

Getting Started With



Vinyl Cutting

Preperations

In this course you will learn about vinyl cutting in a practical way. This means you will be making something with the vinyl cutter to pass the course.

It is required that you go through the resources in this document before showing up to the course.



Vinyl Cutting Basics

What Is It?

Vinyl cutting is the process of cutting vinyl into a desired pattern using a machine called a vinyl cutter. This allows for creation of wall art, stickers, print for textiles and so much more.



The material vinyl is in technical terms a synthetic plastic known as polyvinylchloride, better known as PVC.

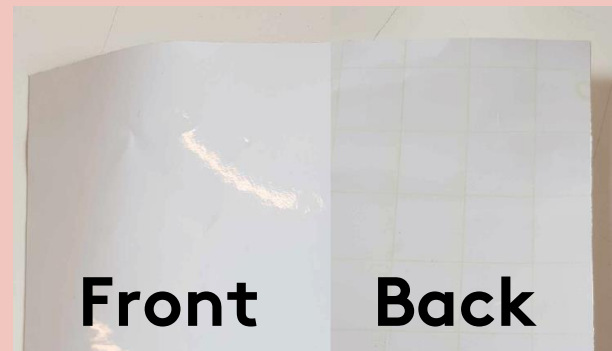
Different Vinyl

It is important to differentiate between the available vinyl in MakerSpace. There are a couple of different types of vinyl materials available that each have their own usecase.

In general there are two different types of vinyl, one for surfaces such as walls, and one for textiles such as cotton t-shirts.

It is important to choose the right vinyl to use based on what your project is. You can tell the difference between the two types by the backside of the vinyl sheet.

The vinyl sheets that are meant to be used on solid surfaces such as walls have a paper background with usually some sort of pattern on it as shown in the picture.



The vinyl that is meant for textiles has a matte and a shiny side as shown in the picture.



Be sure to use the correct vinyl for your purpose!

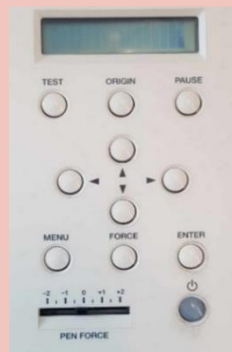
Contour Cutting – GS-24

The Machine

The CAMM1 GS-24 is a vinyl cutter able to contour cut in pieces, sheets or rolls of vinyl of maximum 584 mm width.



The control panel is placed on the right side of the machine and consists of 1 LCD screen, 10 buttons, 1 slider and 1 power button.



The power button in the lower corner turns the machine on and off.

"MENU" loops through the different menus and "ENTER" confirms a choice.

The "FORCE" button opens a menu where the force for the knife cutting the vinyl can be set – this value should be in a value between 50-70gf depending on how the knife cuts in the material.



Further refinement of the force can be made using the "PEN FORCE" slider, that by default is set to 0. The range -2 to +2 is approximately +/- 30gf.



Depending on the menu the arrow buttons will either navigate in the menus or make the machine move the vinyl forward or backward.



Pressing the "TEST" button for a second or longer makes a test cut which consist of a cross within a box within a circle.



use this to test whether the current settings are viable for cutting the currently loaded vinyl.

Contour Cutting – GS-24

The “ORIGIN” button sets the origin of the cut when held down to the current location of the knife – this is useful if you have cut something and want to cut something else again after without loading the roll or piece on again.

The “PAUSE” button pauses the current job, so that you can stop the machine if something happens to go wrong, or you need to check something. Pressing the button for a second time continues the current job.

Inserting Vinyl

If a roll is used, place the roll on the roll holder on the bottom of the vinyl cutter as shown in the image below.



Unroll the roll and make sure the latch on the left side is open to allow the roll to be loaded through the opening on the back and make sure that the vinyl covers the sensor

as shown below.



Now place the roller wheels which define your cutting width within one of the white sections and close the latch as shown in the example below to finish loading a roll.



