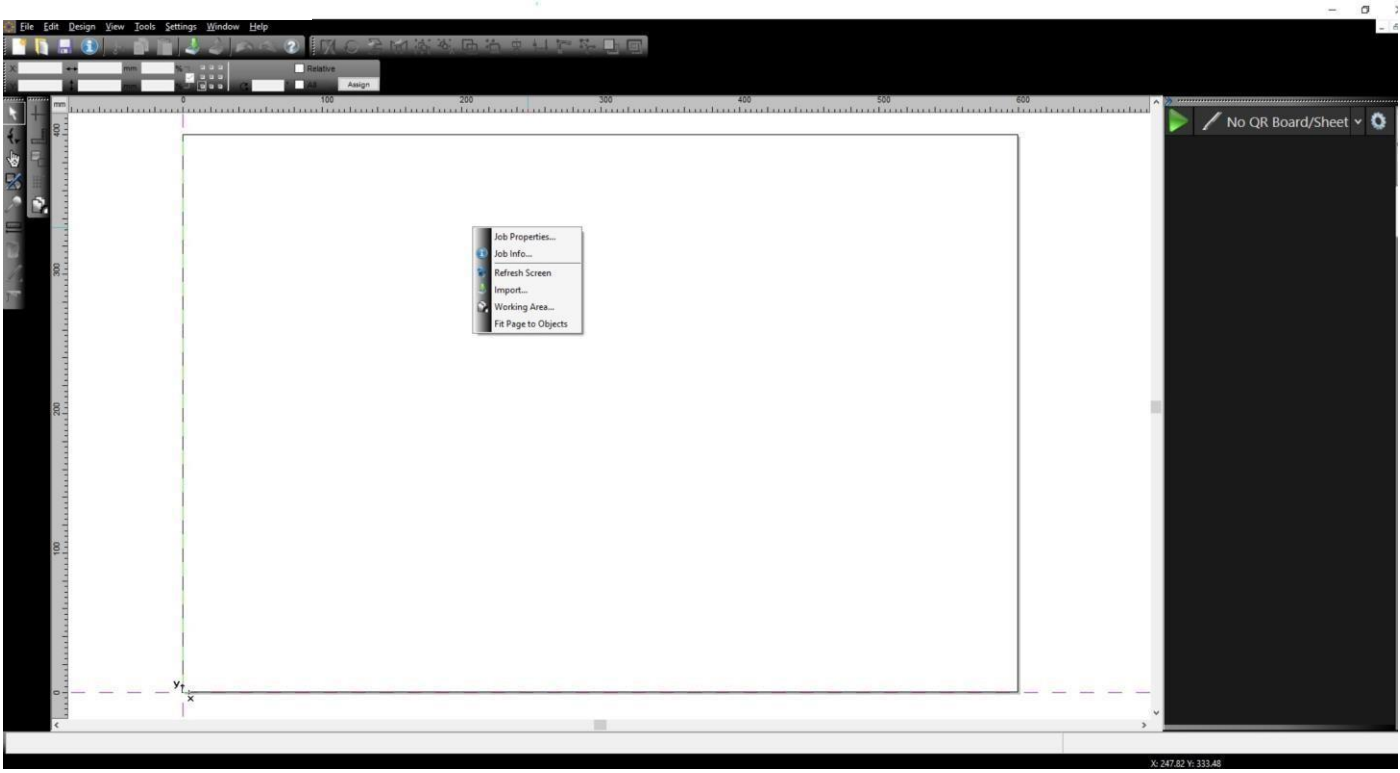


6. The camera will move to the reg mark location on the job run previously. If the reg marks are in different position use arrows on the screen to move to the first registration mark.
7. Once the reg mark is within camera screen (the dot will be green or red) double click on the reg mark to move it close to the center.

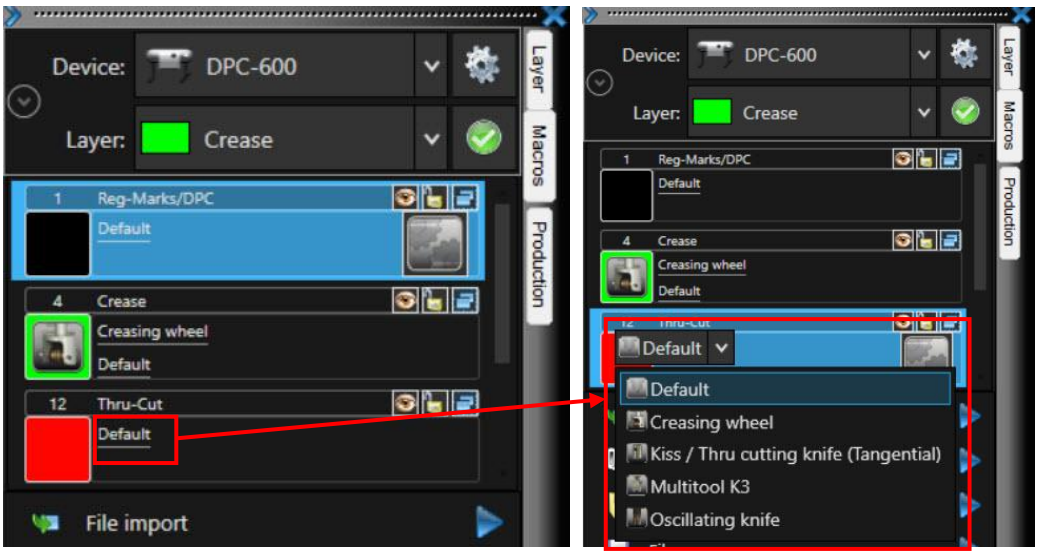
8. Press start.
9. The QR code will run until the profile is stopped. If you want to stop the profile press ‘Break’ to pause the profile. The machine will cut the current job and pause to wait for further instruction.
10. Select ‘Stop’ to stop the profile or ‘Continue’ to run more jobs.

