



Artistic
DIGITIZER

USER GUIDE

JANOME

JANOME Artistic Digitizer

Software Manual

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Getting Started

Artistic Digitizer embroidery software is equipped with a next generation working environment which will excite with its innovative design, 3D integration, intuitive usability and stunning embroidery quality.

Every embroidery creation takes less time and effort to be made, providing you more time to enjoy your creations.

Artistic Digitizer is even more. It includes tools for creating cutting, painting and quilting designs. In addition, you can create stencil and designs with crystals/rhinestones. One software for all crafting creations.

All this in dual platforms, MS Windows® and macOS®. No more operating system dilemma.



Installation

The first step in order to start using the software is the actual "installation". The installation will get the software on your computer. Before proceeding make sure that your system meets the system requirements. The minimum systems requirements should be met to be able to install the software.

Operating Systems other than those stated below are not supported.

Minimum System Requirements:

Operating System:	Windows 10 or 11 with the latest updates macOS latest and previous version, compared to the release date of this software

CPU:	Intel Core i3/i5/i7/i9 or AMD Athlon X4, A10-Series, FX series, Ryzen 3/5/7/9, Apple's M1 and M2
RAM:	6 GB of RAM
Hard disk:	1.5 GB of free uncompressed space
Graphics card:	3D DirectX 11 accelerator with at least 1 GB RAM, 32-bit color (Windows only)
Monitor Resolution:	1366 x 768
Internet connection:	Required

Installing the software

Make sure that you are logged in as a user with administrative privileges.

Close all applications, including all virus detection programs and applications that are open in the system tray or on the Windows task-bar. Not doing so may increase the installation time and interfere with the installation.

MS Windows installation

Insert the installation USB flash drive into a USB port on your computer. It is recommended that you close all running programs before you proceed.

Now open Windows Explorer and navigate to the installation flash drive labeled Artistic, and run the "setup.exe" program.

If you have a link to download the installation file, you can type it in any web browser's URL field and download the file. Extract the installation file from the downloaded zip file by right clicking on it and selecting "Extract All..." Follow the instructions to extract the installation file, then go to that folder and run the file by double clicking on it.

If you are running the installation on a Windows 10/11 operating system a "Security screen" will appear with information about the new software and it will ask you if you allow it to be executed. You need to either log in as administrator or select "Allow" if you are already logged in as administrator.

1. The initial welcoming dialog of the installation will appear, from this point you must follow the wizard steps in order to proceed with the installation. If applicable, keep your "Hardware USB Key" and cutter unplugged during the installation of the software. Click "Next>" to continue.
2. When the window with the License Agreement opens, Click on the first radio button of the window, confirming that you accept the terms of the license agreement. (CAUTION! PLEASE READ THE TERMS & CONDITIONS OF THE LICENSE AGREEMENT CAREFULLY). Then click the "Next>" button.

3. At the next dialog, you can specify where you want the software to be installed. You can change the "Installation Folder" by clicking on the "Browse..." button and selecting another directory. Click "Next >" to continue.
4. At the next dialog, you can select which file types you want the software to handle. By default, the application is set to handle all supported embroidery file formats. Click "Next>" to continue.
5. The software is now ready to install. Click "Install" for the installation to begin. During the installation, you can click the Show details button to view the installation process.
6. During the installation process, multiple dialogs might appear requesting access to install embroidery machine drivers. Click "Install" to continue.
7. At some point, you will be informed that the installation is finished. Click "Finish" to end the installation.
8. Run the software by double clicking on the shortcut (Artistic Digitizer) that you will find on the desktop.
9. A message will appear informing you that you must press "OK" to enter the software key and activation code you have received with the software. Internet connection is required. In case you have a USB key, plug your USB key.
10. The "Software key" window will appear. Type the Serial number of your key and the Activation code in the respective fields and click Activate. If the process is successful, the message "Key updated successfully" will appear in the messages' area.
11. Run the software once more by double clicking on the shortcut  (Artistic Digitizer) that you will find on the desktop.
12. The "Registration information" window will appear. This window is a form that you should fill in with valid information and return by clicking on the "Register" button.
13. You are ready! You can now use the software.

macOS installation

Insert the installation USB flash drive into a USB port of your computer. The USB flash drive is automatically mounted and you will get an icons named Artistic in your desktop. Double click on the disk drive to open it and the folder will open from where you must run the "Artistic.dmg" by double clicking on it. Then follow the step from the 5th step.

If you have a link to download the installation file, you can type it in any web browser's URL field and download the file. Alternatively, the installation file is available through the following webpage:

http://www.janome.co.jp/e/e_downloads/artistic_installation_user_guide.html

1. In the Dock area, you can see the download progress.
2. Once the download is complete, the download icon will change.
3. If you click on the "Downloads" icon, then a list with the latest downloaded files appears on top. Click on the "Artistic.dmg" file. You will get a warning that this software was downloaded from the internet, click "Open" to proceed. This only happens the first time that you run the application.

4. The file you've downloaded is a disk image and by clicking on "Artistic.dmg" it is mounted onto your Mac and you can see its contents. On your desktop, there is an icon for the mounted disk image. If you accidentally close the Finder window, you can start again by double clicking the "Artistic Digitizer" icon on your desktop.
5. To perform the installation of "Artistic Digitizer" you must drag the icon onto the "Applications" folder icon that you can see.
6. Drag the "Artistic.dmg" application onto the applications folder icon.
"Notice": Do not double click on the icons because this will run the program through the mounted media and it will not be installed.
7. Installation is complete and at this point. you can "Eject" the installation media. Right click on Artistic Digitizer on your Desktop and use "Eject" option.
8. To Run the software, start "Finder" and navigate to "Applications" folder and locate "Artistic"  icon.
9. The "Software key" login window will appear. Now you need to type the "Serial number" and the "Activation code" into the respective fields. To proceed with the activation, you need to be connected to the internet. After typing the key and activation code press Activate.
10. After successful activation, you get a message "Key updated successfully".
11. Now you are ready to start "Artistic Digitizer", go to "Applications" folder and locate "Artistic"  icon once more. Double click on this icon to start the software.
12. You are ready to use the Artistic Digitizer.

Maintenance

Modify MS Windows installation

To activate the program maintenance options please insert the Artistic Digitizer DVD into your DVD-ROM drive and it will automatically run or double click on the installation file you downloaded.

Another way that you can activate the program maintenance is: "Start > All Programs > Artistic Digitizer select Uninstall Artistic Digitizer".

If the User "Account Control" is enabled you may have to log in as Administrator (If you are not already the administrator) or select "Allow" on the warning dialog that informs you about a software that requires administrator rights to run, to continue with the program maintenance. The Dialog that will appear allows you to "Add or remove components", "Update components" and "Remove all components" by selecting the respective option.

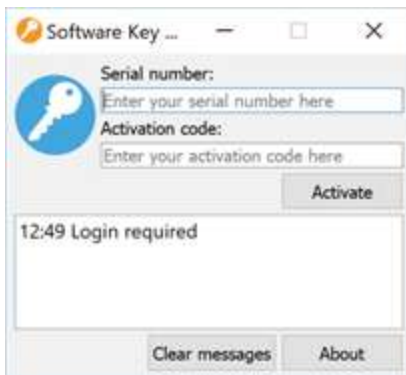
Select the maintenance option you want and click on "Next >" to proceed. Follow the dialog steps to complete the process.

Modify macOS installation

To modify the macOS installation the only thing you can do is to start "Finder" and navigate to "Applications" folder. Find the "Artistic" icon and drag it into the trash can. Then you must follow the normal installation process described above.

Software key

Together with the software you will get a software key that consists of a "Serial number" and an "Activation" code. These two numbers can be found in the packaging of the software, and they must be inserted in the respective fields of the Software key tool. The Software key tool is installed together with the software and can be found at the bottom right corner of the task bar on MS windows (next to the antivirus) and at the top right corner of the MAC's Menu bar. The Icon color will vary, based on its status. To activate the "Software key", you must insert the "Serial number" and the respective "Activation code".



Generally, at the software start-up (if you have not already activated the software key) you are prompted to type your serial number and activation code in order to activate the software. In order to proceed with the activation you must have an active internet connection. After typing the key and activation code press "Activate" to proceed. If you get a "Key updated successfully" message the serial has been activated and the software is ready to start. Run the software once more to start it.

At this point we must mention that the software key is a utility that has been installed on your computer and you can access it on your system tray. If the software cannot be started bring up software key and check the status of your key. If the key is inactive, you must type your activation code and re-activate.

Using the software on a different computer

You must click on the "Software key" tool that you will find at the bottom right corner next to your antivirus (on Windows) and at the top right corner of the MAC's Menu bar. Click "Logout" while you are connected to internet.



Windows



mac OS

1. You will be logged out immediately
2. Now you can go to another PC and open the "Software key" login tool by simply running the software.
3. Type the "Serial number" and "Activation Code" in the respective fields.
4. Click "Activate" and the software key will be activated. You can now work with the software on this PC.

5. To switch back to the first PC or any other PC, you have to repeat the process described above.

Just remember, every time you want to change PC you have to LOGOUT first and then login on the other PC.

Software Update

The software periodically checks for updates and informs you if a new version is available. Consequently, you will be always up-to-date and have access to the latest features available in the software.

Windows OS

The software is updated regularly, and the user is automatically notified that there are updates available. The updates icon  will appear notifying you that there is an update available for the software.

By clicking on the icon, the installation wizard will open informing you of the update available. Follow the installation steps to install the update.

You can also check for updates manually. Click on the "Help" menu of the software and select the "Check for updates" options.

mac OS

Every time the software starts, it checks for updates. If there is an update available a dialog will appear with information about the update. You have the option to "Install Update", "Remind Me Later" or "Skip This Version". Click the "Install Update" button to install the latest updates of the software. If you want this process to be done automatically, check "Automatically download and install updates in the future" and then click the "Install Update" button.

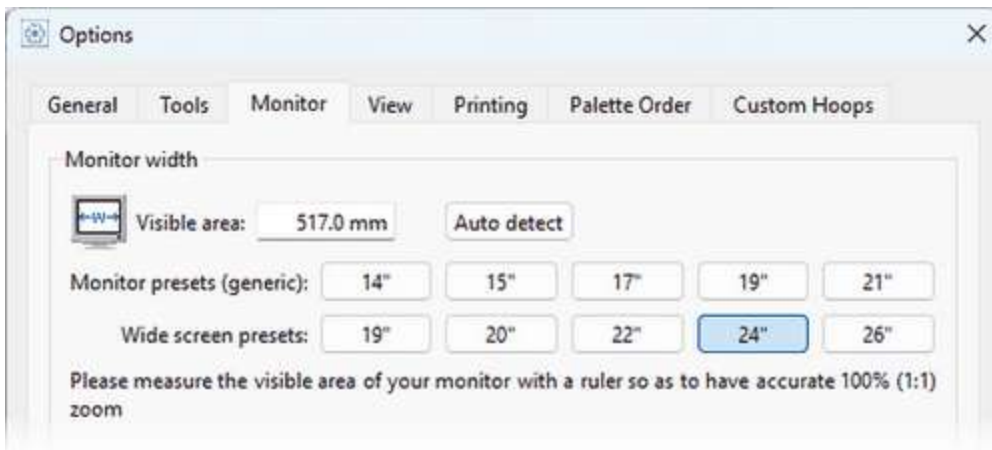
Connect external devices

The software can be connected to many external devices such as Embroidery machines, Cutters, Printers etc. Some of them need be set up inside the software prior to using them.

Monitor Calibration

Monitor calibration is important to be able to view the actual size of the design you are creating in your Monitor whenever you set the view port to 100%.

To do this you have to open Artistic Digitizer software and then select the "Options..." item from the Tools. The "Options" dialog will appear. Click on the "Monitor" tab.

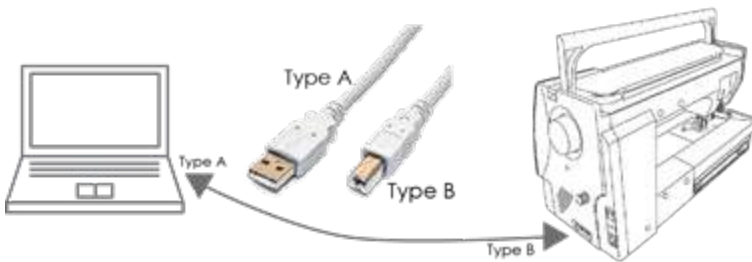


Measure the visible area (width) of the Monitor, in the way it is shown in the dialog's icon and type it in the respective field. Click "Ok" to apply the change. The next time you select the 100% view setting, you will see the design in its actual size in the monitor.

Embroidery Machine connection

MS Windows

Use the USB cable to connect the embroidery machine with the PC. The MS Windows hardware wizard will automatically start searching for the respective drivers in order to install the machine on the system. During software installation, many machines will be installed. If MS Windows is not able to find the driver of the Embroidery machine, you might need to install the driver from the CD that came with the Embroidery machine. After successful installation of the Embroidery machine, you are ready to send designs from Artistic Digitizer.



MAC OS

Use the USB cable to connect the embroidery machine with the computer. MAC OS will connect the device automatically. You can then send an embroidery design to your machine through Artistic Digitizer. If the machine is not detected by the software, all the export options will be disabled.

Supported embroidery machines

Artistic Digitizer supports many machines with different connection types. The available types are: USB, Direct and WiFi connections. View the list of supported machines below:

Machine	Direct Connection	USB stick	WiFi
CM17	•	•	•
MC15000	•	•	•
MC14000	•	•	
MC12000	•	•	
MC11000	•	•	
MC9900		•	
MC9850		•	
SKYLINE S9, Atelier 9	•	•	•
MB-7	•	•	
MB-4S	•	•	
MB-4	•	•	
MC1000		•	
MC500E, MC550E	•	•	
MC450E		•	
MC400E		•	
MC350E		•	
MC200E / MC100E		•	
NS-1, NS-a	•	•	

Cutter connection

All cutters come with an installation CD or you can download the drivers from the manufacturer's website. Connect the cutter with the computer and install the driver.

After driver installation, Artistic Digitizer will be able to connect with the Cutter immediately. If you cannot find the cutter or it is disabled, then you must check if the cutter was installed properly.

The same applies both to MS Windows® and mac OS® systems. For MS Windows® systems, most cutters are supported either directly or by exporting the relative file that they can read. For mac OS systems, not all cutters are supported for direct connection. You will have to check the manufacturer's website for relative drivers although most cutters are supported by exporting the design from the software to the file format that they can read.

Supported cutters

Artistic Digitizer supports many cutters directly or through the use of a file.

View the list of supported machines below:

Cutter	Direct Connection	Direct Connection	File
	MS Windows	mac OS	Both OS
Artistic edge	•	•	
Zing	•	•	
Silhouette CAMEO	•		•
Silhouette Portrait	•		
eCraft	•		•
Silhouette SD	•		
Foison	•	•	
eClips 2	•	•	
REDSail	•	•	
GCC Jaguar	•		

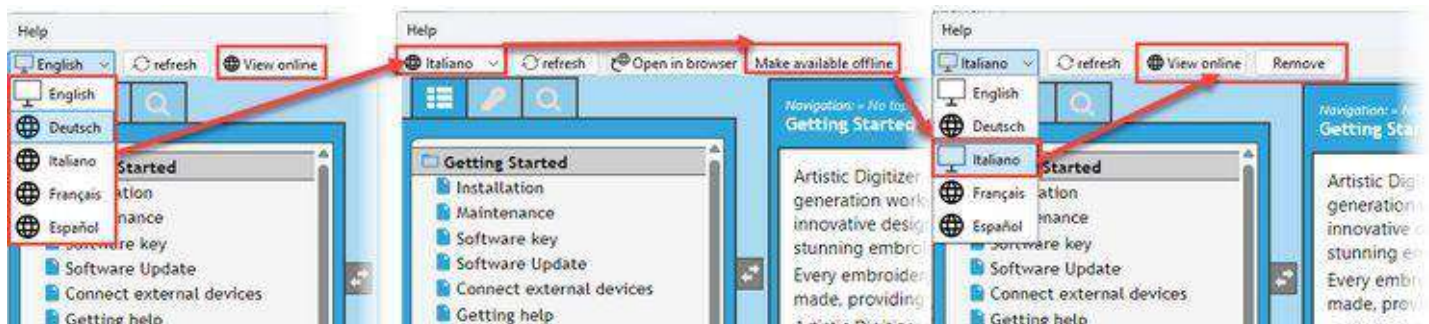
The software will automatically recognize the connected cutter and allow you to send cut or paint designs to it. If the cutter is not there or it is disabled then it was most probably not correctly installed.

Getting help

You can find the "User guide", in the "Help" menu of the software. It is called "Help topics" and you can access it by pressing "F1" shortcut key. To navigate through this help



1. Table of contents: allows you to see all of the information organized by subject. Click top-level entries to view subtopics.
2. Index: allows you to look up specific terms or concepts in alphabetical order. Type in a word or phrase.
3. Search: lets you search the full text of the Help for a particular word or phrase.
4. Language selection area: You can select an alternative language for the user guide and also download the user guide to be available offline. The languages that have this globe icon are viewed online through the internet, while the languages that have this monitor icon are versions that are also available offline. For languages that are viewed online, there is an option to make them available offline.



Notice: If you change the language used for the software, through Tools menu, Options tab, on General section, the user guide will prompt you to download a translation of the user guide if available.



5. You can also navigate through the user guide using the navigation arrows

The same manual is included in pdf file format and can be accessed using the option "Printable Help" of "Help" menu.

Another help resource is the "Show help on" that can be also accessed from the "Help" menu or by pressing the "Shift+F1" shortcut key. Show help on: can provide help for a specific tool, area, or function. When you activate "Show help on", the mouse pointer turns to a pointer with a question mark. Click on any function you want in Show help on and the subject will be displayed.

Finally, "tooltips" provide helpful information about application controls when you position the pointer over icons, buttons, and other user interface elements.

New features

Introducing the new patent pending Sketch stitch

Our newest addition to our embroidery software is the patent pending Sketch stitch technique. With Sketch, a bitmap image can be transformed into a charcoal sketch with just a black thread or an assortment of gray threads. The technique is tailored for use mostly on white fabric and covers roughly 20% of the area, making it versatile for embroidery on delicate materials like t-shirts. Reversed versions of Sketch on dark fabrics is also supported. This added feature expands the range of customizable options for our valued users. **Learn more...**

Ability to rotate, slant and re-size bitmap shapes that are filled with stitches

This feature allows the user to rotate, slant, and re-size bitmap shapes that have been filled with stitches, therefore adding a new level of flexibility for artists and crafters who can create original and personalized projects. This function can also address stitching challenging areas or achieving desired symmetry in a finished product. **Learn more...**

Edit bitmap images that are filled with stitches inside the node editor

The node editor can now be used to edit bitmap images that contain stitch patterns. By inserting nodes and adjusting their positioning, the user may modify the shape and design of the image as desired. This added feature offers enhanced flexibility and customization for bitmap images with stitching, enabling more precise editing capabilities. This functionality can be particularly useful for tiling the image in a specific shape or area. Overall, the node editor's ability to edit bitmap images with stitches provides exciting possibilities for visual creativity. **Learn more...**

Images with Bitmap fill types - Clipping region

Clipping is now available for every bitmap fill type, that is, Cross-stitch, Photo-stitch, PaintStitch and Sketch. By default, those type of images cover a rectangular area. Now, users are no longer confined by the rectangular shape. Clipping can be used to either produce a different output shape, e.g. an oval PaintStitch image or to clip out parts of an image to be further used for more intrinsic designs. **Learn more...**

Apply trim and intersect on bitmap images

Another way to manipulate bitmap images is by using the Trim and Intersect tools. For example, trim allows the user to trim parts of the design and create holes. Intersect can also be utilized to combine multiple shapes, keeping only the overlapping area. With these tools, users have the ability to enhance their bitmap images and create unique embroidery designs. **Learn more...**

Cut bitmap images that are filled with stitches and split them in parts

When working with embroidery designs, it is often necessary to split a bitmap image into multiple parts in order to fit the design within the stitching limitations of the machine or create a unique, artistic shape. The "knife" tool allows the user to precisely cut a bitmap into separate pieces. These pieces can then be moved individually and right within the design as needed. **Learn more...**

Transparency to clipping region

When a PNG image with transparency is imported and converted into any bitmap fill type (Cross-stitch, PaintStitch, Sketch), the software actually generates stitches only in the non-transparent area of the image. In this case there is an extra option on the convert menu to "Convert transparency into clipping region" and in this way the transparent area of the image is clipped. **Learn more...**

Convert images with transparency to stitches without filling the transparent areas

Artistitc Digitizer v.2.0 supports PNG files with transparency and will only generate stitches in the non-transparent area of the image. This ensures that the finished product has clean lines and does not waste any thread or fabric by filling in unnecessary spaces. **Learn more...**

Overlapping objects create holes in bitmap images

This feature is very helpful as it removes stitches that are not visible when objects overlap with bitmap images. When an object is placed over a bitmap fill, a hole is generated in the desired shape. This feature works with all stitch types, including Cross-stitch, Photostitch, PaintStitch and Sketch. The overlapping functionality extends to objects underneath the bitmap fill, where any overlapping areas will be removed, creating a more streamlined design. This feature enhances the overall appearance of the designs and saves time in the editing process. **Learn more...**

Array fill with bitmap fill types

The new Array tool allows the user to fill an area using a bitmap image. This results in stunning effects with Cross-stitch, Photostitch, PaintStitch, and Sketch, which can take any design project to the next level. Usage of this feature is really simple, therefore allowing the user to effortlessly experiment with different patterns to achieve unique results every time. **Learn more...**

New fill type in Array, Floral fill

"Floral fill" is a special Array fill type which automatically creates impressive floral designs by using your own flowers to fill the array. It is a combination of "Floral vine" and "Space fill" which produces beautiful and unique embroidery designs. **Learn more...**

Use bitmap images for your rectangular or circular arrays

Bitmap images in a rectangular or circular array can add a new dimension to any project. Whether it's a cross-stitch design, Photostitch, PaintStitch, or Sketch, these arrays allow for unique patterns and symmetry. It is truly easy to create these arrays, using any bitmap image in a chosen array shape. Size and placement are fully customizable. The result is a visually striking design that will certainly impress. **Learn more...**

Revolutionary new tool to add start/exit points and re-arrange objects at the same time.

The new, patent-pending rearrange tool allows users to effortlessly modify design sequences, trim points, and start/exit points all at once. It works within a single-color layer, displaying the entire sequence graphically while allowing for simple drag operations to make changes intuitively. Users can further add or remove trims and adjust start and exit points with ease. This innovative tool streamlines the design process, saving time and improving efficiency. **Learn more...**

New fill type in Array, Space Fill

This innovative Space Fill type utilizes copies of the internal shape to create a unique, statement look for the outer shape area. The copies are scaled and rotated randomly to add dimension and texture to the design. This fill type can be used in a variety of ways, including large shapes for added visual interest. **Learn more...**

Show - hide objects during editing

This tool is meant to temporarily hide objects from the screen, to facilitate editing of multi-layered designs, such as fill areas, shapes, and borders stacked on top of each other. The tool practically helps the user focus and handle underlying shapes and layers, without having to move the upper layers, while keeping them out of the way. This allows the clearer editing, creating intricate designs becomes simpler and more efficient. **Learn more...**

Random stitches (Satin - Satin serial)

Satin - Satin serial stitches can add depth and texture to an embroidery design, but when placed in a random pattern, they can take on a whole new level of visual interest. This technique allows for greater flexibility in the composition of a design, as well as a more unconventional and unpredictable look. The random placement adds movement and energy to the design, creating a unique piece every time. Random satin stitches can elevate any embroidery project and lend it a truly one-of-a-kind feel. **Learn more...**

Support for vertical text

Artistitc Digitizer v.2.0 offers support for vertical text placement. This feature automatically generates stitches to fill the designated text area, allowing a seamless integration of vertical lettering into the designs. This addition offers greater design flexibility and allows for unique visual elements in embroidery projects. **Learn more...**

Precise text spacing between characters

Embroidery letter spacing can now easily be adjusted with numeric values. Depending on the design, a smaller value will result in tighter spacing while a larger value will create looser spacing between letters. These settings can be adjusted to the user's liking, allowing for maximum customization of the designs. **Learn more...**

Smooth nodes - fine tune vector shape

Artistitc Digitizer v.2.0 automatically removes any unnecessary nodes, thus increasing the quality of the designs created after trace (Auto-digitize). Since cusp nodes are not to be removed by this automatic tool, converting the cusp nodes into smooth nodes is recommended before applying the tool. **Learn more...**

Fit the embroidery design in the hoop automatically

Artistitc Digitizer v.2.0 offers the "fit to hoop" option, a unique feature to conveniently fit any design in the hoop. The software automatically scales the design to fit within the embroidery area of the hoop. No more manually adjusting or guessing at the correct size -the software takes care of it. **Learn more...**

Change the density of stitch designs (.dst, .pes, .jef, .vip etc.)

Artistitc Digitizer v.2.0 allows adjusting the density of stitching in embroidery files like .dst, .pes, .jef, .vip, etc. within a 25% range. Fluctuating the density adds emphasis to certain features or reduces the stitch count for more delicate fabrics. This fine-tuning can also be helpful in compensating for changes in the design's scale. **Learn more...**

Apply Special functions (Trim and Stop) on objects through the Sequence manager

The Sequence manager allows more customization of the designs. The "Trim" function triggers a thread trim before a specific object, allowing more control over the design process. The "Stop" function pauses the embroidery machine before stitching the selected object, offering the chance to change thread colors or add embellishments. This added feature in the Sequence manager allows for even more precise and creative embroidery designs. **Learn more...**

Added cross-hair that goes across all screen

Cross-hair tool is expanded to both screens for better and more accurate design creation when using digitizing tools. Cross-hair provides a clearer visual reference, making it easier to accurately align objects within a project. **Learn more...**

Auto add Fix / Lock stitches, if needed, in stitch designs (.dst, .pes, .jef, .vip etc.)

Proper stabilization of the embroidery is crucial to prevent unraveling or distortion. That's Artistitc Digitizer v.2.0 automatically adds fix and lock stitches, where necessary, to raw stitch designs like .dst, .pes, .jef, .vip etc. This not only saves time and effort, it also ensures high-quality results with every design.

Fix: small stabilizing stitches added at the beginning of an object to stabilize it

Lock: small stabilizing stitches added at the end of an object to prevent unraveling. **Learn more...**

Replaced Colors dock by a smart edit box and swatches

The old Color dock has been replaced with a more efficient and user-friendly, smart edit box for naming or inputting color codes, coupled with an expanded swatch display. The edit box allows quick access to specific colors, while the expanded swatch display provides an at-a-glance view of all available colors. This new setup streamlines the design process and enhances the overall usability. **Learn more...**

Find a specific color by searching with a hex color code or a specific thread color name/number

Search in the Colors dock is now possible by using a hex code, also known as a hex triplet. Exact shades can be selected just by inputting the six-digit combination of letters and numbers. Alternatively, a certain thread

of the current thread palette can be located by searching with the respective thread color name or number. Finding a color has never been easier. **Learn more...**

New help system

The new help system utilizes HTML for easy updates and allows for greater language accessibility. No need to download language-specific files as the online repository allows for immediate access to the help content in any supported language. For those who prefer offline access, downloading the file remains an option. This system not only streamlines the user's experience, but also allows for quick updates and improvements without requiring a software update. **Learn more...**

Manual mode improvements

Manual mode has been significantly enhanced in Artistitc Digitizer v.2.0 so that experienced users can have more control over how the software generates embroidery. When switching from Auto to Manual the software automatically separates fills from outlines, re-arranges items for fewer color changes, and trims whatever is necessary, in case an object is moved from back to front, to avoid changing the design. **Learn more...**

In manual mode, all connecting stitches are visible

In manual mode, all connecting stitches between objects are visible. The software determines whether the stitch should be trimmed or not, based on the distance between the end of one object and the beginning of the next. However, this can be overridden by the user. When a connecting stitch is trimmed, locking stitches will be added to the previous object and fixing stitches will be added to the next object. This allows for more precise control over stitching and helps ensure high-quality finished products. **Learn more...**

Objects in Manual mode have either Fill or Pen - not both

In manual mode, objects now have either fill or outline (pen), instead of both. This change provides a more intuitive user experience, uncomplicated color changes and better aligns with traditional digitizing software, providing more control over a design. **Learn more...**

When loading a stitch file or an artwork file, the new design will have the same name

When loading a stitch or artwork file in Artistitc Digitizer v.2.0, the new design automatically inherits the name of the file. This allows for easier organization, quick and efficient access to the designs and minimizes managerial work. Renaming the design during the saving process is always possible. **Learn more...**

Automatic color selection in photostitch depending on the fabric color

In dark fabrics, Photostitch is automatically filled with white color and vice versa. This feature is applied on monochrome PhotoStitch designs, it saves editing time, and ensures that designs will stand out. **Learn more...**

Increased supported size for PaintStitch / Sketch to cover larger hoops

Larger "PaintStitch" and "Sketch" designs are now possible, thus increasing the resolution and clarity of the embroidered result. New embroidery machines with larger hoops can take advantage of this feature, making larger embroidery designs the new norm. **Learn more...**

Re-designed object properties

The redesigned object properties in Artistitc Digitizer v.2.0 allows for a more streamlined user experience. Having moved properties into the design area and having integrated 3D acceleration, makes it easier to quickly shrink or hide unneeded items to create a more refined view. No need for tabbed views by making all properties accessible through touch. The "properties" area automatically hides when a tool that does not allow for selection is being used. Overall, these changes make for a smoother and more efficient design process. **Learn more...**

3D adjustments

3D adjustments have been made focused on ensuring the visual width of threads and avoiding misrepresentation of stitch density. Extra care was taken to ensure that the threads do not appear too narrow, making it seem as though the stitching is not dense enough. As a result, careful adjustments were made to accurately represent the design in its true form. These adjustments allow for an as much as technologically possible precise representation of the design, which in turn refines the design process adding a level of detail necessary for a trustworthy and enjoyable stitching experience. **Learn more...**

Supporting more embroidery machines and hoops

Support for additional machine models has been added, broadening the range of machines, and consequently the share of the embroidery market which can benefit from the features of Artistitc Digitizer v.2.0. Support for a wider variety of hoop sizes is also provided, allowing more versatility in designing and flexibility in user's choices. **Learn more...**

Override default machine selection when stitch files .pes, .jef, .jef+ or .jpx are loaded

For those who frequently switch between machines, the "Override default machine selection from stitch file data" option is a valuable tool. By toggling this feature on, the default machine will automatically change, based on the imported stitch file. So, if for example, a .pes file is loaded, the machine will switch to a Brother model. This saves time and eliminates the need for manually adjusting settings before embroidering. **Learn more...**

Bar-code support in Printouts

The Printout feature of Artistitc Digitizer v.2.0 includes a barcode so that embroidery machines which support this feature can quickly load designs just by scanning the barcode code on the software's Printout. This streamlines the production process, saving time and increasing efficiency for industrial embroidery operations. In addition to design information, the barcode can also contain stitch count and color change data for even more versatile usage. **Learn more...**

Convert vector-based objects to raw stitches for accurate stitch editing

The ability to convert vector-based objects into raw stitches allows for more precise editing, when for example the stitches of a design are adjusted to match the tension of the fabric, therefore producing better results on the finished product. **Learn more...**

Marker width support added in the color selection for Paint types

"Paint" tool now includes marker width support in the color selection, therefore allowing the choice of a specific brush width for more detailed and accurate results. No more inconsistencies in painting previews, as the brush width of each color used can be adjusted according to its actual width. This added feature enhances the overall painting experience, allowing users to truly bring their visions to life. **Learn more...**

Improvements in the way the digitizing function works

New objects inserted while digitizing are automatically placed in the desired location inheriting color settings from previously digitized objects. This streamlines the process of inserting small sections (tacking sections), enhancing productivity and improving user experience. **Learn more...**

Improvements in the way the Delete object function works

When deleting an object, the next object in the sequence automatically becomes selected. This allows both the Sequence Manager and the user's focus to remain on the current position, streamlining the workflow and saving production time. **Learn more...**

Artwork objects can open holes in embroidery

When embroidering a design, it can often be helpful to have some areas open while stitching others. This is where artwork objects come in handy - they can be placed in specific areas to create holes in the embroidery without using the boolean operations (trim, weld, intersect). Simply select an artwork object or shape and position it over the embroidered design. This will remove the stitches underneath the area it covers, leaving the rest of the design intact. Artwork objects are a quick and easy solution for creating openings within an embroidery design without affecting the artwork that is filled with stitches.

Improve Hi DPI support for multi-monitor Windows

Updates to Artistitc Digitizer v.2.0 hi DPI support, specifically for larger hi DPI screen sizes, such as 4k displays, improve both compatibility and user experience on Windows 10/11, no matter the size or configuration of a user's setup.