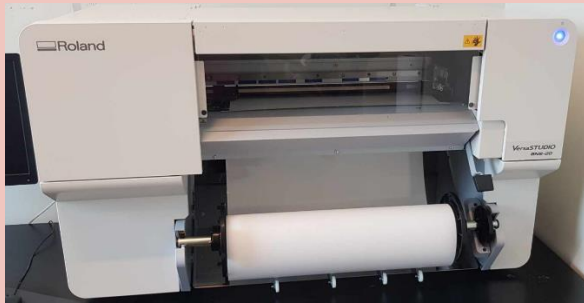
The procedure is the same if a small piece of vinyl is used instead of a roll.

You are now ready to cut your vinyl project with the GS-24!

Print & Cut – BN2-20

The Machine

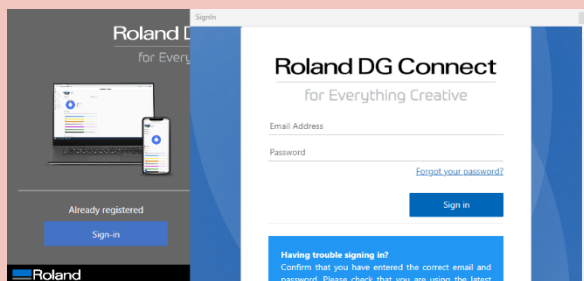
The BN2-20 is a vinyl cutter and printer that can print as well as contour cut in pieces, sheets or rolls of vinyl.



The machine is controlled only through the software interface discussed later in this chapter and not through physical buttons as on the GS-24.

Connecting

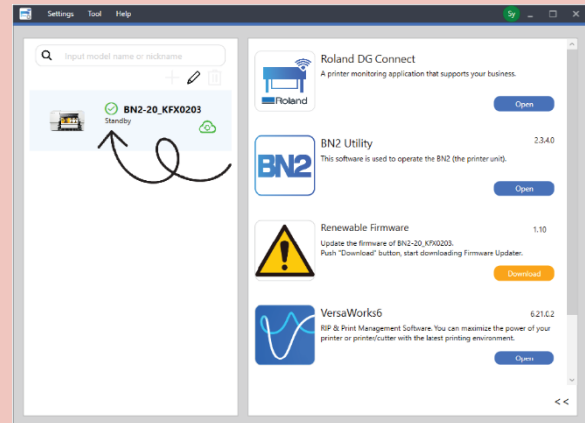
Log in to the computer using your SDU email and password and proceed to log in to the Roland DG Connect window that pops up after signing in.



EMAIL: makerspace@sdu.dk

PASSWORD: HappyMaking!

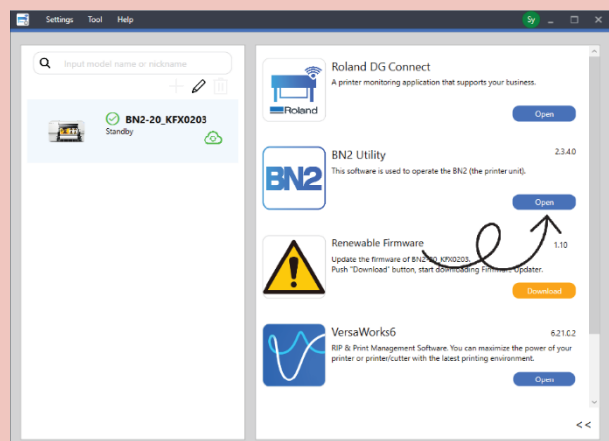
Now open the offline utility software and wait for the machine to connect.



The machine is controlled only through the software interface discussed later in this chapter and not through physical buttons as on the GS-24.

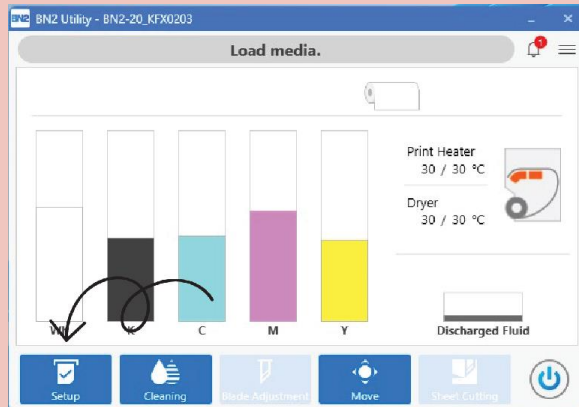
Setup

From offline utility software open up the BN2 Utility by clicking open.