11. How to run a job with no reg mark

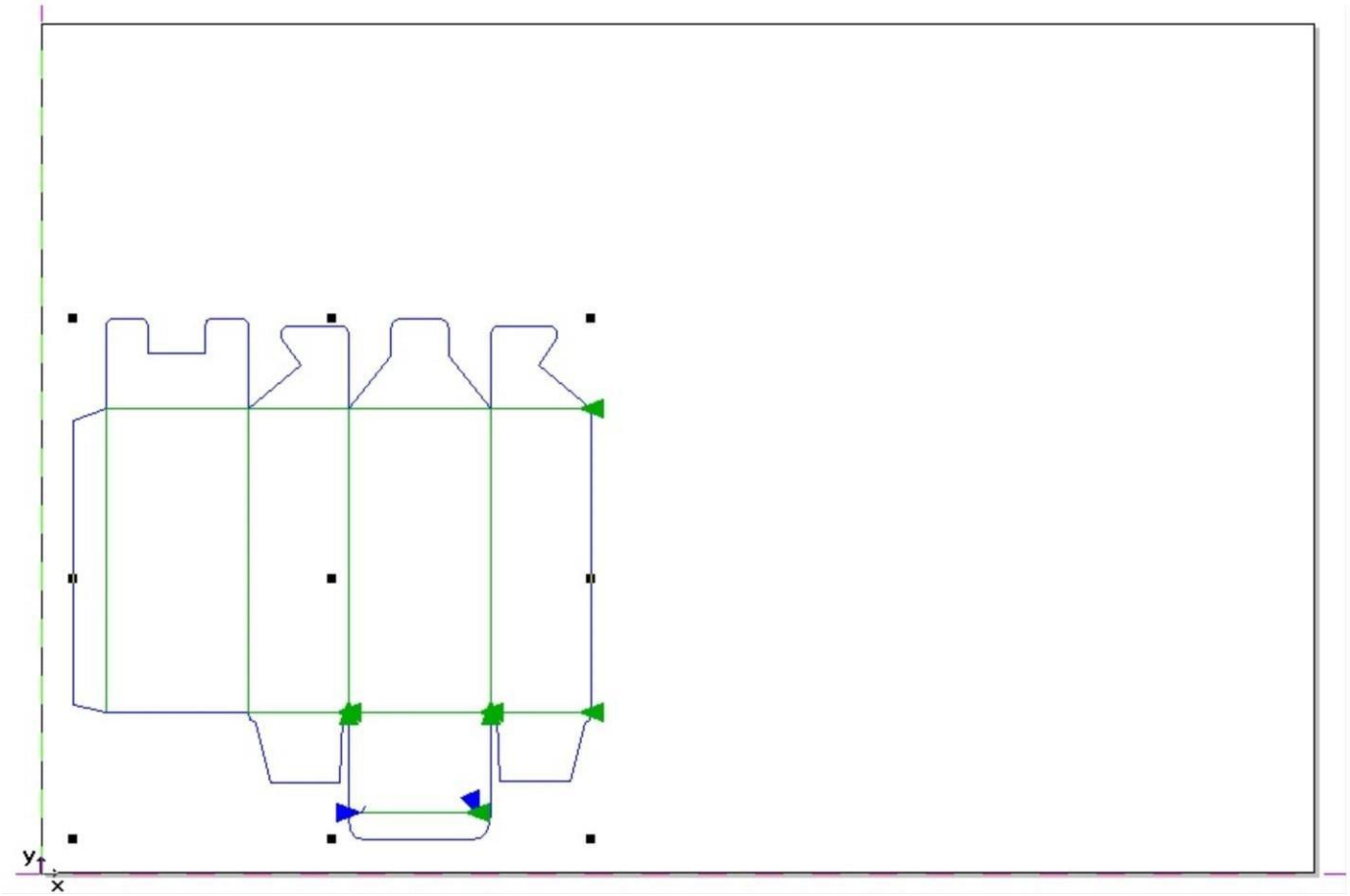
1. Import the pdf file



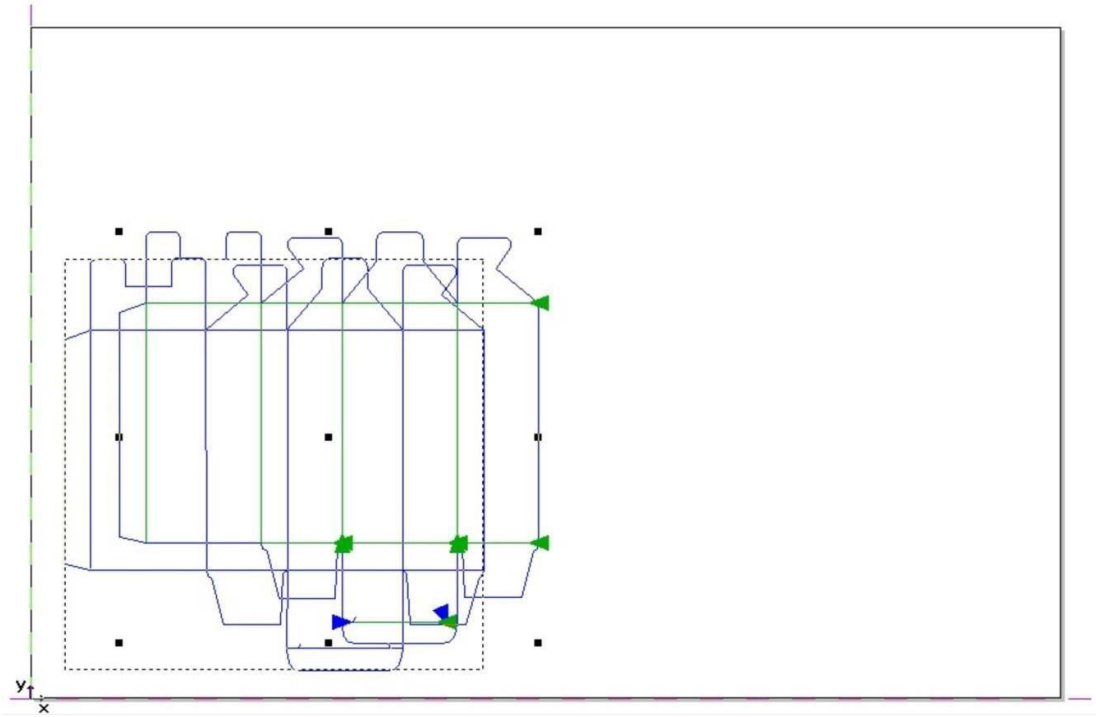
2. Check if the tools are assigned to the layers. If not assign tools to the layers and save it in the layer tab. To run a job without reg mark the pdf cannot have reg mark layer.
   If layer is on the pdf – delete the reg marks or hide the layer using an eye icon on the layer.



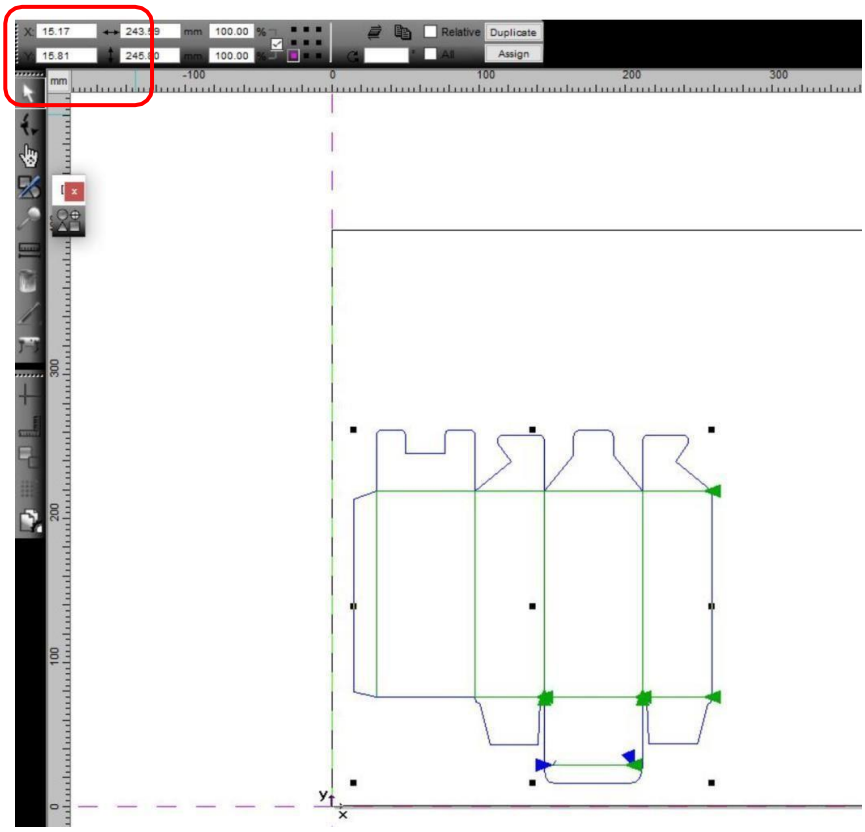
3. Move the design to 0,0 position
    a. Select the shape