Support ARM native build for new Macs with M processors

The recent release of Apple's M processors has sparked excitement within the tech industry, offering improved performance and energy efficiency. As Macs continue to transition to these new processors, it is important to keep up with the change by supporting ARM native builds, thus optimizing code to run directly on the processor, rather than through emulation or translation. ARM native builds can improve speed and efficiency for end users, as well as potentially open up new capabilities within the system. Moving forward, staying updated with emerging technologies ensures optimum experience for Artistic Digitizer users. **Learn more...**

Limitless undo levels

Users can now enjoy practically limitless levels of undo functionality. This allows a user to freely explore options and experiment with designs without the fear of losing progress, therefore enhancing one's creative freedom. **Learn more...**

Kerning pair support in Pre-digitized fonts for creating accurate lettering designs

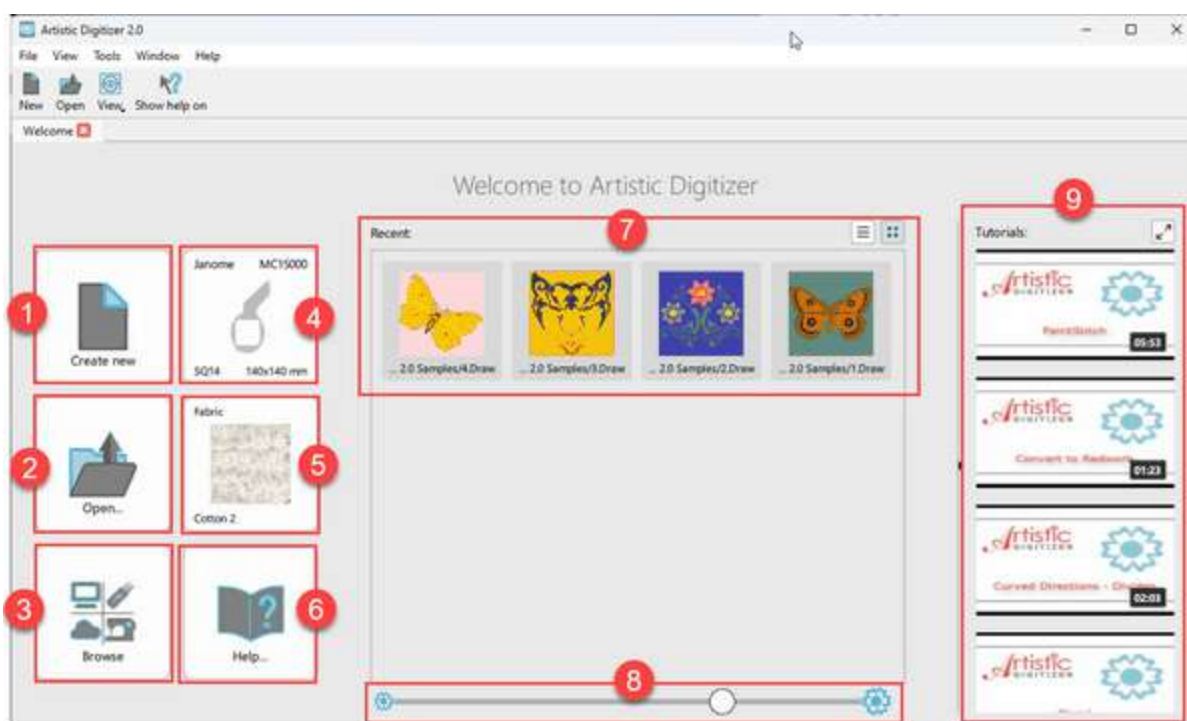
Kerning pair support in Pre-digitized fonts allows for accurate, yet aesthetically pleasing letter placement, by adjusting the space between letters. This is a dynamic functionality which results in smoother and more refined lettering to ensure that every embroidery design turns out exactly as intended. **Learn more...**

Workspace tour

The main application window consists of a variety of menus, toolbars and various property bars. All these together with the design tabs are called a workspace. A workspace is any combination of the above components. The way that the workspace components and windows are placed is fully customizable. When opening the application for the first time all these tools are placed by default in a way to help you focus on your task (creating, editing and viewing designs). Make any arrangement on workspace components in order to have a workspace that matches your personal preferences. More information about customizing workspace will be provided later on this chapter. Take some time using all the available workspace components. As you are getting more familiar with the tools and their usage you will improve your productivity. Let's take a look at the tools and their default placement.

The available components dynamically change according to the Techniques  that we enable for this design. There are 5 techniques available Stencil, Embroidery, Cut, Crystals, Paint. According to the enabled techniques the available workspace components are altered, so always have in mind that a tool or an option may not be available with some of the enabled techniques while it may be in other techniques.

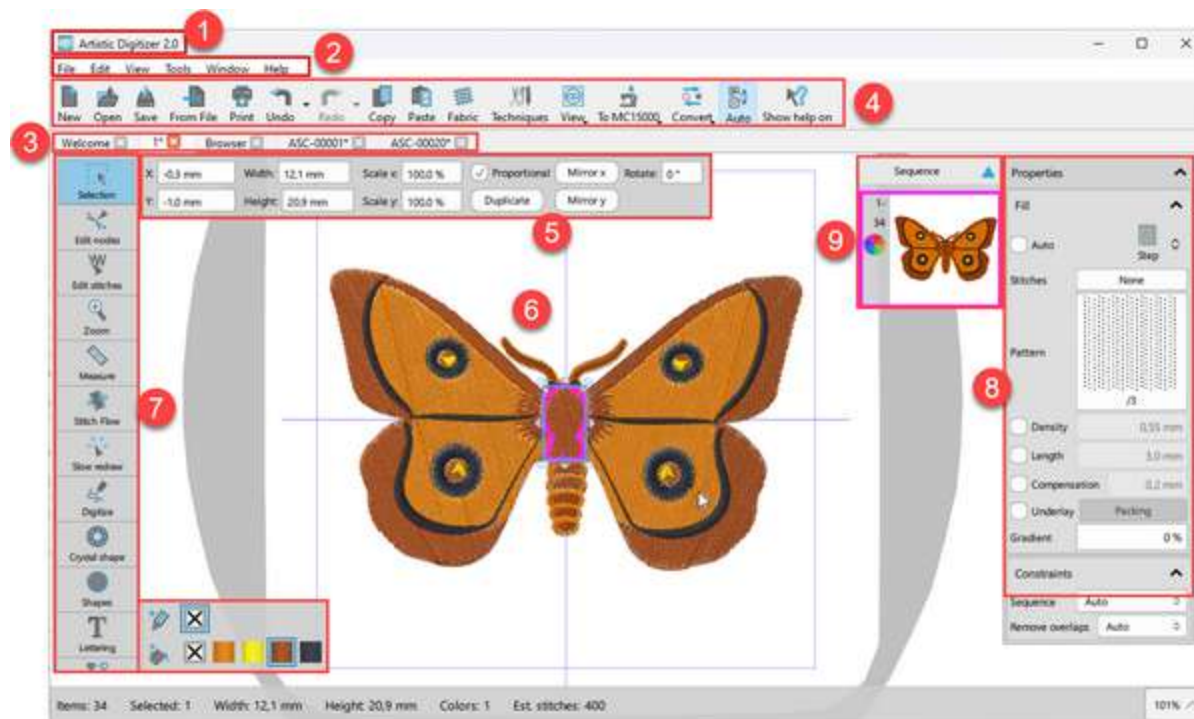
When the software starts, the "Welcome screen" gives you easy access to application resources and lets you quickly complete common tasks. The main options are "Create a new design", "Open an existing design" or start the design "Browser". You can also quickly load any of the recently created designs that appear on a list. You can select an embroidery machine and one of its hoops as the default hoop for any created design. Similarly, the Fabric type and its color. Finally you can open the user guide of the software and watch any of the training videos.



1. Create a new design.

2. Open an existing design.
3. Start the design "Browser".
4. Select the default embroidery machine and hoop.
5. Select the default fabric and its color.
6. Open the software's user guide.
7. Load any of the recently used files.
8. Adjust the size of the preview icons, for the lost of the recent files.
9. Watch useful demonstrations about the software.

We will now describe the available workspace components and the ways to customize them. On the top area of the application window you can see the Title bar, the main menu, the standard toolbar and the "Tools options" bar. On the left side of the application window you can see "Tools" toolbar. You can also see the "Used colors" bar and the "Status" bar at the bottom area of the window. On the right side of the design area you can see Properties tab and the Sequence. Properties bar is a context sensitive bar because it provides properties for the object you have selected. Each object might have different properties depending on its size and shape. Let's take a closer look at all these components.



1.Title bar

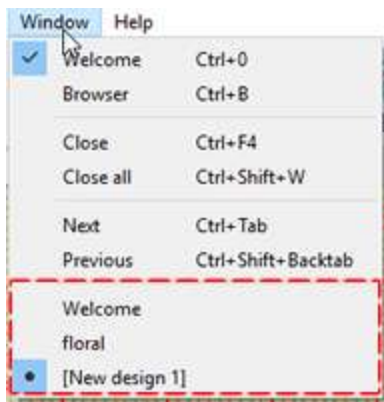
This bar is located on the top of the application window. Most windows applications provide file information and window handling controls via this bar. The default location is on the top of any application window. By double clicking on the title bar the application changes from maximized state to custom window state.

2.Main menu bar

Under the title bar is located the Main menu bar. This bar provides access to most of the commands that control the main functionality of the software. It consists of several menus, click on any of them (for example, File, Edit, View, Tools) to see the included menu commands.

3.Design tabs

By pressing on the top of any tab you can select the active design. Another way to select the design that you want to be active is by selecting from the list of the loaded design of "Window" menu.



4.Standard toolbar

Standard toolbar, this toolbar is a collection of buttons that serve as shortcuts for the basic functionality of the application. Most of these icons implement the same functionality in the majority of windows applications. If you are familiar to any windows application, you have used many times, tools such as new design, open design, Save, Cut or Paste. Besides these basic file operations, you can use shaping tools (Weld, Trim, and Intersect), Select Fabric and adjust view options.

5.Tools options bar

Tool options pane is a context sensitive toolbar. Depending on the tool you have selected from the toolbox the property bar changes accordingly. It also contains controls that you can use to change the properties of the selected object. Some of the available tools have extra parameters that appear on the Tool options toolbar, every time you select them.

6.Design area

The heart of the software is the design area. All the tools, menus and functions exist to provide functionality useful during designing process. The design area is the rectangular area inside the application window. This area is used for creating and editing designs. Any tool you are using from any toolbar affects the creation inside the design area. You can have many loaded designs in the same window. Every design has its own design area. Multiple designs are can be loaded in different tabs. By pressing on any of these tabs you can select which design you want to be visible.

7.Tools toolbar

Tools toolbar, this toolbar contains shortcuts for most of the viewing and designing tools. Selection modes (Rectangle and Lasso), Edit shape nodes mode, View port presets (Zoom in, Zoom back, Zoom all, Pan), Slow

redraw, create Freehand shapes or insert Shapes, use Text, Array tool (Circular, Rectangular) and "Color manager". The tools and their usage will be described later on a separate section each.

8.Properties

The Properties pane contains all the properties that can be customized in the embroidery aspect of the design. Using the provided options you can change the stitch type of the design easily by just clicking on it. The Properties pane contains all available parameters for each stitch type. You can see and change the parameters of selected objects. Just click on a parameter to change its value. When selecting an object the Properties pane, shows the properties of the selected object. Every stitch type has a different set of parameters. The available parameters and the proper way of affecting them will be described later on this manual, in a different section.

9.Sequence manager

This tool provides a graphical representation of the embroidery sequence. There are signs to separate the different types of objects (Embroidery, appliqué). It is often needed to change this sequence, in order to improve embroidery quality. Any item you select on sequence manager gets selected on the working area. The extra ability of this tool is that you can re-arrange the sewing order for the current design, and select an object. Therefore you can organize the sequence of embroidery production in the way you prefer.

Context menus

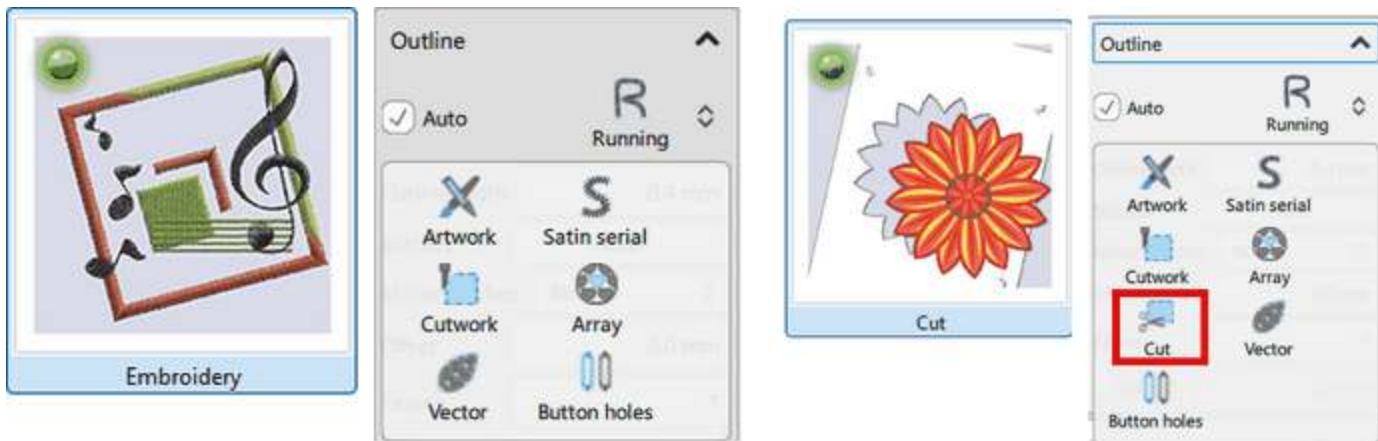
The term context menu (shortcut menu or pop-up menu) is commonly used for menus which pop up when right clicking on an item inside the design area, offering a list of options. The available options vary depending on the context of the action and the item selected. For example different options appear when right clicking on a design object than when clicking on the same object in Edit shape nodes mode. The available context menus are hierarchically organized, allowing navigation through different levels of the menu structure. Some of the applications functionality can only be revealed by specific context menus. This kind of logic separates the available actions for each type of object. Select any object, right click on it and select a function from the appearing menu, just like that you can perform a number of designing tasks.

Status bar

The status bar displays information about selected objects (such as Width, Height, and Number of stitches). It also displays information while transforming objects about angle etc, information that assist in more accurate transformations.

Techniques

The available components dynamically change according to the Techniques  that we enable for this design. For example in the following figure, in the left part we have only "Embroidery" technique enabled and as you can see only Embroidery types are available. In the right part we have also enabled the "Cut" technique and the "Cut" type has been added to the available outline types. There are 5 techniques available "Stencil", "Embroidery", "Cut", "Crystals", "Paint".



Stencil

When enabling "Stencil" technique, Stencil outline type is enabled. Using this outline type you can convert any open outline automatically into a Stencil design.

Embroidery

When enabling "Embroidery" technique we can apply various embroidery fill types (Satin , Step , Row fill , Applique , Net fill) and various outline embroidery types (Running , Satin serial)

Cut

When enabling "Cut" technique, the Cut outline type is enabled and visible in available outline types. Using this outline type we can Cut any design part using your cutter. Create a design you want to cut and you can easily send it to your cutting machine.

Crystals

Crystals technique enables the Crystal fill type and Crystals outline type. Using Crystal fill or Crystals you can automatically add crystals to any portion of your design using various crystal/rhinestone shapes and sizes.

Paint

Paint technique enables various Paint fill types (Zig zag , Fill , Row fill , Paint net fill) and various Outline paint types (Line , Zig zag paint). Using any of the previously mentioned paint types any portions of your designs can be painted precisely.

By default when creating a design the software uses, the techniques that were enabled for the latest design. In case that you change your mind and you want to use additional tools that are not included in the enabled

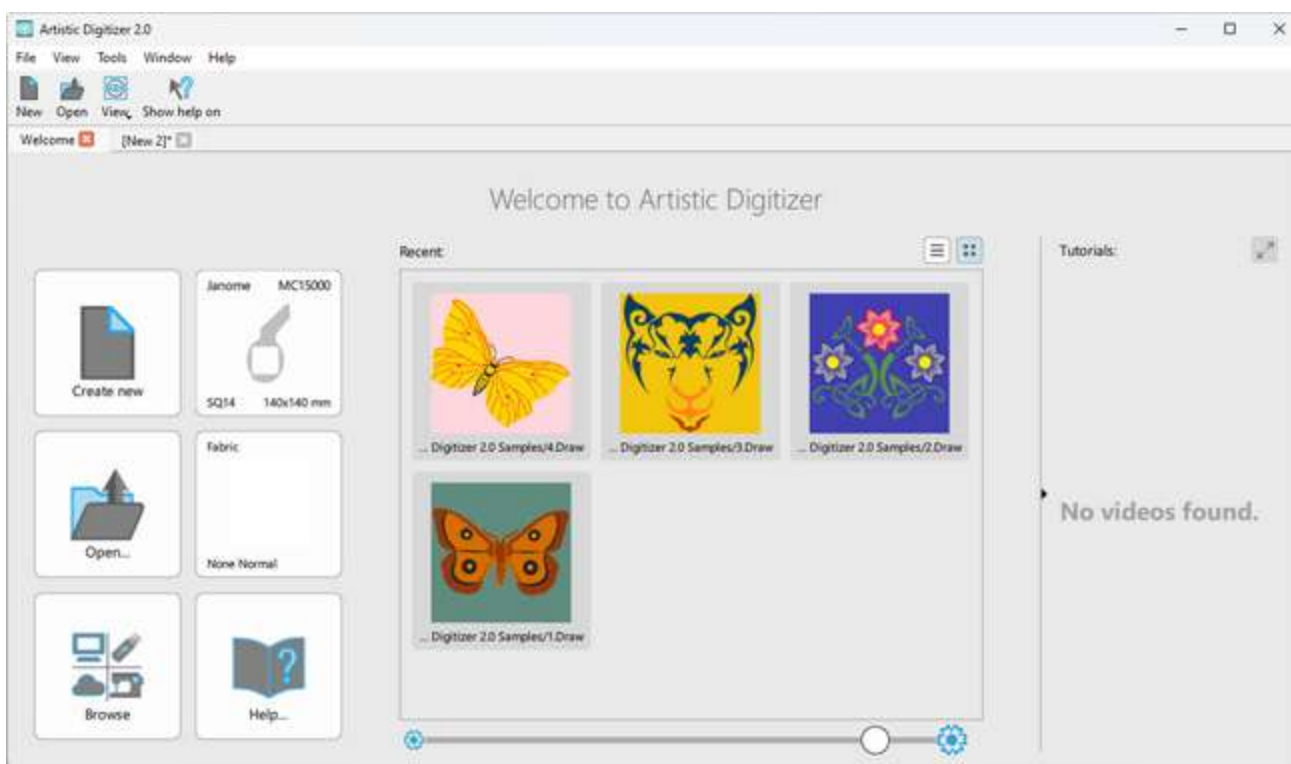
techniques you can enable additional techniques using the Techniques icon  of Standard toolbar. Select any technique that you would like to enable by clicking on its icon. At this point we must mention, techniques that are already and actively used on the design have this red bulb on their upper left corner and we can not disable them until there is no usage of their tools on the design.

The enabled techniques that are not already actively used on the design have this green bulb and the techniques that are not enabled have this black bulb. Click on any technique that you may want to enable, its lamp will get Green. The workspace will be updated and the tools of the newly enabled designs will appear for this design.

Quick start

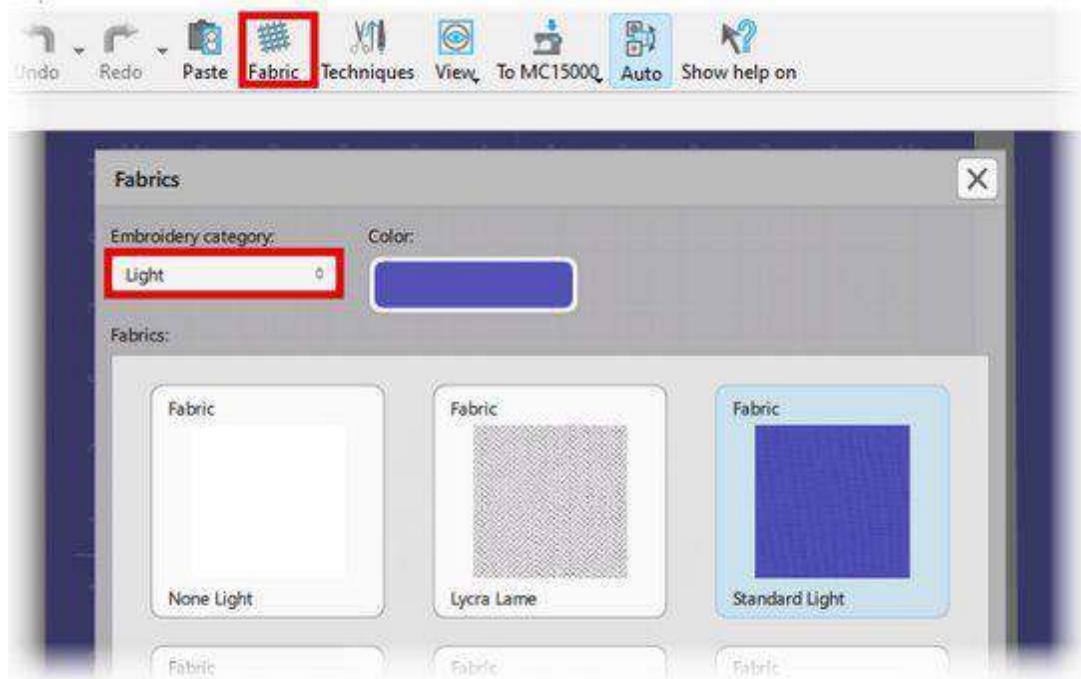
The easiest way to get started with the software is by opening an existing design and sending it to the machine. You can open either any of your own embroidery designs or any of the sample designs that are included in the software.

1. From the "Welcome" page select any of the "Recent" sample designs or click on the "Open..." button to select one of your own embroidery designs.



2. The design will open inside the workspace of the software and will be ready to be exported to the embroidery machine. Before doing that select the "Fabric" that you will use, set the Embroidery category

to Smooth and if you want, change the fabric color.



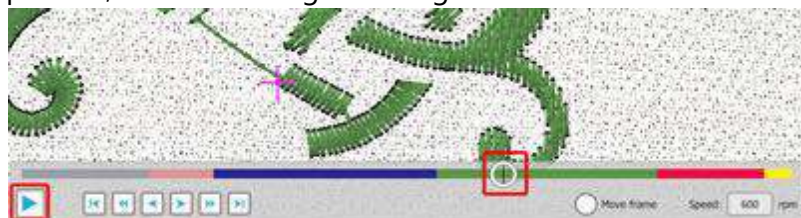
3. Select the "Hoop" you will be using Change button under the machine icon on the top toolbar.



4. From the appearing dialog select the machine manufacturer and model and then click on the hoop you want to use on the list of available hoops.

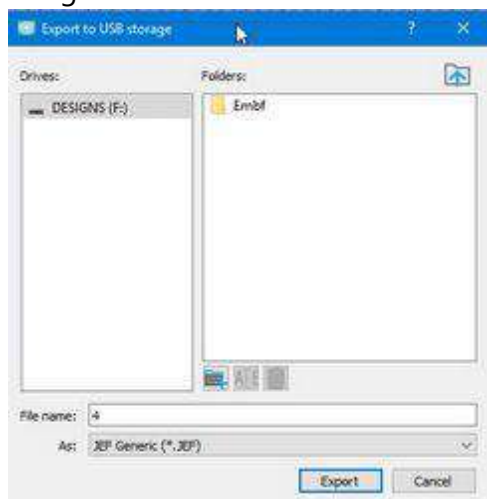


5. After setting the hoop, click on the "Slow redraw" option from the "Tools" bar, to simulate the sew-out process, before sending the design to the machine.



6. Click "play" icon to view the sew-out stitch by stitch or drag the "current stitch handle" to view it faster.
7. If you are satisfied with the way it sews out, you are ready to export the design to the machine.

8. Click on the Print icon from the standard bar and make a printout of the design. It will be useful during the sew-out.
9. Finally select File > Export > To USB storage and a dialog will appear that will guide you to save the design on a USB Stick.



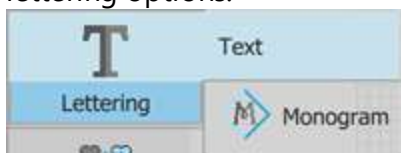
10. You are ready to start embroidering!

Create a lettering design

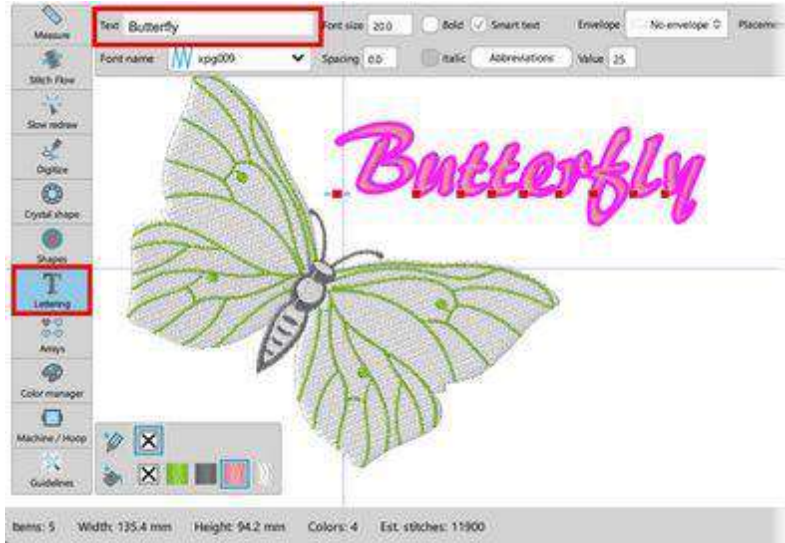
After embroidering your first sample design you can now create your first lettering design. Creating lettering designs is very easy, it's like typing text in a document. Transformations can be applied immediately to change the angle and curvature of the text.

To create a lettering design, do the following:

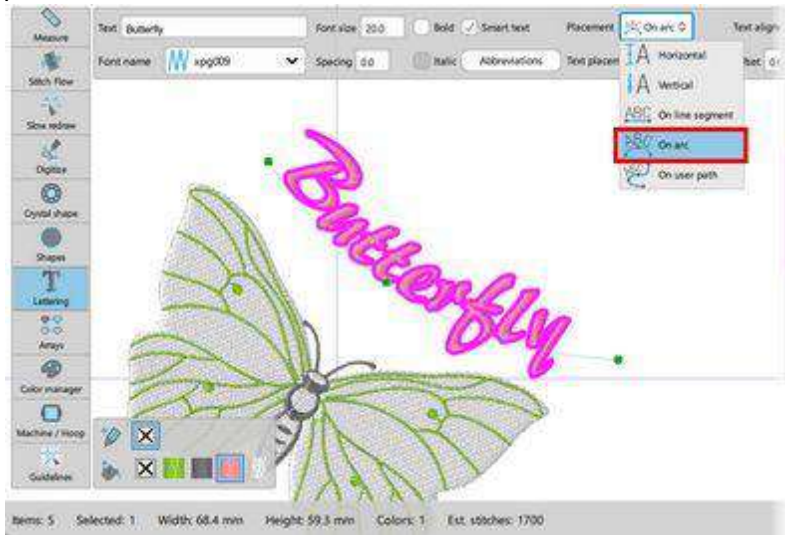
1. From the "Welcome" page of the software open a design or use any of the existing samples.
2. Click on the "Lettering" tool from the "Tools" bar to activate it. The "Tools option" bar will appear with all lettering options.



3. Type the text you want in the "Text" field. It will be automatically placed in the working area.



4. To place the text on a curve/arc you have to select the "On arc" option from the "Placement" drop down menu.
5. To edit the curve/arc on which the text is placed, click and drag the nodes of the curve to change it.
6. Use the "Tool options" of the "Text" tool to make more adjustments to the text according your preferences.



7. Change object colors from the "Used colors" bar and you are ready to stitch out the design you created.

Quick Reference Card

General		
	MS Windows	MAC OS
New document	Ctrl+N	Cmd+N
Open document	Ctrl+O	Cmd+O
Save document	Ctrl+S	Cmd +S

General		
Save As document	Ctrl+Shift+S	Cmd +Shift+S
Print document	Ctrl+P	Cmd +P
Export to image	Ctrl+Shift+E	Cmd +Shift+E
Export to SVG	Ctrl+Alt+E	Cmd +Alt+E
Help	F1	F1
Show Help on...	Shift+F1	Shift+F1

Selection		
	MS Windows	MAC OS
Select all	Ctrl+A	Cmd+A
Invert selection	Ctrl+Shift+I	Cmd+Shift+I
Top object	Ctrl+Home	Cmd+Home
Bottom object	Ctrl+End	Cmd+End
Next object	Tab	Tab
Previous object	Shift+Tab	Shift+Tab

Modifications		
	MS Windows	MAC OS
Undo	Ctrl+Z	Cmd+Z
Redo	Ctrl+Shift+Z	Cmd+Shift+Z
Select fabric	Ctrl+F	Cmd+F
Options	Ctrl+T	Cmd+T
Optimizer options	Ctrl+Shift+J	Cmd+Shift+J
Repeat last transform	Ctrl+R	Cmd+R
Group	Ctrl+G	Cmd+G
Ungroup	Ctrl+U	Cmd+U
Combine	Ctrl+L	Cmd+L
Break apart	Ctrl+K	Cmd+K
Convert to curves	Ctrl+Q	Q
To front one	PgUp	PgUp

Modifications		
To back one	PgDn	PgDn
To front of design	End	End
To back of design	Home	Home
Directions	Ctrl+Shift+D	Cmd+Shift+D
Divide	Shift+D	Shift+D
Edit Stitches		
	MS Windows	MAC OS
Insert stitches	Enter	Return
Delete stitches	Backspace	Backspace

Slow redraw		
	MS Windows	MAC OS
Design's start	Home	Fn + Left arrow
Previous object	Up arrow	Up arrow
Next object	Down arrow	Down arrow
Next stitch	Right arrow	Right arrow
Previous stitch	Left arrow	Left arrow
Design's end	End	Fn + Right arrow

Designing		
	MS Windows	MAC OS
Insert symbol	Ctrl+F11	Cmd+F11
Insert Clipart	Ctrl + I	Cmd + I
Delete objects	Delete	Delete
Edit shape nodes	F10	F10
Edit stitches	Shift +F10	Shift +F10
Freehand	F5	F5
Outline	Ctrl+F5	Cmd+F5
Rectangle	F6	F6
Trapezoid	Shift+F6	Shift+F6

Designing		
Ellipse	F7	F7
Pie	Shift+F7	Shift+F7
Polygon	Y	Y
Star	S	S
Text	F8	F8

Align bar		
	MS Windows	MAC OS
Align Left	L	L
Align Right	R	R
Align Top	T	T
Align Bottom	B	B
Align centers Horizontally	C	C
Align centers Vertically	E	E
Same width	Shift+W	Shift+W
Same height	Shift+H	Shift+H
Same Size	Shift+S	Shift+S
Horizontal Spacing	Shift+C	Shift+C
Vertical Spacing	Shift+E	Shift+E

View		
	MS Windows	MAC OS
Zoom in	Z	Z
Zoom previous	F3	F3
Zoom all	Shift + F4	Shift + F4
Zoom design	F4	F4
Hand tool (pan)	H	H
Measure	F9	F9
Overlapping crystals	O	O
Crosshair	Ctrl + H	Cmd + H

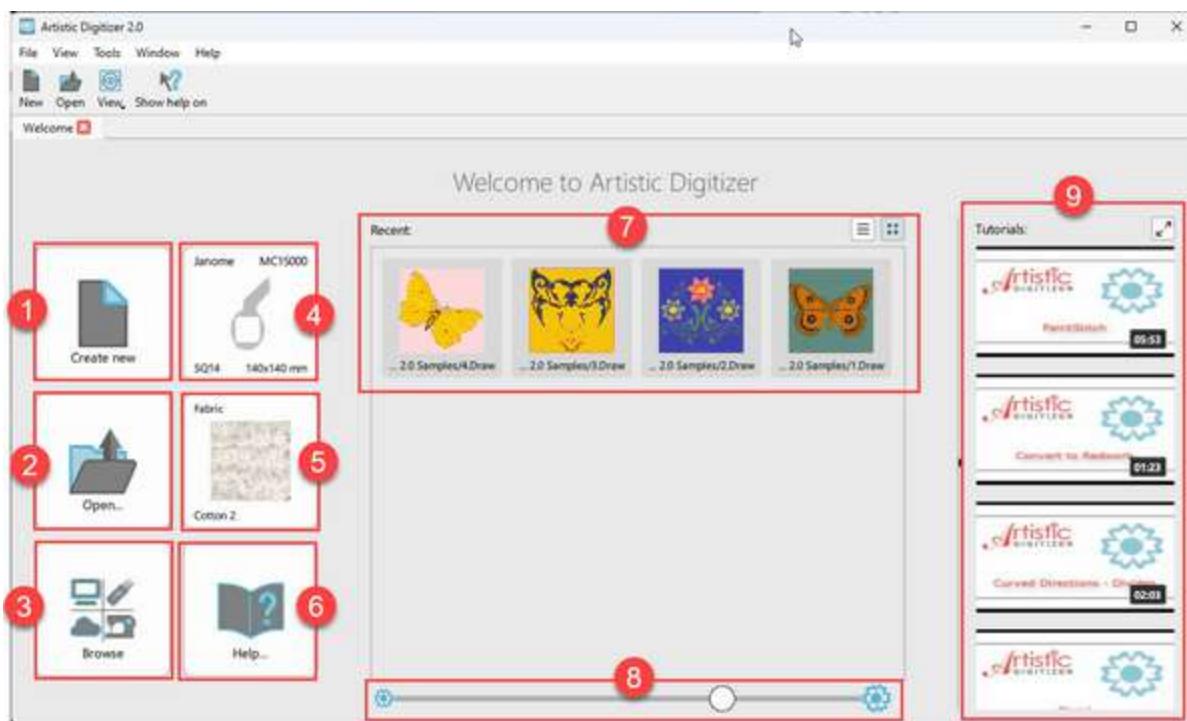
Backdrop		
	MS Windows	MAC OS
Hide	Alt+1	Alt+1
Below Embroidery	Alt+2	Alt+2
Edge enhance	Alt+3	Alt+3
Above Embroidery	Alt+4	Alt+4

Modern laptop and desktop keyboards may have a multi-purpose set of keys in the “function” row. These keys can perform special actions related to the audio volume, playback, and display brightness, etc. These keys will often perform these special actions by default according to the preference of the operating system or the keyboard. If these special keys are performing special actions, then in order to use them as the classic F1-F12 keys, you need to hold down the Fn key every time you press any function key. For example if you need to use Ctrl+F5 shortcut (mac OS Cmd+F5) in reality you need to press Ctrl+Fn+F5 (Cmd+Fn+F5).