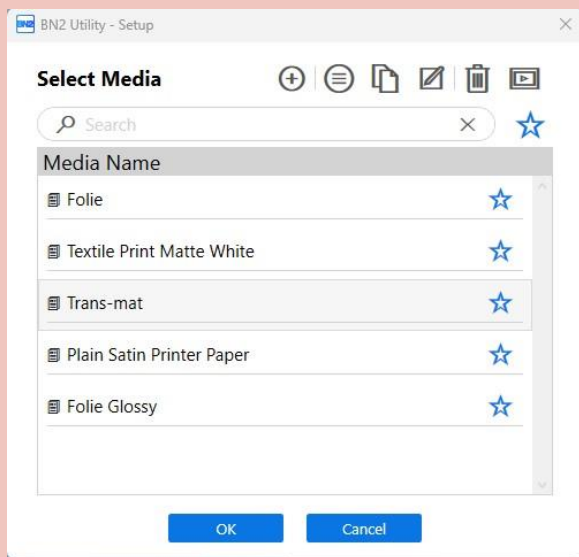


BN2 Utility is used to setup the material that is used as well as indicate when the printer is ready to print.

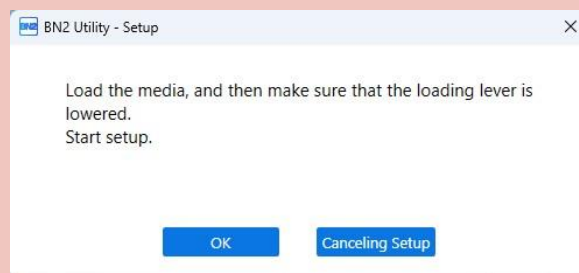
Print & Cut – BN2-20



Press the setup button to start the process of material selection and loading – this step is necessary even if you want to use the currently loaded material.



Select the correct foil type and press ok. Then you will be prompted to start the manual process of loading the roll into the machine, this is skipped if the current roll is the one you want to use.



Changing Roll

The manual loading process is started by first releasing the current material by lifting the clear window and lifting the loading lever.



Proceed to roll up the material and lift up the roll in the left side to take it off the machine.



Apply some masking tape or something similar to keep the roll form unrolling. Turn it so that it rests on the right side and the release mechanism is visible.

Print & Cut – BN2-20



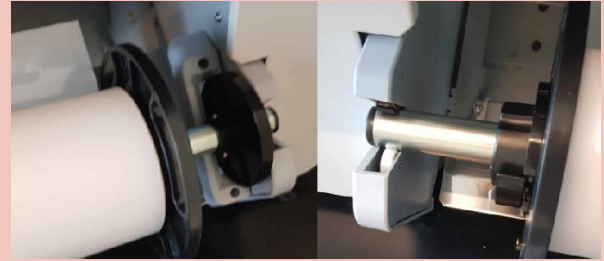
Unlock the release mechanism and slide off the end cap to remove the roll.



Make sure to place the new roll correctly so that the end piece slides into the machine from the bottom.



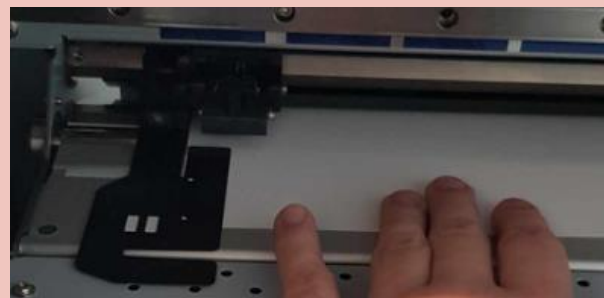
Place the right side in first and the left side second.



Slide the end of the roll up following the indication arrow on the left.



Pull the roll from the top and make sure it slides under the two black feet.



Pull the roll the sensor is covered.