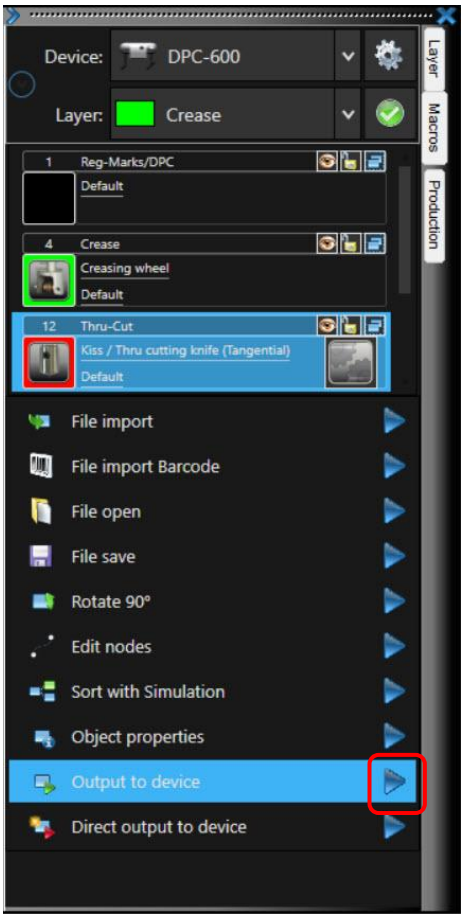
    b. Drag it to 0,0 position



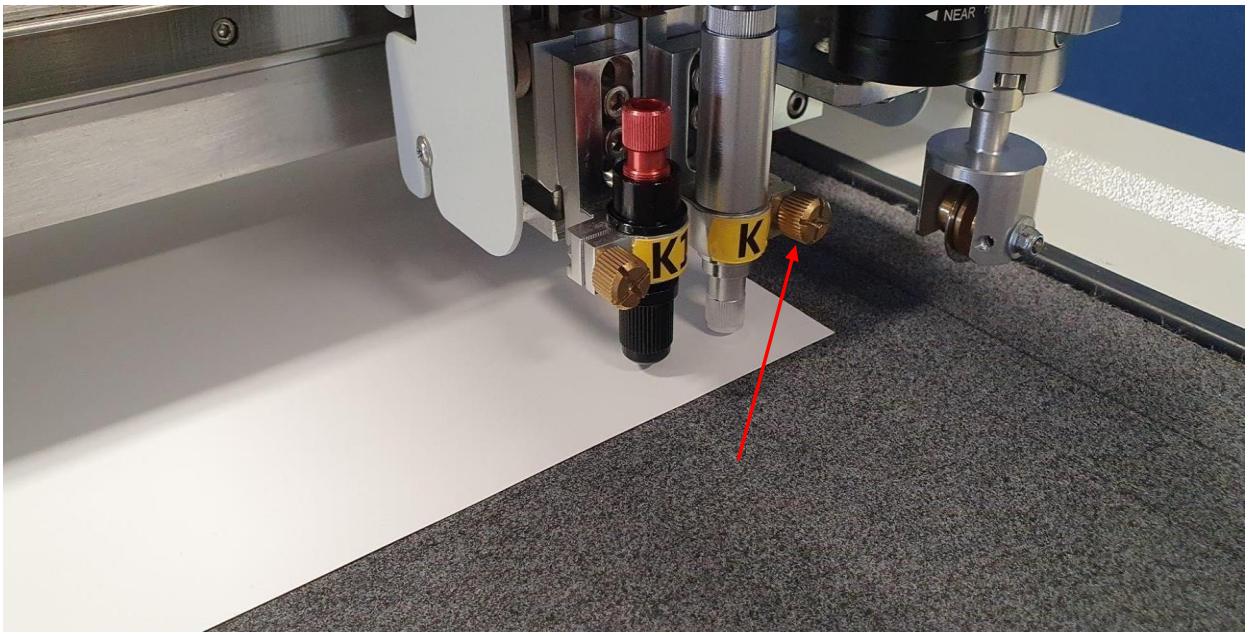
c. Or change the x, y location in the menu