Working with files

When the software starts, the "Welcome screen" gives you easy access to application resources and lets you quickly complete common tasks. The main options are "Create a new design", "Open an existing design" or start the design "Browser". You can also quickly load any of the recently created designs that appear on a list. You can select an embroidery machine and one of its hoops as the default hoop for any created design. Similarly, the Fabric type and its color. Finally you can open the user guide of the software and watch any of the training videos.



1. Create a new design.
2. Open an existing design.
3. Start the design "Browser".
4. Select the default embroidery machine and hoop.
5. Select the default fabric and its color.
6. Open the software's user guide.
7. Load any of the recently used files.
8. Adjust the size of the preview icons, for the lost of the recent files.
9. Watch useful demonstrations about the software.

Create design

When you start the software you can create a new design through the welcome screen using "Create new" option. In the welcome screen you can also define the machine you are using and select a hoop for the created design. Additionally you can select a fabric for the design and a color for it. When you press "create new" a blank canvas is created with the selected hoop and fabric. You can also create a new design at any point using "New" option from File menu or by clicking on the New icon  on standard toolbar. Finally you

can use Ctrl+N keys to create a new design (macOS use Cmd+N). Now you are ready to start creating from scratch using all designing tools or import artwork using any of the import options.

Open designs

As in any creativity software there is a file format (.draw) in which the software keeps all the information about the artwork of the design. Always have in mind to save yours designs into this file format. When opening a .draw file you have the same design as when creating it.

You can open a file in various ways, use "Open" option of "Welcome" screen, "Open" option of "File" menu, the Ctrl+O keys as keyboard shortcut (macOS use Cmd+N) or by pressing the open design

icon  on standard toolbar. You can also open files you have located, using the "File Explorer" (Windows) or "Finder (mac OS)", simply by dragging the file (Artwork or Embroidery) on the design area in order to be imported into this design or on the design tabs area to be imported into a new design.

When using "Open" option, a browse dialog appears and you can navigate through the different folders and locations of your computer. The folders you navigate may have various files but you can only see the files that are supported, that is, the files that the software can open. You can filter visible files by selecting a file type. For example if you want to import a ".CMX" image you can select the respective option on "Files of type" drop-down menu and now while navigating you can see only ".CMX" images. In the same way you can filter by a category of files. for example if you want to import an embroidery files you can select "All embroidery" option and then only the supported embroidery type will be listed. By selecting any file you have preview on the lower part of the dialog.

You can select multiple files using the "Ctrl" (on Mac OS "Cmd") or "Shift" keys and the designs will appear in separate tabs.

The software can also open various other types which are in reality imported into a new design. You can open "graphic files" or "embroidery" files, but this is a conversion task. When you save a .pes file to be send to an embroidery machine, this format has only the stitches information, no information about the artwork. So, if you open a .pes file for example, which is an embroidery file, it is imported into a new design, but this design does not have any artwork information about the shapes, it only shows stitches. If you wish to change its size the results may not be as expected and you can not apply a new style or edit stitch properties. But if you load the initial .draw file that this .pes file was exported from then you have full set of options available. So any file type you open may need to be handled in a different way. When opening a vector image it is automatically converted into an embroidery design, but when importing a Bitmap image the image need to be converted, so a list of conversion option will come up.

Notice: When opening a file, that is to be imported into an new file, the software names the new design after the opened one.

On the welcome screen there is a list with last several files you have saved or recently opened. To open one of these files, double click on any of them.

Notice: If a Data Loss Warning appears, this means that you are trying to open a .draw file that was created from a previous version of the software. If you attempt to open the design it will open but you might lose some information of the .draw artwork. Therefore, every time you want to open a .draw file from a previous version of the software you should save it with a new file name so the original file to remain unchanged. By following this procedure, you will be able to work with different versions of the software and avoid losing your artwork.

Browser

The "recent list" of the "welcome" tab allows you to locate and open a file with a single click, as long as you actually accessed that file recently. For the rest of your files, instead of having to remember exactly where you have saved them on your disc, you can easily locate them by using the "Browser". You can start the "Browser" by pressing the "Browse" button of the "Welcome" tab or by using the "Browser" option from the "Window" menu.

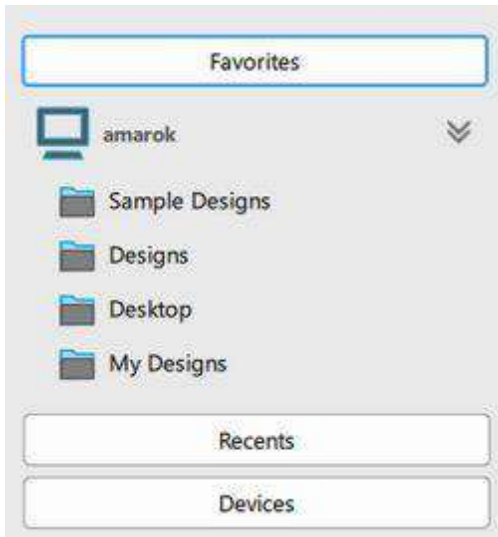


Using the "Browser" tab, you can navigate to any folder on your computer and see preview icons of all supported files in that folder. For any icon that you click on, you get a preview of the design in the preview area.



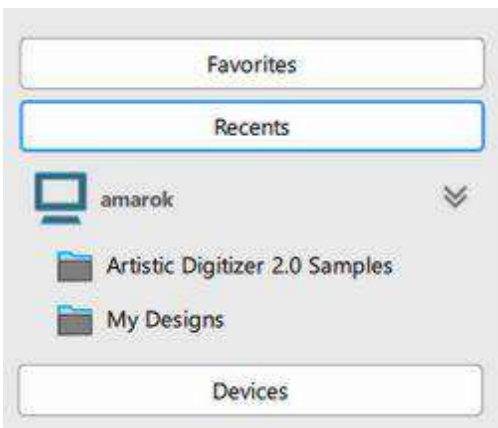
1. Navigation area:

Browse through your "Favorites".



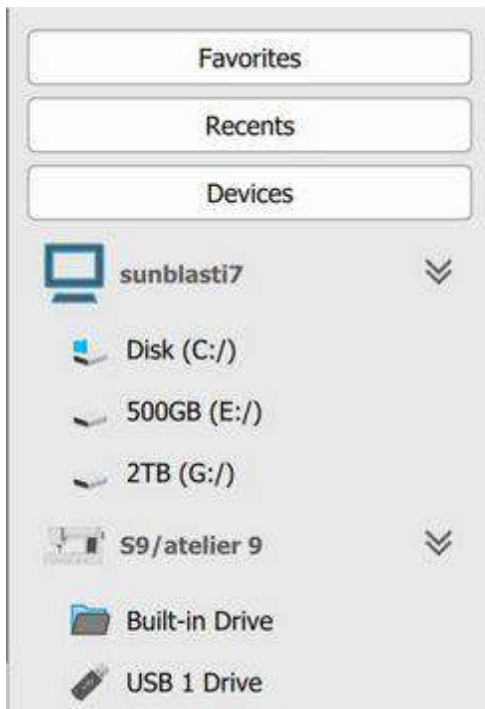
You can access the content of your favorite folder simply by clicking on it. If you want to remove a folder from the Favorites list, you can do so by selecting the relative option from the right click menu.

Likewise, you can access the content of your "Recent" folders by clicking on the respective tab.

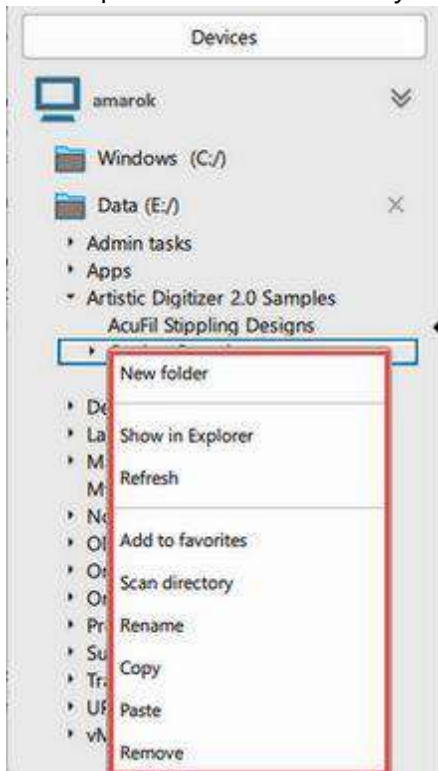


The folders you accessed recently are automatically added in the list and you can access their content just by clicking on them. The browser will show the respective content at the "Folder content" area.

In the "Devices" section you can view the computer's internal storage devices, USB or other memory external devices and all embroidery machines connected via Wifi.



More options are available if you right click on a folder.



Most "Windows File Explorer" or "MAC's Finder" abilities are also included in the embedded Browser. If you right click on a file you get the following options:

- Create "New folder"
- Open the folder inside File Explorer/Finder
- "Refresh" the folder's content

- Add the folder to favorites list
- Scan the directory's content and add sub-paths to favorites
- Rename the folder
- Copy the folder
- Delete the folder

You can also move a folder by clicking and dragging it into another folder.

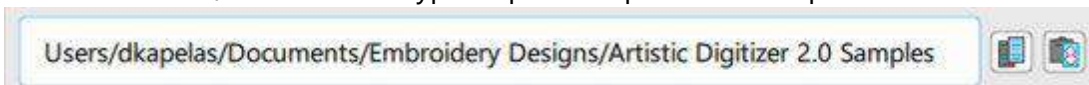
2. Address bar/Folder path

From the "Address bar/Folder path" you can:

- navigate through the folders by clicking on the name of the folder and selecting another folder from the drop down menu.



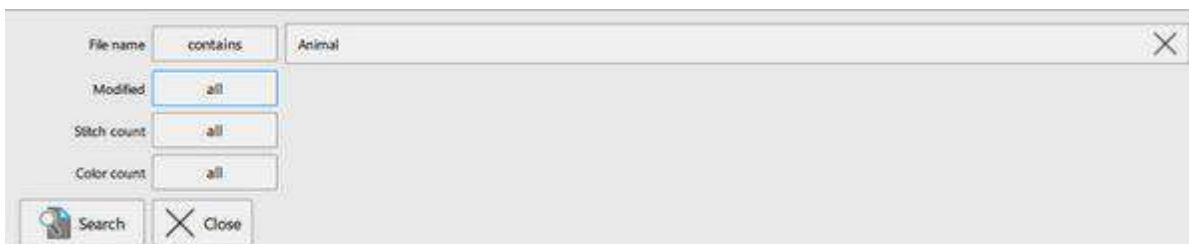
- Click on the Edit/Pen icon and type or paste a specific folder path



- refresh  the current folder
- copy  the current folder path
- paste  another folder path
- move back and forth with the use of the arrow buttons.

3. Search

You can search for a specific design in the current folder by clicking on the Search  button.



You can search in your designs by "File name", "Date modified", "Stitch count" and "Color count". Each parameter can be refined even more to get more specific results. After setting the search terms tap on the Search button to start the search process. Some of the search criteria (Modified, Stitch count and Color count) may not be available on machine folders.

Also, when you want to change numerical values, you must tap in the field and either insert the exact value

you want or slide the icon  to the left or right to decrease or increase the value.

Also, character search targets folder names and file names.

File name: search in the file names.

- all: search in all files
- contains: searches for the specified text in the text field anywhere in the file names.
- is equal to: searches for exact match of the specified text, in the text field, anywhere in the file names.
- starts with: searches for the specified text in the text field at the beginning of the file names.
- ends with: searches for the specified text in the text field at the end of the file names.

Modified:

- all: searches to all designs.
- is: searches to those designs that were modified the specific date.
- is before: searches to those designs that were modified before the specific date.
- is after: searches to those designs that were modified after the specific date.
- between: searches to those designs that were modified between the specific dates.

Stitch count:

- all: searches to all designs.
- is equal to: searches for designs with number of stitches equal to those specified.
- is greater than: searches for designs with number of stitches greater than those specified.
- is less than: searches for designs with number of stitches less than those specified.
- between: searches for designs with number of stitches between those specified.

Color count:

- all: searches to all designs.
- is equal to: searches for designs with number of colors equal to those specified.
- is greater than: searches for designs with number of colors greater than those specified.
- is less than: searches for designs with number of colors less than those specified.
- between: searches for designs with number of colors between those specified.

4. Folder Content

View the content of each folder and interact accordingly. If you right click on a file you get the following options:



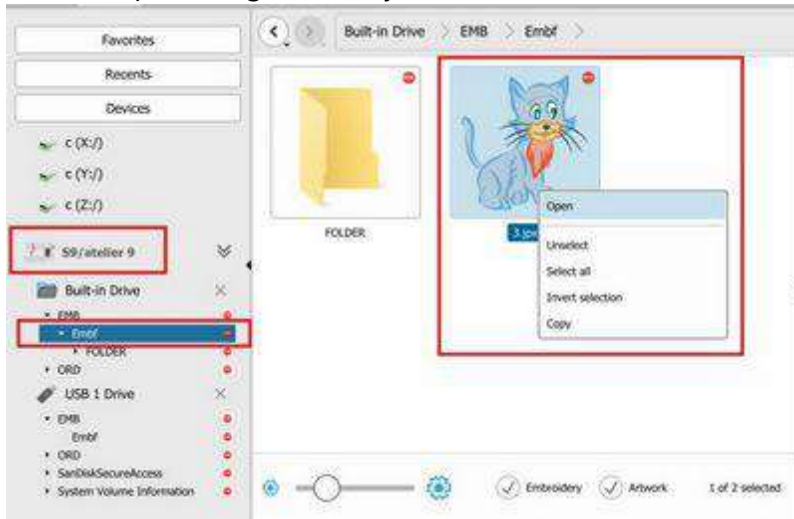
- Open the file
- Open the folder inside File Explorer
- Select all designs
- Invert your current selection
- Rename the file
- Copy the file
- Delete the file

If you right click on an empty area you get the following options:



- Create a New folder
- Open the folder inside File Explorer
- Add the current folder to Favorites
- Scan the current folder for folders that contain files and add them to favorites
- Select all files and folders

You can open designs directly from the connected embroidery machine.



The "Click and drag" ability of files or folder is also supported.

Finally, you can select multiple design by holding the "ctrl" key down (Windows) or the "cmd" key (Mac OS) and then clicking on the designs you want to select. If you hold the "shift" key down while clicking on more than one designs, you get to select all those designs at once.

5. Preview area

The "Preview area" is located on the right side of the Browser. Whenever you select a supported file, the preview of the file appears at the "Preview area". You may resize it by dragging the left side and hide it by clicking on the arrow that appears on the left side.

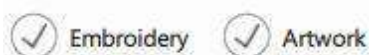
6. Zoom level

With the Icon size bar you can increase or decrease the size of the icons that you are viewing.



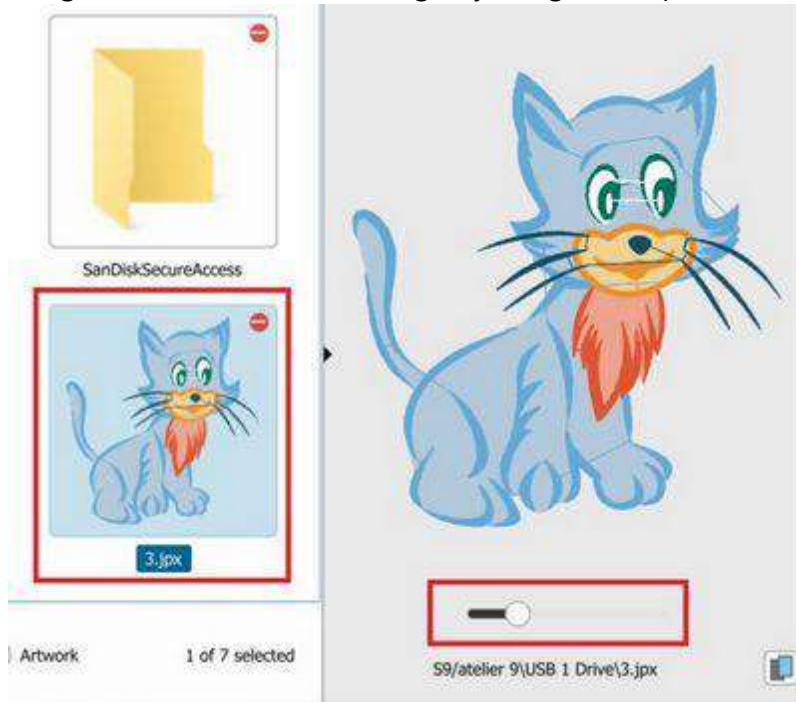
7. View filter

With the "Embroidery" and "Artwork" options you can filter the designs that you are viewing.



8. Resize Preview

On the right side of the Preview there is a resizeable area where you can actually preview the selected design. You can resize that image by using the respective track bar.



9. Change view

At the bottom bar there is a button  that allows you to change the way you view the designs inside the Design browser.

- Minimal : View only the design
- Normal : View the design's name above the design.
- Details : View the design's name above the design and more details such as dimensions, number of colors and number of stitches, below it.

Import files

The software can import files created in other applications and convert them into design artwork. The supported file types can be separated into 3 categories, the embroidery files, the artwork files and various design files. Using the option "From file" of menu "File-Import", a Browse dialog appears in order to select the file to be imported. First you must choose the folder where the file is stored. You can filter visible files by selecting a file type. For example if you want to import a ".JPG" image you can select the respective option on "Files of type" drop-down menu and now while navigating you can see only ".JPG" images. In the same way you can filter by a category of files. for example if you want to import an embroidery file you can select "All embroidery" option and then only the supported embroidery type will be listed. By selecting any file you get a preview on the lower part of the dialog. According to the type of the artwork the software responds in a different way.

Artwork

For artwork types, we must mention that there are 2 major types of images files, "Vector" images and "Bitmap" images. Vector graphics use mathematical equations to draw out your designs. These mathematical equations are translated into points that are connected by either lines or curves, also known as vector paths, and they make up all the different shapes you see in a vector graphic. This allows vector graphics to be scaled to any size without sacrificing image quality. The (*.CMX), the (*.EPS), the (*.SVG), the (*.AI) and the (*.PDF) files types are vector image types. Although, most of them may include bitmaps (images and photos from imported .jpg files) objects inside them that will be either kept as bitmaps or be automatically converted to Cross-stitch or PaintStitch.

The other type of images is "bitmap graphics", which are made up of tiny squares called pixels. Once a raster graphic is created at a certain size (i.e. a fixed number of pixels), it can't be scaled up without losing image quality. Bitmap images are those we capture with our camera or what we usually find on the internet. Widely used raster file formats are .jpg, .png, .png, .bmp, and .tiff. The software handles each image type in a different way. Vector images can be directly converted into an embroidery design, while Bitmap images must be converted and the result of the operation depends on the quality of the selected image. We will describe the conversion of Bitmap and vector images into the following topics in detail.

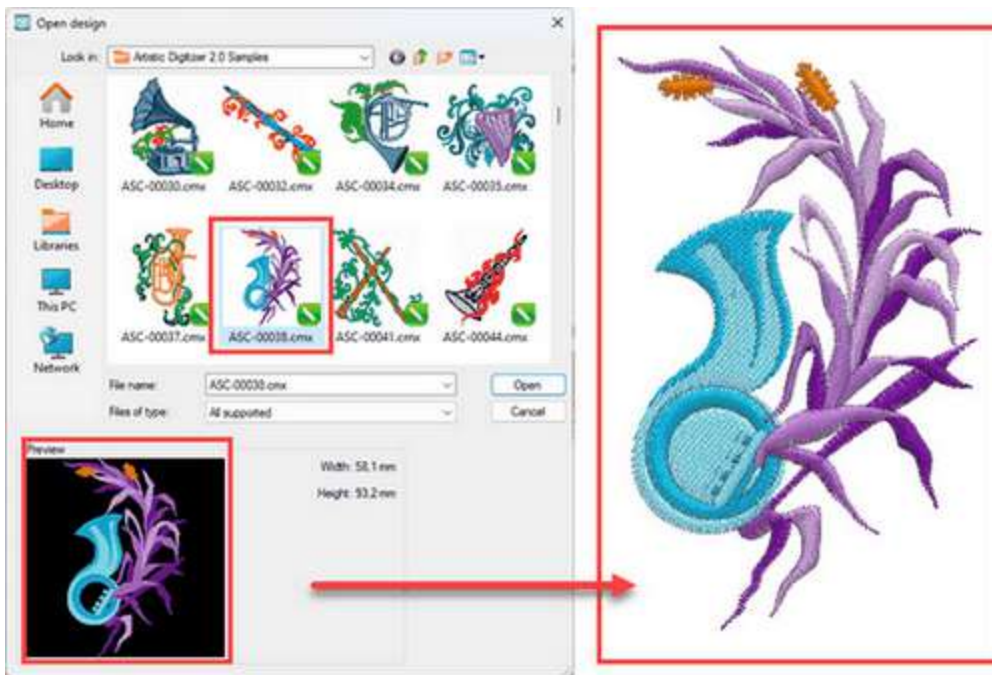
Embroidery

For embroidery files we must mention that the software can import most of the available embroidery file formats. Select any embroidery file you like (".dst", ".pes" ".jef" etc) and it will be imported as is into your design. The design is not converted it is just placed into your design and you can add - remove parts from the design and embroider again. Additionally there is a capability to trace the artwork of the design and convert it into a vector design and then change the design completely.

Notice: If you have located any file, using the "File Explorer" (Windows) or "Finder (mac OS)" that you wish to import, you can simply drag the file (Artwork or Embroidery) on the design area in order to be imported into this design or on the design tabs area to be imported into a new design.

Import vector images

You can easily can import Vector designs and directly convert them into a design. When you select a vector file using the open dialog or using "From file" option of "File-Import" menu the software automatically recognizes and visualizes all mathematical descriptions, of the vector file, that determine the position, length and direction in which lines-curves that form the shapes are drawn. Once you press open to confirm your selection the imported vector file is converted directly into outline design.



Notice: If you have located any file, using the "File Explorer" (Windows) or "Finder (mac OS)" that you wish to import, you can simply drag the file (Artwork or Embroidery) on the design area in order to be imported into this design or on the design tabs area to be imported into a new design.

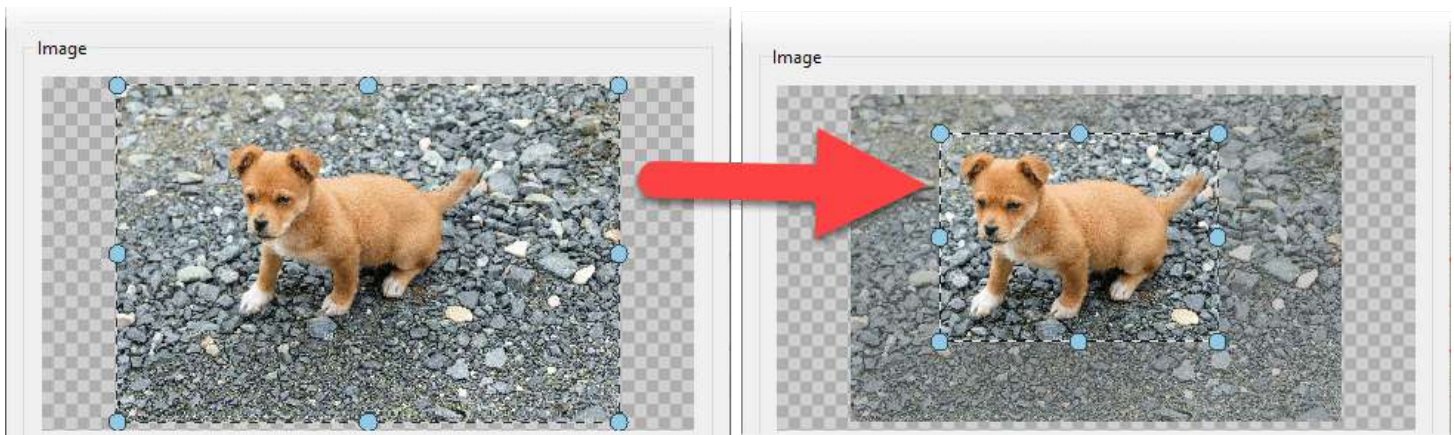
Import bitmap images

Bitmap images are those we capture with a camera or what one usually finds on the internet. Bitmap images, are actually made from dots of color. When you import Bitmap images (.jpg, .png, .png, .bmp, and .tiff), they must be converted during the import procedure. The "Load image" dialog appears to select a conversion type. You can also change the resolution of the image or select a portion of the image to be imported. The available conversion options are, "Open as backdrop", "Auto-digitize /Trace to outline", "Open as cross stitch", "Open as Photo stitch, Open as PaintStitch and "Open as Sketch".

The available handling option are described into separate topics. Using Open as Backdrop the image is placed on the background of the design area and you can create a design from scratch using the image as a guideline. Using the "Auto digitize - Trace to outlines" the image will be converted into artwork. As for the options Open as Cross-stitch, Open as Photo-stitch, Open as PaintStitch, Open as Sketch, the imported image is imported and the software automatically adds decorative stitches on top of it(Cross, Photo, PaintStitch, Sketch). We will call these 4 types of fill, Bitmap fill-types, each of these imported images is a different fill type and you can easily switch from each type to an alternative simply by selecting another of these types from the fill section of properties toolbar.



A preview of the selected graphic file, appears below the conversion types. You can click and drag on top of the preview, to select a portion of the image to import. Using the circle dots you can re-size the selected portion or even move the selection. If you're not satisfied by the initial selection use the circle icon to reset the dialog.



You can change the "Resolution" of the imported image by editing the "Width", the "Height" or the "dpi" values. Change one value and the others are automatically calculated. The image resolution changes proportionally. If any of the imported image dimensions (width or height) is larger than the default "backdrop size limit" (29,5cm), the resolution values (width, height and dpi) will be automatically adjusted to match this limit.

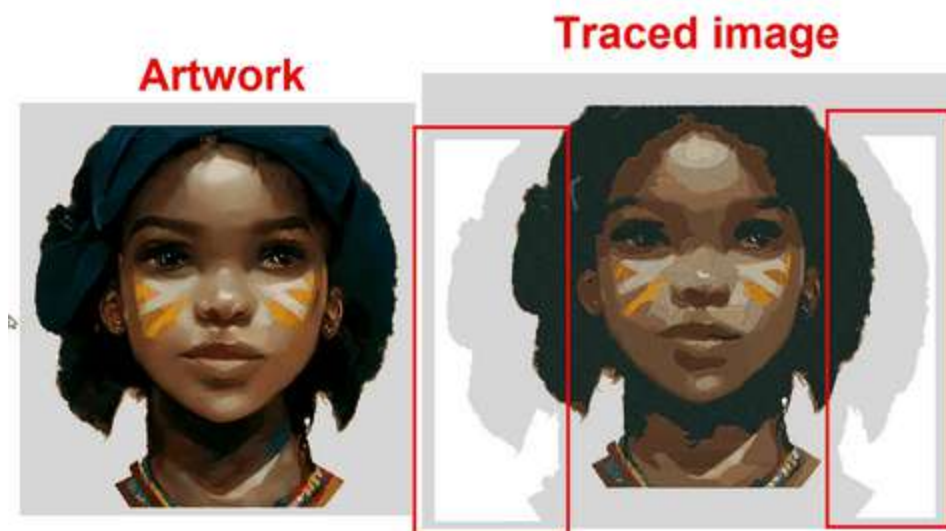


You can adjust the "Backdrop size limit" at the "General" tab of the preferences of the software (Menu Tools - options, Windows OS and Artistic Digitizer - Preferences, mac OS).

Notice: For "Open as PaintStitch" option, the maximum "width" or "height" that you can set is no more than 295 mm. Even if you set a higher value, after clicking the "OK" button the software will reduce the larger side of the image to 295mm.

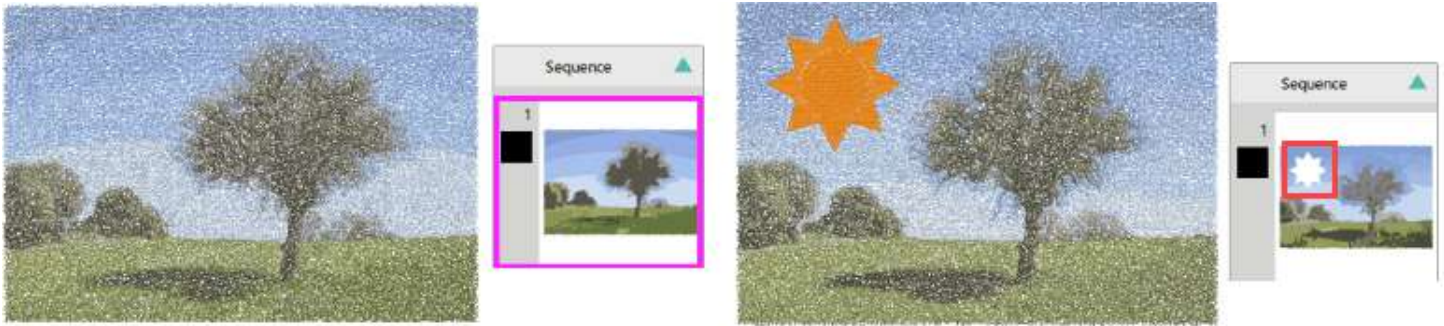
Transparency

The software now supports PNG files with transparency and will only generate stitches in the non-transparent area of the image. This ensures that the finished product has clean lines and does not waste any thread or fabric by filling in unnecessary spaces. Images with transparent areas are handled in a different way, when traced than when applying any of the bitmap fills. When tracing an image the transparent area becomes a solid artwork color while for bitmap fills and "open as backdrop" it is transparent.



Overlapping objects create holes in bitmap images - Auto remove overlaps.

The software has an automatic filter that detects objects or parts of them that are overlapping and removes the parts that are below others. So, If a large object is placed on-top of the bitmap fill, it will generate a hole in the bitmap fill. Similarly the bitmap object will create holes (remove overlaps) in objects below it. This feature is very helpful because it removes stitches that are not visible when objects overlap with bitmap images. Simply place an object over the bitmap fill, and a hole will be generated in the desired shape. This feature works with all stitch types, including, Cross-stitch, Photostitch, PaintStitch and Sketch. The overlapping functionality also extends to objects underneath the bitmap fill - any overlapping areas will be removed, creating a more streamlined design. This feature enhances the overall appearance of your designs and saves time in the editing process.



Open as Backdrop

As already mentioned, when you import bitmap images you have an option to "Open as Backdrop". If you select this option you can import the bitmap image and use it as guideline to draw a design on top of it. It is very useful for complex bitmap images that cannot be easily traced or you want to embroider only a part of them. Using this technique to create the design on top of an image you can create the design exactly in the way you want to be embroidered. Professional digitizers find this functionality very useful.

You can only import one photo as Backdrop. If you have added a Backdrop image and try importing one more, then the "Open as backdrop" option is not available, unless you remove the previous backdrop first.

The image file will appear in the design area as a backdrop (You can not edit it). You can only import one bitmap backdrop, in case that you want to import multiple backdrops you will have to use an image editor and make the multiple images a single image by combining them and then import the combined image as a backdrop.

