



OPERATING MANUAL

for flatbed vinyl cutters

Secabo FC50 and FC100

Congratulations on the purchase of your Secabo flatbed vinyl cutter!

Please read this operating manual carefully to ensure a smooth production launch with your new device.

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Version 1.0 (09/27/2017)

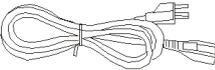
Safety Precautions

Please read the information and safety precautions carefully prior to first commissioning of the device!

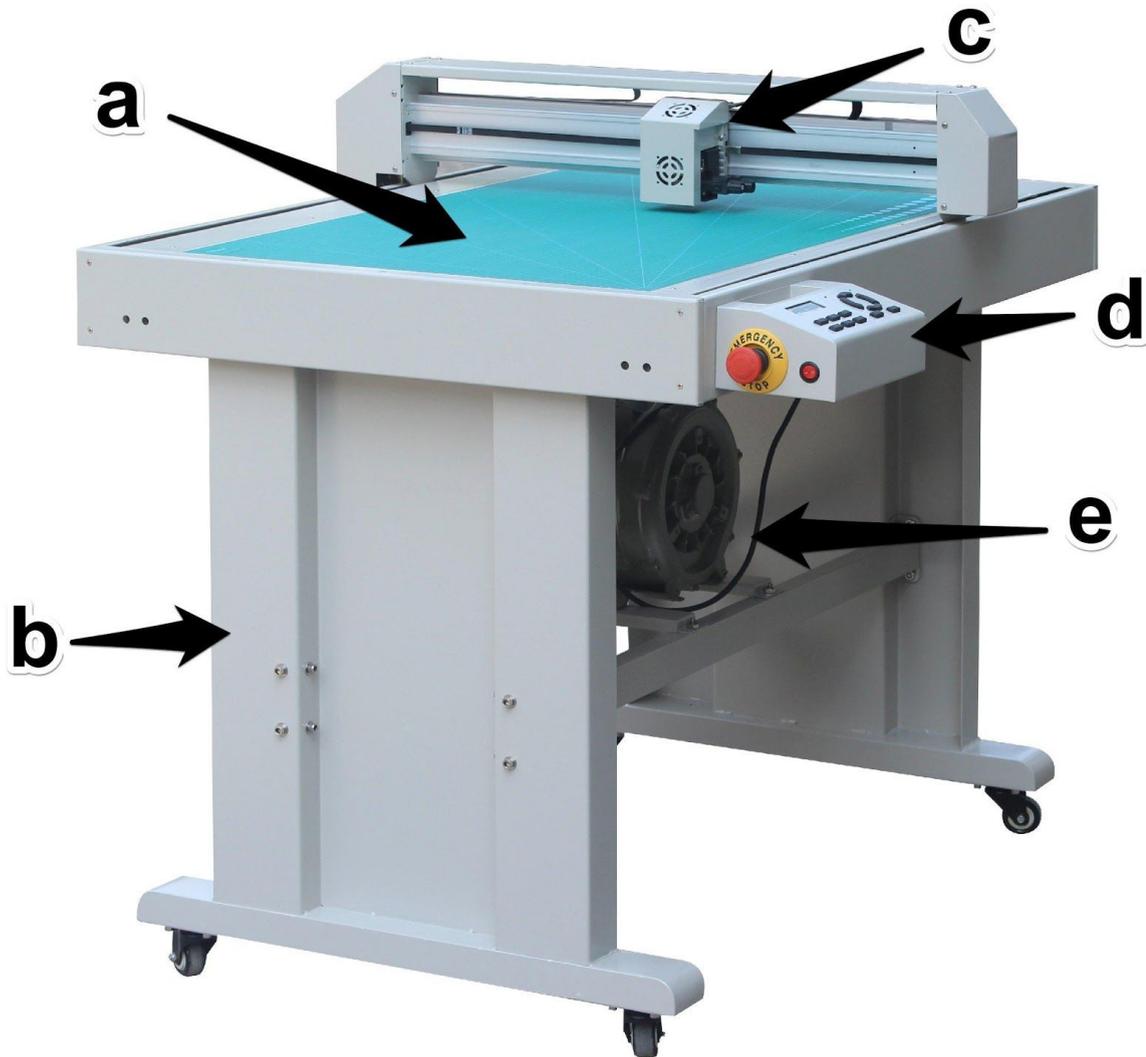
- Do not place any magnetic objects in the vicinity of the cutting head; otherwise a uniform contact pressure is not ensured.
- Do not remove the connection cable to the computer while plotting is in progress.
- Do not reach into the unit when it is connected to an electric supply.
- Never open the casing and do not make any modifications to the unit yourself.
- Ensure that neither liquids nor metal objects are put inside the flatbed vinyl cutter.
- Ensure that the wall socket used is grounded and protected with a ground fault switch.
- Ensure that the connected voltage (230V) does not deviate by more than $\pm 10\%$. Otherwise, a voltage stabilizer needs to be used.
- Pull the power plug if the unit will not be in use for a longer period of time.
- Never reach into the unit in the vicinity of the blade holder during the cutting operation!
- Discontinue any printing jobs in progress before readjusting the blade holder!
- Always ensure that the flatbed vinyl cutter is out of reach of children during operation and never leave the unit or individual parts of it switched on without supervision.
- Do not touch the tip of the sliding blade as to avoid injury.
- Always place the unit on a stable base to prevent it from falling down.
- Do not operate the unit during thunderstorms; it can be damaged or destroyed by lightning.

Items included

Before starting work, please check whether the following items are all present:

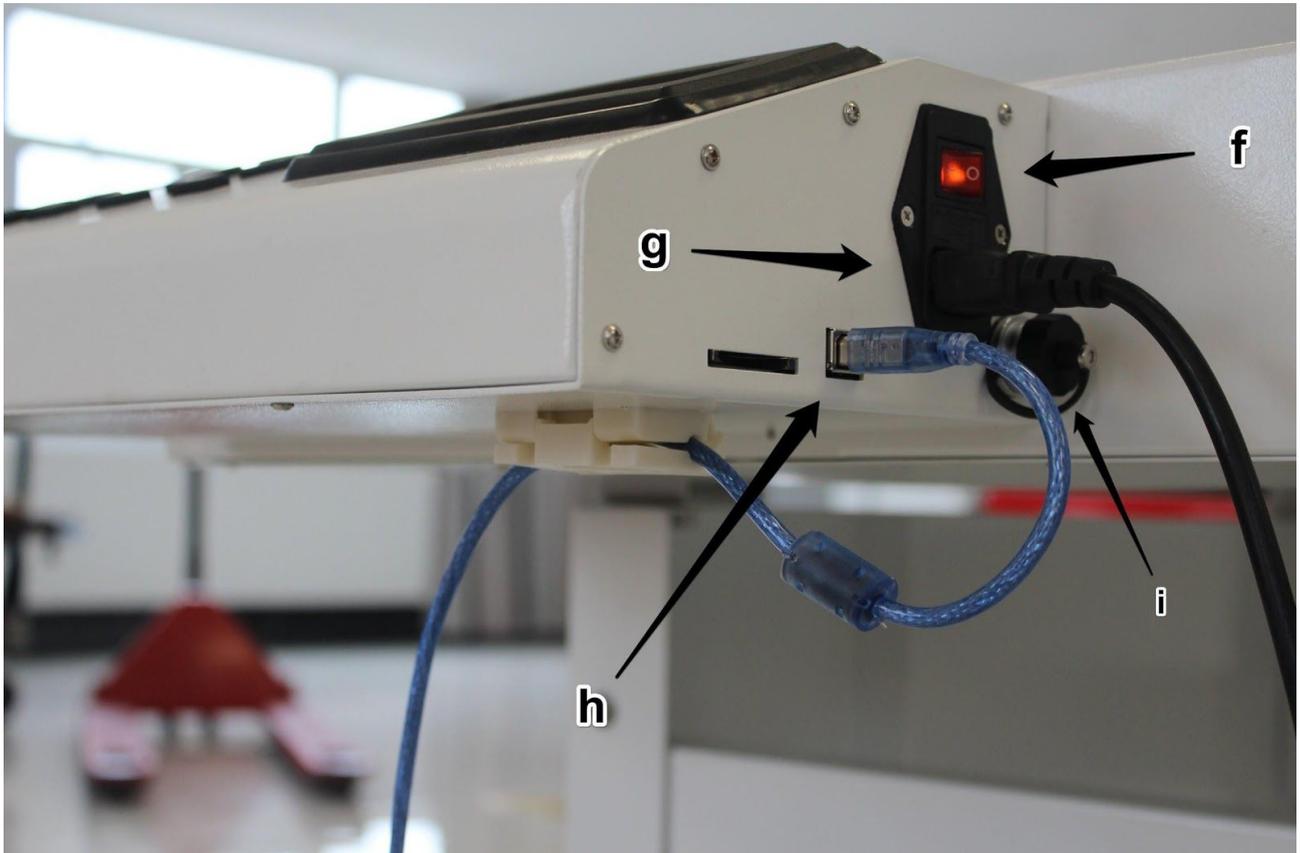
Item	Quantity	
Flatbed Vinyl Cutter	1	
Power cable	1	
USB connection cable	1	
Blade holder	1	
Pen holder	1	
Creasing tool	1	
45° Drag knife	1	
Pen head	1	
DrawCut PRO license certificate	1	
Vacuum pump (FC100 with acoustic enclosure)	1	
Pedestal (not FC50)	1	
Felt mat	1	
Silicone mat	1	

Device parts and their function



- a) Work surface
- b) Pedestal (FC100 only)
- c) Cutting head with LAPOS Q sensor and one holder for each knife holder and the creasing tool
- d) Control panel
- e) Vacuum pump

Connections



- f) Power switch
- g) Power connection
- h) USB connection
- i) Connection for vacuum pump

Control panel



F1	Switching the vacuum pump on and off
F2	Return to main screen
F3	Switching the sensor on and off
Reset	Return to mechanical origin
Set	Navigate through the main menu
Test	Test cut
Off/Line	Switch online/offline
arrow keys	Positioning/setting of individual settings
Enter	Confirming the origin

Initial operation of machine and software

Caution! Please note that the smooth installation and complete configuration requires DrawCut PRO to be installed first.