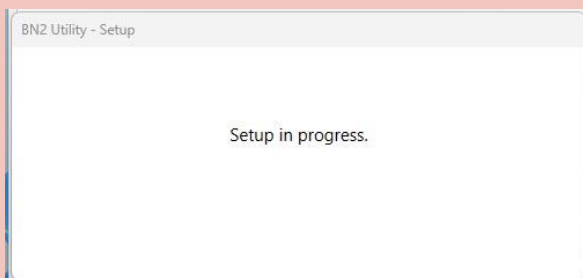
Print & Cut – BN2-20

Finish the process ensuring the roll isn't loose by turning the roll tight with one hand and keeping a finger on the end so it doesn't slide back, and then proceed to lower the loading lever.

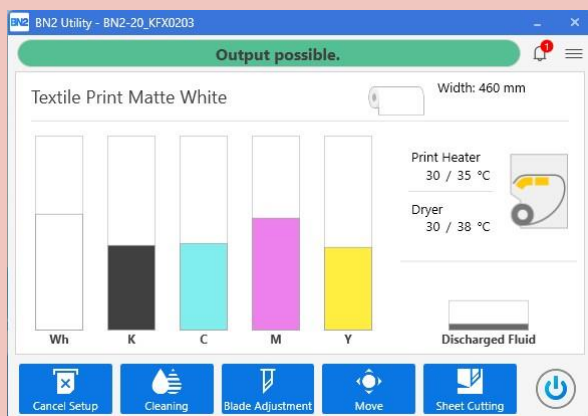


Finishing Setup

Press ok on the load media screen from before and wait for it to finish.



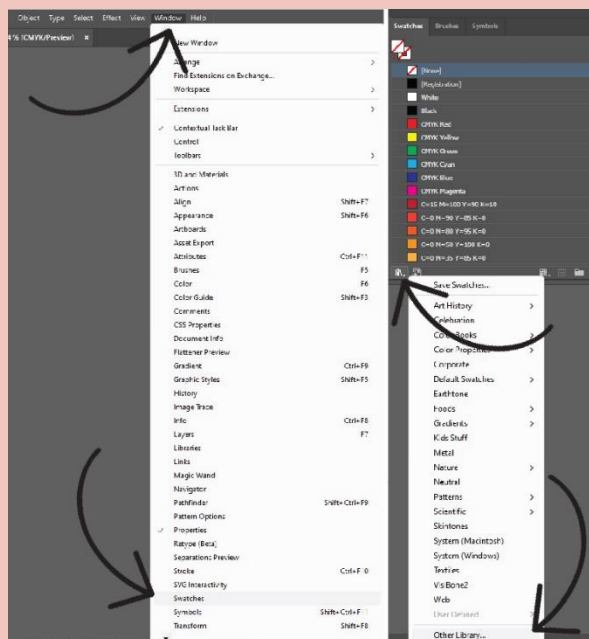
When the process is finished it should say that output is possible in the top text field in BN2 Utility.



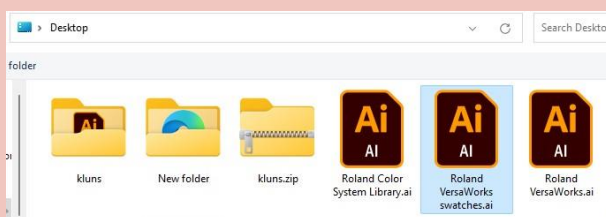
Print Setup

The correct colors have to be used in Illustrator to ensure that your print is set up to work with the printer. These will be installed during the course.

Open your Illustrator file and under the windows menu open the swatch window. In the new swatch window press the library button and press on "Other Library"

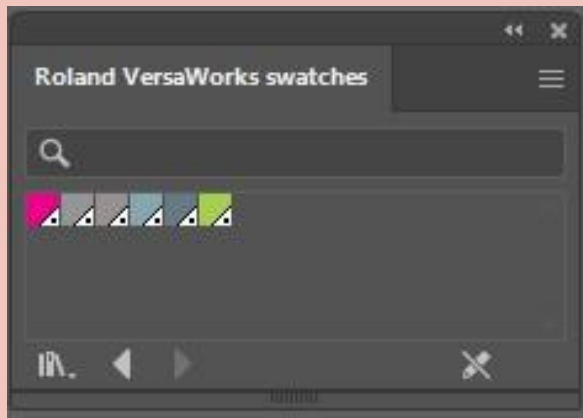


Navigate to the folder containing the swatches you will receive during the course and open the one called "Roland VersaWorks Swatches.ai"