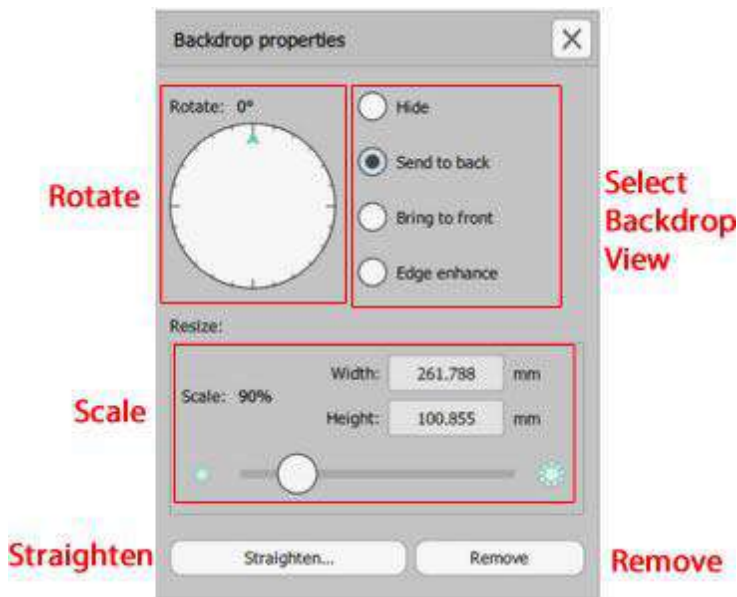
Once an image has been added as backdrop, there are some ways to view the backdrop. You can select a view option using "Backdrop" option of "View" menu.

- Show - Hide backdrop, using "Hide" option or press Alt + 1 shortcut key – you can temporarily hide the backdrop image. The Hide option can help you view the embroidery design you have created without confusing it with the backdrop image at the back.
- Below embroidery, using this option you can make the backdrop visible and position it below the design you are creating. Whenever you import a Bitmap image as backdrop, the image is automatically positioned under the embroidery design. Another way to enable this option is by pressing the Alt + 2 shortcut keys from the keyboard.
- Edge enhance: When selecting this view the backdrop colors appear Washed-out and the software enhances the edges on the backdrop image. This means that the colors of the backdrop will have lighter tones and the edges will be enhanced. This is very helpful when you are trying to draw a shape (with any of the available drawing tools) that will have the same color with the backdrop image. Also, another way to apply this option is by pressing the Alt + 3 shortcut keys from the keyboard.
- Above embroidery, using this option you can position the backdrop image to appear above the design you have created. This is very helpful. You'll be able to view the backdrop image and be able to design

the objects that will be on top of larger objects you have already designed. Also, another way to enable this option is by pressing the Alt + 4 shortcut keys from the keyboard.

Backdrop properties

The Properties option is available only if you have inserted a backdrop Bitmap in the working area. By selecting the Properties option from the View menu a 3D pop-up dialog appears on the working area with various options related with the already inserted backdrop.



The Backdrop Properties dialog includes the following options:

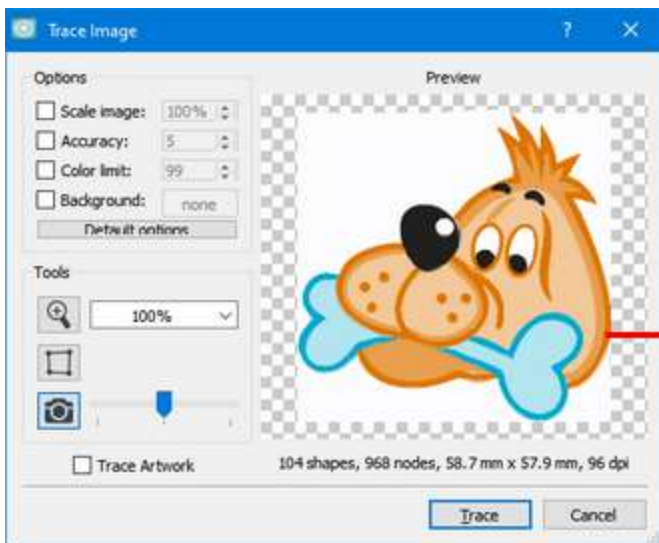
- "Select Backdrop view", by selecting any of the available options you can select how the backdrop will be visible.
 - First of all you can "Hide" the backdrop temporarily (Alt+1).
 - Using "Send to back" the backdrop is placed behind the embroidery you are creating. This option is enabled by default whenever you import a Bitmap image as backdrop and positions the image under the embroidery design. Also, another way to apply this option is by pressing the "Alt + 2" shortcut keys from the keyboard.
 - Using "Bring to front" option you can make the backdrop colors appear Washed-out. This means that the colors of the backdrop will have lighter tones. This is very helpful when you are trying to draw a shape that will have the same color with the backdrop image. Also, another way to apply this option is by pressing the Alt +4 shortcut keys from the keyboard. Using "Bring to front" option you can position the backdrop image to appear above the embroidery design you have created. This is very helpful in order to view the backdrop image and be able to design the objects that will be on top of larger objects you have already designed.
 - Edge enhance: When selecting this view the backdrop colors appear Washed-out and there software enhances the edges on the backdrop image. This means that the colors of the backdrop will have lighter tones and the edges will be enhanced. This is very helpful when you are trying to draw a shape (with any of the available drawing tools) that will have the same color with the backdrop

image. Also, another way to apply this option is by pressing the Alt +3 shortcut keys from the keyboard.

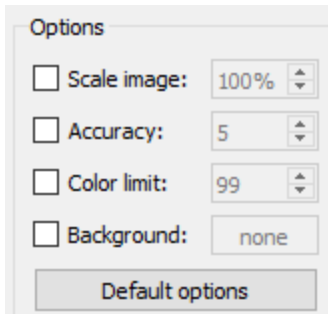
- Rotate bitmap, using this tool you can rotate your image freely by clicking and dragging the indicator either way. This tool helps to straighten your backdrop image before starting to draw the embroidery design. The rotation circle always opens up at the zero position. This tool can help you straighten your backdrop image before starting drawing the embroidery design based on it.
- Scale bitmap, using Scale track-bar you can change the size of the Backdrop. Drag the track-bar to the left to reduce the image and drag it to the right to enlarge the Backdrop. You can also scale simply by typing a new width or Height value and pressing Enter key. The scale tool is very useful in helping you change the size of the Backdrop image without the interference of any other software. Therefore, you do not need editing software for Bitmaps to adjust the size of your Backdrops.
- Straighten, using this option you can straighten the backdrop. Press Straighten option and you need to click and drag to define a virtual straight line that your design will adjust to. For example, if you make a diagonal straight line on the Bitmap, the Bitmap will be rotated and turn the diagonal straight line into a horizontal straight line. You can apply the Straighten bitmap option as many times as needed to bring the backdrop bitmap to the straight position.
- Remove backdrop: Press this button to remove the imported bitmap backdrop.

Auto digitize - Trace to outlines

The first of the available conversion options is to "Auto-digitize" the image. The software has the ability to convert bitmap images into curves via tracing, using the integrated powerful Trace tool. The trace operation converts a Bitmap graphic into a Vector design, which is automatically converted into an embroidery design. Tracing an image is not an easy thing to do, the quality of the traced image depends on the quality of the image. The curves that are created can have thousands of nodes depending on the complexity of the image. The actual trace of such an image may take a while and when a very complex object is created, the post conversion handling may be difficult for your computer. On the right is a Preview window, which can give you a quick idea of what the final scans will look like.



The Trace Image dialog box can be enlarged so the adjustments will be easier to observe. Click on box, hold down on the bottom right corner of it and pull diagonally to fill up the screen, or make as large as you want it. The Trace tab has some options that can help you produce the results you want. Those are:



Scale image:

The outline design when auto-digitizing an image will always open at the default 100% - the original size of the Bitmap. To enlarge or reduce the size of the produced design, click first on "Scale Image", then type in a new value above or below the 100% option. You can also change the image size by clicking on up-or-down arrows (hold down for a speedy change). No matter how you do it, the scaling will always be proportional to all dimensions of the design: A 35mm x 60mm design will become a 70mm x 120mm design while you're adjusting it in Trace Image. Any change in values is automatically changed in Preview.

Accuracy:

The "Accuracy" option lets you choose how much detail of the original artwork will be in your final embroidery design. Click on the box to edit this option, which will open with a default Value 5. If you want your embroidered design to appear as the artwork, click up to Value 8 – the highest degree of accuracy. A Note of Caution: Depending upon your design, a Value 8 may not produce results best for embroidering because of excessive details. On the other end of the Accuracy scale, a Value 1 option may not have enough details to please you. You will find that the Accuracy value varies greatly among bitmap images, so you must try different Accuracy values to get the preferred result. Each time you change a value, you can see it in Preview.

Color limit:

The Color limit box gives you a choice of how many thread colors you want in your Traced image. Click on the box. It always opens with a value of the maximum number of colors, but there are several factors to be considered. If you have a 6-needle embroidery machine, you may want to change the Value 6 with six threads. The number of threads affects the way the Bitmap image will be converted to Vector design. In the Preview, you can view any value changes. Another Option: You can go ahead and create your vector design with 20 colors and then reduce the colors using "Color manager". Having a file of all 20 colors gives you the option of later sewing your design commercially. Or . . . when you step up to your own big-time machine, you will have the files ready!

Use background:

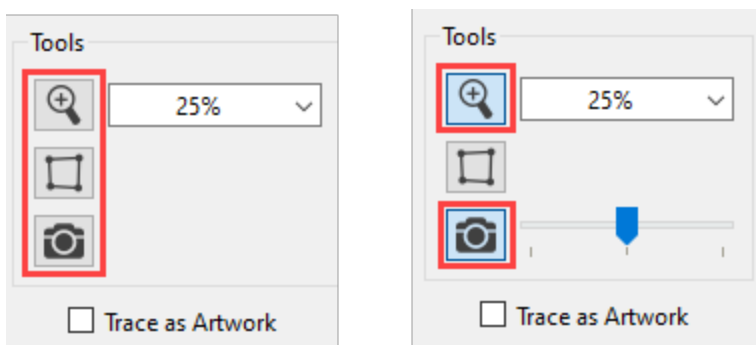
With Use background option you can make the color/object that you will choose from the Preview area transparent. This is an easy way to remove a specific color/object from the Bitmap image. To edit this option,

click the check-box next to it. Move the mouse cursor over the Preview and it will automatically change to an eyedropper tool. The color that you will select from the preview area with the eyedropper tool will automatically become transparent and will fill the color tab next to the Use background option. Only one color object will become transparent from the design. You can make a different color transparent by selecting a different color with eyedropper tool from the design.

While adjusting the scale options, the preview is somehow recalculated after each change. You can use the mouse wheel to have a better view of this preview.

If you Hold Ctrl key pressed and scroll in or out with your mouse wheel you can zoom in or out at the cursor point. If you zoom in a lot so that you can see only a portion of the image, you can scroll to the rest of the image using the mouse wheel. Scroll in or out and you see the preview moving up or down. Hold Shift key press and scroll in or out to move the preview left or right.

Additionally, on tools section, there are a few option that can assist during the conversion process. There are 3 options button that are activated when pressed.



If you enable this magnifying glass icon , you can click and drag to define a view area. You can also select a view percentage from this drop-down list.

You can enable - disable the view of traced nodes and outlines .

You can also enable or disable the view of the original image  and adjust the blending with the traced artwork using the track bar next to the icon.

Finally using the "Trace as Artwork" option the image will be converted into artwork objects and no embroidery types will be applied. In this way you can create an artwork design, keep the parts you like and then decide for fill and outline types manually.

Open as Cross-stitch

As already mentioned on Import bitmap images topic, whenever you import a bitmap image you must select a way to handle the image through the load image dialog. For the options "Open as cross stitch", "Open as Photo stitch", "Open as PaintStitch" and "Open as Sketch", the image is imported and the software automatically adds decorative stitches on top of it (Cross, Photo, PaintStitch, Sketch). So, the usage is simple, create a new design, locate an image, using the "From file" option and on "Load image" dialog use "Open as Cross stitch" option.



The selected image will be converted into a Cross stitch design and placed inside your design area.



You can adjust the Cross-stitch options on Properties toolbar or you can edit the image in various ways as described in Edit Bitmap fill types topic. You cannot edit the actual bitmap image but you can re-size and change the position of the Cross-stitch design. If you want to edit the actual bitmap image you have to use a Bitmap editing software and then import the edited bitmap back to view the results. By editing the bitmap you can increase the quality of the embroidery result. You can also increase the detail of the cross-stitch design by increasing the size of the bitmap or decreasing the size of crosses. This will result in a high detailed cross-stitch design that will be closer to the actual image view.

Open as Photo-stitch

As already mentioned on Import bitmap images topic, whenever you import a bitmap image you must select a way to handle the image through the load image dialog. One of the available options is "Open as Photo stitch". The Photo stitch type is an auto generated type that automatically adds decorative stitches on top of any imported image. After you select an image to import and Open as Photo stitch, the software automatically analyzes the image, follows the graduation of the image colors and creates layers of satin bars. In this way the image is easily converted into a photo stitch design. The Photo-stitch will open in the design area and you can make the adjustments.

By default the Photo stitch is created monochrome. If the selected fabric is dark the photostitch will be filled with white color automatically and the opposite, if the fabric has a light color. This feature is applied on monochrome PhotoStitch designs during the import/open procedure only. All satin bars are black by default. If you edit the color on used colors bar you can make Photo stitch any color you like.

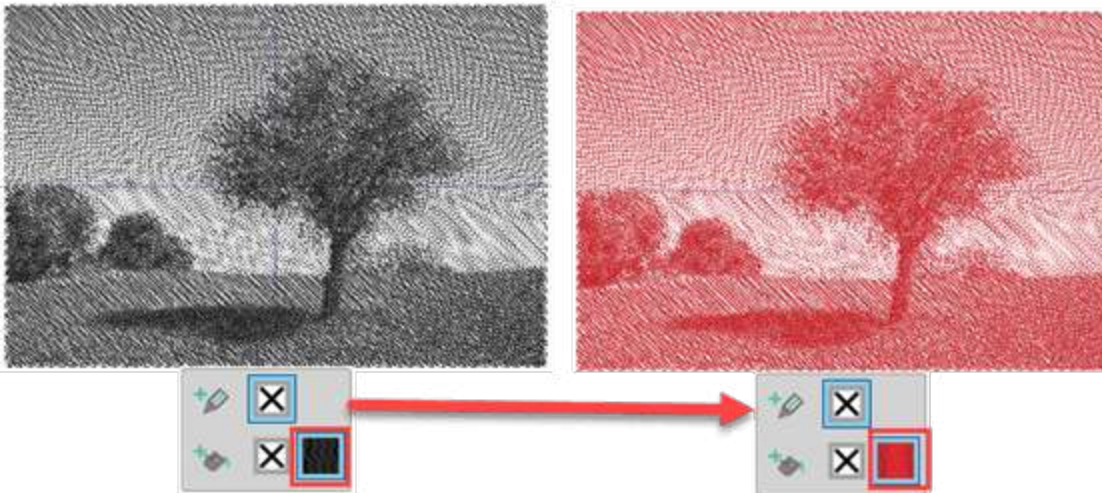
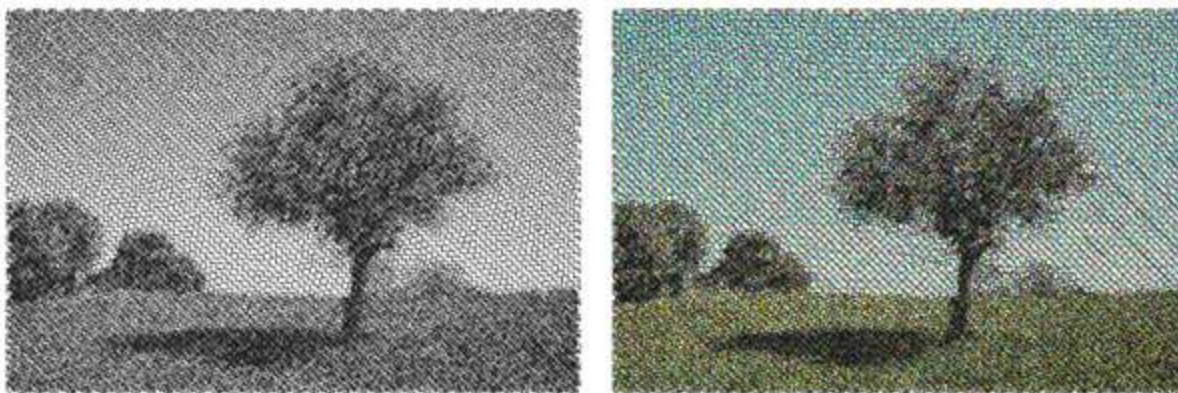


Photo stitch is a Bitmap fill-type (Cross, Photo, PaintStitch, Sketch), all the bitmap fill-types add decorative stitches on top of an image and you can easily switch from each type to an alternative simply by selecting another of these types from the fill section of properties toolbar. Click on the Photo icon or the double arrow icon on Fill section of Properties toolbar and from appearing options select an alternative bitmap fill-type.



You can adjust the Photo stitch using the available Photo-stitch options on Properties toolbar. At this point we will only mention that if you uncheck monochrome option you can create CMYK (Cyan, Magenta, Yellow, Black) Photo-stitch designs.



Each thread color layer is one of the CMYK (Cyan, Magenta, Yellow and Black) color model. First the Magenta color is embroidered, then the Cyan color, the Yellow color follows and finally comes the Black color. These colors cannot be changed and you must use them exactly as they are embroidered, if you want to produce accurate Photo-stitch results. You cannot edit the actual bitmap image but you edit the photo stitch image as described in Edit Bitmap fill types topic.

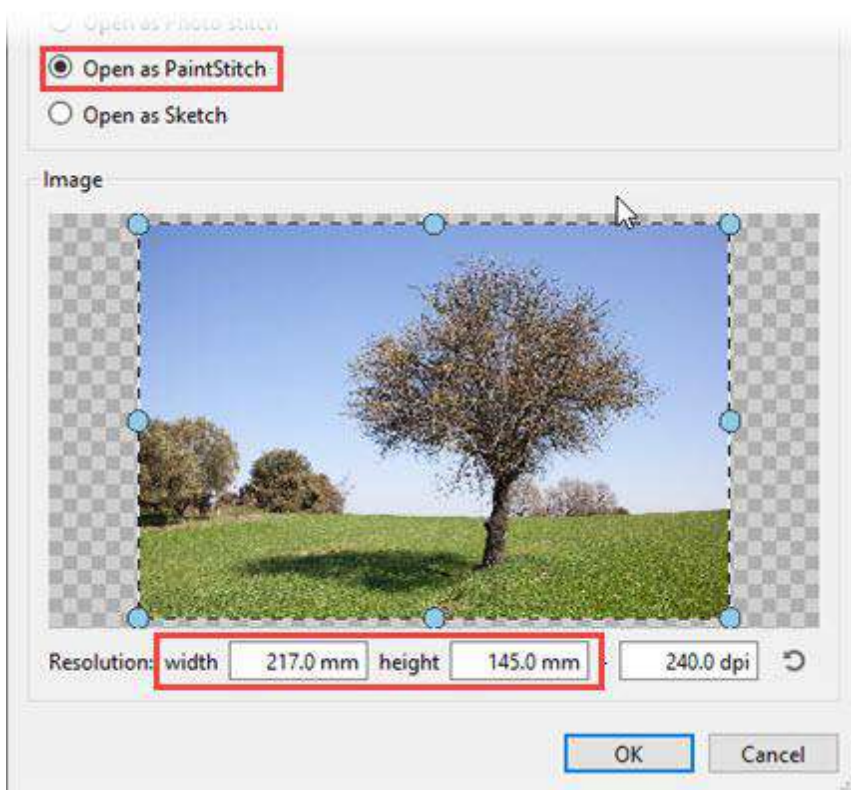
You can increase the embroidery result of the Photo-stitch design by adjusting the image contrast. By increasing the contrast of the image you will get thicker satin bars in the darker areas of the photos and add detail to the final embroidery. Also, some adjustments to the image size might be needed to get more detail to your photo-stitch. To increase the size of the bitmap you have to select the Photo-stitch design, and then re-size it by click and dragging the corner handles of the bitmap or the handles at the middles of each side. The bitmap will be re-sized and the Photo-stitch will be recalculated. By increasing the size of the bitmap you automatically increase the area that will be covered from the satin bars that will lead to detail increase.

Open as PaintStitch

As already mentioned on Import bitmap images topic, whenever you import a bitmap image you must select a way to handle the image through the load image dialog. One of the available options is "Open as PaintStitch". The PaintStitch type is an auto generated type that automatically adds decorative stitches on top of any imported image. After you select an image to import and Open as PaintStitch you will get photo-realistic embroidery results with the use of the advanced algorithms that were implemented for this purpose. The conversion is automatic, but you can customize the PaintStitch results from the options that you will find in the Properties toolbar when the design is selected.

You can convert any bitmap image to PaintStitch by doing the following:

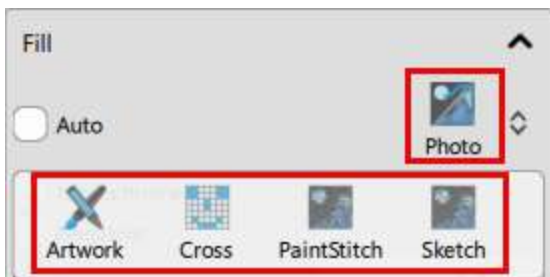
1. From "File" menu select "Open"
2. Find the bitmap (.jpg, .png, .png, .bmp etc.) image you want to convert to PaintStitch and open it.
3. The following dialog will appear showing the image you have selected and the available conversion options. Select the "Open as PaintStitch" option.



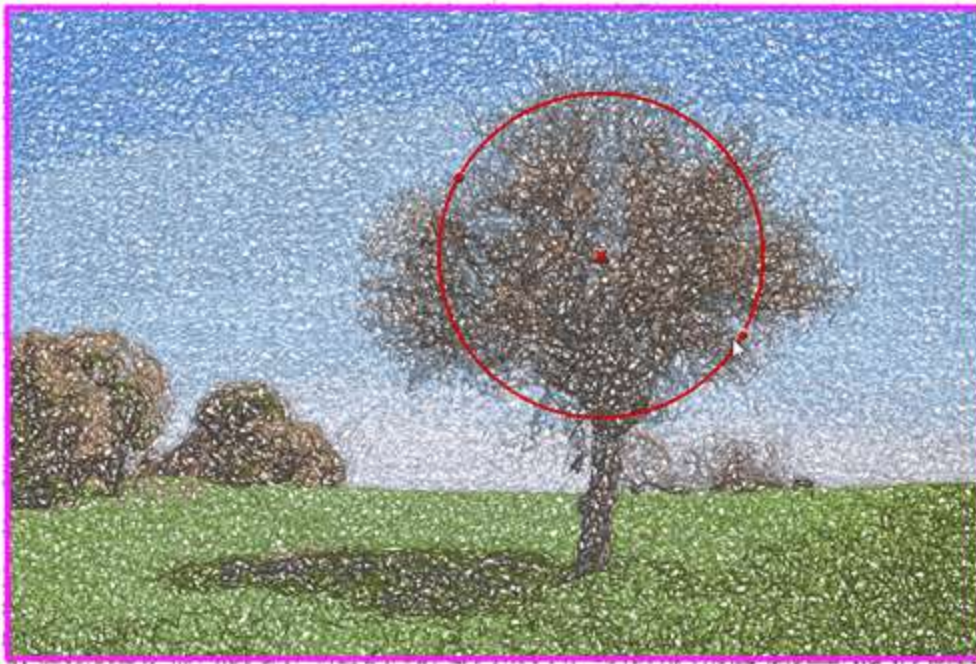
4. In this dialog you can also set the Resolution of the image that you will open. For PaintStitch, the maximum "width" or "height" that you can set is no more than 460mm. Even if you set a higher value, after clicking the "OK" button, the software will reduce the larger side of the image to 460mm.
5. Click "OK" to continue and the image will be converted to PaintStitch



You can adjust the PaintStitch using the available options on Properties toolbar. PaintStitch is a Bitmap fill-type (Cross, Photo, PaintStitch, Sketch), all the bitmap fill-types add decorative stitches on top of an image and you can easily switch from each type to an alternative simply by selecting another of these types from the fill section of properties toolbar. Click on the PaintStitch icon or the double arrow icon on Fill section of Properties toolbar and from appearing options select an alternative bitmap fill-type.

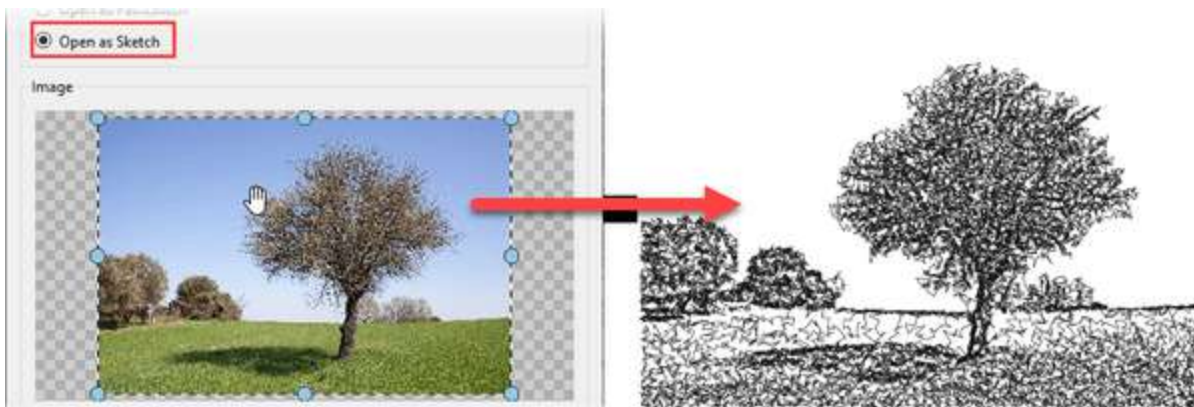


Additionally, the Stitch Flow tool allows you to select the subject area of the image. The color reduction algorithm will try to choose colors that will render the subject area more accurately than the image outside the subject area. To do this, click and drag on the design. The overall design will be recalculated based on your Stitch Flow guide. You can increase or decrease the size of the guide by clicking and dragging the handles of the circle and delete the guide by clicking on the X that appears at its center.



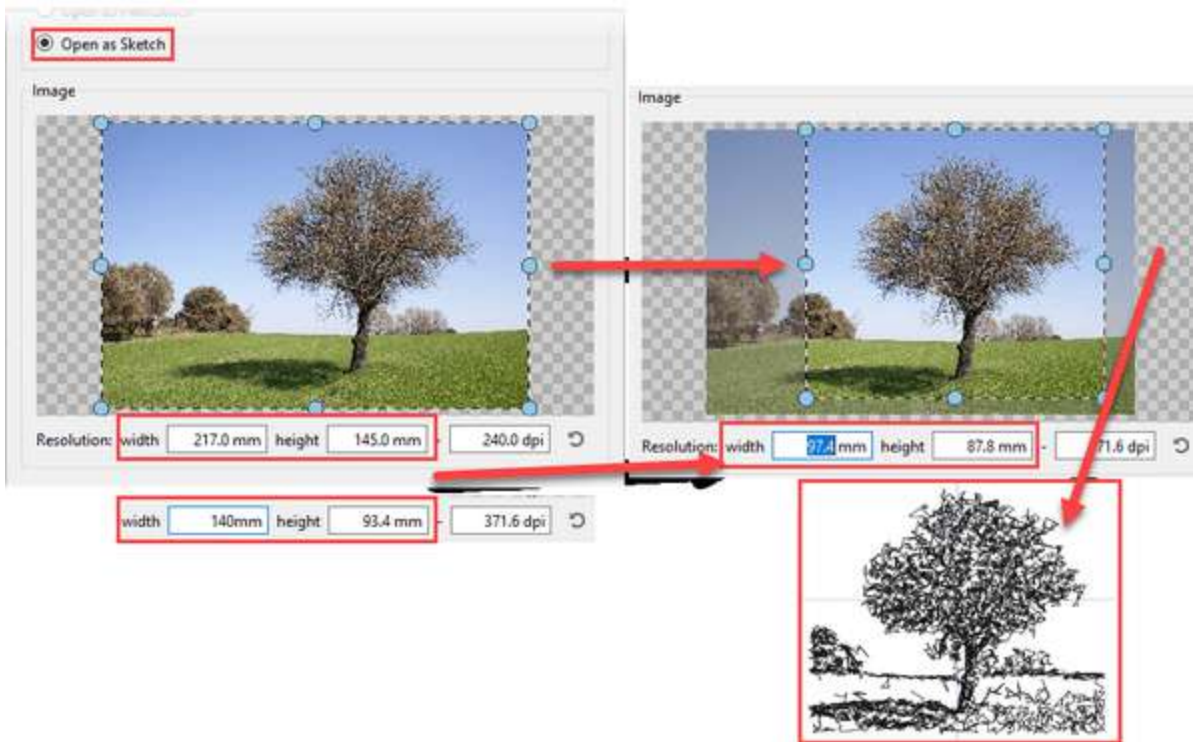
Open as Sketch

As already mentioned on Import bitmap images topic, whenever you import a bitmap image you must select a way to handle the image through the load image dialog. When using Open as Sketch you can convert the imported image into a charcoal Sketch like embroidery design. The big advantage of SketchStitch is that it is designed to work on a white fabric and cover close to 20% of its area with stitching. This way, the design can be embroidered on delicate and stretchy fabrics, like t-shirts, keeping the embroidered fabric flexible. This gives us an artistic interpretation of an image, with few colors, few stitches and very flexible embroidery so that it can be done by anyone, with minimal resources and minimum time. Sketchstitch will need Black thread and some shades of Gray thread. The usage is simple, create a new design and locate an image, using the From file option. You can also do start a blank design only with the image using the open option of Welcome tab and selecting the same image. The load image dialog comes up. Use "Open as Sketch" option.

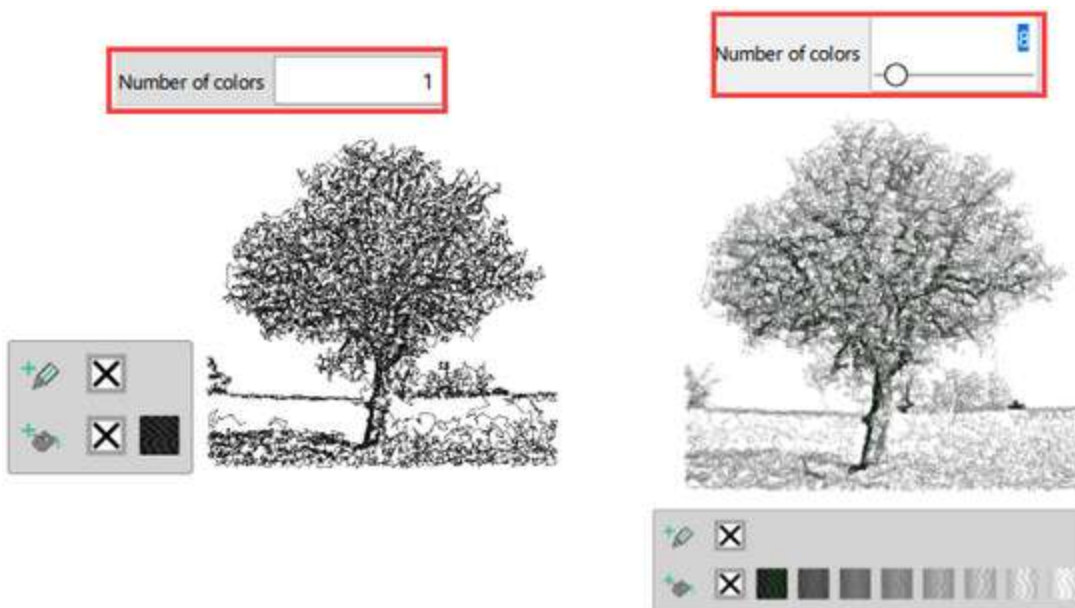


A preview of the imported image, appears below the conversion options. You can click and drag on top of the preview, to select a portion of the image to import. Using the circle dots you can re-size the selected portion or even move the selection. You can also adjust the size of the imported image or the selected portion, by changing "width" or "height" values, so that it fits into your hoop or portion of the design you like.

When you are satisfied apply the conversion. Now you see the selected image converted into this black sketch like design.



There are some Properties you can adjust for sketch type. First of all you can change the number of colors. By default the sketch is done with one color, so that the embroidery is light, less layers of stitches, easier to produce. If you increase the number of colors the result will be more realistic, but you will have more color changes and number of stitches.



If you select a thread manufacturer palette the sketch preview will change. This happens because the available grey colors of the palette will be used. Some palettes may have more gray colors, while others may have less, so a sketch may look better in one palette than on another.

You can also adjust the distance between the sketch lines using density.

Using smoothing the sketch lines become smoother. The software decides automatically which parts will be smoothed out.

Using Blending you can control how much the colors will blend. By default a medium amount of blending will be applied on the design's colors.