Installation DrawCut PRO

Your Secabo flatbed vinyl cutter is delivered with the cutting software DrawCut PRO. This software needs to be activated over the Internet. You do not necessarily need internet access on the computer, on which DrawCut will be installed. The activation can also be done on another computer.

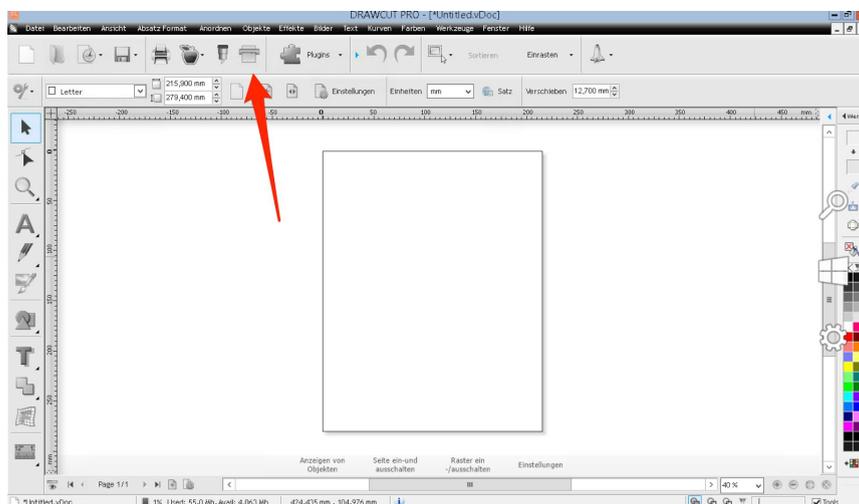
In order to control your flatbed vinyl cutter via your computer, install the software as follows:

- Disable the Windows Firewall and your anti-virus software for the time of installation.
- Download the current version of DrawCut PRO at <http://www.draw-cut.com/#downloads> and follow the installation wizard.
- Find your 26-digit DrawCut serial number on the printout that was delivered with your flatbed vinyl cutter. Enter it when you are prompted to do so.
- Now you can use DrawCut PRO.

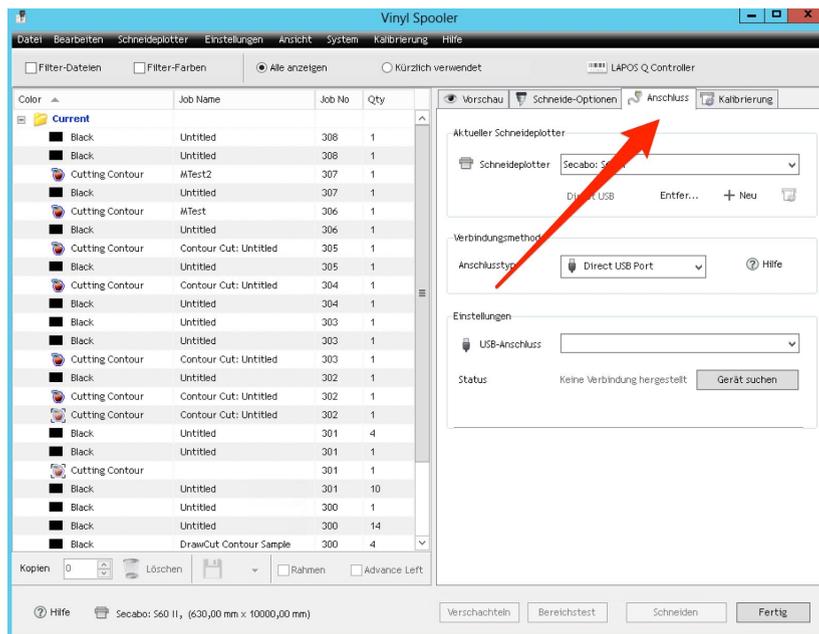
Installation of your Secabo flatbed vinyl cutter in DrawCut

Please keep in mind that your Secabo flatbed vinyl cutter can only be operated under Windows 7, 8, 8.1 and 10. Operation with an older version of Windows is not possible.

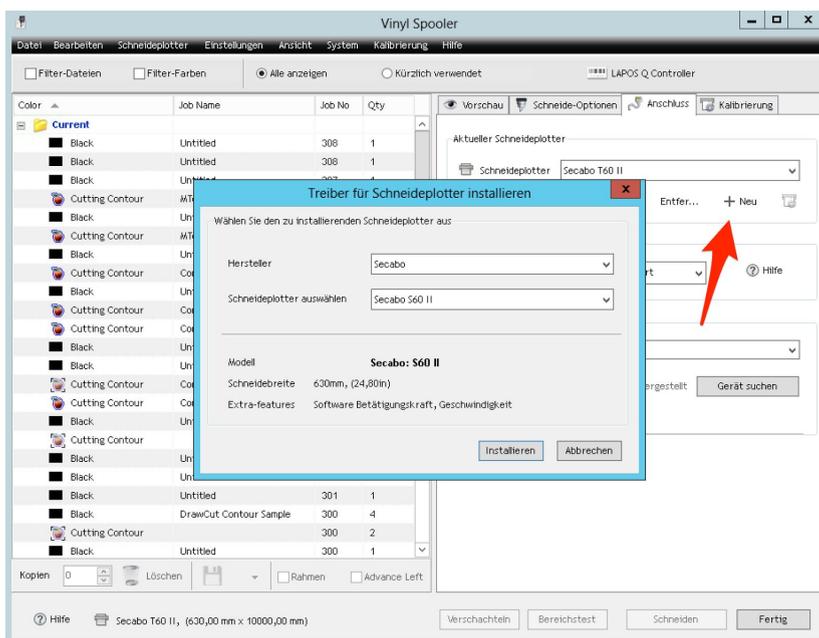
- First, make sure that your PC is connected to the internet.
- Connect the flatbed vinyl cutter to your computer using the supplied USB cable.
- Switch on the device.
- Your Secabo flatbed vinyl cutter will now be recognized. Windows will search for the appropriate drivers and automatically install them. This can take some time. After that, the device is ready for operation.
- Start DrawCut.
- First, open the "Vinyl Spooler" in Drawcut.



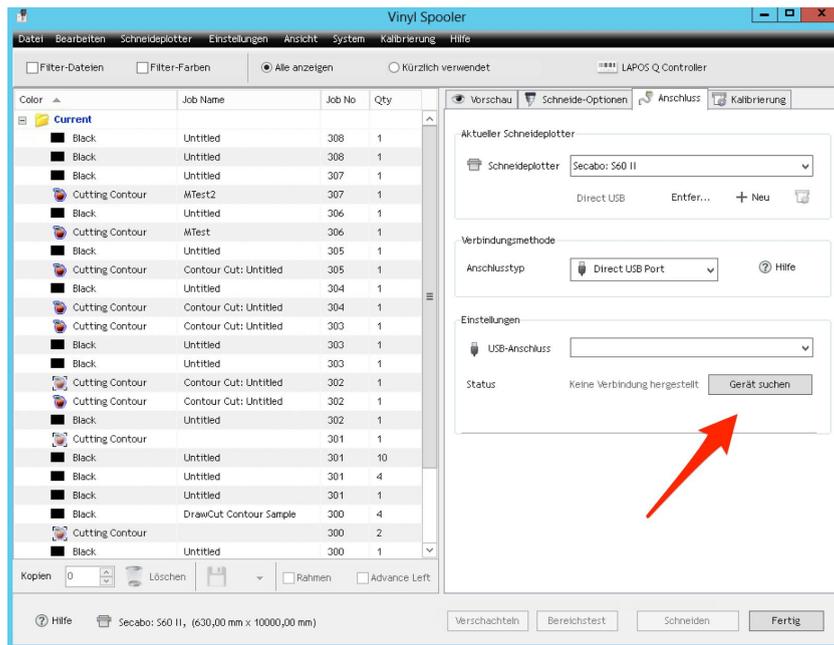
- Now click on the "Connections" tab.