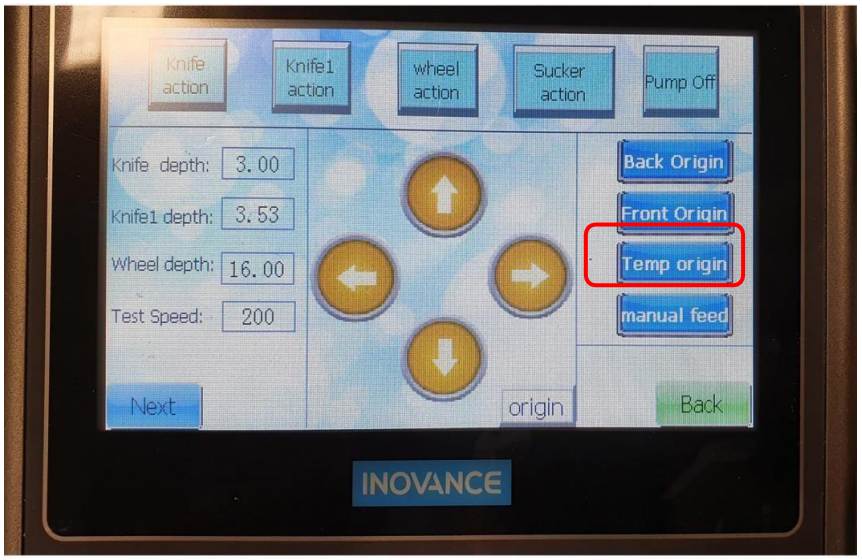


4. Select Output to device.

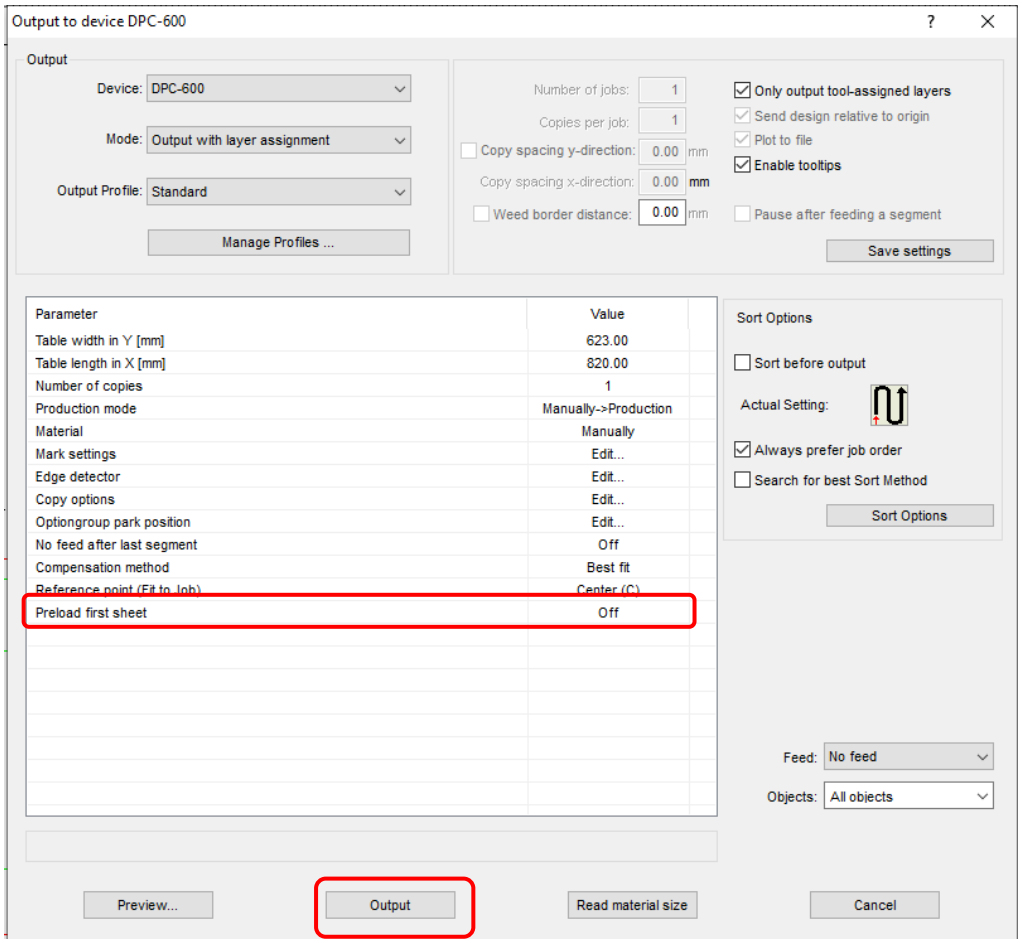


5. **For single copy** – place the paper on the matt.
    a. On the control panel move the head to the top corner of the paper to select the temp origin.(Gold K holder screw is estimated 0,0 position for the temp origin)

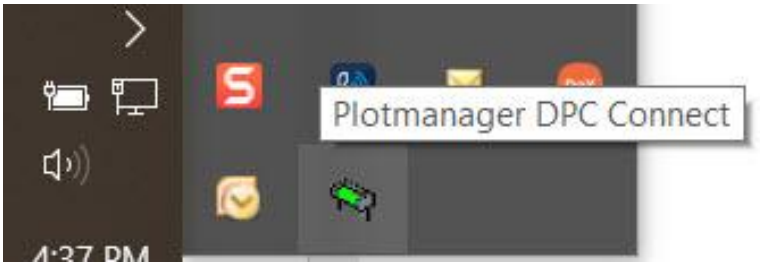




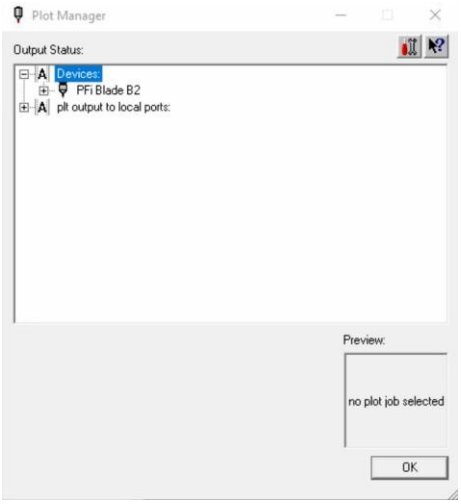
    b. Check if the preload the first sheet is OFF.
    c. Select output.



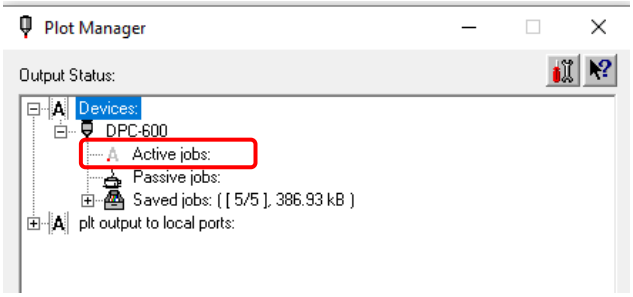
d. If the machine does not start, check the print queue if there is no other job blocking the print queue. The icon plot manger is in the hidden icons.



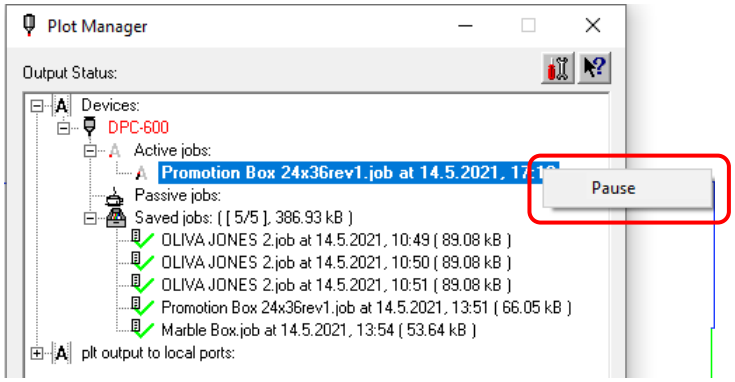
Double click on the icon  to open plot manager.

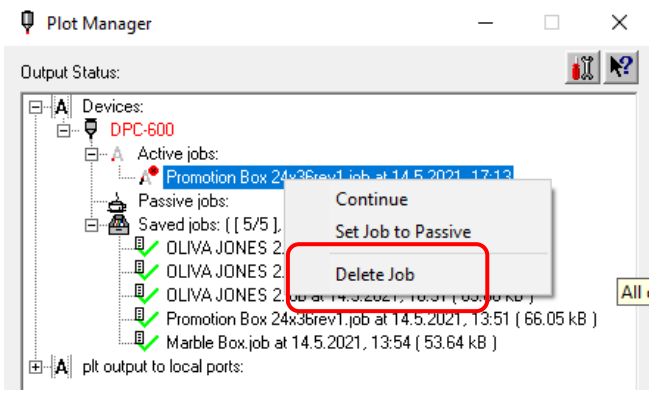


Open the DPC-600 tree. If there is an active job it means that there was an error when printingthe job. Delete the job to clear the print queue.



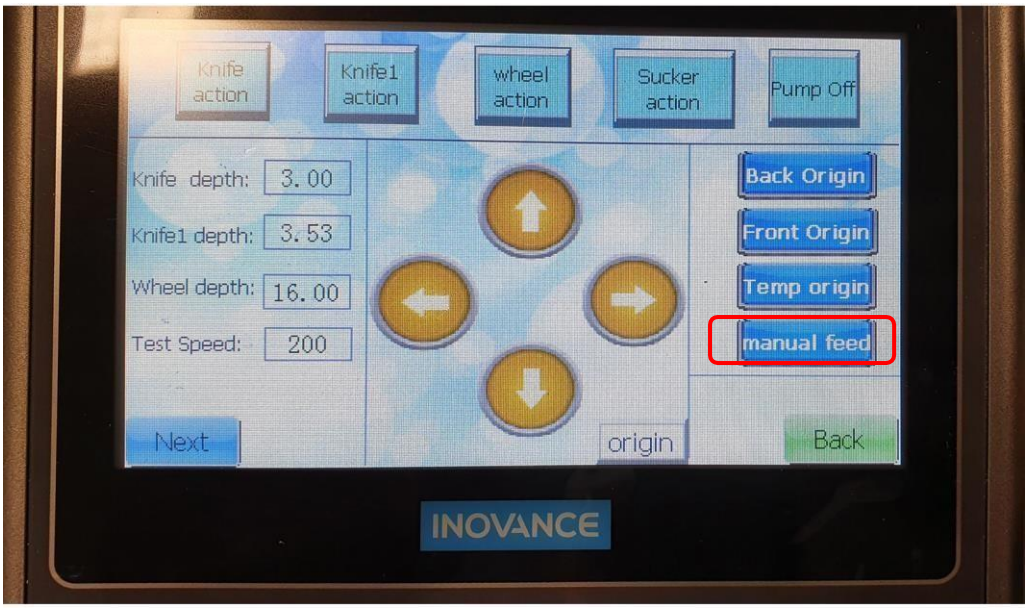
To delete the job – right click on the job name – pause