- if you select None, No blending will be made between the design's colors. IN that case, the edges between different the colors and shapes will not overlap.
- using low blending, A small amount of blending will be applied on the design's colors, leading to minimal overlapping between different the colors and shapes.
- Using High blending, a large amount of blending will be applied between the design's colors, thus leading to high overlapping between the different colors and shapes.
- Finally, using full, the maximum possible amount of blending will be applied between the design's colors.

With Brightness you can actually adjust the brightness of the image and since sketch stitch automatically detects image parts, the brightness increase or decrease may improve the result. This can be set from minus - 48 up to 47.

The same goes for Contrast, any change of contrast may also improve the sketch design.

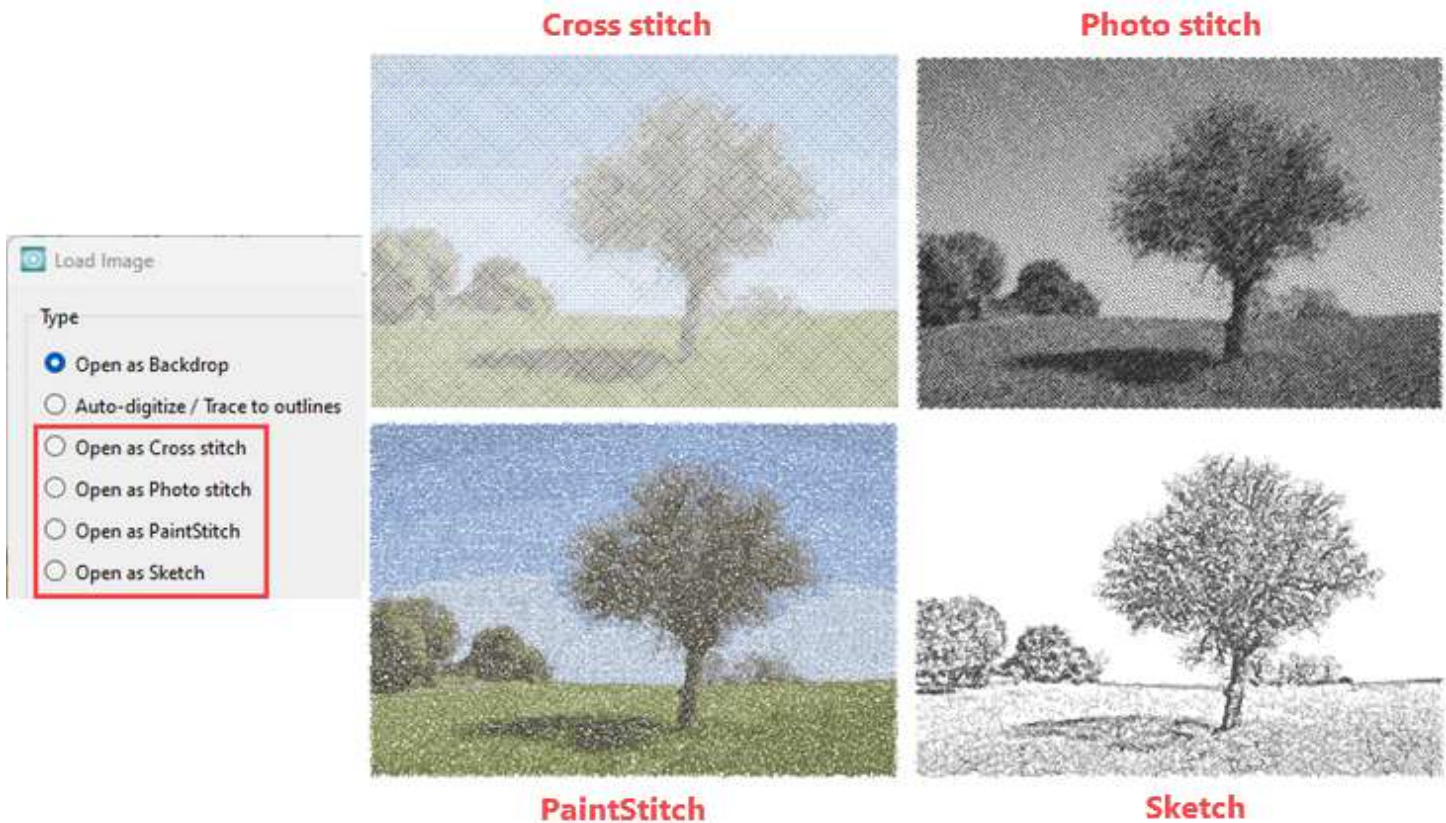
Finally using the Brush width you can adjust the width of the sketch lines.

Caution when decreasing the width, this may result in more stitches.

That was all about sketch Stitch, at this point we must note, that you can easily apply any other picture type, by selecting an alternative from the Properties bar.

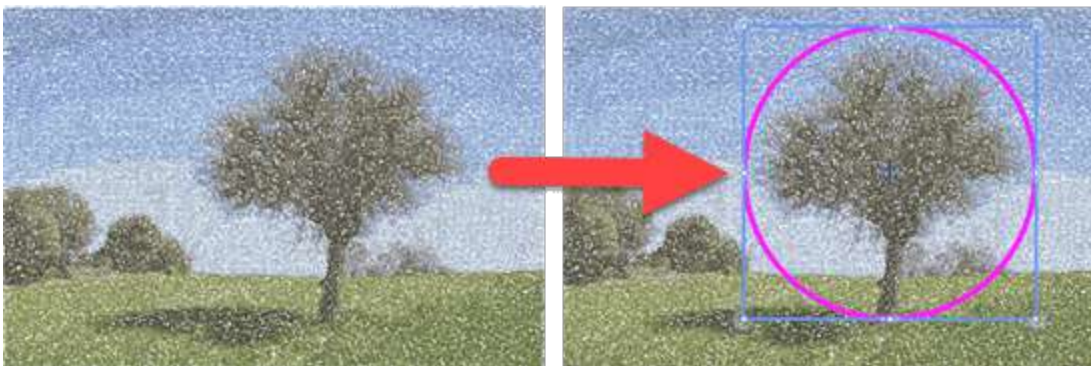
Edit Bitmap fill types

As already mentioned on Import bitmap images topic, whenever you import a bitmap image you must select a way to handle the image through the load image dialog. With "Open as backdrop" the image is imported into the background of the design and you can create the design on top of it. Using the "Auto-digitize /Trace to outline" the image will be converted into artwork. For the options "Open as cross stitch", "open as Photo stitch, open as PaintStitch and "open as Sketch" the imported image is imported and the software automatically adds decorative stitches on top of it(Cross, Photo, PaintStitch, Sketch). Each of these imported images is a different fill type and you can easily switch from each type to an alternative easily by selecting another of these types from the fill section of properties toolbar. We will call these 4 types of fill, bitmap fills and in this topics we will present some of the available edits - transformations you can apply to them.



Bitmap fills - Clipping region

Whenever an image is imported and converted into any bitmap fill type (Cross-stitch, Photostitch, PaintStitch, Sketch), you can apply clipping on the image. By default This type of image use, generates stitches into a rectangular area. But what about have an oval portion of a Paintstitch image or maybe just a part of the image. Now you can do that easily. Suppose that you have this Paintstitch image. Start the ellipse tool and click and drag to draw an ellipse on top of the area of the image you want to keep.

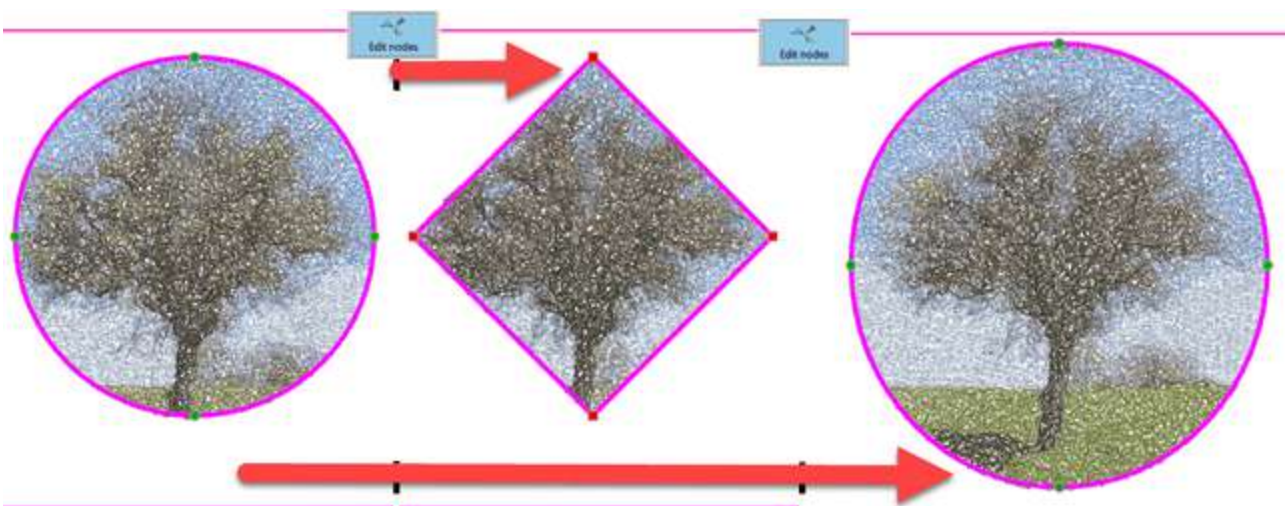


Select the Paintstitch part and the ellipse together. Right click on top of the selection and from appearing options menu use the option "Add as clipping region".

Now only the portion of the image that was covered by the ellipse is visible.



At this point we also need to mention that this is not the final step of this clipping procedure. Using Edit nodes mode, you can change the clipping region and shape completely. For example you can change it into a rhombus, simple by changing its curves into lines or whatever change you like just by moving a node or curve. You can enlarge your shape by selecting nodes and the using the re-size handles or move it inside the photo are in order to reveal a different part of the image. You can also easily rotate or skew the same in the same way. The capabilities are only limited by your inspiration, your clipping region can become whatever you like.



Bitmap fills - Transformations

Whenever an image is imported and converted into any bitmap fill type (Cross-stitch, Photostitch, PaintStitch, Sketch), you have the ability to rotate, slant and re-size the bitmap fill shape. The ability to rotate, slant, and re-size bitmap fill shapes that have been filled with stitches adds a new level of flexibility for artists and crafters. This feature allows for greater customization and originality in design, allowing for the creation of more unique and personalized projects. Additionally, this function can also help alleviate any difficulties in stitching certain areas or achieving desired symmetry in the finished product.

By default all bitmap fills generate stitches into a rectangular area. These type of bitmap fill can be transformed now as any normal object.

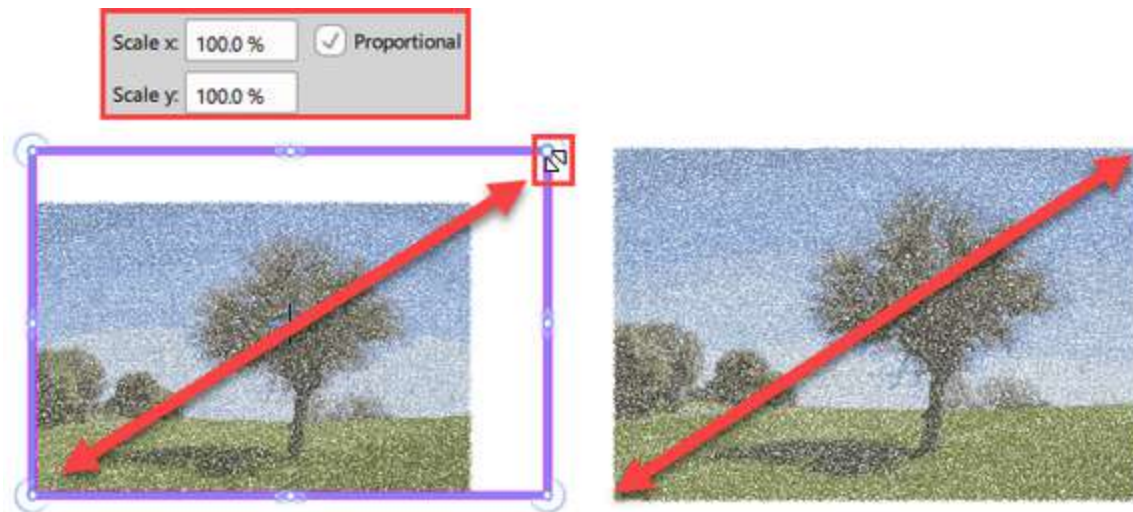
Rotate the image

Using the rotate handles that are available on the corners of the object you can rotate the bitmap fill. You can also rotate the image using numeric values, select the bitmap fill and type a rotation value on the rotate field that is available on tool options toolbar.



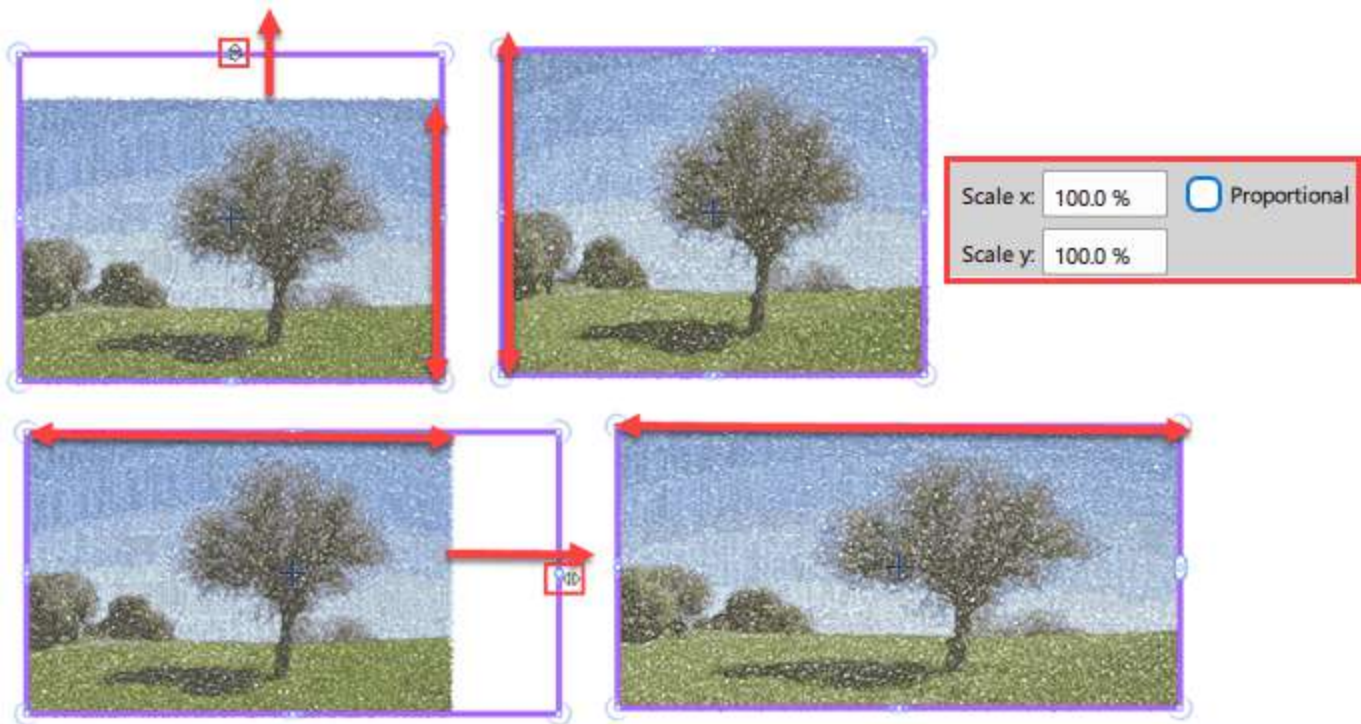
Re-size proportionally

Using the size handles that are available on the corners of the object you can re-size proportionally the image. You can also re-size proportionally by typing a scale percentage on any of Scale x or Scale y fields, when "Proportional" is enabled.

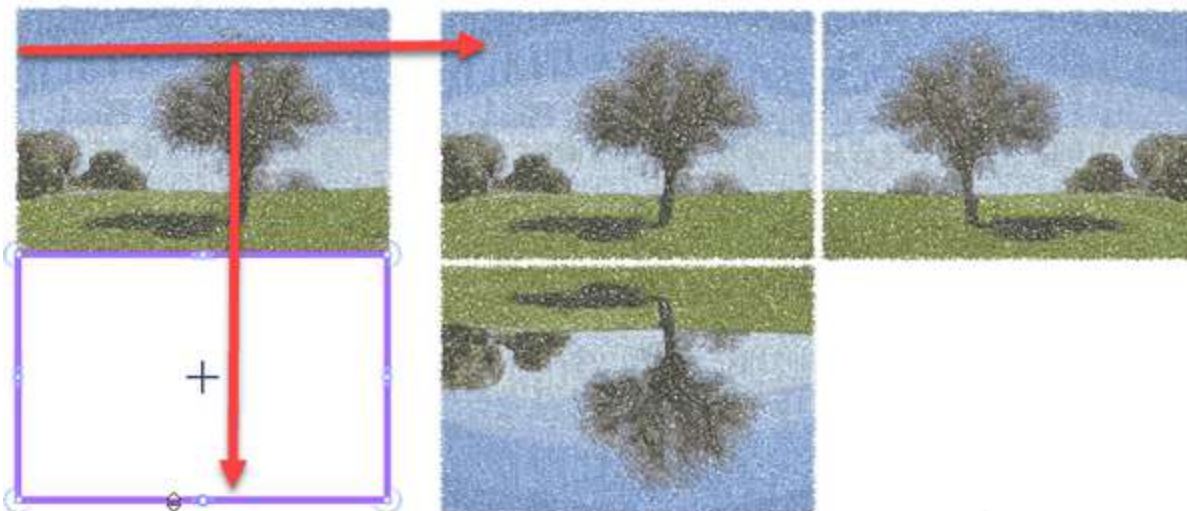


Stretch - Mirror

Using the handles on the middles of the sides you can change size of one dimension, stretch the object. You can also re-size non proportional (stretch) any dimension by typing a scale percentage on "Scale x" or "Scale y" fields, when "Proportional" is disabled.

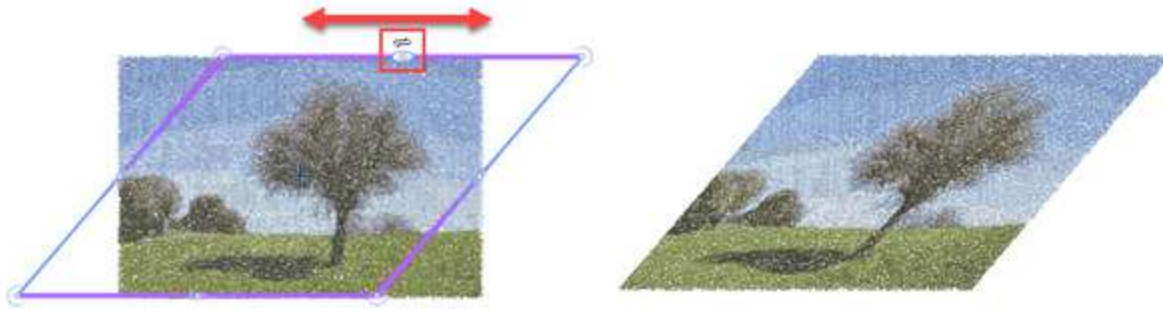


When re-sizing using any control handle, if you move to the opposite direction and go out of the image, you are actually doing a mirrored scaling and if you press D key once you can create a scaled - mirrored duplicate.



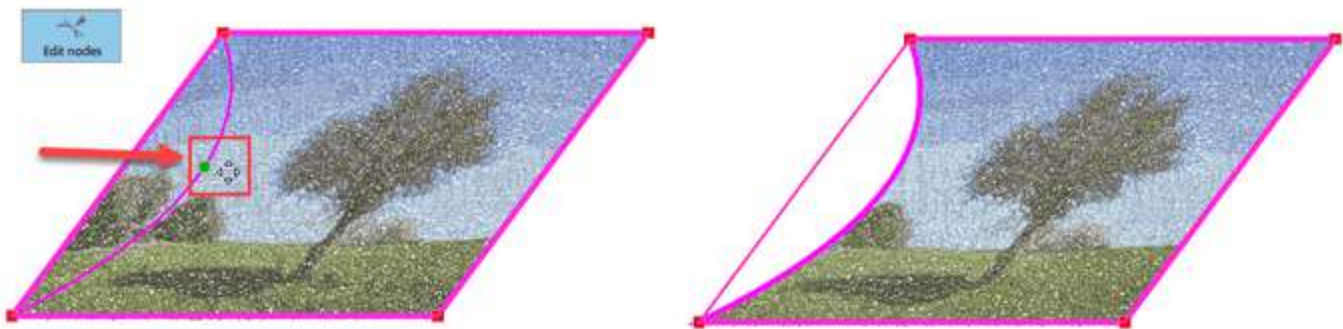
Skew - slant

Skewing lets you skew/slant an object to one side. In order to skew an object, you need to click on the object to display the skew handles, and drag any of the skew handles to any direction. On the middle of each side there is a skew handle.



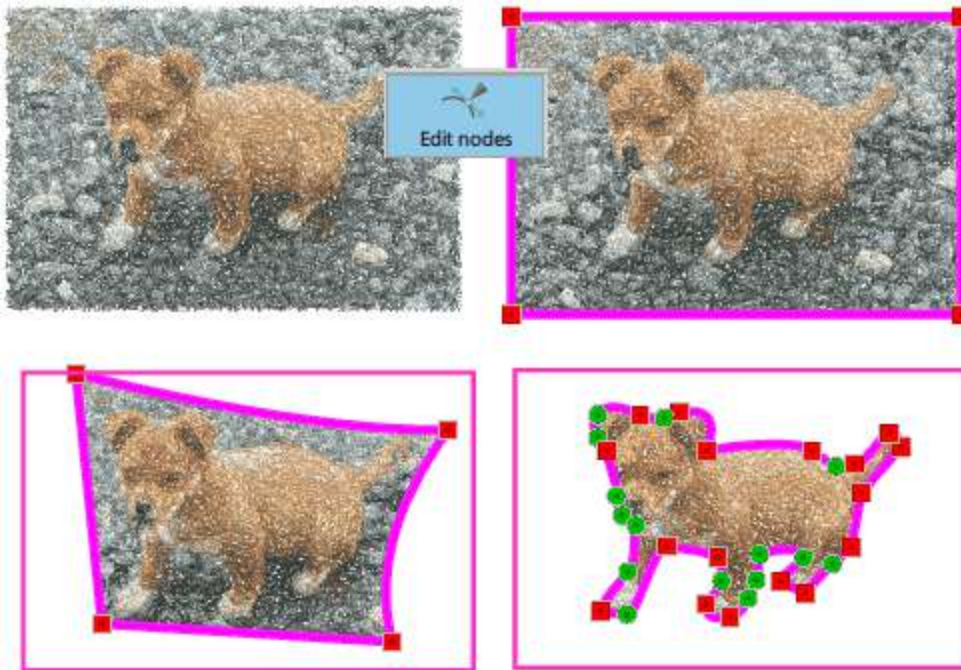
The transformation is actually applied on the initial imported image, so you always have the option to apply any of the bitmap fills (Cross-stitch, Photostitch, PaintStitch, Sketch) on the transformed image after any transformation.

Notice: you can also edit the shape of the image as will described in detail in a following section.



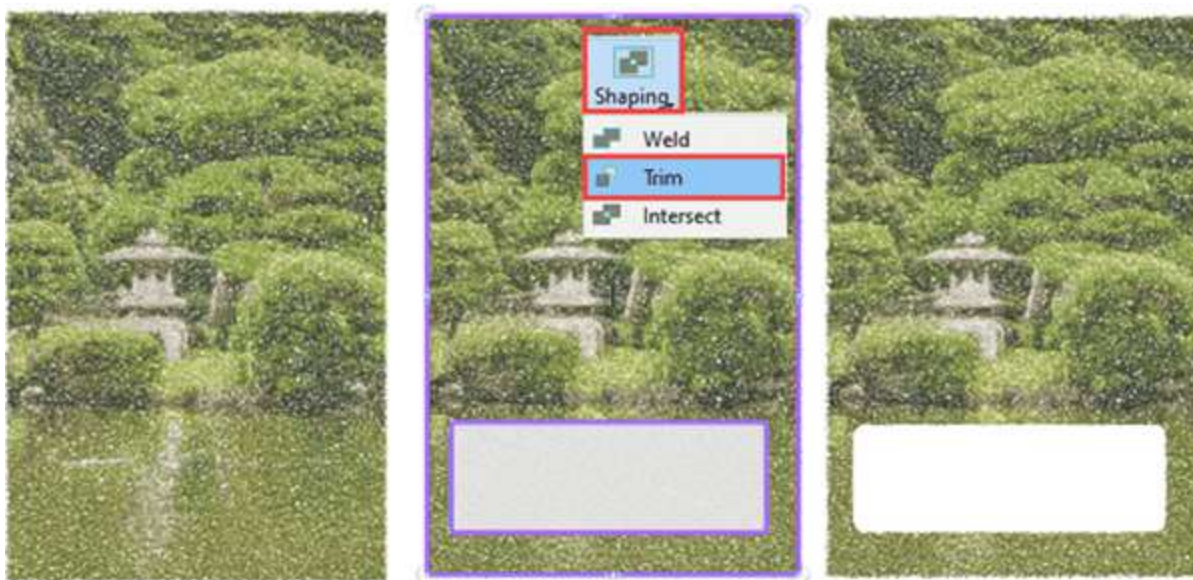
Bitmap fills - Edit image shape

Whenever an image is imported and converted into any bitmap fill type (Cross-stitch, Photostitch, PaintStitch, Sketch), by default it is automatically framed into a rectangular area. But what about having a different shape of frame or only a part of the image. The node editor can now be used to edit the shape of bitmap fill images. By inserting nodes and adjusting their positioning, the user is able to modify the shape and design of the image as desired. This added feature offers enhanced flexibility and customization for bitmap images with stitching, enabling more precise editing capabilities. This functionality can be particularly useful for fitting the image in a specific shape or area. Overall, the node editor's ability to edit bitmap images with stitches provides exciting possibilities for visual creativity. Using Edit nodes mode, you can change the shape of the image into what ever you like. Now you can do that easily, suppose that you have this Paintstitch image. Move the nodes close to the dog so that you keep a portion with the dog mostly. You can edit the curves to make any special kind of frame or you may even add extra nodes and move them to make the outer area of the picture into just the dog shape.

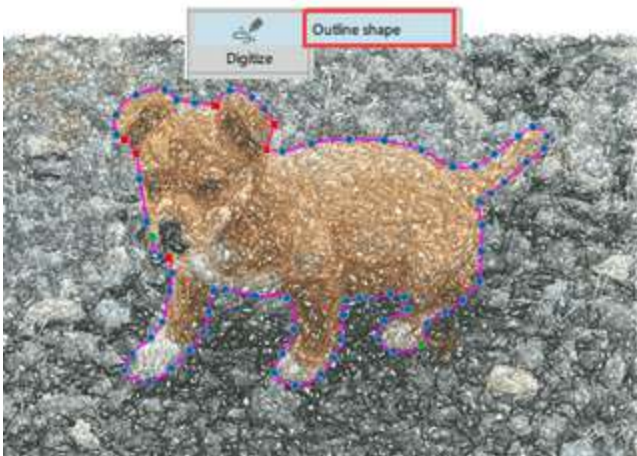


Bitmap images - Shaping tools (Weld, Trim - Intersect)

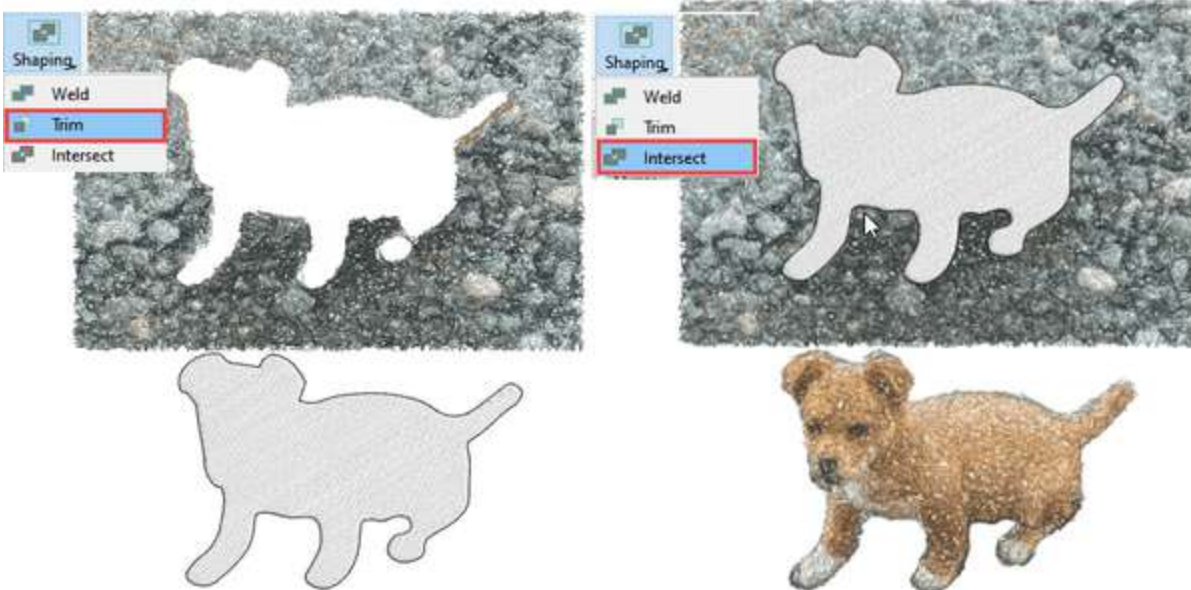
Whenever an image is imported and converted into any bitmap fill type (Cross-stitch, Photostitch, PaintStitch, Sketch), by default it is automatically framed into a rectangular area. What if you want to remove some part of the rectangular area. You can do that easily, using the shaping tools. Using the Shaping tools (trim, intersect), you can trim parts of the image and make special shapes or holes. Suppose you have this Paintstitch design and maybe you want to create an empty space for a slogan, for example. You can create a rectangular area, using the rectangle shape and even set its corners to be rounded. Then select the image together with any shape you have created and using the shaping tools, apply Trim. Delete the shape that was used for trimming the image and you have a hole on the image with the shape of your shape.



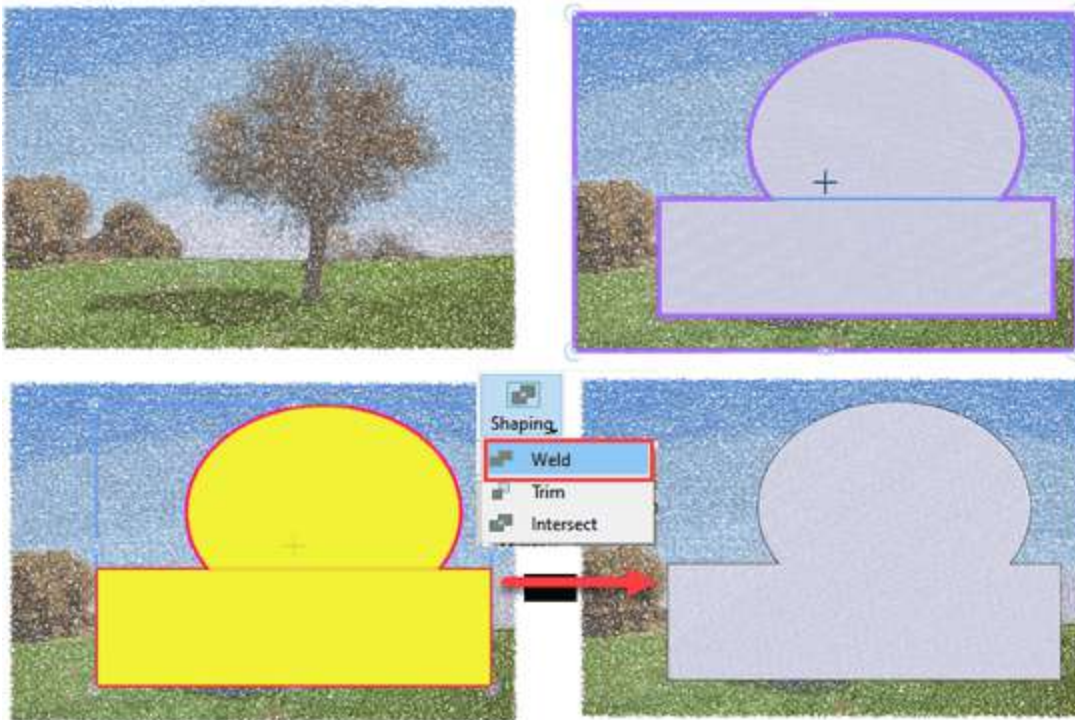
Actually, you can create a shape you like, or you can digitize on top of the area you want to create an irregular shape. For example you can create this shape of the dog using the Outline shape tool from Digitizing tools.