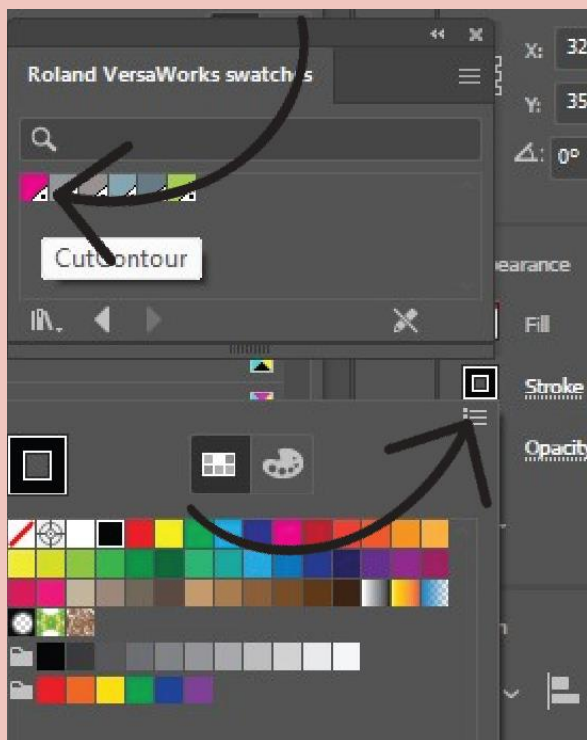


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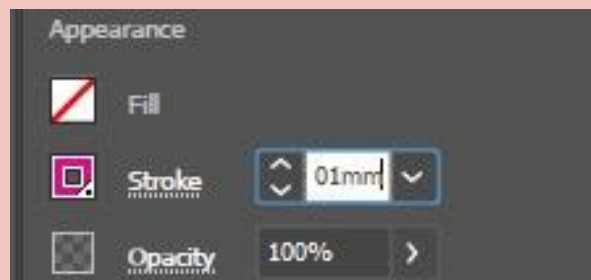
A new window will appear with the correct colors to use with the machine.



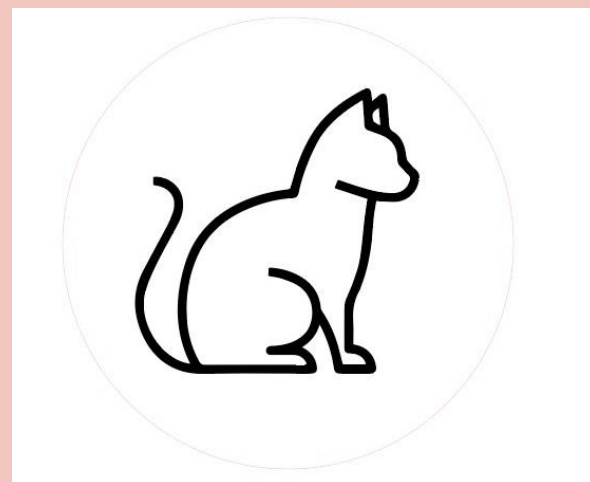
To change the color of the cutting line, select the stroke of the object and select the pink color called CutContour in the swatches window.



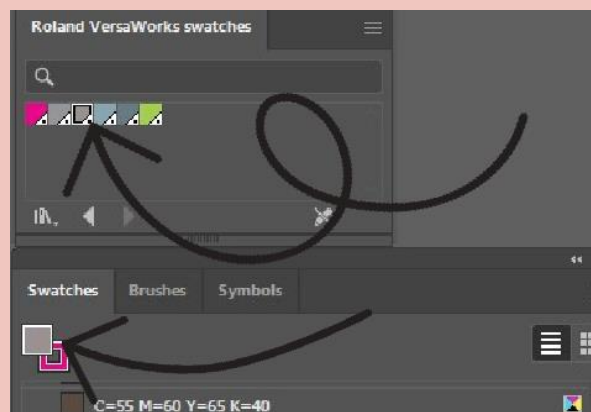
The contour line should now be changed to the correct color. Now make sure the stroke is set to 0,01mm.