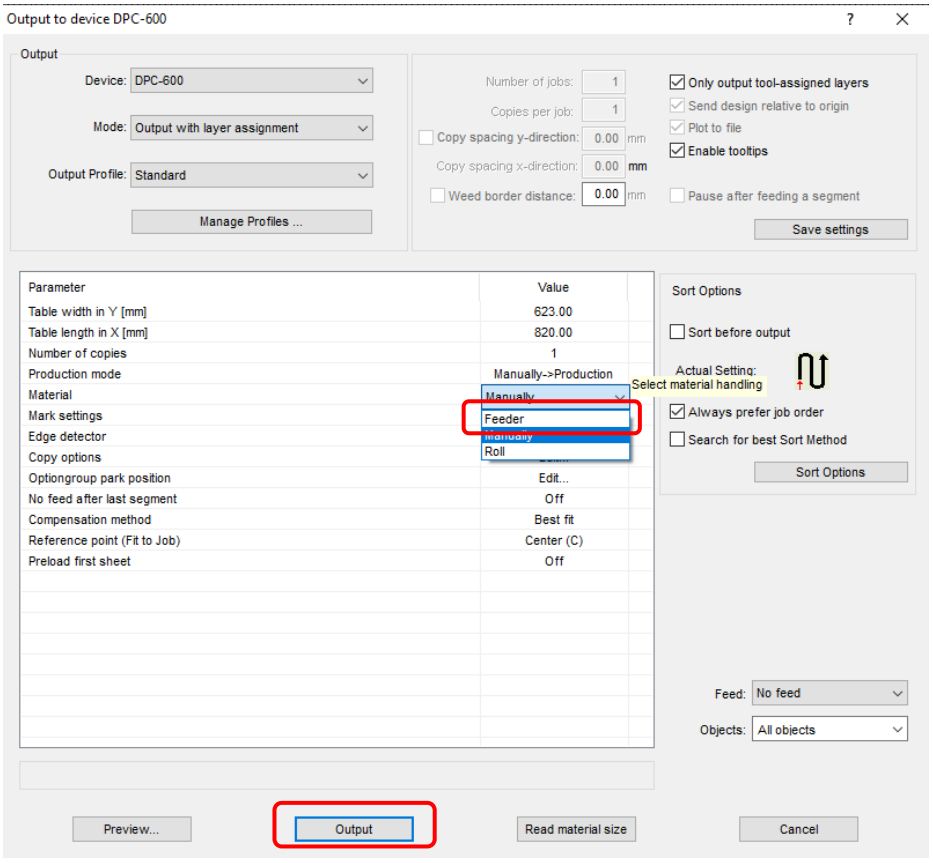


6. **For multiple copies** – place the paper in the feeder

a. On the control panel manually feed the paper and move the head to select the temp origin.



b. In the output to device select feeder, preload the first sheet OFF (as the paper is already on the matt)

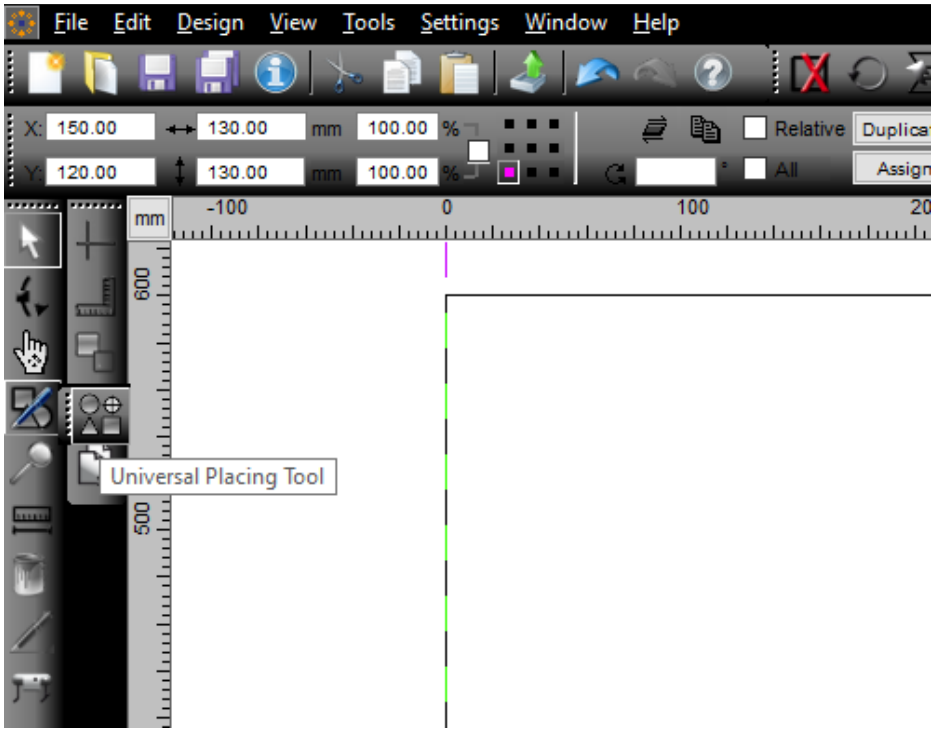


c. Select number of outputs to run multiple copies.

d. Select output

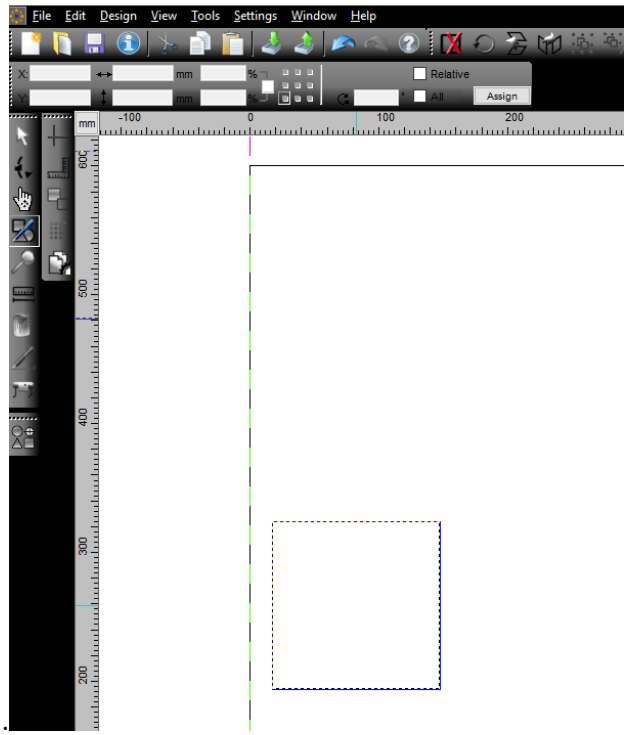
11. DPC Connect additional features.