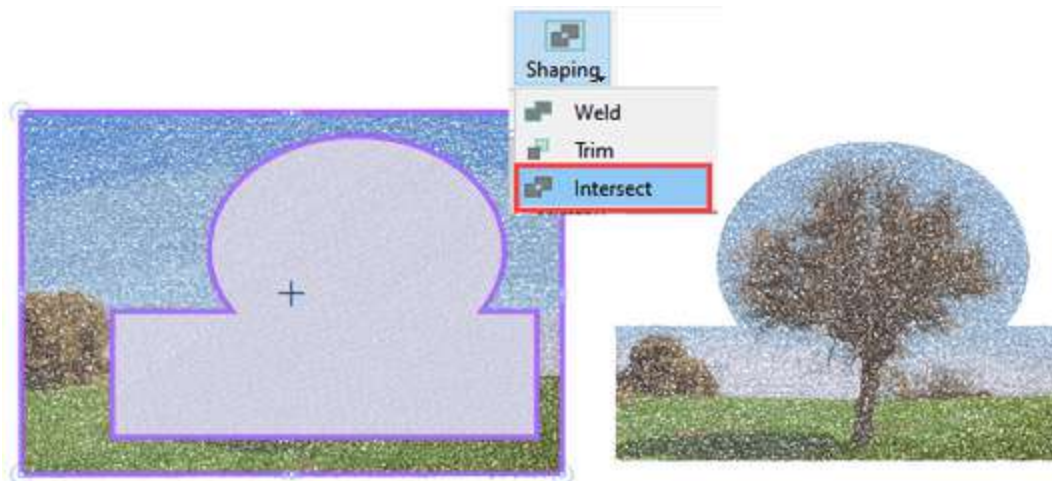
Using trim you can trim parts of the image and create holes or irregular shapes and using Intersect you can easily keep only common parts of the image and any shape. So using trim option you can create a hole like this dog shape and using intersect you can create a new paintstitch image with only the shape of the dog.



The "Weld" function can be used to join separate shapes and create a single shape, so you can also Weld shapes on top of an image to create any bizzare shape you like. For example for this paintstitch design, you can draw an ellipse on top of the tree and a rectangle on top of a part of the grass. Select both shapes and Weld them together.

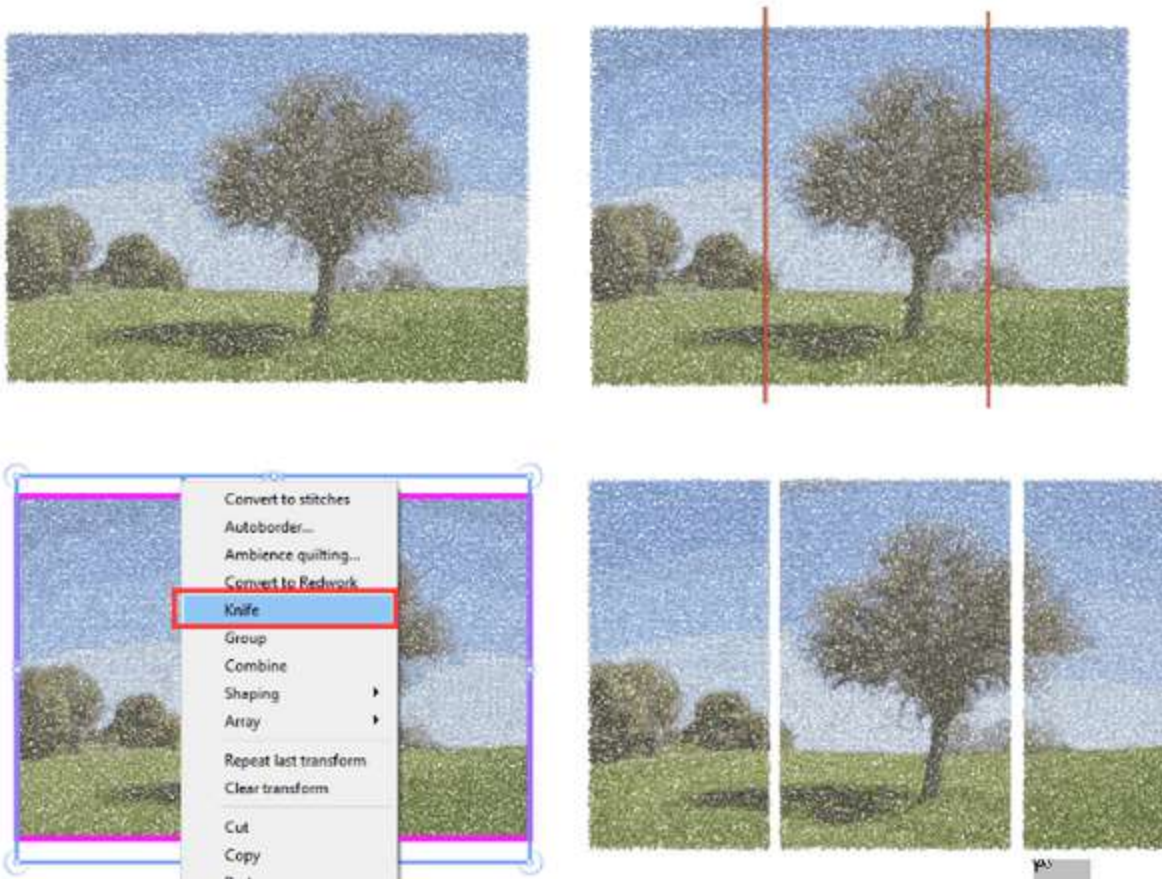


Now select the Welded shape and then using Ctrl key and the paintstitch to the selection. From the Shaping tools use the Intersect tool this time.



Bitmap fill - Split using knife tool

Whenever an image is imported and converted into any bitmap fill type (Cross-stitch, Photostitch, PaintStitch, Sketch) you can split the image into multiple parts using the knife tool. In this way you can split a bitmap fill image into multiple parts and fit the design in a special way or create a unique-artistic shape. The "knife" tool allows you to precisely cut a bitmap into separate pieces. These pieces can then be moved individually and rearranged within the design as needed. Experiment with different cuts to enhance your product's design and take it to the next level. For example, suppose you have this paintstitch image and you want to make in three parts. Start the "Outline shape" tool from digitize section and draw the cut line or lines you want. Now select the created lines, right click and from appearing menu use the Knife option. In this way the created lines will act as a knife and cut the bitmap fill.

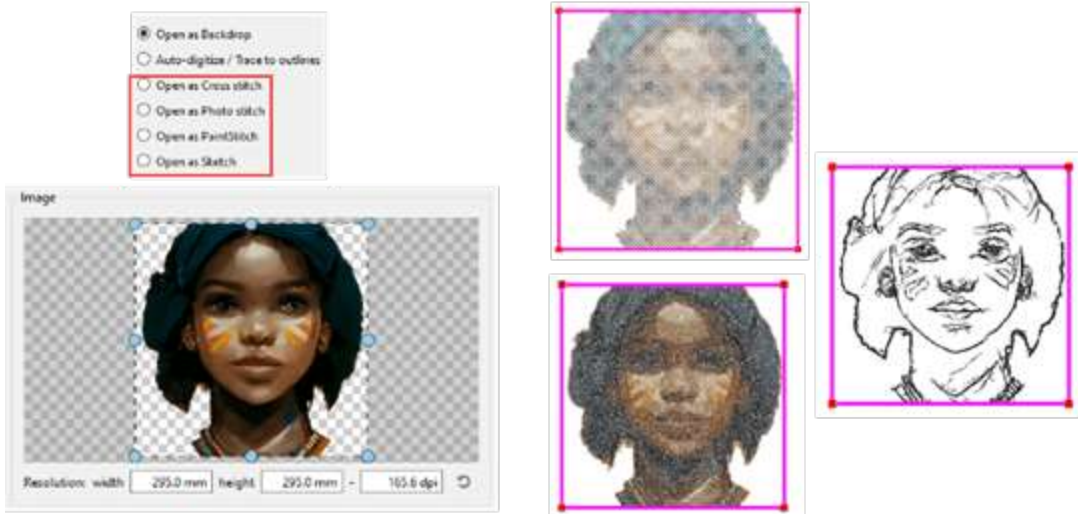


The cut lines may be curved or a more complex shape or even crossing lines. One thing you should have in mind is that the lines must be combined first if they were not digitized all together in one object.



Transparency to clipping region

Whenever an image is imported and converted into any bitmap fill type (Cross-stitch, PaintStitch, Sketch), by default it is automatically framed into a rectangular area. But when importing PNG files with transparency, the software actually generates stitches only in the non-transparent area of the image.

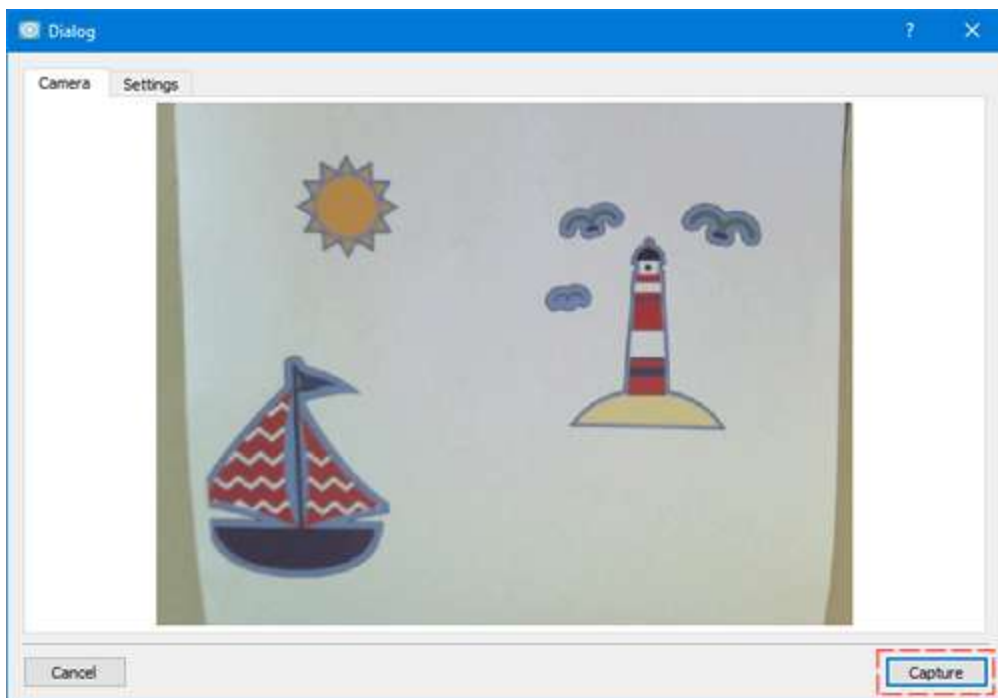


In this case there is an extra option on the convert menu to "Convert transparency into clipping region" and in this way the transparent area of the image is clipped.

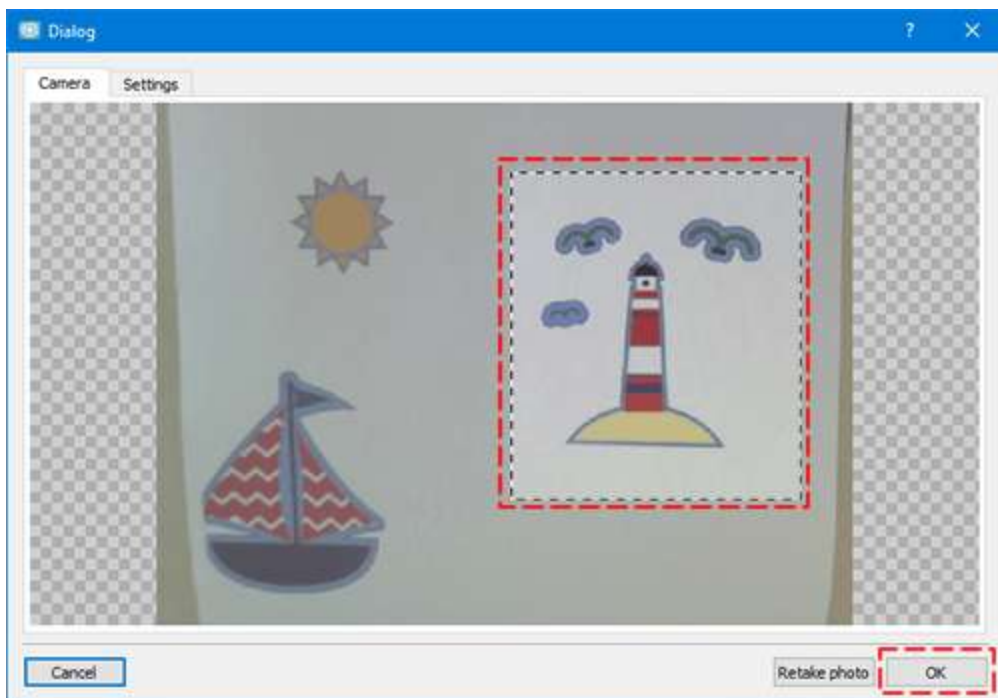


Image from webcam

Another way to import artwork would be to capture a snapshot using a camera that is connected to your computer. Using "Import from Webcam" option of "File-Import" menu you can take a snapshot with your camera and import it as when importing a bitmap image. In order to capture an image make sure that your camera is plugged in to your Computer and use "Import from webcam" option. The camera Preview dialog will appear as on the following image and you can easily capture anything that you see on live preview by pressing "Capture" button. Through this dialog you can take snapshots of anything you want.



Once you press "Capture" on the preview area you can see the captured image instead of the live preview. Now you can press "Retake photo" if the one captured is not what you have wished and switch back to the live preview to capture a new image. Once you are satisfied by the captured image, you can click and drag on the image to select a portion of the image to keep and by pressing "OK" button the captured image is save as a Bitmap image. When the captured image is saved, it is automatically imported and you are prompted to select how to handle it. The available conversion options are the same as when importing a bitmap image.

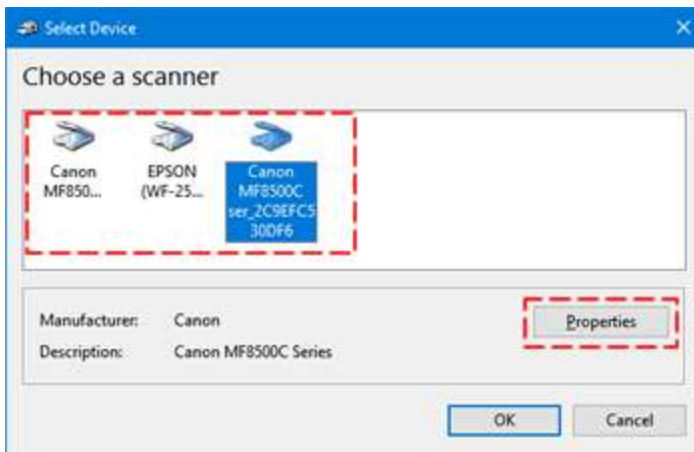


On the "Settings" tab you can select a camera, if you have multiple connected and adjust the image quality as well, bu dragging the "Image quality" track bar.

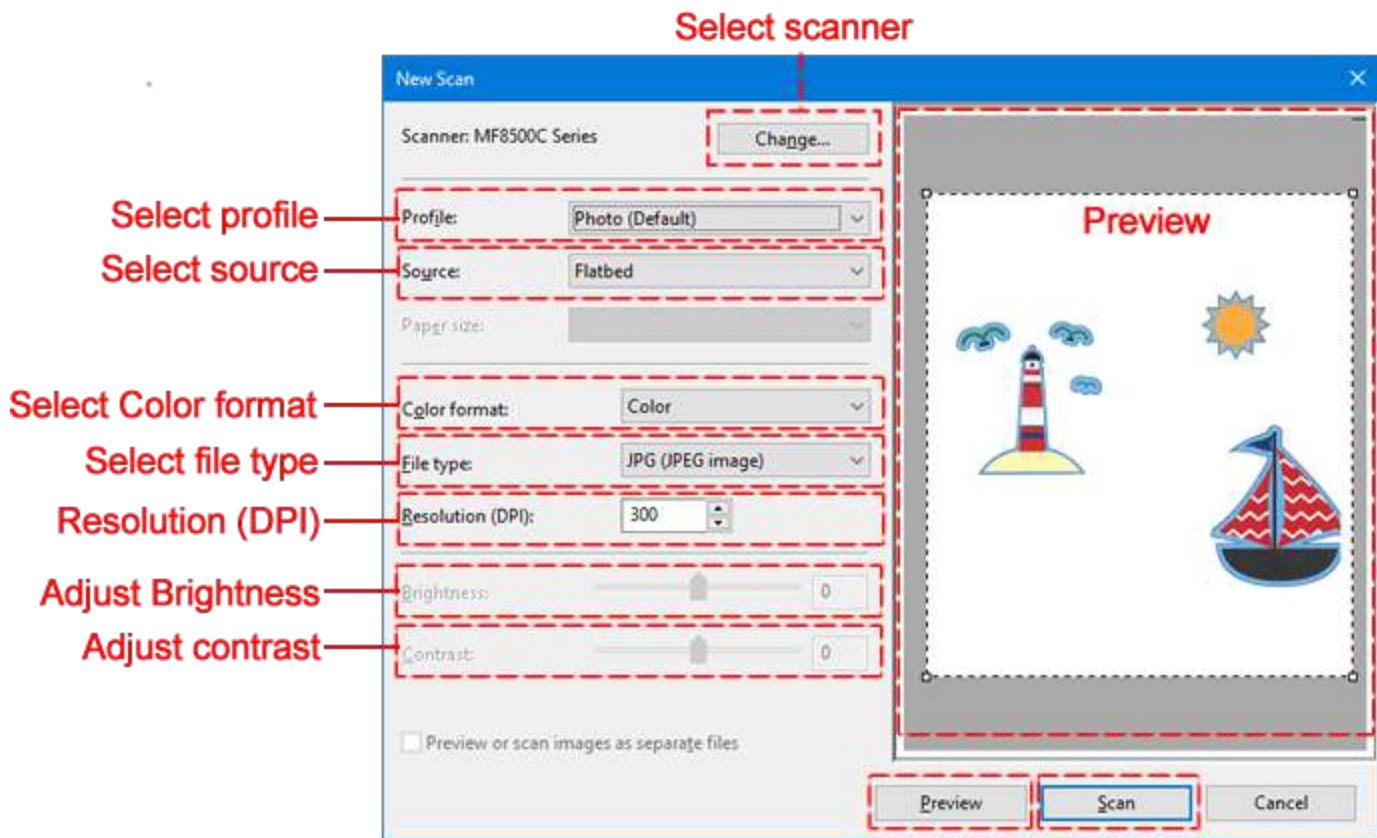


Image from scanner

The software includes a mechanism that help you acquire an image using your scanner. It is easy to import any image using your scanner and just like that you can import various images from printed material. First of all make sure that you have placed the desired image into your scanner and that your scanner is turned on. Use "Import" - "From scanner" option of "File" menu to start the scan operation. First you need to select a scanner if more than one is connected to your computer.



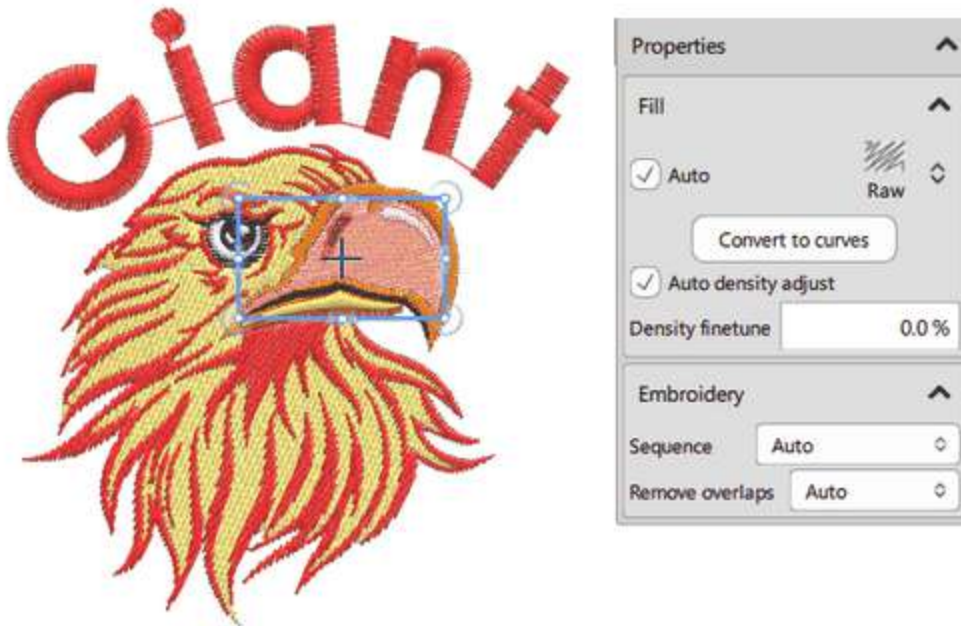
The "new scan" dialog will appear to help you scan anything that is placed on the scanner. Using this dialog you can customize the scan options and preview the scanned image. First of all you can change the selected scanner if you have selected one by mistake. According to the scanner software capabilities some options on this dialog may appear disabled. For the scanner we have used there are various scanning profiles, any other scanner may have different profiles. Then you need to place the paper to be scanned, either on the scanner's flatbed or on the scanner's document feeder and make sure that "Source" is set to scan from the location you prefer. Then you may be able to select the "Color format", the produced "File type", the resolution in DPI.



At this point you need to press the "Preview" button to perform a preview scan and you will see a preview of the scanned image. You can adjust "Brightness" to make the image lightened or darkened, or "Contrast" to make the image sharper and if you retry preview you will get an updated preview. You can also change the color format for example change from color to gray-scale scanning and by pressing preview you can see the scanned image. If you change any option and then "preview", a new scan operation will occur with the new settings. For some scanners you may have a rectangle on top of the preview area, that you can resize in order to define the scanned area. When you are done press "Scan" to proceed. When you press the "scan" button the image is scanned one last time and saved into the "Pictures" folder on your computer. When the scan and save is done the program automatically opens the scanned image like if you were importing any "Bitmap image" and you are prompted to select how to use the scanned image.

Import embroidery files

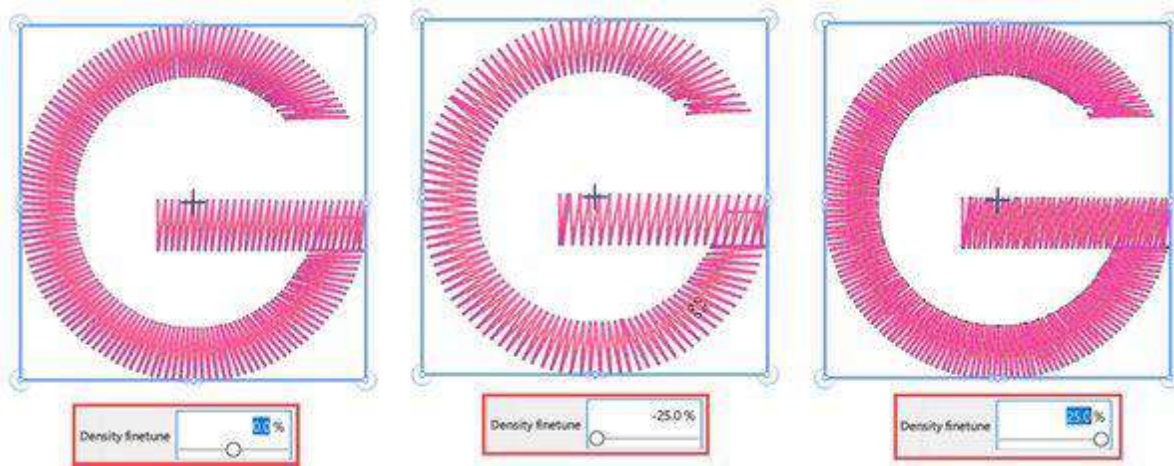
When you select to select to import an embroidery file, the file is imported as is in the design area. It is not a normal outline object, as you can see on Properties it is a "Raw" object. This means that the stitches of the imported design are imported as is, you can not change the stitch type or apply a style. In case that you need to enlarge or shrink any of the imported embroidery parts, make sure that "Auto density adjust" option is enabled. When this option is enabled the software automatically adjusts the density of imported part in order to be suitable for the new size.



Notice: If you have located any file, using the "File Explorer" (Windows) or "Finder (mac OS)" that you wish to import, you can simply drag the file (Artwork or Embroidery) on the design area in order to be imported into this design or on the design tabs area to be imported into a new design.

Change density (Density fine-tune)

You can easily adjust the density of a section, even in embroidery files. Select one or more parts from the embroidery file and use the Density fine-tune option on Properties toolbar on Fill section. The allowed density adjustment range will be $\pm 25\%$. The density fine-tune will obviously be added to what may be needed due to design scale.



Convert to Vector design

You can leave the imported part as is and design new parts but you can also convert the imported part into a normal outline design using Convert to curves option. You can press the respective button on "Properties" or use the same option through the right click menu. There is also a Hot-key Ctrl+Q. When you convert into curves then you have full editing abilities. The embroidery design will be automatically converted to fully editable Vector artwork which can be edited. You can also convert only an object or two and have Stitch objects together with Vector objects in the same file. You can convert specific parts of the embroidery design to Vector artwork, make the changes in those objects, and then embroider them and keep the rest of the embroidery design unchanged. Just like that is easy to give life to your old designs. By editing your imported embroidery files you can give life to your old designs.

In such cases you may don't want to view both stitch and vector objects. You can disable Stitches option of View menu to temporary hide all stitch objects. You can also hide all vector artwork by disabling Outline design option of View menu. In this case if stitches option is enabled you can only see the available stitch objects. Using these View options you will be able to edit your Stitch and Vector objects easier.

Import ngs embroidery file

There are also some file types that include both vector and stitch data into the same file. The ngs embroidery files of Wings' modular software are a typical sample. When you import an .ngs file, you do not have to convert into curves. The importer reads the outline data from the imported file and you can change the artwork and recalculate the embroidery result. The outline data of the imported ngs file will be automatically recognized from the software and will be imported as Vector data. Therefore, the Vector artwork of the embroidery design will be directly editable. Some ngs files may only contain stitch data. This can happen if you open a .dst file for, example, which holds only stitch data and then save it as .ngs file format. For the ngs file to hold the outline data, it must be created inside Wings' modular from scratch.

Auto add Fix / Lock stitches, if needed, in stitch designs

In embroidery, it is essential to ensure that each design is properly stabilized to prevent unraveling or distortion. That's why this new feature in our software automatically adds fix and lock stitches, if necessary, to raw stitch designs like .dst, .pes, .jef, .vip etc. This not only saves the user time and effort but also ensures high-quality results with every design.

Lock: are small stabilizing stitches that are added at the end of an object to prevent unraveling.

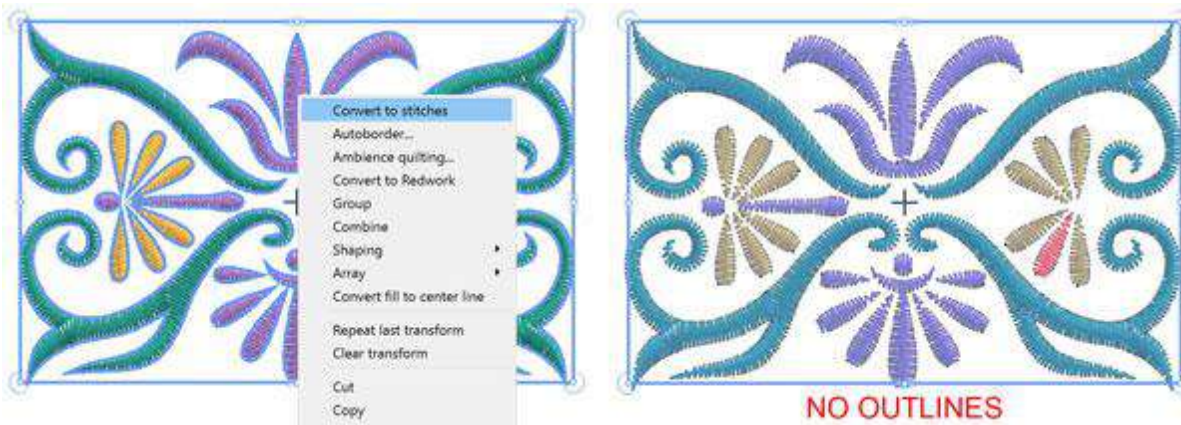


Fix: are small stabilizing stitches that are added at the beginning of an object to stabilize it.



Convert vector-based objects to raw stitches for accurate stitch editing

One of the challenges of embroidery design is matching the stitches to the tension of the fabric. In order to make these adjustments, it's often necessary to remove the artwork from the design and work with just the raw stitches. That's why an important feature for any embroidery software is the ability to convert vector-based objects into raw stitches. This allows for more precise editing and produces better results on the finished product.



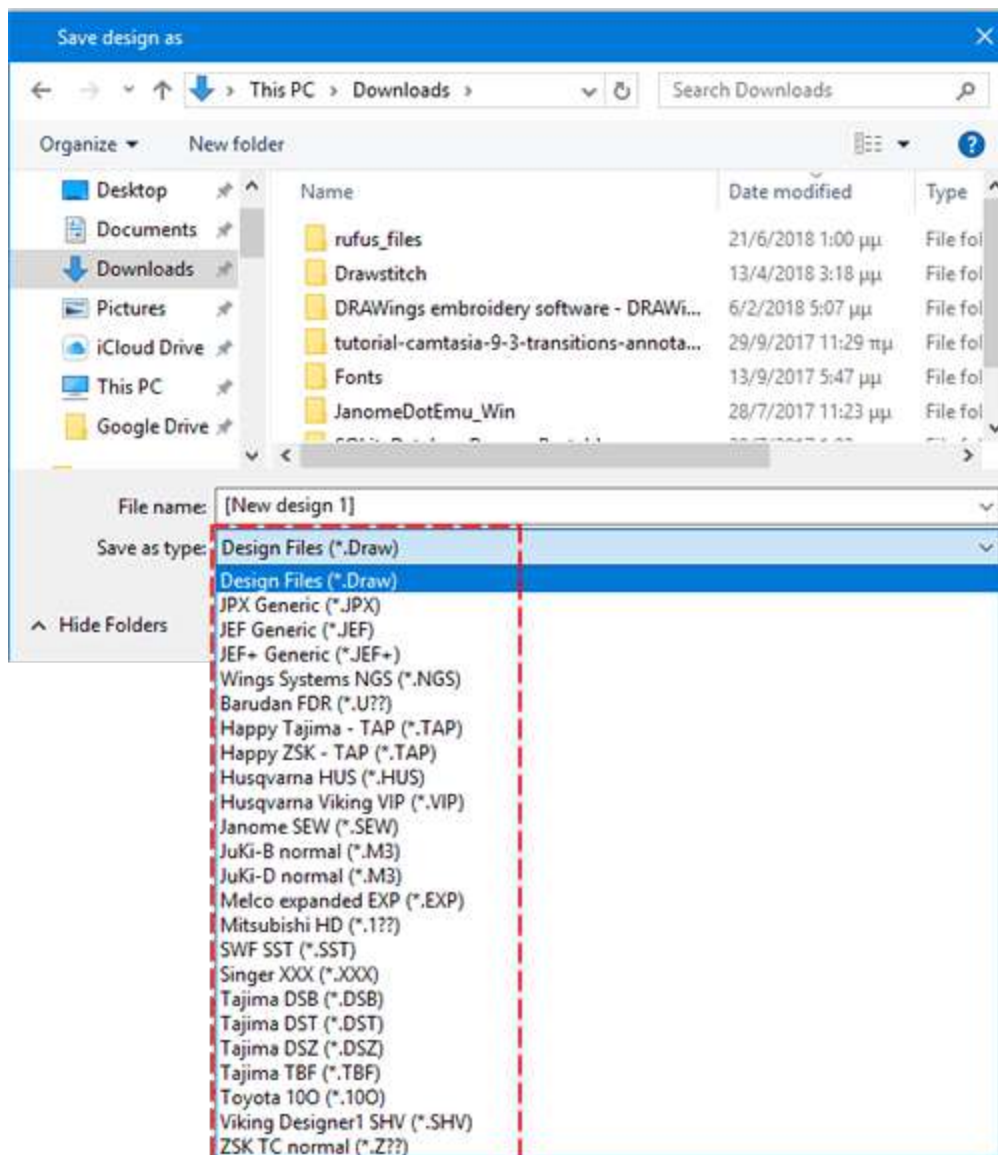
You can convert any object to stitches by right clicking on it and then selecting the "Convert to stitches" option. You can select the same option from the "Convert" button at the top bar. The outlines will be removed automatically. This will have as a result that every stitch editing you make (inside edit stitches mode) will be retained during resizing.

Saving designs

Your designs should always be saved in 2 formats:

- "DRAW" is the native format of the software and it is the only format that holds all the design information (artwork and properties). If you load a "DRAW" file you can start from where you were and create other variations of your design. This is the only lossless format.
- then you need to save to any stitch file that your machine supports. The software supports many stitch file or machine formats such as JEF, SEW, DST, EXP, and others.