- Next, add your flatbed vinyl cutter by pressing the "Add" button (a Secabo FC50 is used in the example), select your model and click "Install".



- Click on the button labeled "Search device" and follow the instructions in the installation wizard. Confirm the message regarding successful installation by simply clicking on button labeled "Done". Now you can control your Secabo flatbed vinyl cutter using DrawCut.



Initial operation of the device

The flatbed vinyl cutter may only be operated in a clean and dry environment. Place the flatbed vinyl cutter on a safe, stable surface

- Connect the flatbed vinyl cutter to a 230 V socket using the supplied power cable.
- Connect the vacuum pump to the flatbed vinyl cutter via the three-pin connector. Furthermore, the vacuum pump needs to be connected to the flatbed vinyl cutter via the hose.
- Turn the flatbed vinyl cutter on.

Main menu

Press the **Set** key to enter any of the individual menu items. You can exit the defined rotation of individual menu items at any time by pressing the F2 key, which will automatically return you to the first menu item, which also represents the online mode.

SPEED/FORCE	Modification of parameters for speed and contact pressure by means of the arrow keys for the knife holder
SPEED1/FORCE1	Modification of parameters for speed and contact pressure by means of the arrow keys for the tool holder
CAR X/Y	Distance/offset between knife holder and tool holder. Only to be modified by trained staff!
Work mode	<ul style="list-style-type: none">• Cut Plotter: Usage of knife and creasing tool• Draw Cutter: Usage of the knife Selectable from within the softwares when using Drawcut Pro
Baud rate	Standard:38400. Only to be modified by trained staff!
XP/YP	Standard 1000: Only to be modified by trained staff!
Clear para	Restoring of factory settings
Ver	Firmware version

Installing and adjusting the knife and creasing tool

- Take the supplied cutting knife, open the knife holder by turning the silver knurled screw and insert the blade into the knife holder. Close the knife holder in the reverse order
- Now adjust the cutting depth by turning the silver knurled screw at the top of the knife holder.
- Initially, the depth is set correctly if you can carefully move your fingertip across the blade and merely feel a light scratching. Since the depth adjustment for the blade depends on the material, it may be necessary to adjust it later.
- Secure the blade setting by tightening the gold lock nut.
- Press the pin on the rear end of the knife holder to clean the inserted knife of deposits and residue. Caution - risk of injury!
- The various material thicknesses require different blade settings or even special blades; it may therefore be necessary to repeat the adjustment described above.
- The length of the two creasing tools, on both sides of the creasing tool, can be adjusted using the supplied hexagon socket wrench!

Inserting the blade holder

- First, sufficiently loosen the clamping screw for the blade holder (on the right side when viewed from the front) at the cutting head.
- Next, press down the blade holder from above into the hole on the right side until there is contact and pull the lock nut tight. When doing so, please ensure that the blade holder is also secured correctly from above by means of the fixture provided for this purpose.
- Next, sufficiently loosen the clamping screw for the creasing tool holder on the cutting head.
- Proceed by pressing down the blade holder into the hole on the right side from above, until there is contact, and tighten the clamping screw. When doing so, please ensure that the creasing tool holder is also secured correctly from above by means of the fixture provided for this purpose.

Inserting media

- First, move the cutter head to a position that ensures easy insertion of the material to be cut. One shall avoid that the material to be cut gets pulled through beneath the cutter head.
- Activate the vacuum pump by pressing **F1**, so that the material to be cut adheres to the work surface. Should the suction force be insufficient, it is advisable to cover the uncovered areas of the working surface, for example, with paper or another type of medium.
- When inserting, make sure that the film is straight, especially when using crop marks.

Moving the cutter head

To move the cutter head, first press the Off/Line key to switch to the offline mode, then use the arrow keys to move the cutter head along the individual axes.

Setting the zero point

To set the correct starting point for cutting, use the arrow keys to move the cutter head to the desired position and confirm the origin by pressing the Enter key.,

Cutting test

- First, move the cutter head to a suitable position for the test cut while in offline mode.
- Confirm the zero point by pressing the **Enter** key
- To execute the cutting test, press the **Test** key. The flatbed vinyl cutter will start off by grooving a diamond with its creasing tool, around which a rectangle will be cut in the second working step.
- This cutting test allows you to check the knife holder setting and length setting of the creasing tool as well as the respective contact pressures.
- Press the left and right arrow keys to modify the contact pressure of the knife holder while in online mode
- To modify the creasing tool's contact pressure, press the set button and Speed1 as well as Force1 will appear on the display. Here, too, press the left and right arrow keys to modify the contact pressure. Press the **F2** key to immediately return to the online mode.