a. Draw function

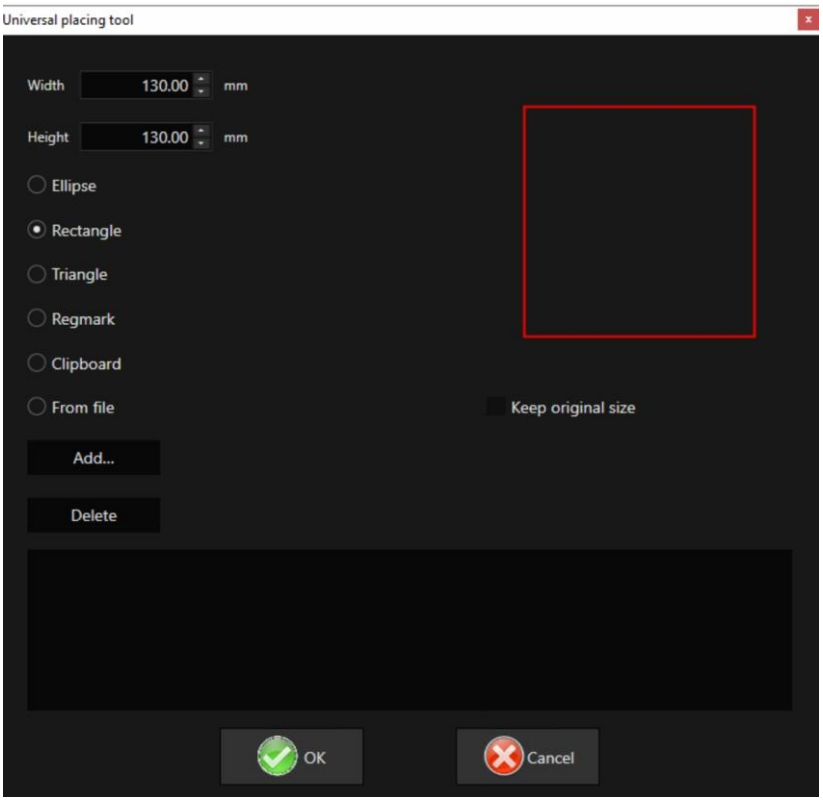


Select Draw – Universal Placing Tool.

The last selected object will appear



Right click – Universal Placing Tool window will be displayed.



Ellipse, rectangle and triangle object is possible to place on the working area.

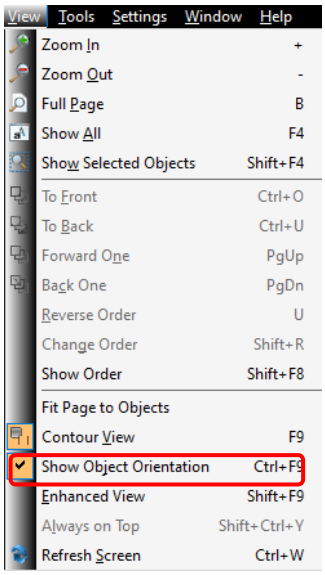
Add the shape dimension and select Ok.

Click on the working area to place the object.

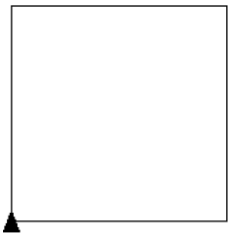
To move the object – refer to section 11.3.

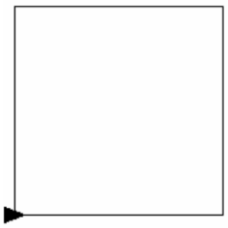
b. Changing the cut direction

In View select 'Show Object Orientation' to see the starting position. The arrow indicates where the cut will start and the cut direction.



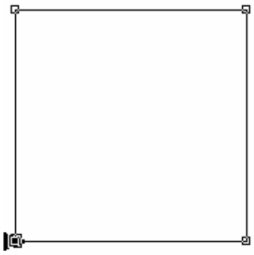
Click on the arrow to change the cut direction.



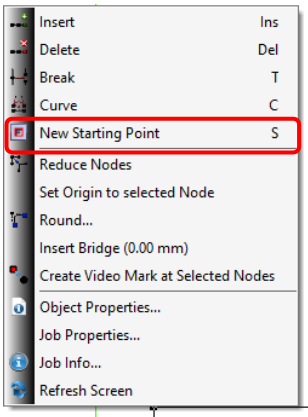


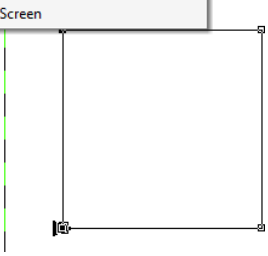
c. Changing starting point

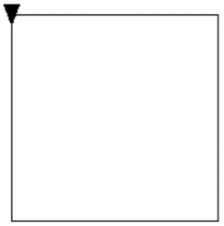
Select the shape – select node editing – new points will be displayed on the corners.



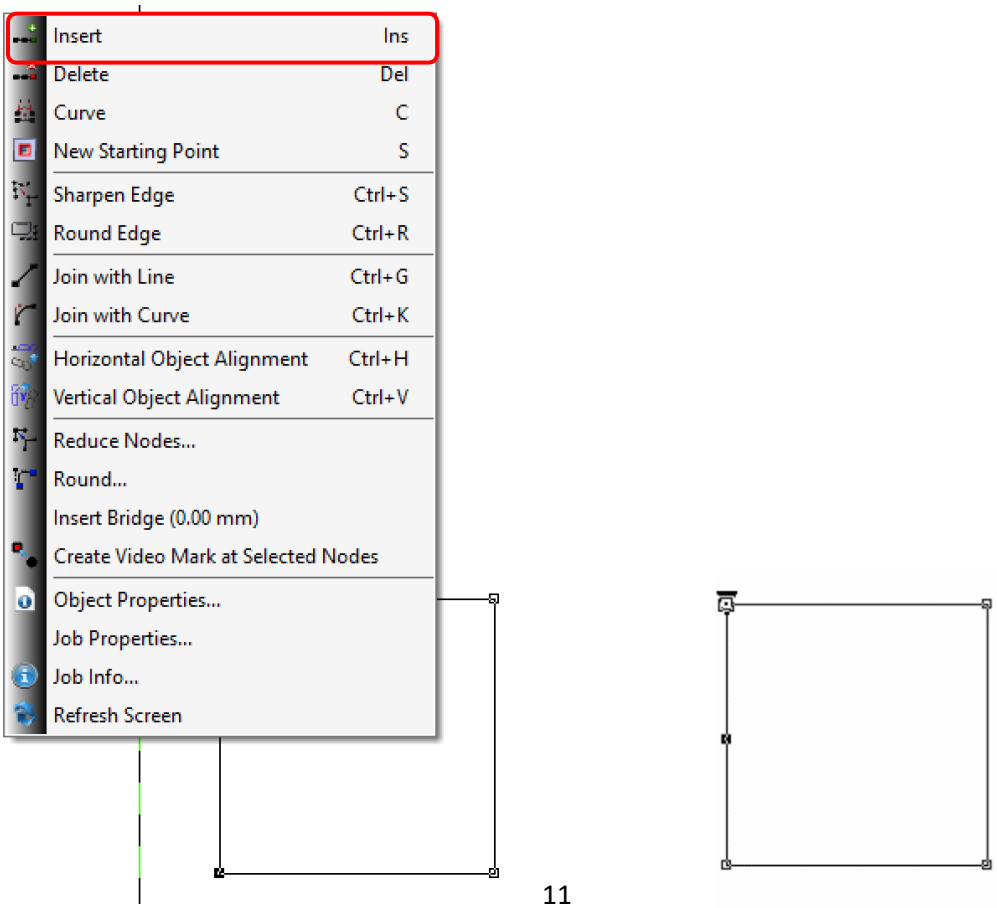
Select the required corner – right click – New Starting Point