The cutting line should now appear thin and in the correct color.



If you are to print white, fx. when using the transparent vinyl, you have to make sure that the color for white is selected for the fill of the object in the versa works swatch window.

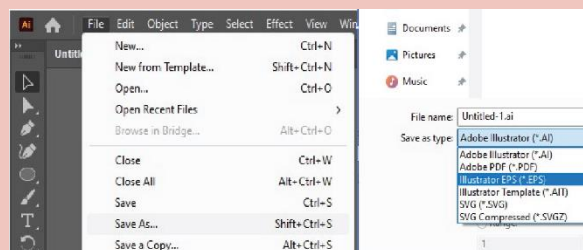


Print & Cut – BN2-20

The object should now have a grey fill.

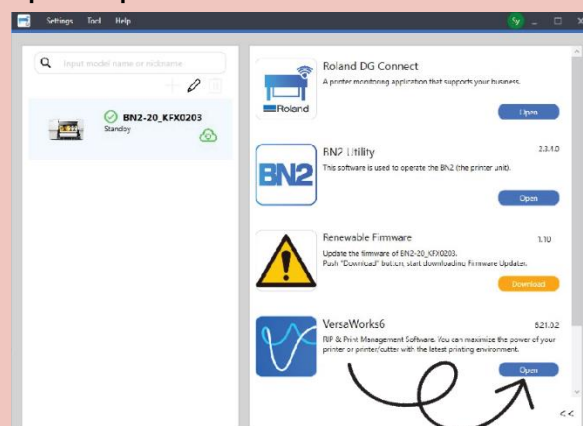


Save the finished file as a EPS fil via the file menu.

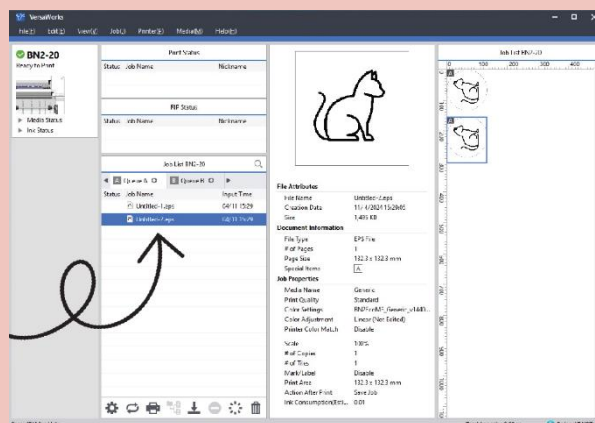


Print Setup

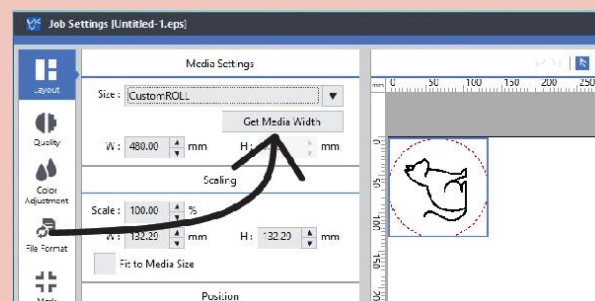
It's now time to print so return to the Offline Utility software and open up VersaWorks.



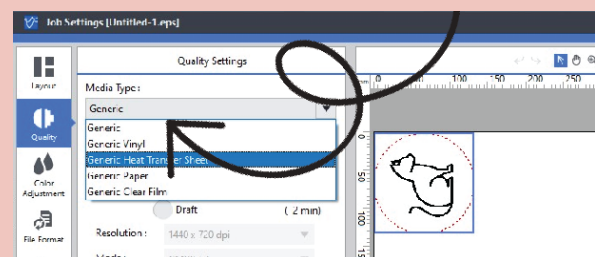
In the middle of the VersaWorks window you will notice a section called "Job List BN2-20". To add your print to the job list just drag the EPS file onto the window.



Double click your file to setup the print. Under the Layout menu press "Get Media Width" to set the canvas size to the loaded media width.