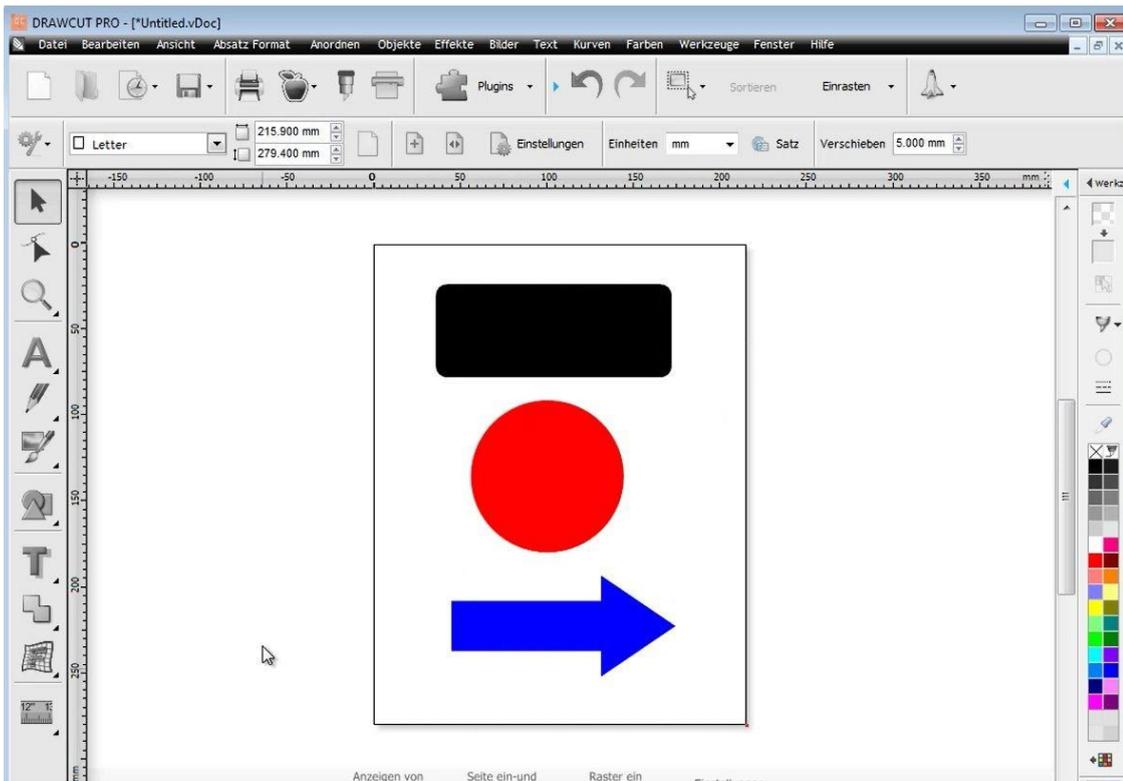
Processing of non-printed media

With one tool

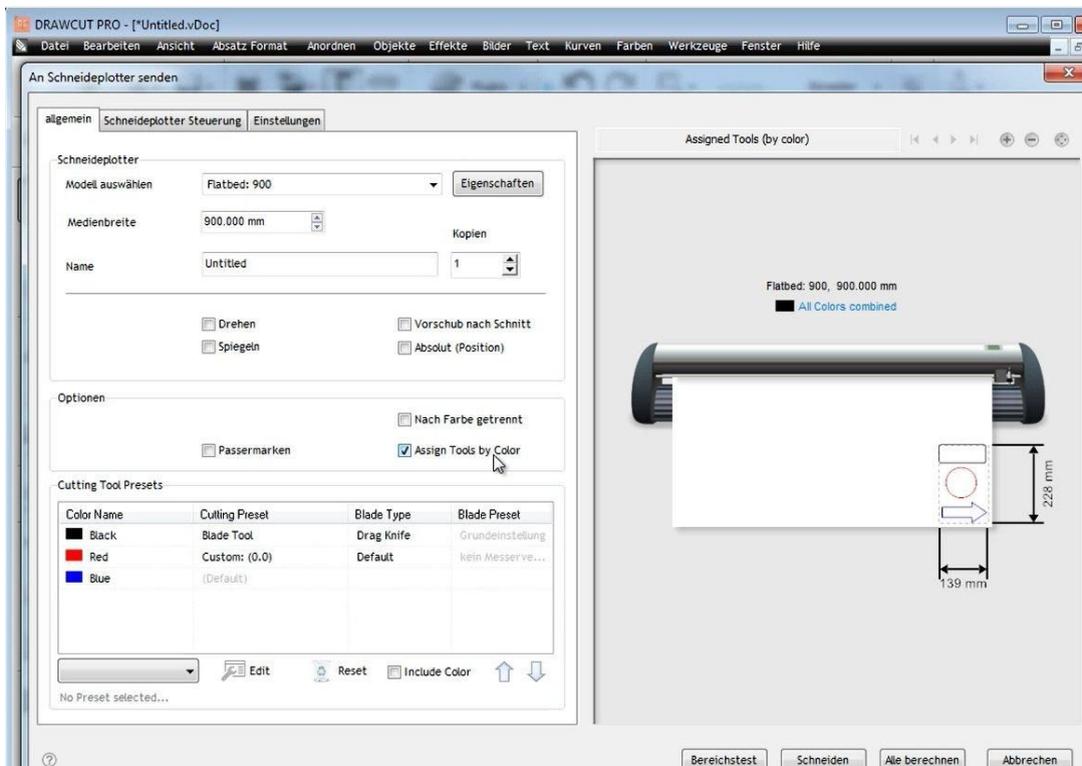
- Start the cutting software DrawCut PRO.
- Make sure the device is in the online mode.
- Also ensure that the parameters for contact pressure, speed and knife offset are set correctly.
- Position the media on the work surface.
- Activate the vacuum pump by using the F1 key.
- Position the knife at the desired location and use the Enter key to define the origin.
- Create a logo or a graphic using the text tool and click on the knife holder icon in the menu bar above.
- The menu "Send to vinyl cutter" appears, click on "Cut" in the lower right section of the window.
- Now, the "Vinyl spooler" opens and displays a preview of the cut job on the right side. Now click on "Cut" and confirm the question with "Yes".
- Start the cutting process!

With two tools

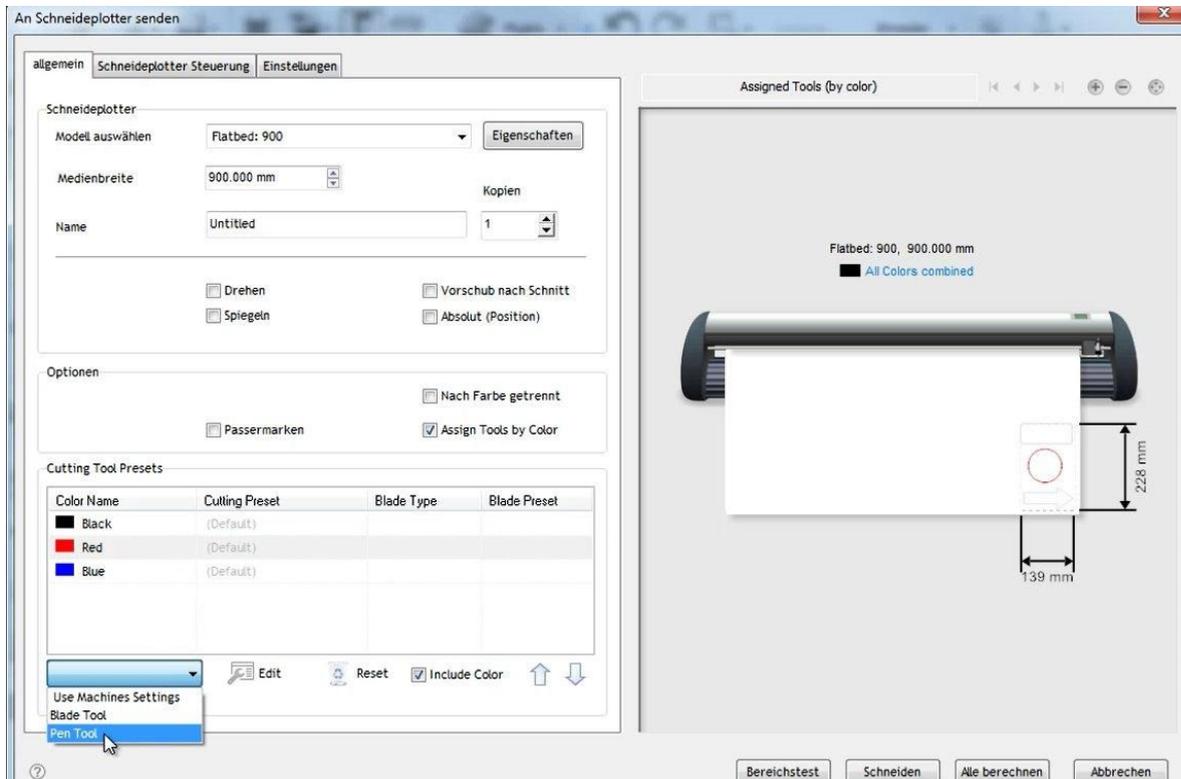
- Start the cutting software DrawCut PRO.
- Make sure the device is in the online mode.
- Also ensure that the parameters for contact pressure, speed and knife offset are set correctly.
- Position the media on the work surface.
- Activate the vacuum pump by using the F1 key.
- Position the knife at the desired location and use the Enter key to define the origin.
- In Drawcut Pro, set the part of the graphic you wish to cut to a different color than that of the part that you wish to crease.



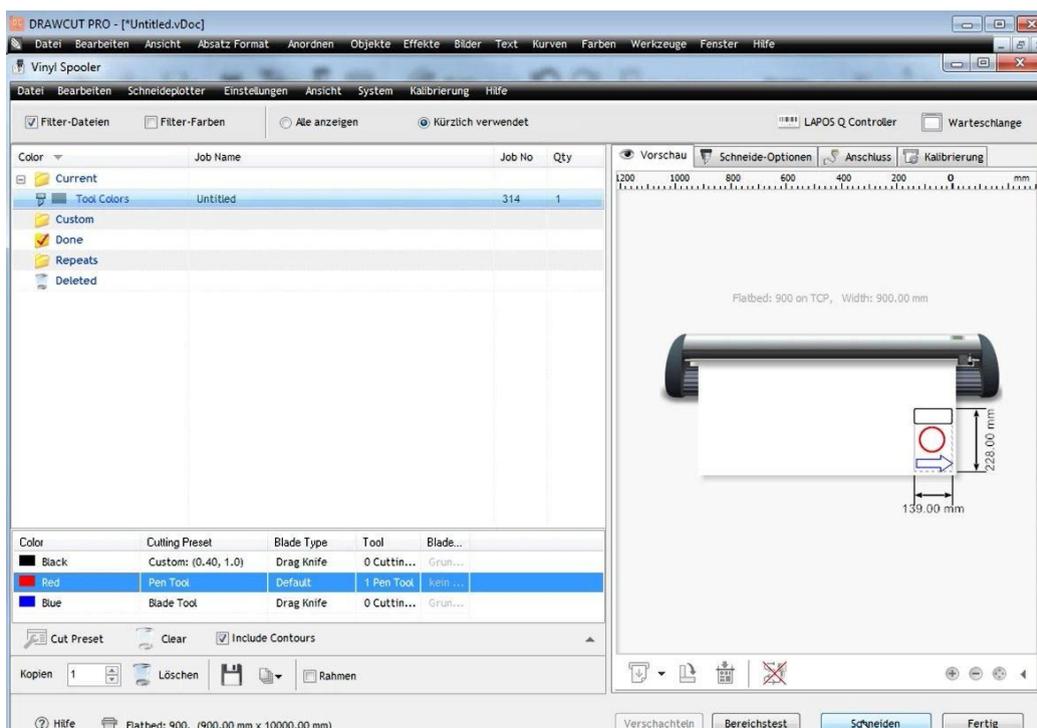
- Click on the knife holder icon in the menu bar at the top.
- The menu "Send to vinyl cutter" appears
- Here, click on "Assign Tools by color"



- Here, each color can be assigned to the desired tool, knife (blade tool) or creasing tool (pen tool). To do so, simply click on the color and use the menu to define which tool should be used for the selected color as shown below. The knife offset can also be adjusted via Edit.



- Now click on "Cut" and confirm the question with "Yes". Now the process starts.