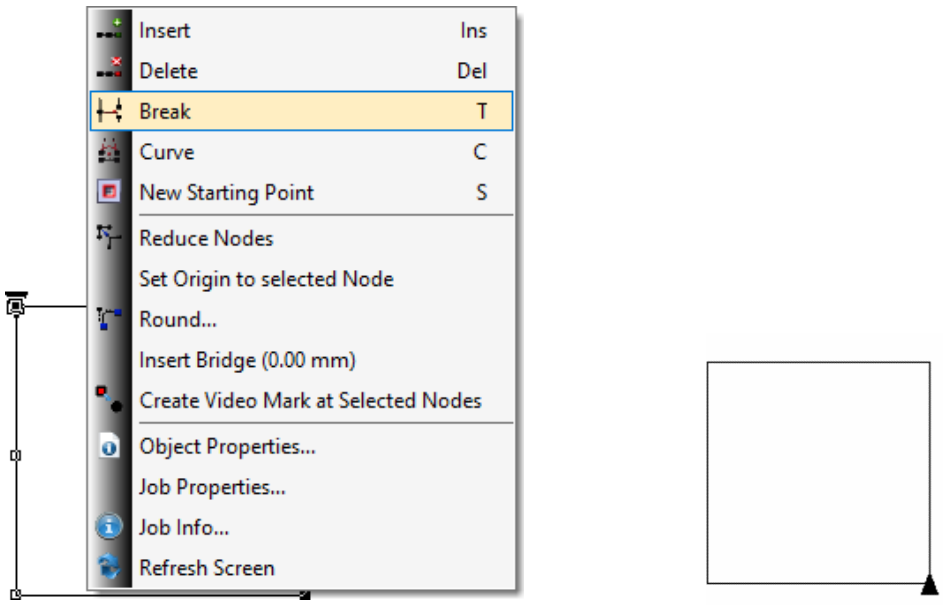
To add new point – click on the line where new point should be added – right click – 'Insert'.



11

d. <u>Breaking joined lines</u>

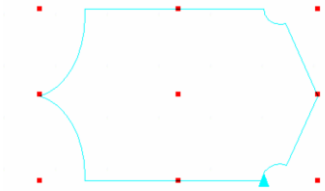
To break 2 lines joint together – select shape – Node editing – the joint point of 2 lines – right click 'Break' – the starting point will be automatically moved to the new position.

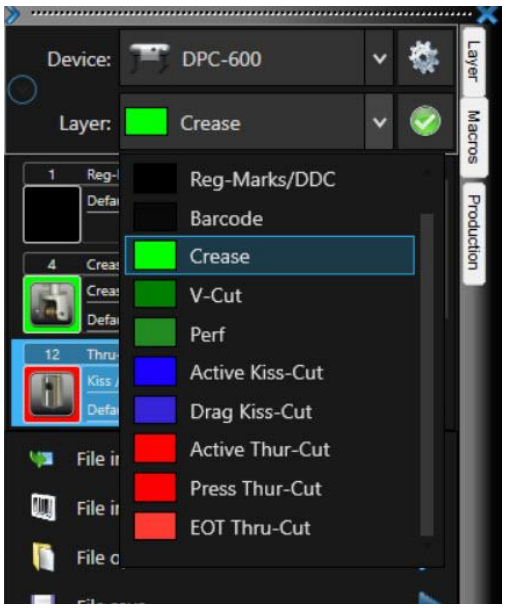


Repeat the process on another corner to break in another point.

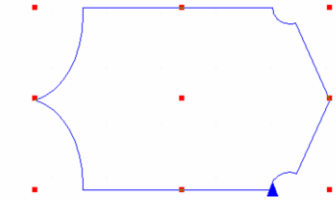
e. Moving the object to different layer

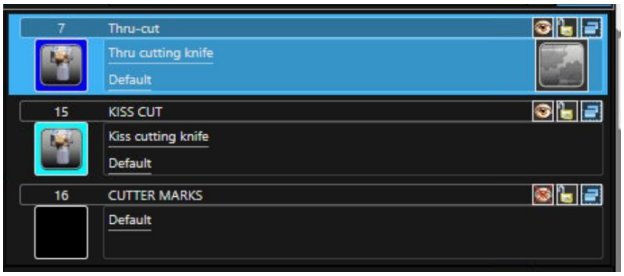
Select object – In Macros tab open arrow to see other layers – select a new layer e.g. Thru-cut – and select tick icon.





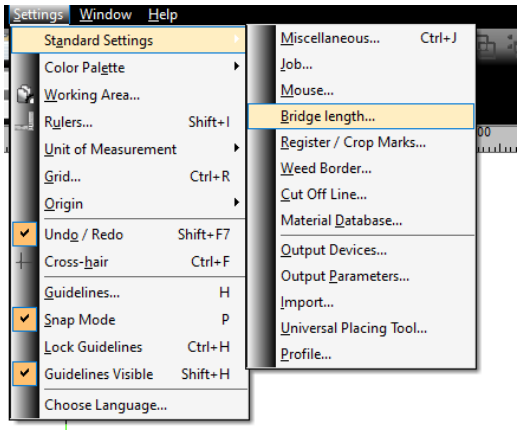
The selected object will be moved to a new layer and new layer name will be displayed.



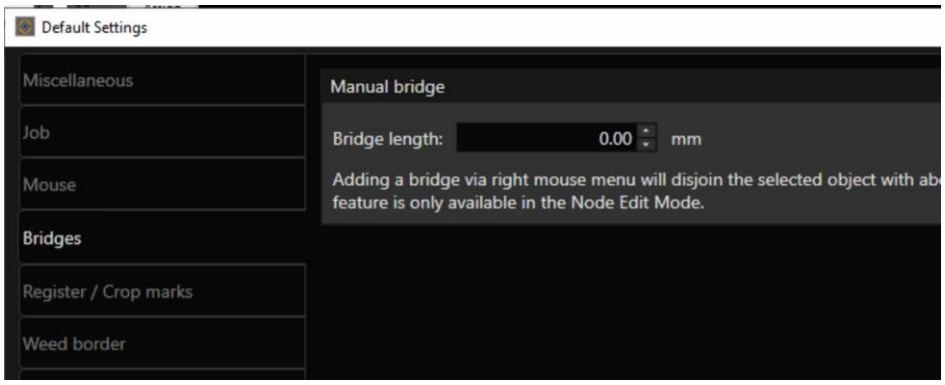


f. Insert bridges/nicks

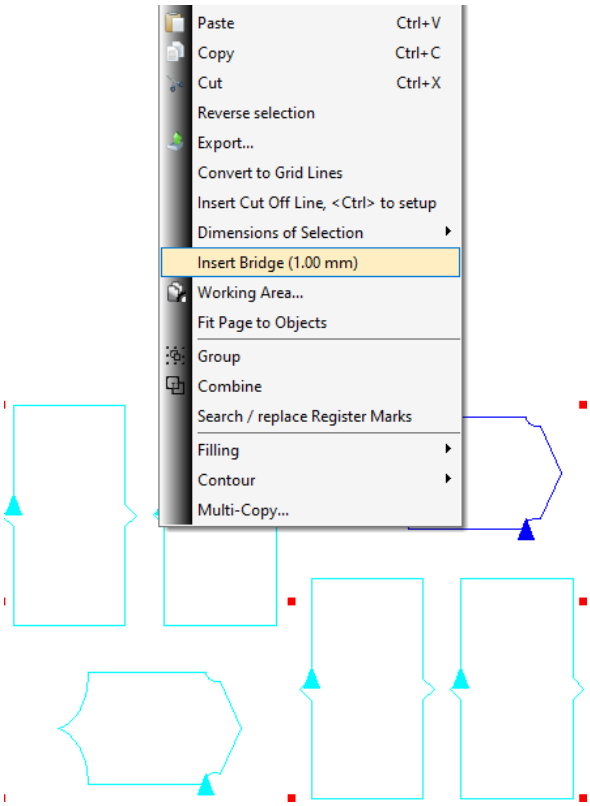
Go to Settings – Standard settings – Bridge length to set up bright/nicks length