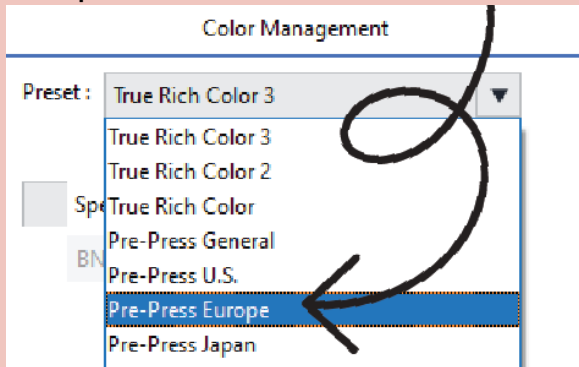


Under the Quality menu change the media type to the media that is loaded on the machine.

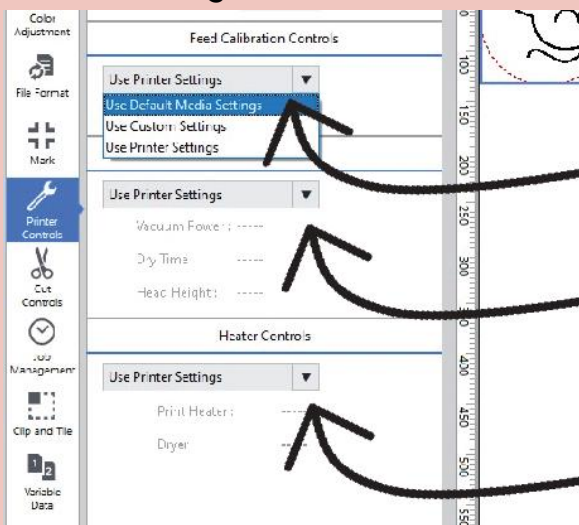


Print & Cut – BN2-20

In the same menu change the color management preset to pre-press Europe.

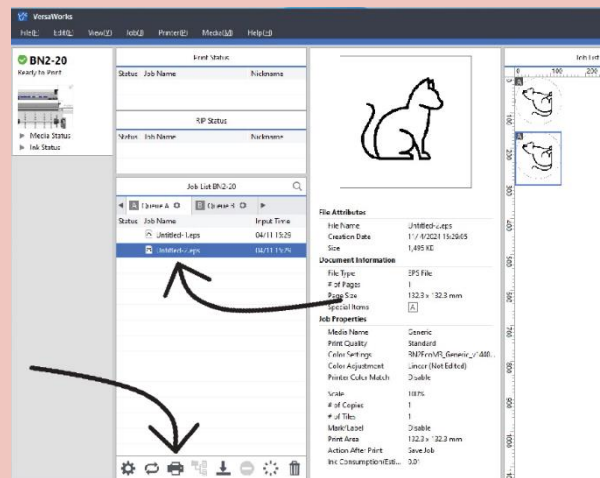


Under the Printer Controls menu change all dropdowns from "Use Printer Settings" to "Use Default Media Settings".

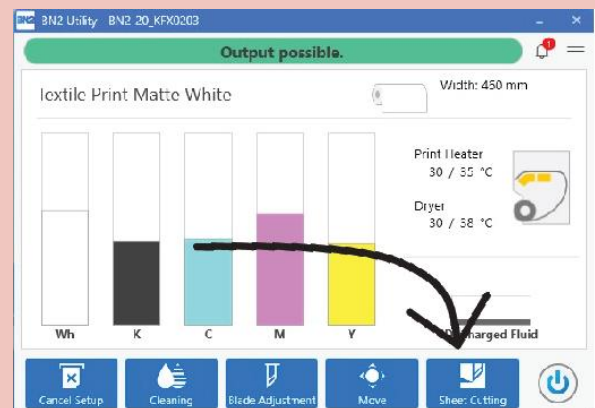


Press okay in the bottom right to finish setting up the print.

This will return you to the main VersaWorks screen with your print. Now just press to select your file and press the print icon to start printing



When the print has finished press the "Sheet Cutting" button in the BN2 Utility window to cut the print free from the roll.



Now you know all the basics of operating the BN2-20!

Happy Making!