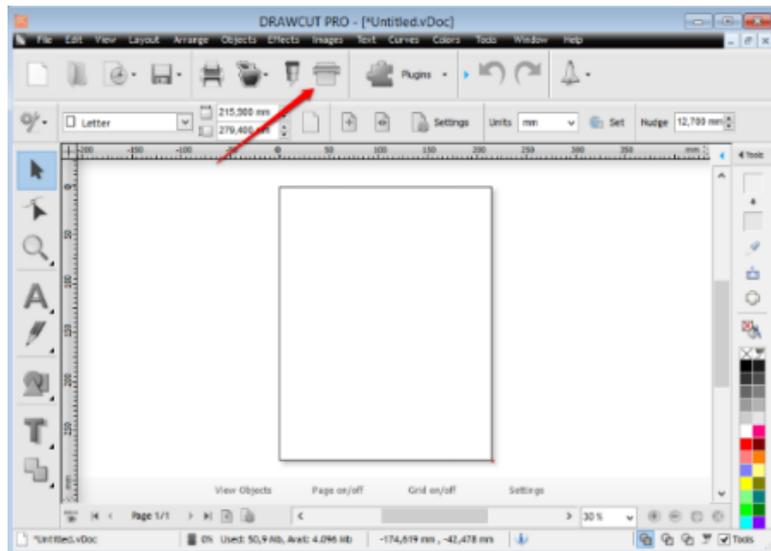
Processing of printed media with Lapos Q

LAPOS Q is a system for automatic positioning of printed media in your FC50 and FC100, allowing you to cut printed elements with absolute contour accuracy, and without misalignment or distortion, by using any desired number of crop marks. The use of LAPOS Q with DrawCut Pro is explained in the following steps.

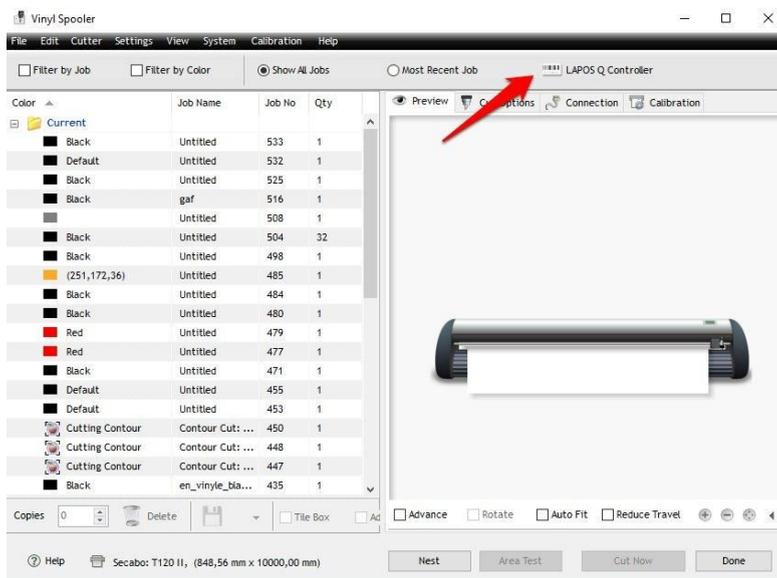
Calibration

Before the first use of LAPOS Q, the flatbed vinyl cutter requires an initial calibration to determine the correct laser offset.

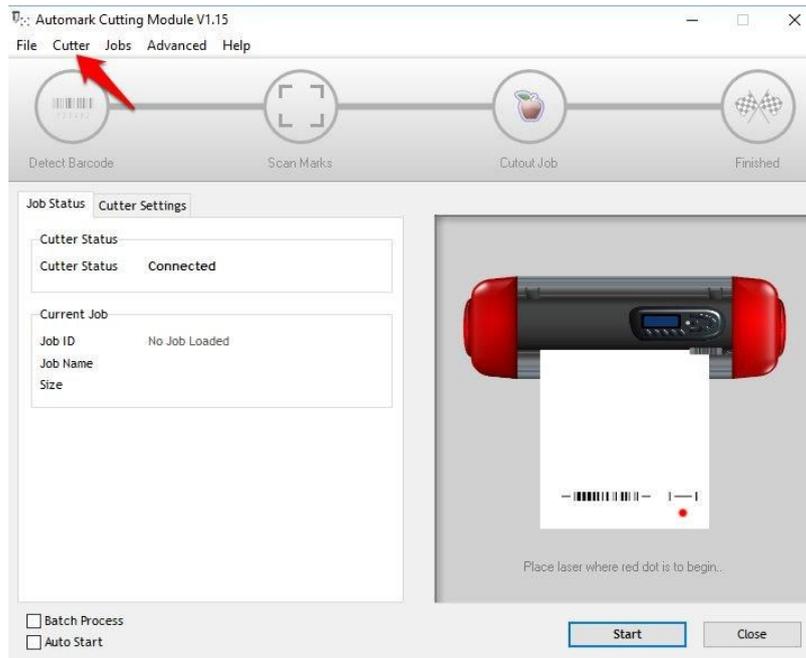
- The first step is to open the "Vinyl Spooler".



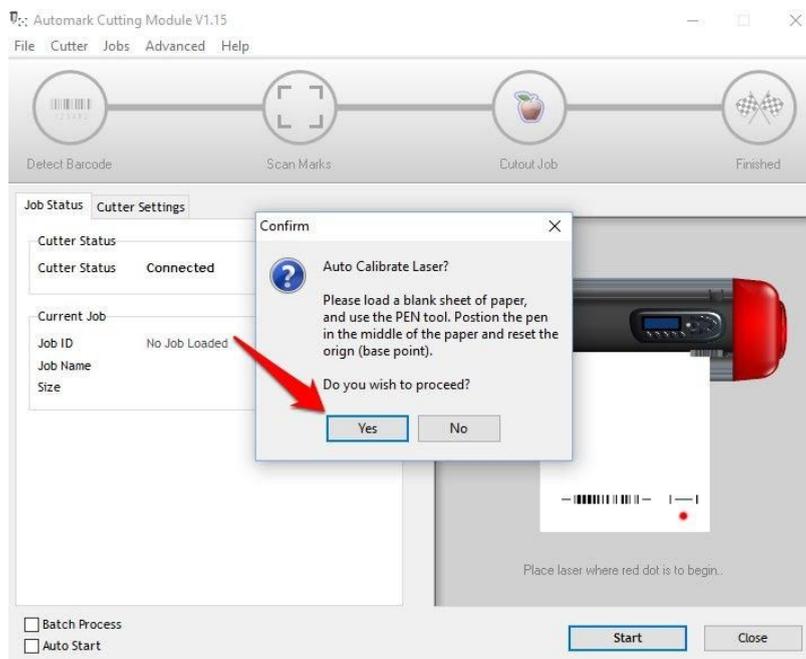
- Now click on "Lapos Q Controller"



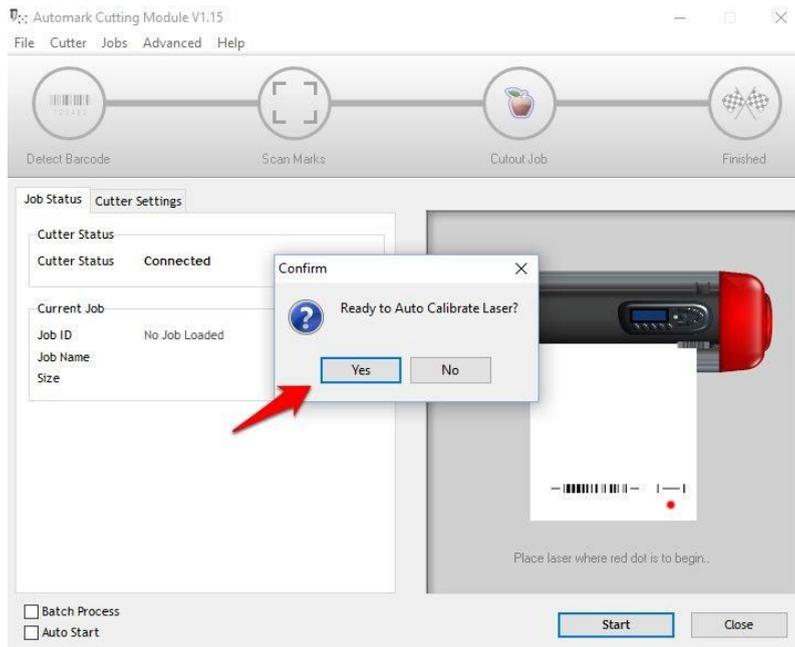
- Next, click on "Cutter" and then click "Auto Calibrate Laser Offset" from the dropdown menu that appears.