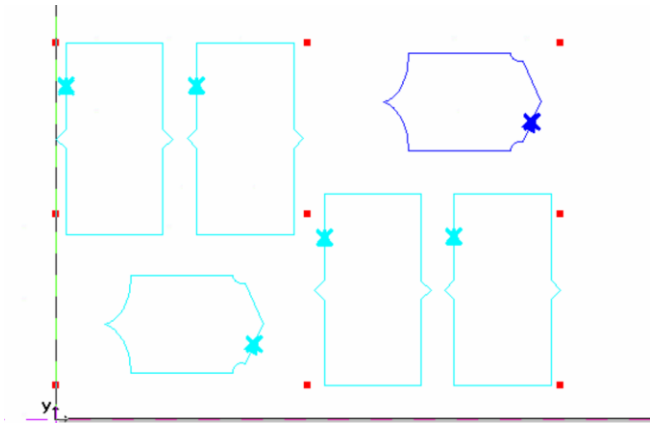
Change the value and select ok.



Select all shapes – left mouse click – insert bridge

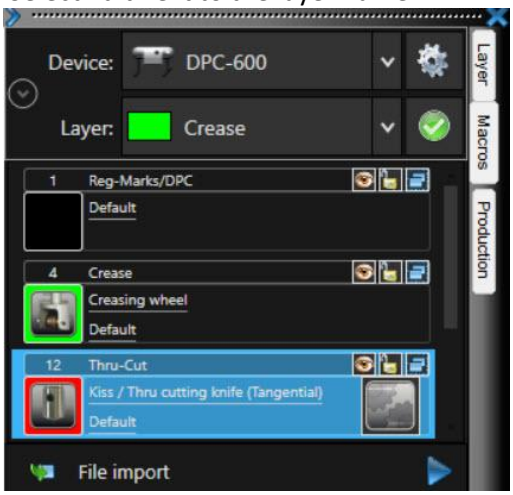


The bridge position will be displayed. Multiple number of bridges can be added to a shape.



g. Layers/tools settings

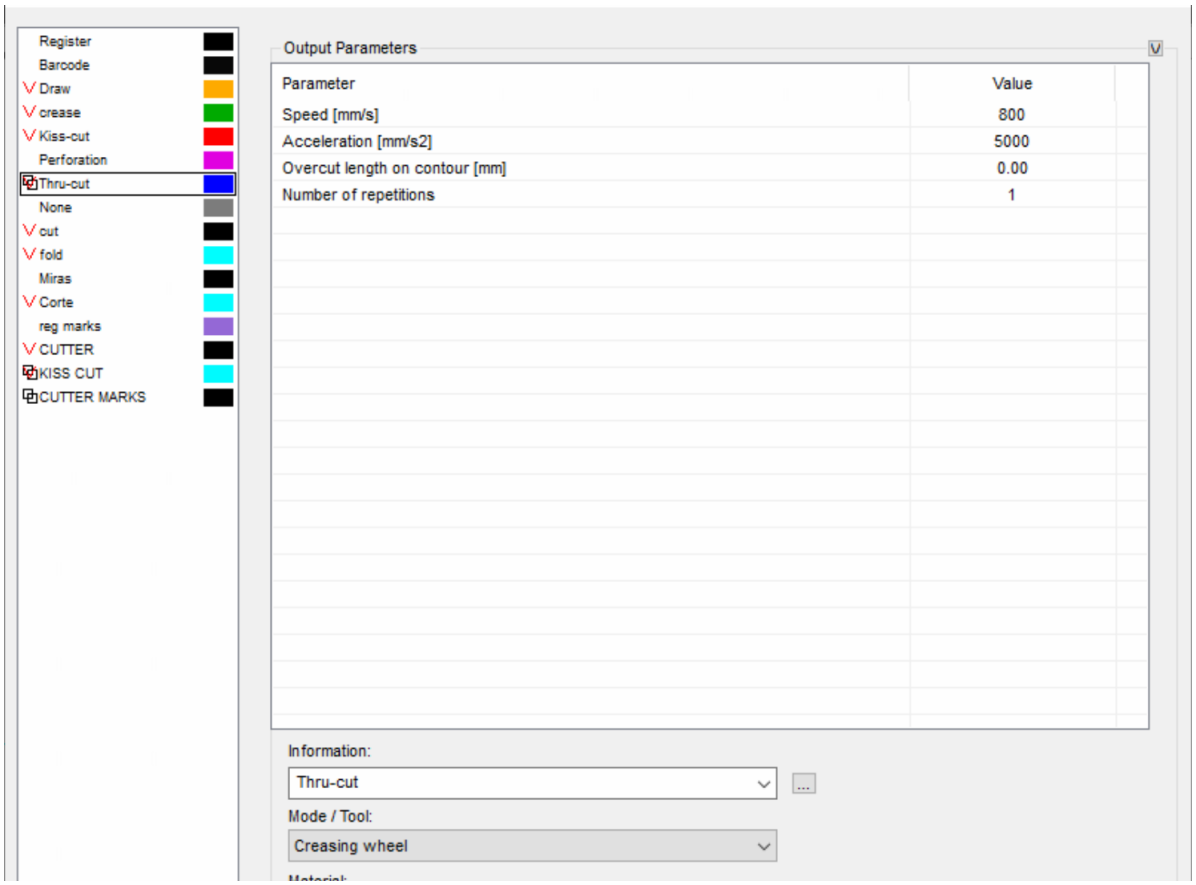
Select Edit next to the layer name



Output parameters will be displayed.

Depends on the selected tool the parameters might change.

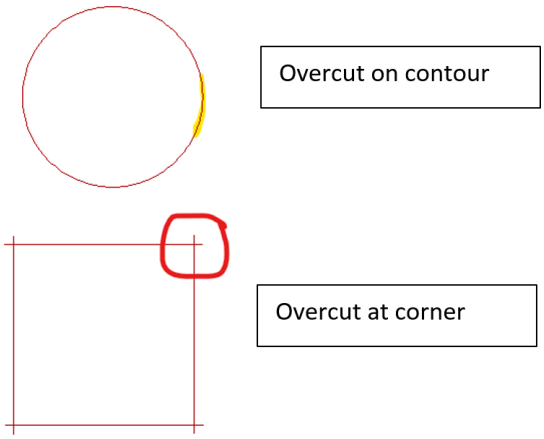
Speed, acceleration, overcut on contour and number of repetition can be set separately for creasing tool/kiss cut/thru cut tool



Settings for tangential knife:

Output Parameters

Parameter	Value
Speed [mm/s]	400
Acceleration [mm/s2]	3000
Number of repetitions	1
Overcut length on contour [mm]	0.00
Overcut Compensation Mode	Off
Overcut lenght at corner [mm]	0.00



Settings for oscillating knife

Parameter	Value
Speed [mm/s]	400
Acceleration [mm/s2]	3000
Number of repetitions	1
Overcut length on contour [mm]	0.00
Overcut Compensation Mode	Off
Break point overlap [%]	1
Overcut lenght at corner [mm]	0.00
Lift up angle °	35

The break point overlap - With the tangential, oscillating knife - the tool is lifted out of the material in good time according to the driver values, then rotated by 180 ° and the cutting path is followed in the opposite direction.

This compensation method prevents object material from being damaged.

Different parameters can be set up for different layer names even if using the same tool.

h. Sort with simulation

Import a file and select Sort with Simulation from the Macro tab