You can save a design using the "Save" icon on the standard toolbar, using the "Save" or "Save as" options of the "File" menu or using "Ctrl+S" keys (for MacOS Cmd+S). The dialog shown bellow appears and you can select a location to save to, choose a filename and using the "Save as type" drop-down menu select a format to save as.



On the "Save as type" drop-down only the formats that your machine supports are available. On "Welcome" tab by pressing the "Hoop" icon, you can select the "embroidery machine" that you are using and a "Hoop". Your selection is saved as default and it is used in any design you create. So when

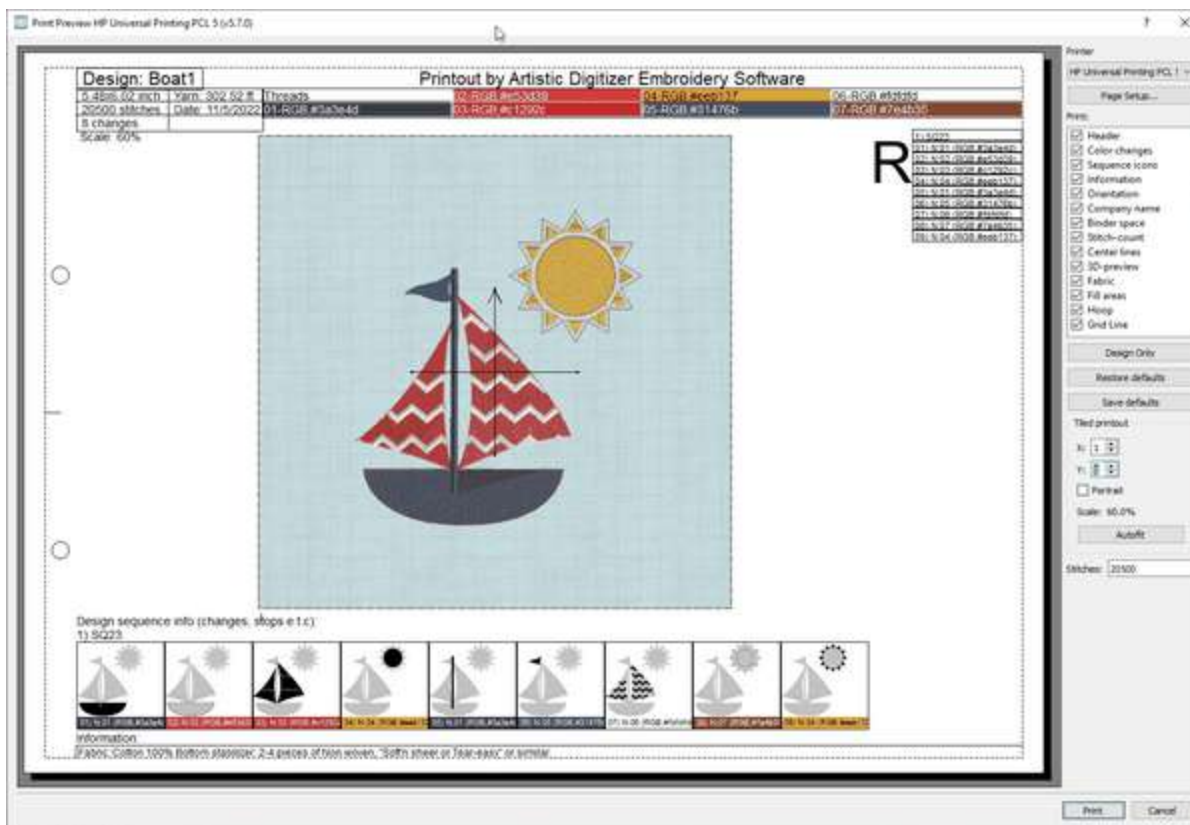
you save a design, you can only select among the formats that your machine supports. For example Janome machines support (".jef", ".jpx", ".jef+")

In general the software supports the following file formats:

Tajima (".dst", ".dsz", ".dsb")	Janome/elna (".jef", ".sew", ".jpx")
Tajima TBF (".tbf")	Janome/elna JEF+ (".jef+")
SEF xp (".sef")	Juki (".M3")
SWF (".sst")	Toyota (".100")
Pfaff (".ksm", ".pcs", ".pcm")	Laesser (".mst")
Singer (".xxx")	QuiltCAD (".hqf")
Happy (".tap")	PC Quilter (".txt")
Melco expanded (".exp")	Statler Stitcher (".qli")
Brother/Baby Lock/Bernina (".pec", ".pes")	CompuQuilter (".cqp/", ".cmd")
Husqvarna (".hus")	Mitshubishi HD (".1??")
Husqvarna Viking (".vip")	Barudan FDR (".U??")
Husqvarna Viking/Pfaff (".vp3")	ZSK TC (".Z??")
Viking Designer 1 (".shv")	

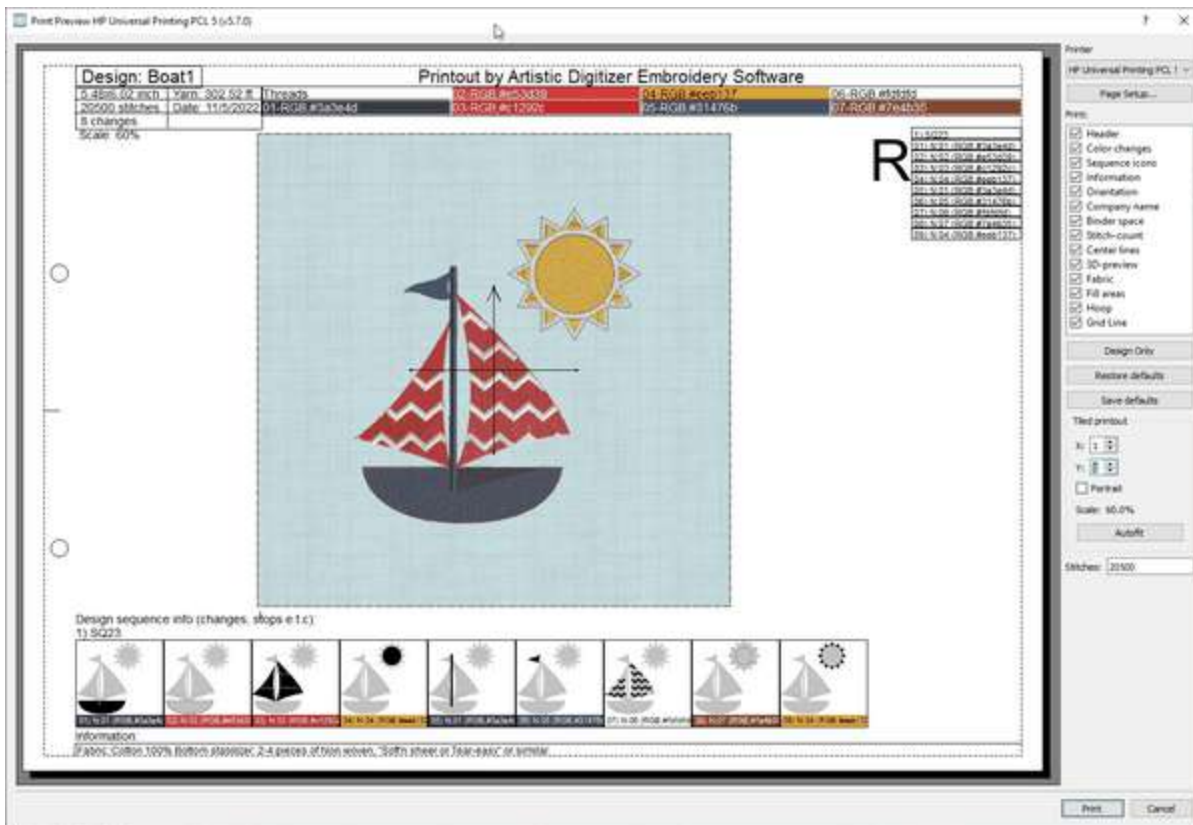
Print designs

One important step in order to review a design before production is the "Printout". By printing a design you are getting valuable information about your design, stitching information, sewing sequence, color changes, thread colors or codes. You can print the design together with much information that are useful for the embroidery process or Print the artwork of the design in order to see clearly the artwork without any other information.



Print design

The printout of the design provides information needed to evaluate before sending a design for production or to a customer to see if this is what he likes. To print a design, you can press the print  icon on the standard toolbar, use "Print" option of "File" menu or use Ctrl + P shortcut key (Mac OS Cmd+P). The following dialog will appear, you can see a preview of the printout of a design.



In print preview window, we can see a preview of the design together with provided information. On the right part we can see various customization of the printout. In reality you can select the parts that will be visible in the printout and customize the options of the print.

- Using "setup" button, you can select a printer and customize the options of the print.
- Using "Save to JPG" you can save the printout as an image file in case that you don't want to print at this point, but you want to save it for later reference.
- In "Print" section you can select which parts will be visible. Click on any of the check-boxes in order to enable/disable printout items.
- Using "Design only" you can create a quick print of the design only.
- If you have customized the print items and you want to undo, use "Restore defaults" to go back to the default printout.
- If you want this selection of visible items to be the default for any design, you can use "save defaults" button.
- In "tiled printout" section you can customize some aspects of the print, number of pages, orientation, and scale.

Print items

Now let spend some time describing the items of the "print" section. Every item of the printout can be enabled or disabled by clicking on the square on the left of its description. If the item is enabled the changes can be viewed on the preview area.

- **Header:** The header is at the top of the page, showing the size, color changes, number of stitches, quantity of thread needed, the colors of the design, and their position.

Design:		Printout by Artistic Digitizer					
19.14x21.50 cm	Yarn: 95.46 m	Threads	02-R: 49, G: 71, B: 107	04-R: 238, G: 177, B: 55	06-R: 253, G: 61, B: 47	08-R: 126, G: 75, B: 53	
25000 stitches	Date: 31/07/2017	01-R: 141, G: 197, B: 227	03-R: 193, G: 41, B: 44	05-R: 58, G: 62, B: 77	07-R: 253, G: 253, B: 253		
8 changes							
Scale: 55%							

- **Name as a barcode:** By checking this option the name of the design will appear as a barcode. Embroidery machines that are capable of reading barcodes can now quickly load designs by scanning the code on the Printout. You have the ability to change the barcode type from "Tools > Options > Printing" tab.
- **Color changes:** The box shows the sequence of the color changes. This information is really useful in case the design will be saved in a file format which uses "stop" instead of color-change command.

01-RE20a
01-N01 (R: 141, G: 197, B: 227)
02-N02 (R: 49, G: 71, B: 107)
03-N03 (R: 193, G: 41, B: 44)
04-N04 (R: 238, G: 177, B: 55)
05-N05 (R: 58, G: 62, B: 77)
06-N06 (R: 253, G: 61, B: 47)
07-N07 (R: 253, G: 253, B: 253)
08-N08 (R: 126, G: 75, B: 53)
09-N09 (R: 238, G: 177, B: 55)

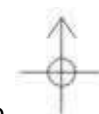
- **Sequence icons:** The sequence icons are at the bottom of the page. You can see the parts of the design split with a special function like color change, applique, or stop. Also in the bottom of the icon you can view the name of the color that should be used, plus comments.

Design sequence info (changes, stops e.t.c): 1

1) RE20a



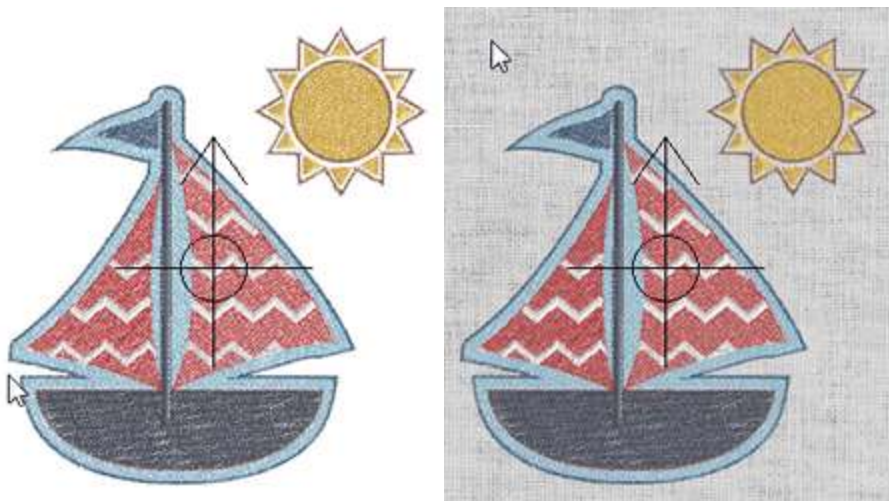
- **Information:** Information is at the bottom of the page. The information area lists and describes the components of your embroidery design. The information is sent from the program to the component presets you have selected.
- **Company name:** The company name, which is at the top of the printout, can be changed by using the Printing tab of the Tools > Options dialog.
- **Orientation:** The orientation is the icon shown with the "R" character at the top right corner of the printout. This is important because it shows how the printed page should be put on the embroidery machine to identify the starting point of the design.
- **Binder space:** This option makes the necessary margin (on the left side of the page) in case you want to put the printout in a folder.
- **Stitch count:** The number of stitches in your design can be viewed at the header of the printout. This Stitch count is important for commercial use when the number of stitches is used to calculate the embroidery price.



- **Start point:** This option shows or hides the starting point of the design, marked with the icon.
- **3D-preview:** Select if the design will be displayed in 3D-preview mode.



- Fabric: Hides or Shows the fabric behind the design.



- Fill areas: You may now print only the design's outline, hiding any objects from within. This is great for making templates and for quickly visualizing a design's final placement.
- Hoop: Hides or Shows the embroidering area (dotted line) of the selected hoop with a dashed line around the design. If your design is position outside this line you will have problems embroidering the design on a hoop that has the same dimensions (You might damage your machine).
- Grid Line: A grid has been added to the printout for accurate measurements and placement of the designs. When producing intricate patterns that require many hoopings and design placements, is a tremendous time-saver. The grid will become visible only if the Fabric or 3D-preview option is unchecked.

Tiled printout

This section manages the way that your design will be printed. When the printout dialog is called up, the first two fields indicate the number of pages needed for printing: "X" for horizontal and "Y" for vertical; the number of designs printed on each page can be changed by using the arrows on the right hand side or with the mouse wheel. The changes you make can be viewed on the print preview as you make them.

The Portrait option specifies how the design is positioned on the page. If it is enabled, then the design is printed vertically as a portrait. If disabled, then the design is printed horizontally as a landscape.

The Scale field shows if the design will be depicted smaller than its actual size and the percentage of the reduction. The first time that the printing dialog is used, the software finds the best way to show the design in actual size with the least number of pages.

Using Autofit option you can adjust pages and orientation to make the printout 100% of the actual design.

Finally at the bottom of the right area of Print preview dialog there is a control that you can use in order to set the number of stitches that you want to be viewable in the respective area of the printout. Click on the editable area and type the value you want to appear in Printout.

Print Artwork

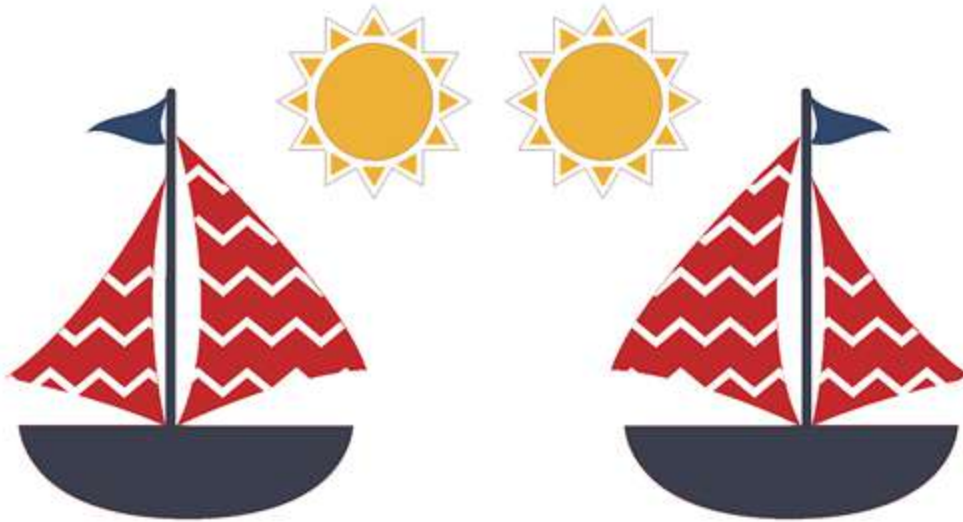
Using "print artwork" you have the ability to print only the artwork of your design. You can use this option in case you want to print on a special paper for textile printing. Then you can iron the paper on the fabric and apply the design on the fabric. You can also combine textile printing with redwork embroidery and create unique and stylish designs on garments. To print the artwork of a design, use the "Print Artwork" option from the "File" menu. A "print preview" dialog will appear, and you can select a printer, save into JPG file and customize the visible parts as described in previous section.



At the right side of the Print artwork dialog you can do the following:

- **Select Print options:** From this drop down menu you can select the printer you want to send the printout. Also, you have the option to save the printout as PDF file with the "Save as PDF" or as jpg image file with the "Save as JPG".
- **Page Setup...:** In this dialog you can change the page settings of the selected "Print option". You can select the page "Size", "Source", "Orientation" and "Margins".
- **Print:** At this section you can select what will be print on the print out. There are the informational option and the artwork options. The informational options are the "Header" and the "Binder space". The design

options are the "Artwork", "Embroidery", "Cut", "Stencil", "Paint", "Applique", "Crystal", "Backdrop" and "Mirrored". If they are checked they will be visible (the artwork of the option) and if they are unchecked they will not. The "Mirrored" option allows you to make a mirrored image of the artwork you want to print.



- **Design Only:** This option disables the "Header", "Backdrop", "Mirrored", and "Binder space" options from "Print" and leaves only the design options ("Artwork", "Embroidery", "Cut", "Stencil", "Paint", "Applique", "Crystal").
- **Restore defaults:** Restores the default settings of the dialog
- **Save defaults:** Saves the current settings as default.
- **Tiled printout:** In this section you can change the 'X' (horizontal) and 'Y' (vertical) repeats of the pages. If the design does not fit in one page, the software will automatically fit it in two pages, while trying to keep the design's size to 100%. You can also select, if you want that pages to be portrait or landscape by checking the "Portrait option".
- **Autofit:** This option adjust pages and orientation to make the printout 100% of the actual design.

Export design

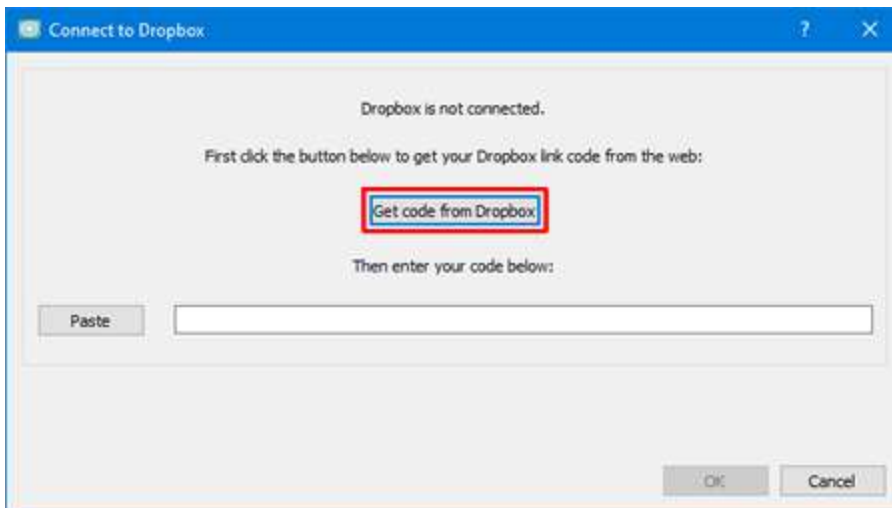
You can export any design you create in many embroidery formats, as embroidery image or for quilting, or even as vector file to be used by another program.

Export to Dropbox

The software includes a mechanism that can be used to export designs to "Dropbox". This is not just an export procedure, the exported designs are synchronized to "AcuDesign" iOS application for iPad / iPhone. The uploaded designs are organized into packages.

You can access this mechanism from "File" menu – "Export" - "To Dropbox" option.

In order to "Export to Dropbox" you must first authorize the software to create an "Artistic" folder into "Apps" folder of your "Dropbox" account. The appearing dialog is informing you about the authorization process.



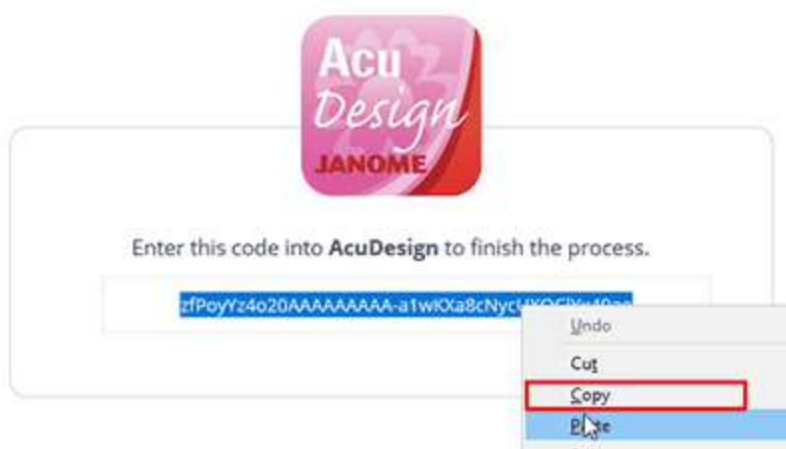
1. Click on "Get code from Dropbox" button and your default internet browser will load the "Dropbox" authorization page.



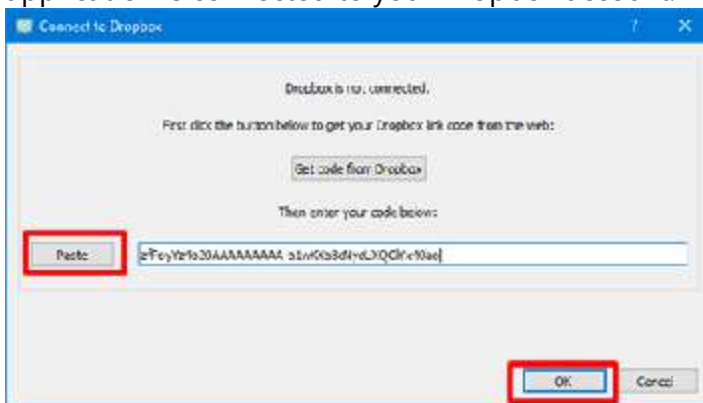
2. Sign-in by using your Dropbox account credentials and/or authorize the application by pressing Allow.



3. The Dropbox will create an authorization code that you need to copy and paste into the "Connect to Dropbox" dialog.



4. Switch back to the software and press "Paste" to enter the copied authorization code into the respective field. The you must press "OK" and you are ready to start using the Dropbox Upload dialog. Now the application is connected to your Dropbox account.



5. A folder called "Artistic" has been created into "Apps" folder of your Dropbox account. The exported designs are placed into that folder.



6. The software has read and write access to this folder only. Any designs that are exported can be added / synchronized with the designs on "AcuDesign" iOS application.

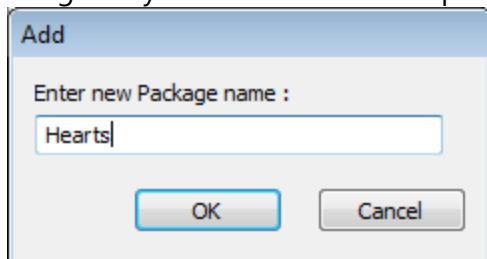


Notice: In order to have your files synchronized please make sure that "Enable Dropbox" option of "AcuDesign" settings is in ON state.

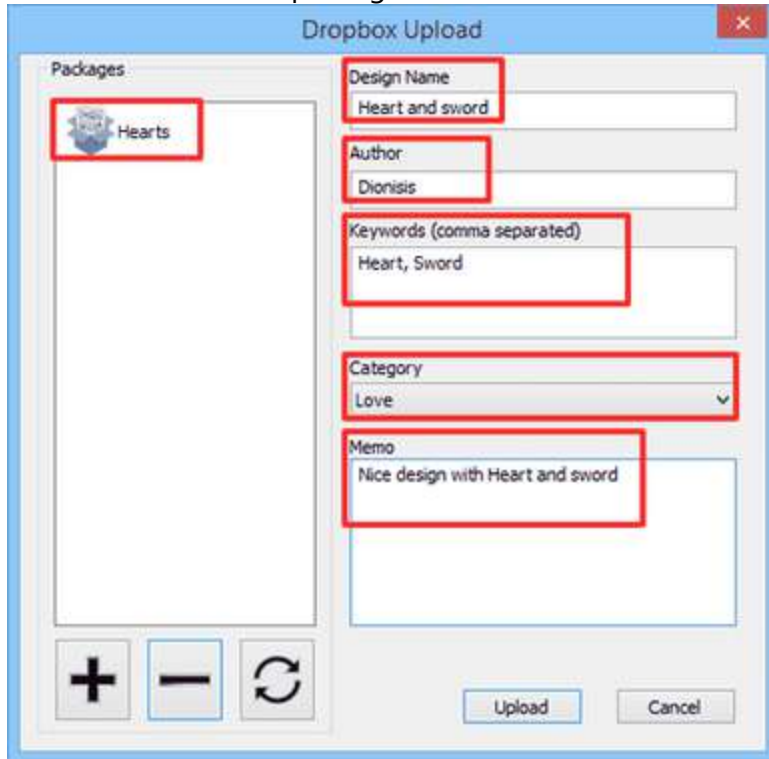
7. If the authorization is not successful the message of the following figure will appear. If something went wrong and the authorization failed you must start over again, using the "Export to Dropbox" option of "File" menu.



8. After the successful authorization the Dropbox Upload dialog is grayed out. The only option that is available is the plus sign in packages section. In order to upload a design we must first select a package for the design. As we have already mentioned the uploaded designs are organized into packages. A package is a collection of designs. Using the plus sign you can create as many packages you like, the only thing that you must define is the package name.



9. We have created a package called "Hearts".



10. The Uploaded design will be a part of "Hearts" collection.

First we must select a package for the design. In our case we only have one package.

Type a name for the design.

Author name the dialog automatically detects the user name of the computer but we can change it in anything you like.

Type Keywords, comma separated, that may help you in case that we search for a design.

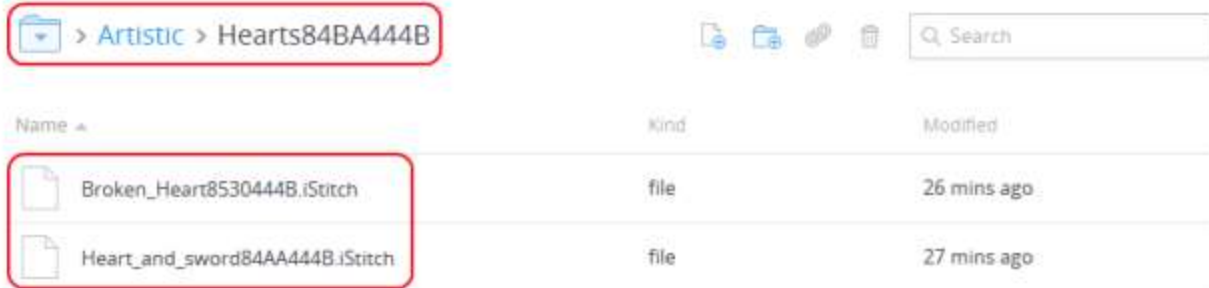
Select a category that the design will belong to.

We can add a short description about the design and if there are things that we must remember about its production or anything else.

Finally, we must press Upload to send the design to Dropbox.

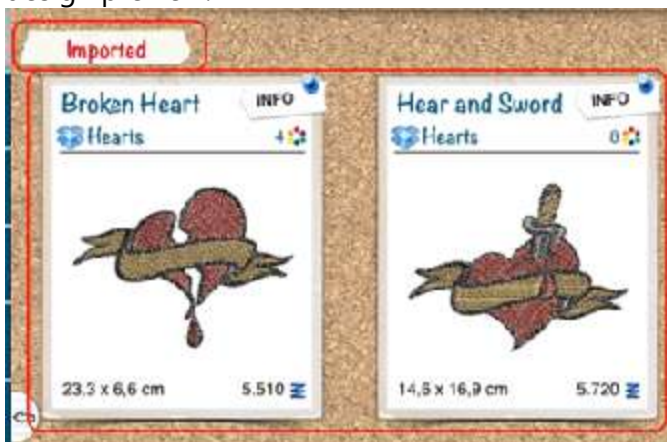


11. A confirmation message about the upload success appears. Using Export to Dropbox option of Artistic Digitizer we have uploaded a design into Dropbox. In the same way we can upload as many designs we like. As we can see on the following figures in our Dropbox account in Apps - "Artistic", a folder called "Hearts" (package name) was created (Upper part of the following figure) and the uploaded designs were placed into that folder (as we can see on the lower part of the following figure).

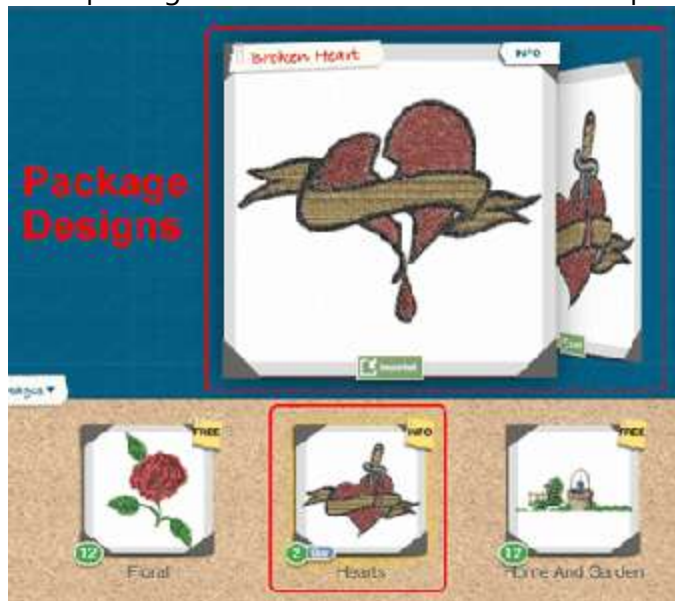


12. From now on you can create packages and upload designs to Dropbox with just a few clicks. Let's switch to "AcuDesign" to see how these designs are synchronized to the design collection of "AcuDesign". Make sure that "Enable Dropbox" option of settings area is set to "ON" state.

13. In "AcuDesign" category view, the uploaded designs are placed into a special section called "Imported". You can tell which designs are imported from Dropbox by the respective icon that is on the design preview.



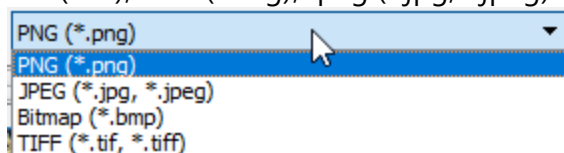
14. In package browser we can see the created package and the designs that belong to it.



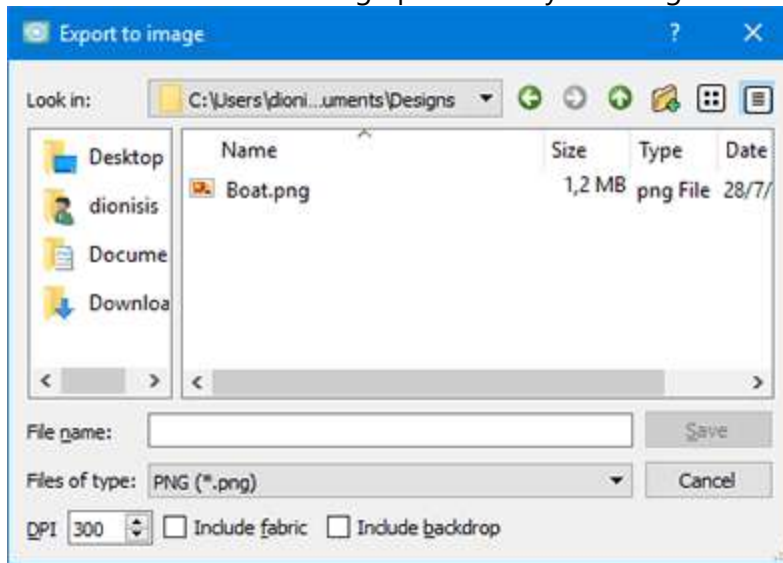
Export embroidery image

In many cases it is very useful, for decoration or archive reasons, to export a to an image file. In order to export the embroidery design to an image file, once you have created a design, you have to follow the steps below:

1. Use "File" - "Export" - "To image" option or press Ctrl+Shift+E shortcut key (for Mac OS Cmd_Shift+E).
2. A "Save dialog will appear, browse to the location you want to save the design,
3. Define a name for the image file.
4. Select the image file type you want, using "Save as type" drop down menu. The options you have are Tiff (*.tif), PNG (*.Png), Jpeg (*.jpg, *.jpeg) and Bitmap (*.Bmp).