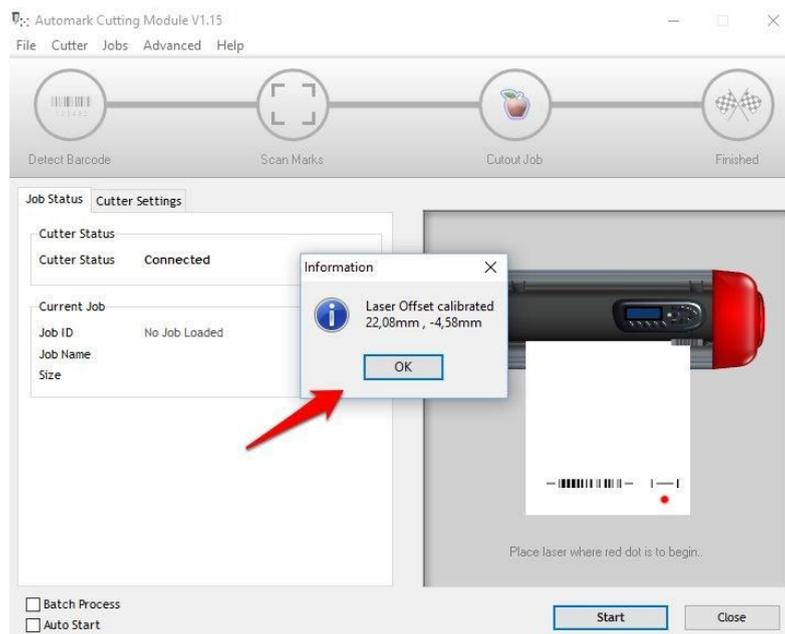
- Insert a blank sheet of paper into the vinyl cutter, as requested by DrawCut Pro. Also, the cutter head must be equipped with the plot pen included in the scope of delivery. Roughly position the plot pen in the middle of the paper and set the zero point on the device. Once you've completed these steps, please confirm by clicking the "Yes" button.



- The cutter will immediately start the calibration. After a brief orientation, you must initiate the process by clicking "Yes" once more.



- The cutter will now automatically perform the calibration and report the correct laser offset for your device, which you need to confirm by clicking on "OK".



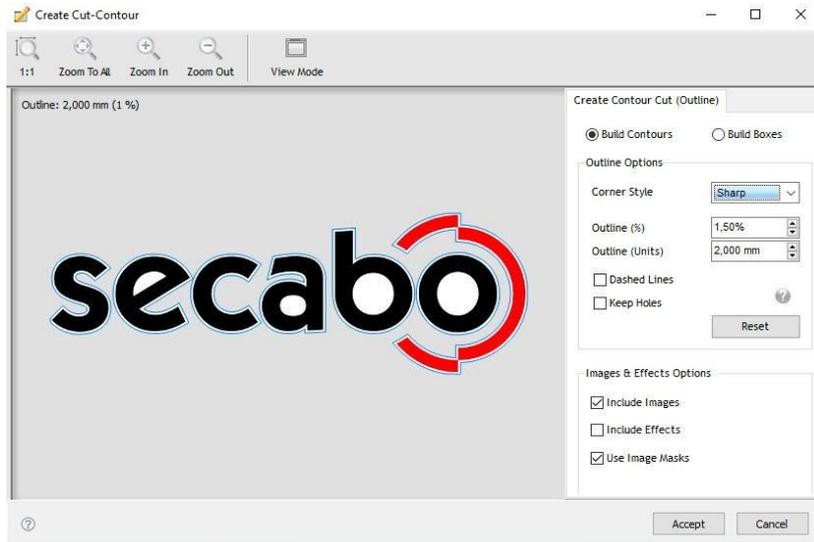
With one tool

Once the calibration is complete, you can proceed with the actual contour cut.

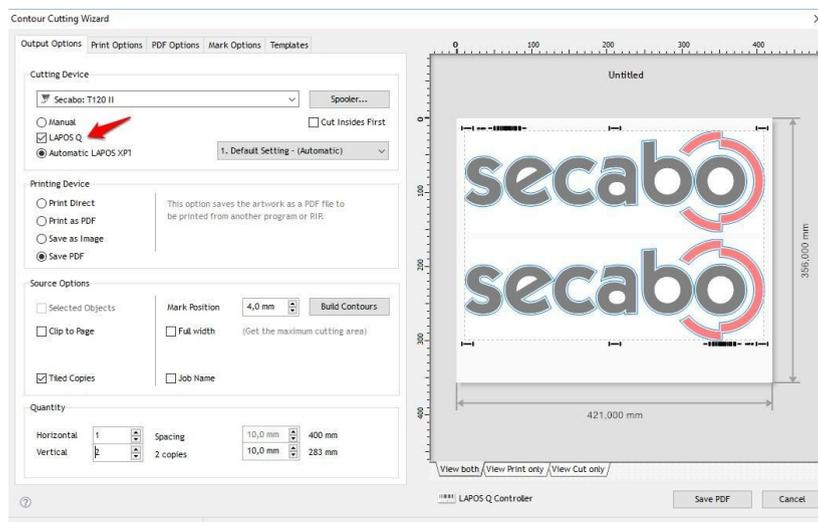
- You may for example begin by creating a logo with the text tool or importing any vector graphics.
- Open the Contour Cut Wizard from the DrawCut PRO header.



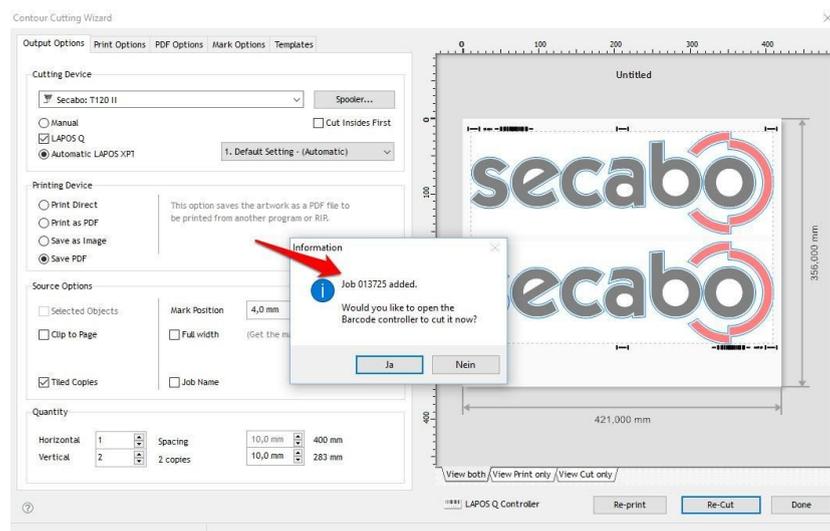
- Create an outline using the desired parameters under "Create a cutting contour". Confirm it by clicking "Accept".



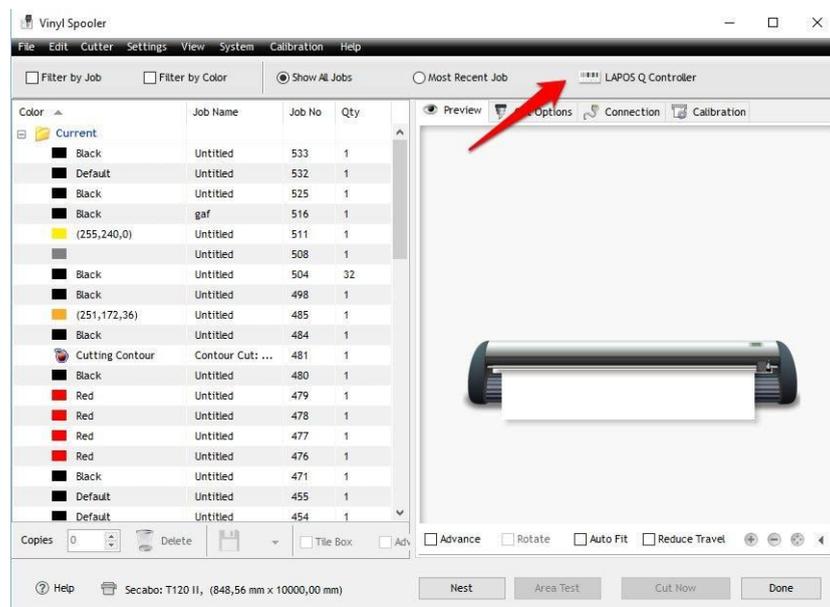
- Now open the Contour Cut Wizard Make sure that "LAPOS Q" is selected. Now you can print or save the graphics you've created. Ensure that the printer is configured to print it using the actual size and doesn't scale it.



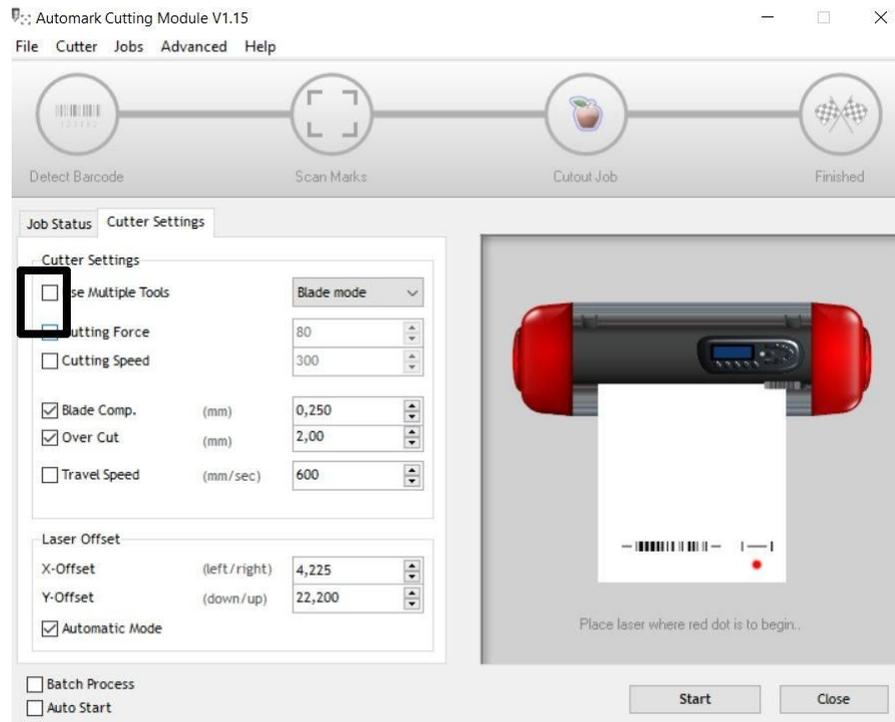
- In the next step, the saved cut job must be added. To do this, simply click "Add Cut Job". DrawCut PRO will now automatically assign a job ID, which is stored in the software and can be called at any time, either by reading the bar code or by manually loading the job ID.



- Open the "Lapos Q controller" in the vinyl spooler.



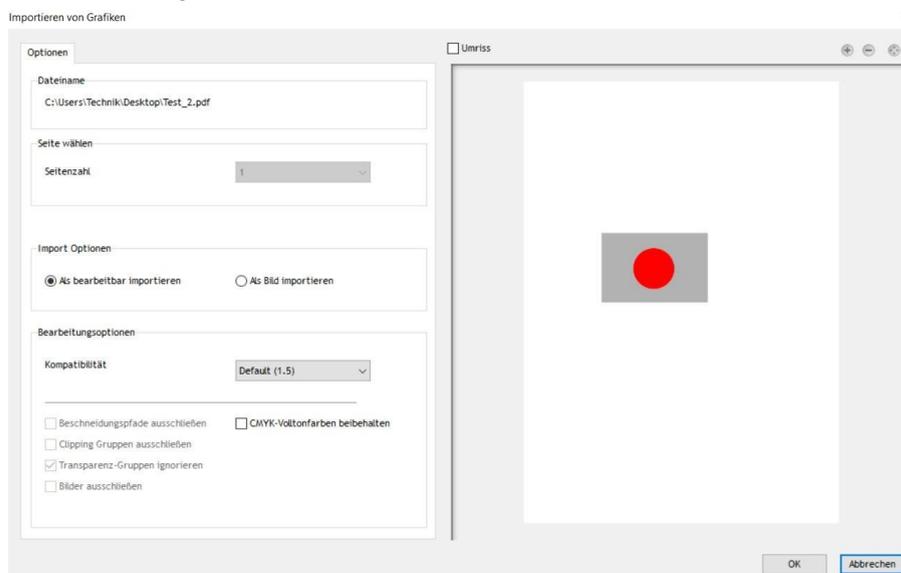
- Place your printout in the vinyl cutter as seen in the screenshot below. Top or bottom first doesn't matter, because the software will detect the direction the printout was insert when reading the bar code. Activate the laser on the flatbed vinyl cutter by pressing the F3 key. Position the vinyl cutter's laser analogous to the red dot in the screenshot below and use the Enter key to set it as origin. Make sure that "Use multiple tools" is disabled in the cutter settings. Next, simply start the contour cut by clicking on "Start"



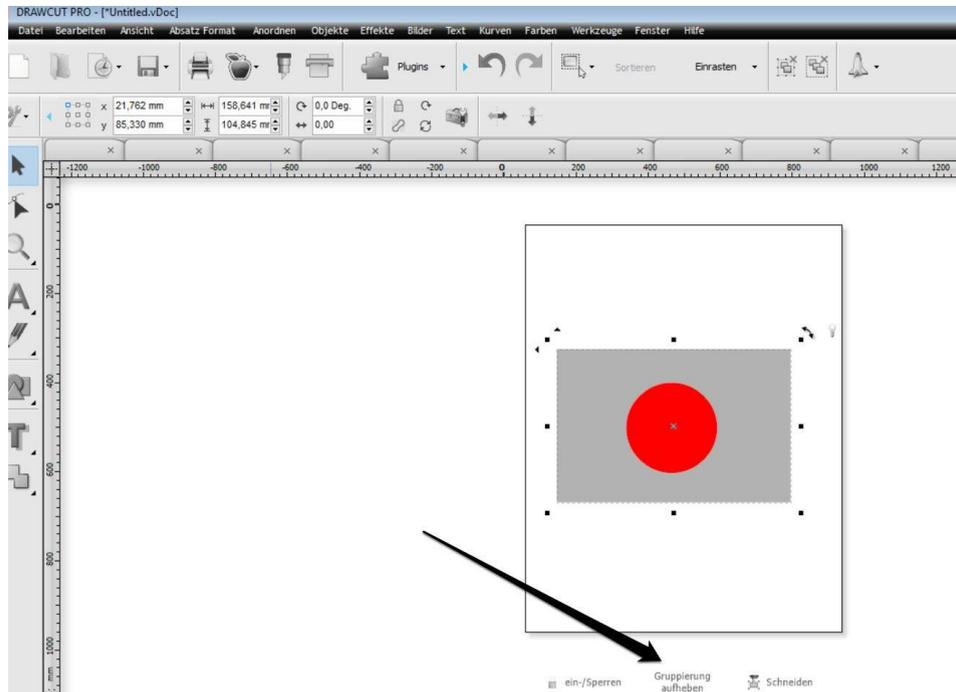
With two tools

Once the calibration is complete, you can proceed with the actual contour cut.

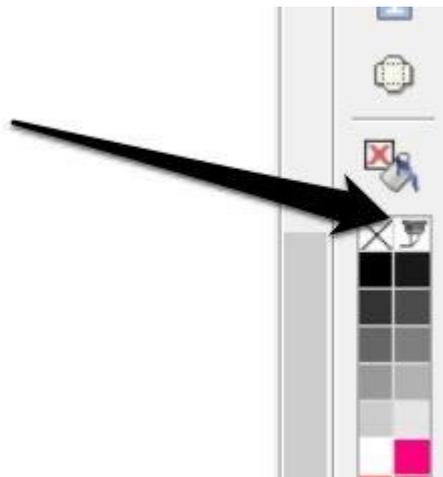
- Import the desired graphic.



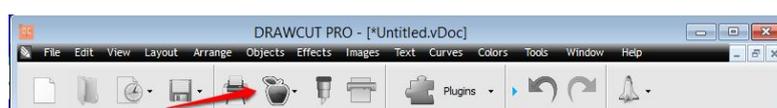
- First, remove the grouping of the imported file. In our example, the rectangle is to be cut and the circle to be created.



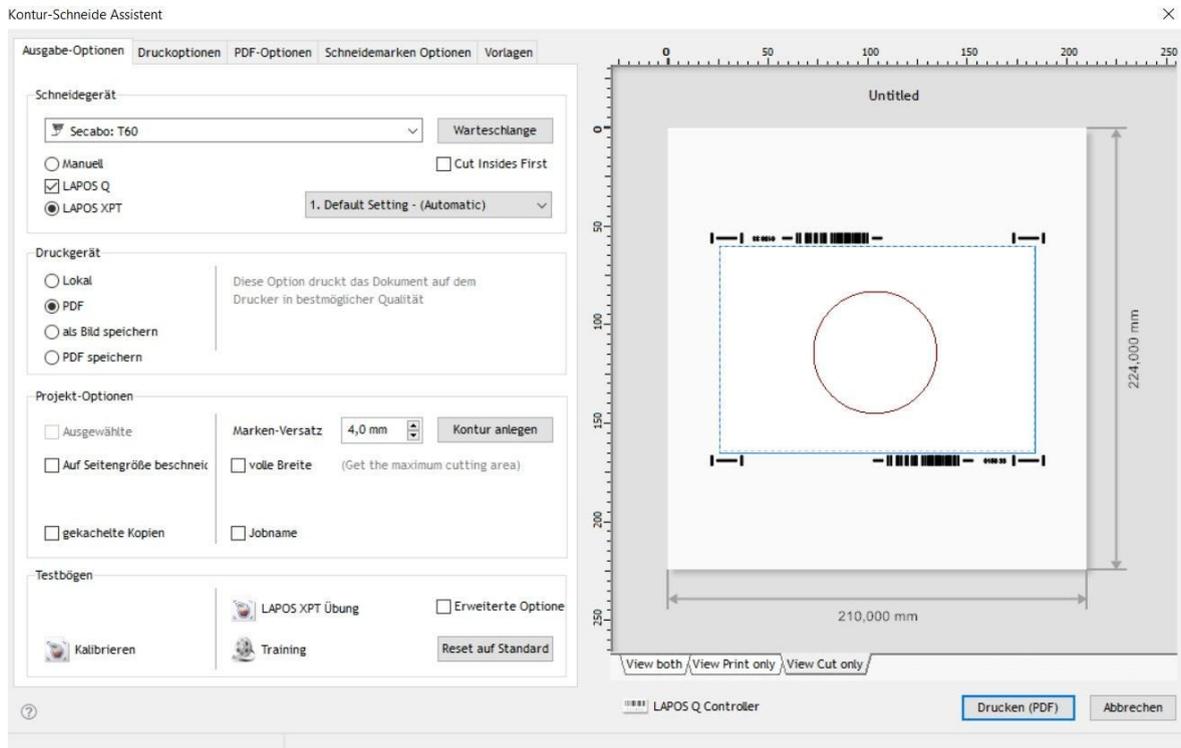
- You can specify the cut contour by left-clicking the knife in the toolbar. You can specify the creasing contour by right-clicking the knife in the toolbar.



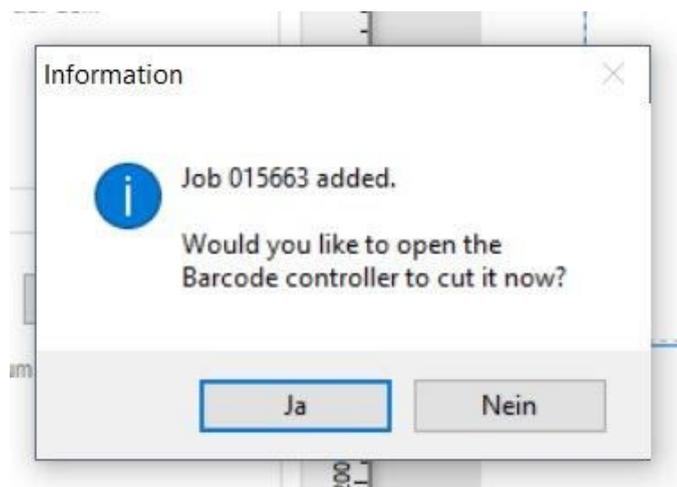
- Now open the contour cut wizard with the tool from the header depicted below



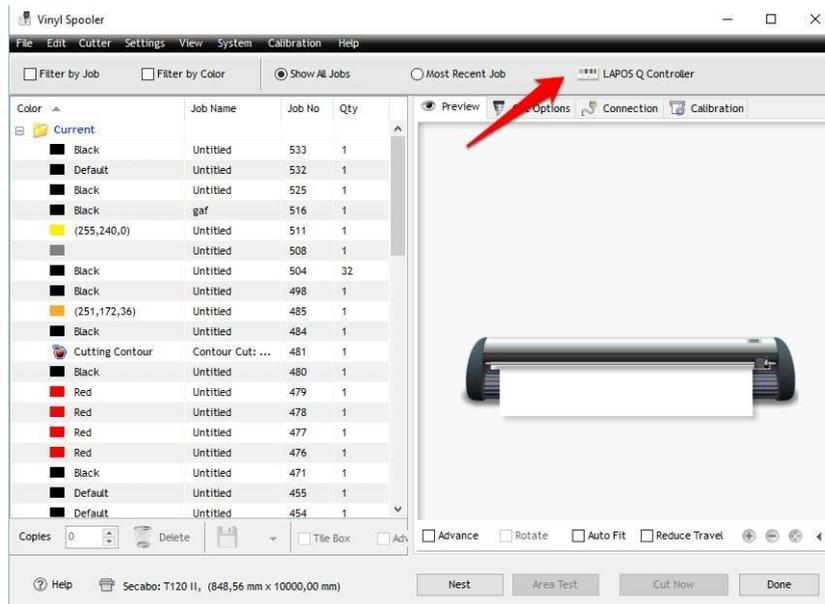
- In the contour cut wizard, various adjustments can be made, such as the position of the bar codes and much more. Afterwards, the file can be printed via Print or saved. Ensure that the printer is configured to print using the actual size.



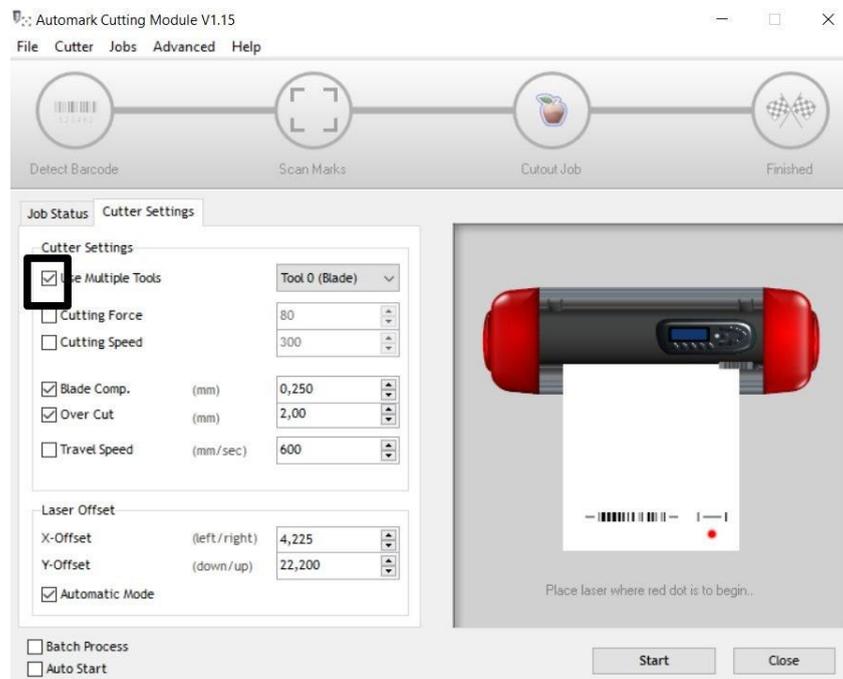
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- Open the "Lapos Q controller" in the vinyl spooler.



- Place your printout in the vinyl cutter as seen in the screenshot below. Top or bottom first doesn't matter, because the software will detect the direction the printout was insert when reading the bar code. Activate the laser on the flatbed vinyl cutter by pressing the F3 key. Position the vinyl cutter's laser analogous to the red dot in the screenshot below and use the Enter key to set it as origin. Make sure that "Use multiple tools" is enabled in the cutter settings. Next, simply start the contour cut by clicking on "Start"



Drag knife

Drag knives are sensitive, sharp and dangerous precision tools.

- Keep the blade out of the reach of children!
- To avoid personal injury, caution must be taken when handling the blades.

Handle the drag knives carefully and always store them with the protection cap when not in use. Should the tip of a blade suffer an impact with hard materials such as glass or stone, it can cause tiny fractures in the blade's tip, which will render the blade unusable. Please consider the following instructions to prevent unnecessary wear and tear of your drag knives and to achieve a long durability of these products instead.

- In any case, avoid cuts into the film's carrier material. The deeper you cut into the material used, the higher the blade's wear and tear will be.
- Adjust the blade's cutting depth in such a way that the material is barely still cut cleanly. If the blade protrudes any further, it reduces the durability of the blade and good cutting results can no longer be guaranteed.
- For thicker materials, use knives specially suited for it (e.g. flock knife for flock).
- Frayed edges after cutting the foil indicate a blunt drag knife. Replace worn blades immediately!

Technical data

Model	FC50	FC100
Type	Flatbed vinyl cutter with servo motor and LAPOS Q sensor	
Max. work surface	35cm x 52cm	78cm x 108cm
Connections	USB	
Display	backlit, graphic LCD screen	
Max. speed	600mm/s	800mm/s
Max. media thickness	1.5mm	
Contact pressure	50g-500g	
Mechanical resolution	0.01254mm	
Repetition accuracy	< +/- 0.01mm	
Power supply	AC 90V - 240V / 50Hz - 60Hz	
Environment	+5°C - +35°C / 30% - 70% relative humidity	
Weight without packaging	35kg	80kg
Weight with packaging	68kg	140kg
Dimensions (W x H x D)	76cm x 86cm x 30cm	157cm x 58cm x 140cm

Declaration of conformity

Statement of conformity



We hereby declare under our sole responsibility that the product referred to in "technical data" complies with the provisions of the following directives and standards:

We herewith declare under sole responsibility that the under „9. technical data“ mentioned product meet the provisions of the following EC Directives and Harmonized Standards:

EC directives / EC directives:

- 2014/35/EG Niederspannungsrichtlinie / 2014/35/EC Low Voltage Directive
- 98/37/EG Maschinenrichtlinie (2006/42/EG ab 29.12.2009) / 98/37/EC Directive on machinery (from 2009-12-29: 2006/42/EC)
- Standard / Standard: EN 60204-1:2006

Standard / Standard:

- EN 60204-1:2006

Technical documents at / Technical documents at:

Secabo GmbH, Hochstatt 6-8, 85283 Wolnzach, Germany

A handwritten signature in black ink, appearing to read 'Fabian Franke', written in a cursive style.

Dipl. Ing. Fabian Franke

A handwritten signature in black ink, appearing to read 'Bernhard Schmidt', written in a cursive style.

Dipl. Ing.(FH) Bernhard Schmidt