- There are also some more adjustments, DPI, Fabric and Backdrop options, once you are ready click "Save" button and the image preview of your design has been saved to the selected location.



Change image resolution

You can adjust the resolution of the produced image by changing the DPI (Dot Per Inch) value. The DPI expresses the number of dots a printer can print per inch, or that a monitor can display, both horizontally and vertically. The resolution of an image is measured by the number of dots per Inch that it consists of when it is printed. The DPI value that you will choose affects the image quality. The DPI value that you can enter in the DPI field can vary from 60 to 600. Generally images that are created only to be displayed on computer monitors are 72 or 96 dpi and images that are created for the internet are 72 dpi. In addition images created for printing on desktop printers are between 150 to 300 dpi, while images for professional printers are usually 300 dpi or higher. We propose for better embroidery effect results to set the dpi value more than 150 dpi. With resolution near to 160 dpi you will be close to the real dimensions of the design and you will get a proper representation of the embroidery effect by avoiding re-sampling the original image. For textile printing it is better to use the highest possible resolution of 600 dpi for more realistic results.

Include fabric option

With the Include fabric option you can decide whether you want the exported image to have fabric background or not. With a fabric background you could have a realistic preview of the design with the selected fabric. The preview will look very much alike to how the design will be embroidered on the actual fabric. If Include fabric option is selected, the fabric that is used for the design will be added as a background in the exported image. If the "Include fabric" option is not selected, the exported image will not have a fabric background. For Bitmap, Jpeg and Tiff files the background will be a solid black color and for PNG files will be transparent.

Include backdrop option

In cases when we digitize based on a backdrop, it would be very useful to export the design with the used backdrop. In this way we can review the design in comparison to the design source in order to improve any aspect of the design we like. If this option is selected, the Backdrop that is included in the design will be

exported to the image, as seen on screen. To be able to export the backdrop, the desired backdrop must be visible.

The images that will be exported can be used as artwork in various graphics designing projects. The embroidery image artwork can be used from embroiderers to present their work or promote it. They can print it on any fabric to visualize the actual size of their work or create brochures with their designs. It can be also used to make combinations, e.g. of printed embroidery effect on a T-shirt along with actual embroidery. This is a market trend which combines both embroidery and printing on garments. In addition, embroidery images can also be used for decoration of envelopes, birthday cards, business cards or any other graphics creation that could have embroidery-like images on it.



Export to SVG

The artwork of anything that you create, can be exported to a special file type, SVG file, that contains only the artwork. The exported SVG file can be used for printing purposes or for creating combinations of embroidery and textile printing on garments. To save your design as SVG (Scalable Vector Graphics) file by following these steps:

1. From "File" menu, expand "Export" submenu,
2. Then use the "To SVG" option. Another way to activate "To SVG" option directly is by pressing Alt+E shortcut key.
3. A save dialog will appear, define a name for the file. Find the location you want the design to be saved
4. Click the "Save" button to export the design in SVG file format.

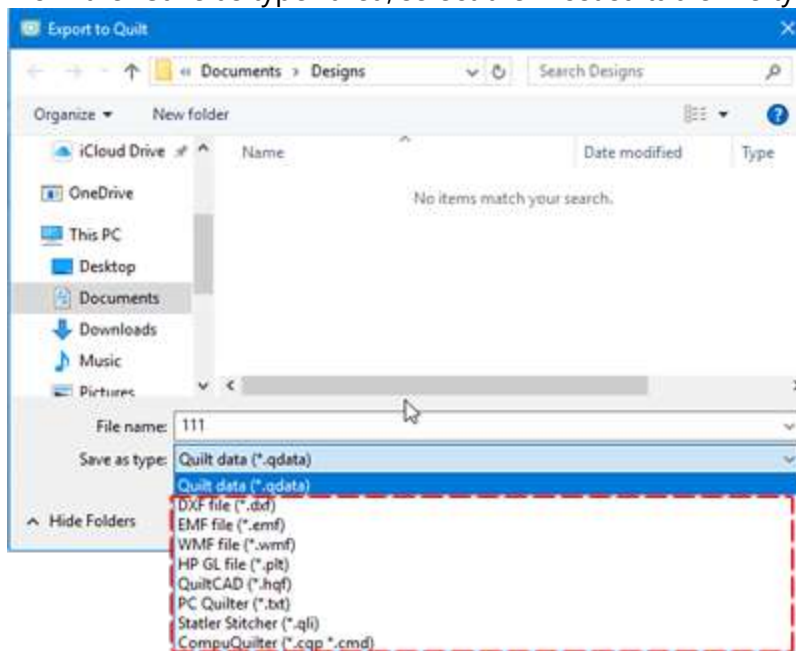
Once the SVG file is saved, you can edit it in any Vector design editor. The design can also be imported back into the software and you can create another variation. By keeping the artwork separately, it's ready to use again if you need to create a similar embroidery design.

Export to Quilt

The software also has the ability to save files for Quilt Frame machines. You can create a design for quilting and once you are ready you can export it to Quilt data file that you can load and use to your Quilt Frame machine.

To Save the file do the following:

1. From "File" menu, expand "Export" sub-menu
2. Use the "To Quilt" option and a save dialog will appear.
3. From the "Save as type" area, select the most suitable file type.



4. Select location for the saved file.
5. Type the name of the file in the File name field
6. Click the Save button to save the design in the selected file format.

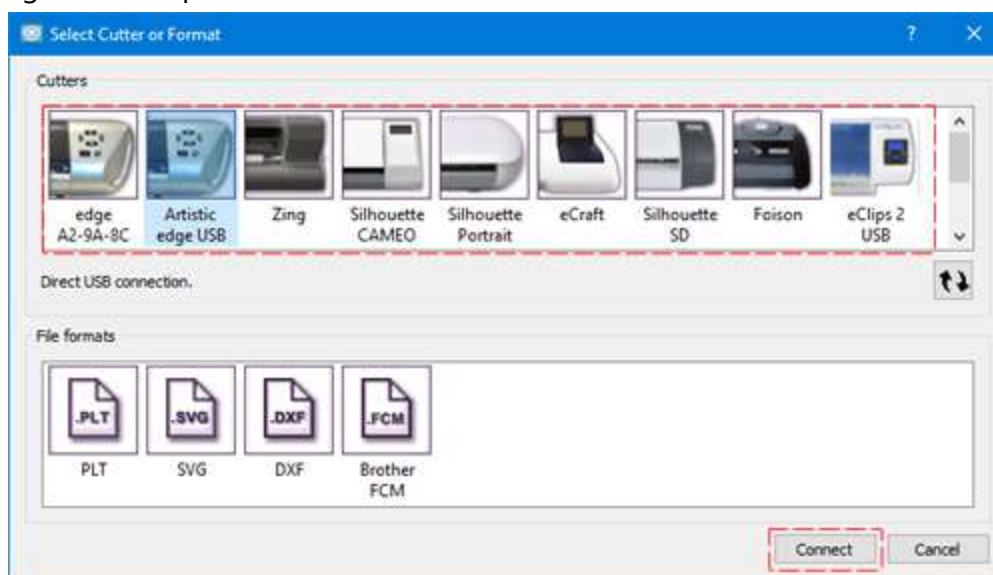
Now you can load the file to your Quilt Frame machine and start Quilting.

Using this export tool you can export your design to various formats. The DXF (AutoCAD) format is a vector format that can be used for presentations or used in Laser cutters or Quilt machines. To export a design to (DXF) file format you have to follow the steps listed above but in Save as type section you must select Dxf file. In the same way you can export into any of the available file formats.

Export to Cutters

All the designs that contain Crystals, Cuts, Stencil, Applique or Paint objects need special care in order to send them to the digital cutter for production. You can easily export designs by direct connection on specific cutting machines or as files that can be used for the same purpose. In order to export a design to the a digital cutter you need to use "Export" - "To cutters" option of "File" menu. From the appearing dialog you must select one of the Cutters to connect directly to, or a File format (HPGL file ,SVG file, DXF , FCM file) if you

want to export to a file and import to your cutter in a manual way. If you select a cutter to connect directly then after selecting the cutter press "connect" button.

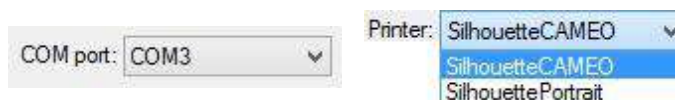


A "Windows Security Alert" may appear the first time you will open the dialog. Click "Allow access" to allow the communication of the software with the "Artistic Edge" cutter (Wireless).

Cutter connection configuration

Under the list of the Cutters you can adjust the connection settings for the selected cutting machine. There are various types of connections, Serial connection(Com), Printer connection(USB), Direct USB connection or Wireless connection. After selecting any of the available cutters, you can see in the area below a Printer, a

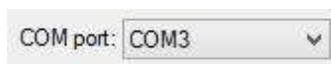
Com selection drop-down menu or a Wireless configuration icon .



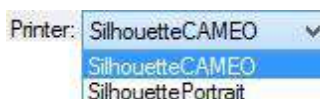
Com selection

Printer selection

- Serial connection: For Zing, eCraft, Foison, REDSail, you can change the selected "Com port" (serial port that the machine is connected) using the drop-down list. The software always tries to auto detect the correct port, but in some cases it may not succeed. If you send a design to the machine and it does not start then try to change the COM port from the menu item and try again. If none of the available ports work, then you have to check if the machine is correctly installed on the PC.



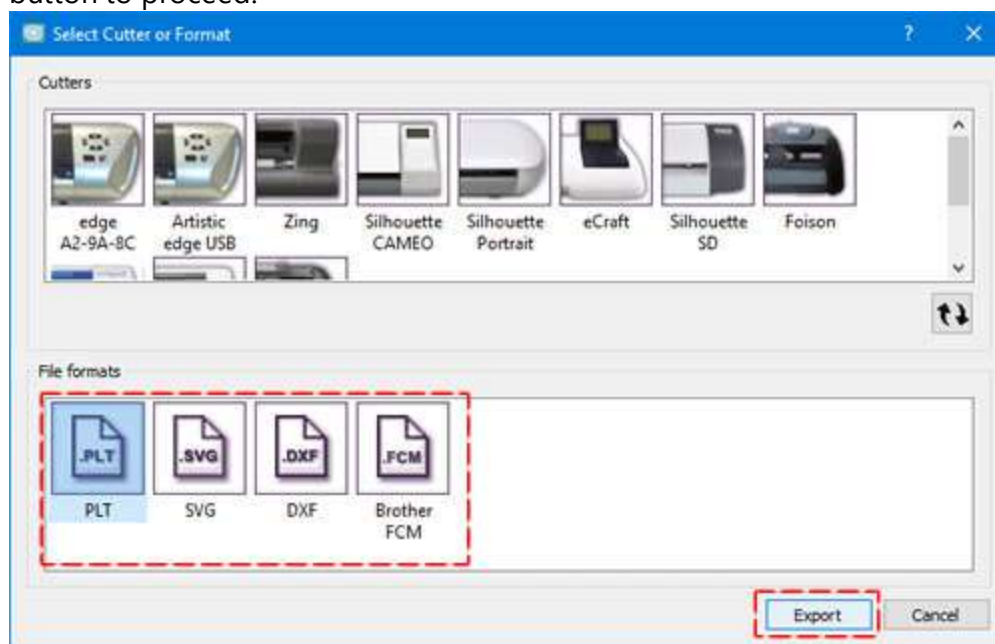
- Printer connection: For Silhouette SD, Silhouette CAMEO, Silhouette Portrait, GCC, you can select from the Printer drop down menu, to specify the printer driver for the respective machine. The software tries to auto detect the correct printer, but in some cases it may not always succeed. If there is not a printer available in the list, you have to check if the machine is properly installed on your PC.



- Direct USB connection: Artistic Edge USB and eClips 2 USB create a direct USB connection. If they are connected to the computer correctly and powered on, the connection to them is automatic. In case that you can not communicate correctly to any of these cutters, close the dialog, power off and then ON the cutter and then use Export to cutter once more.
- Wireless connection: For Artistic Edge Wireless cutter the software tries to make a direct wireless connection to the cutter. If the connection is successful then the Cutter name will appear. Next to the cutter name there is a button that is used in order to configure the wireless connection. For more information please refer to chapter Artistic Edge wireless configuration. If the cutter name is not available make sure that you are connected to the Edge-xx-xx-xx access point or to the access point of your home-business (In case that you switched the Cutter to Client mode). More information in chapter Artistic Edge wireless configuration.

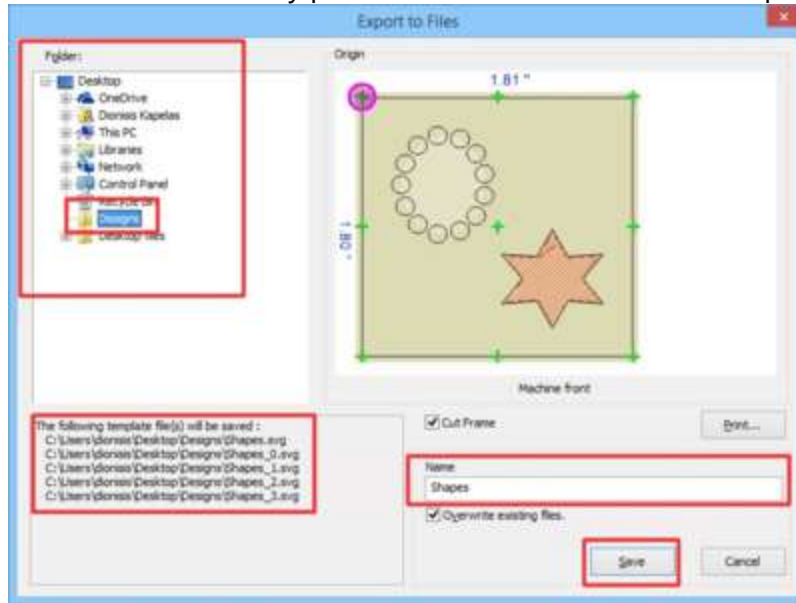
Export to file

1. Select the HPGL file (.plt) or SVG file (.svg) or DXF file (.dxf) or FCM file (.fcm) option and press Export button to proceed.



2. At the Origin area you can specify the position from where you want the machine to start creating the design. This option helps you to position the material that will be cut at the correct position. You can change the Origin by simply clicking on the respective green cross . The .plt or .svg or .dxf file that will be produced will have the design positioned near the button you have selected.
3. Navigate to the location that you want to save the templates and type a name
4. If you want existing designs to be overwritten you can check the Overwrite existing files option underneath. After typing the file name you can see on lower left part the names of the template files

will be created. Finally press Save button to write the template files to the disk.

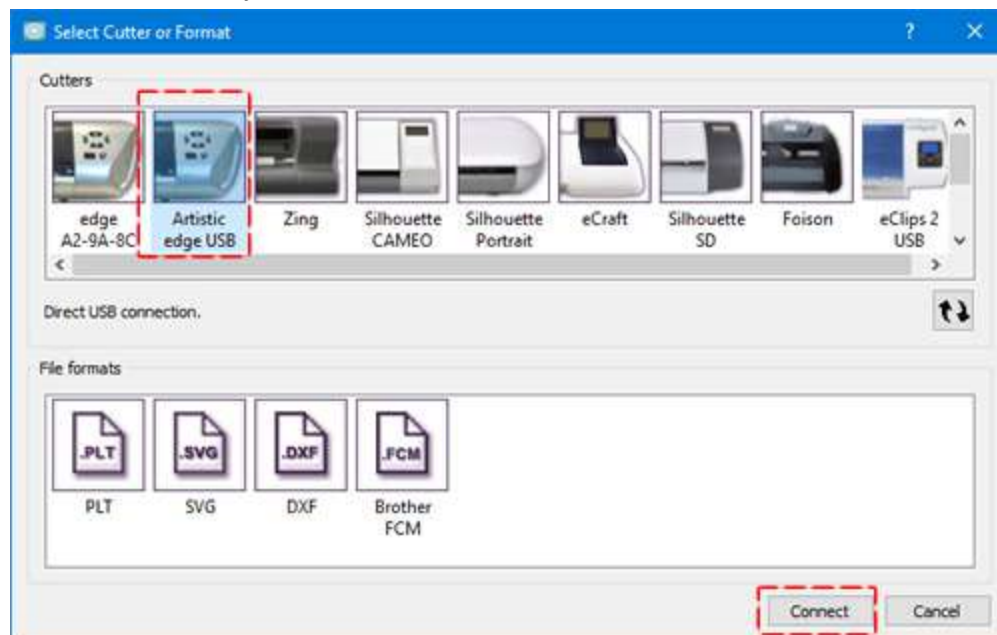


There are also some other useful options on the export dialog:

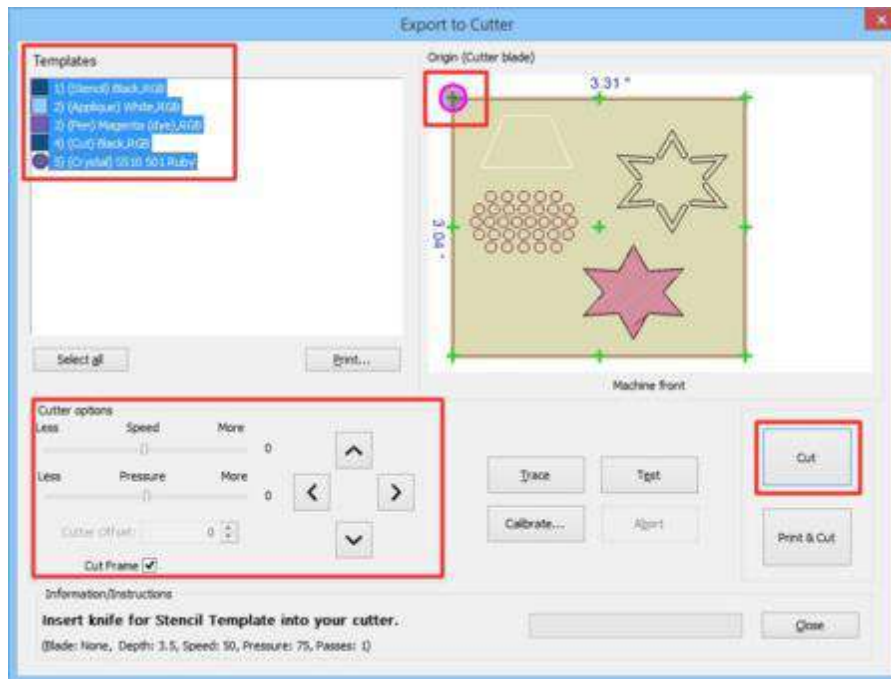
- **Cut Frame:** This option adds a rectangle around the design that will be cut after cutting the main object. In order to apply it on the design you have to simply check the Cut Frame check-box. At the Origin area you will see a rectangle to be added around the design you have created. This is the Cut Frame that will force the cutter to cut the material and produce a portable version of the Cut design you have created.
- **Print...:** This option allows you to make a printout of the design and be able to view the cutting sequence of the objects. More details about the Print dialog you can find here.

Direct connection to cutter

When using Export to Cutters option from File menu you must select one of the available cutters and press connect in order to connect directly to the cutter.



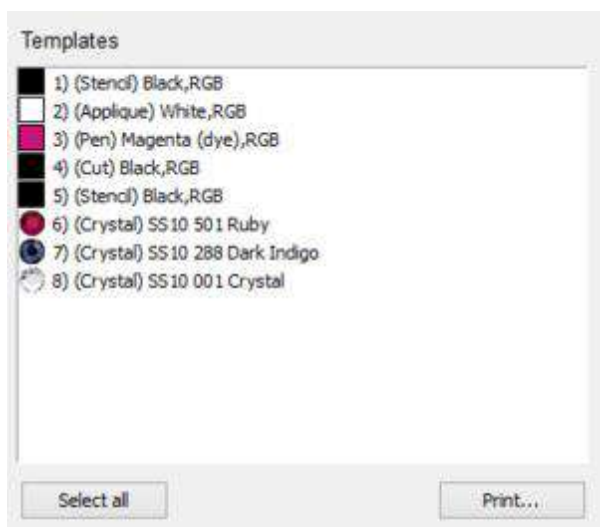
The Export to Cutter dialog will appear, using this dialog you can send any design part (Paint, Cut, Stencil, Applique, Crystals), to the Cutter that you are already connected, for production. If the Digital Cutter is properly connected and powered ON, then at this point you should be able to directly communicate with the Cutter through this dialog.



The Export to Cutter dialog is generally the same for all cutters, the only deference is that some options may not be available for any cutter that does not support their usage. In this topic we will present the various parts of this dialog and the usage.

Templates area

When you export a design to a cutter, then the program automatically converts all the design parts, that should be sent to the cutter, into separate templates. A separate template is created for each object type (Cut, Paint, Stencil, Crystal, Applique) and for each color if multiple objects of the same type exist. For example, for the design of our sample there is Stencil, Applique, Pen, Cut and Crystal template. In this area you can select one or more templates to send to the cutter. You can hold the Ctrl key from the keyboard pressed and select the templates you want to send to the cutter, by clicking on them. Those that where clicked will be highlighted showing you that are selected. To deselect any of the selected you can again hold the Ctrl key pressed and click on them. Another way to select multiple templates that are sequential, is by holding the Shift key pressed by clicking on the first template you want to select and then the last one. All the templates that are in between the selected template will be selected. If you select multiple templates and press Cut(For knife parts) or Draw(For pen parts) they will be sent to the cutter in the sequence that you can see. When a template is completed the cutter stops and instructions about the next template are provided in the lower part of the dialog. For example, in the figure below the first template is a Stencil template so you must place the cutting mat with the material to cut into your cutter and on the information area you are instructed to place a knife/blade into your cutter head. After you press Cut and produce the template the cutter will stop and provide you instructions for the next template. The procedure goes on for all selected templates you are instructed to place the cutting mat with the material for each template and the Pen or Knife on the cutter head.

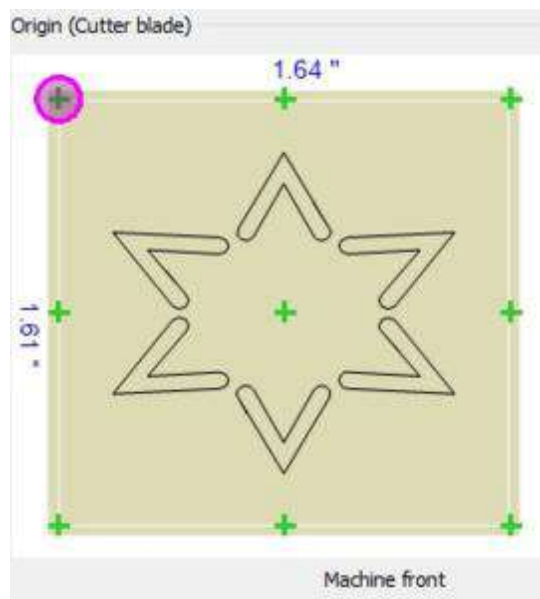


If you want to Select all templates that are listed you can simply click on the respective button underneath the templates area and all of them will become selected. By default, whenever you Export to Cutters dialog all templates are selected. Any page selection you make in the Templates list is previewed in the Origin area. You can also Print the templates all together with useful information about the production.

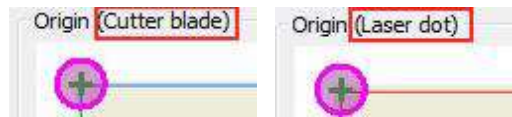
Origin - Preview

In this area you can see a preview of the selected template(s) and there are also various cross signs. You can select any of these points to be the origin of your design. Not all cutters support all origin points that you can see on the following figure, in some cutters there may be only one or few origin points available. The cutter will start producing the design according to the selected origin point. For example, in the following figure, the upper left origin is selected and this is the point that the cutter will begin from. This option helps you to start the cutter operation according to the material that you have placed and the position of the cutter head. You can change the Origin, simply clicking on any cross icon.

The Silhouette SD, Silhouette CAMEO do not support this option and therefore you cannot change the designs origin.

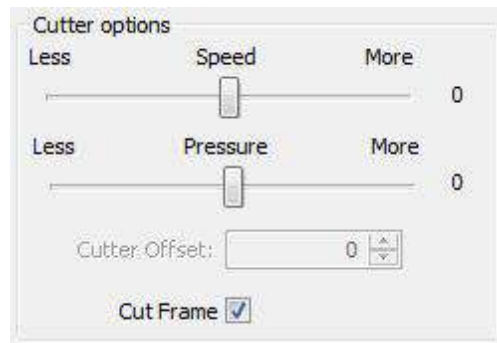


Next to the origin name you will see the origin definition tool that each machine uses to specify from where it will start to cut the design. For example the Zing machine uses a Laser dot to define the origin and the other machines are using the actual cutter head (Blade - Pen). Therefore keep in mind to check the way that your machine uses to set the starting position from where it will start cutting the material.



Cutter options

In this area you can adjust various parameters of the cutters operation (Speed, Pressure), add additional offset and Cut frame.



For any created object Paint, Cut, Stencil, Applique, Crystals, we can set the speed and the pressure, using the respective options of object properties. Any of the objects-templates may have varying speed or pressure. Using the Speed and the Pressure track bar you can increase or decrease the speed and the pressure that will be applied to all templates that are available on the dialog. Generally, we are using these track-bars when we have created a complex design and during production we see that we may need more speed or pressure, then we increase the speed or pressure for all design templates without going to all design objects and change their cutting options. In case that these values are grayed-out (disabled) this means that the cutter does not support their usage. You must have in mind that these track bars keep the previous settings that you have selected, so if you start a new design and send to the cutter, you will see that previously selected speed and pressure are kept, so if you need to use initial selected speed then you should return the track bar to zero.

Cutter offset

Using this value, if it is enabled, you can specify the offset that the cutter will add to each shape in order to be produced properly and keep its shape. This value varies from cutting machine to cutting machine and some machines do not allow you to change this value at all through our software. You can make adjustments through the machines panel. Feel free to change the Cutter Offset setting based on the offset you want to be added to each Cut that the machine will make. To make it more clear, consider that the machine in order to cut the material uses a knife that has a specific size. When the machine cuts the material creates a shape that might be smaller than the one you have specified inside the software, because of the knives dimensions. To overcome that we add some offset that will force the machine to create the design slightly larger and match the size we want it to be.

Cut Frame:

This option adds a rectangle around the design that will be cut after cutting the main object. In order to apply it on the design you have to simply check the Cut Frame checkbox. At the Origin area you will see a rectangle to be added around the design you have created. This is the Cut Frame that will force the cutter to cut the material and produce a portable version of the Cut design you have created.

☒ Cut Frame

Cutter operations

Using the controls that are visible on the following figure we communicate directly to the cutter and perform various Cut - Paint operations.



Arrow buttons

Using the Arrow buttons you can move the head of the cutter to a position that you want the head to be. This may be necessary in 2 cases, first in order to position the cutter head above the area of the cutting mat that we want to cut-paint (position the head according to the selected origin) and second in order to move the cutter head to a position that we want to perform a Test operation of the cutter settings.

For example if you have selected an origin on the upper left corner of the template, you must move the head to the upper left corner of the area, that you want to perform the Cut-Paint operation.

If you need to fine tune the position of the cutters head you can use Ctrl , Shift keys on your keyboard to adjust the step of the movement.

- Hold Shift key  in order to make the movement small.
- Hold Ctrl key  in order to have a large movement step.
- Use Ctrl and Shift keys together ( + ) to make a very small movement step.

Trace:

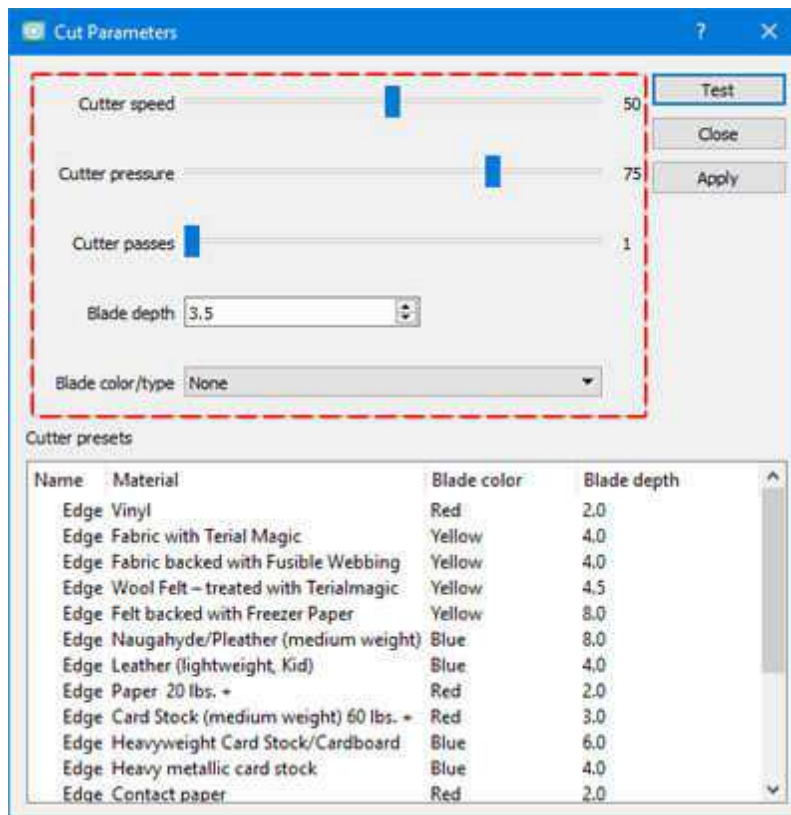
When we have placed the cutter head above the part that we want to cut/paint we may want to check out if the design fits in the area we have specified. If we press the Trace button, then the cutter head will start moving around the area that is required according to the design size. In this way we can see if the design actually fits based to the position of the head.

Abort:

Using the abort button, we can stop the send to the cutter operation, if the data have not been transmitted yet. So, if we realize that something is amiss, we may abort, in order to correct our design or settings and re-send to cutter.

Test

There are many cases, such as if we have never used a material, or a Pen/Brush to a Cutter, that we may need to perform a Test in order to verify the results of the operation with the current template settings. We can use Test button in order to perform such a test. The test must be performed for each template separately, select a Template and press Test button. The Test dialog will appear, if you have multiple templates selected then the test will be performed with the settings of the first template. In the appearing dialog you can see the cutter settings that were selected for the objects of the template (Using Object properties). By pressing Test the cutter will perform a test job with the current settings on the material that you have placed. It will just produce a simple shape in order to verify that it is produced correctly.



There are 3 types of tests as you can see on the following figure, one for Cut, Applique, Stencil objects, one for Paint objects and one for Crystal objects. A different pattern is used that is better suitable for each type of object.



Crystals test pattern Cut, Applique, Stencil test pattern Paint test pattern

After the test is complete, if the result is not as desired, you can edit Cutting options (Speed, Pressure, Passes), move the head of the cutter to another point and test once more. If the results are as desired then you can press Apply and the current settings will be applied to the object of the template. In order to adjust the current settings there is also a list of preset settings that you may use in order to give you set of preconfigured settings according to the production material.

Calibrate

This option is only enabled for Zing, eClips 2 USB and Artistic Edge cutters that have a laser pointer. Using the calibrate button you can define the distance between the laser pointer and the cutter head.

Cut

Once you are ready, click the Cut - Draw button to send the design to the machine. Once you have started the process the software locks the connection with the machine and you are not able to select a different template until the process is done.

If the design has multiple groups of crystals or multiple outline objects or multiple applique objects, the software will send each design separately informing you which one is sending every time. Therefore, for crystal designs, first one group of crystals will be send and cut, then a second group will be send and cut on a different cutting material, then the third and so on. Each time the software will ask for confirmation (Press "OK" to Send next page or "Cancel" to abort.). The crystal design will be made with layers of different hole groups based on the design. Designs with Outlines or Applique will be handled accordingly.

Print & Cut

This option is enabled only for cutters that can support this function. Zing, eClips 2 USB and Artistic Edge cutter that have a laser pointer, support Print & Cut and there is also a Calibrate option available. Using the calibrate button you can define the distance between the laser pointer and the cutting blade. For Silhouette CAMEO and Silhouette SD that have a special optical recognition mechanism Print & Cut option is also enabled. Print & Cut option is a special mechanism that can be used to print the outlines of a design to a printer and then place the print on the cutting mat and cut the printed artwork using the cutter. The printed paper has some special marks:

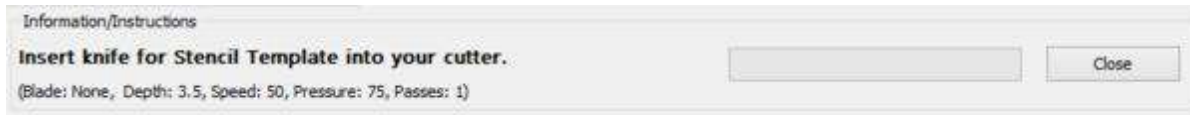
for Zing, eClips 2 USB and Artistic Edge that have a laser pointer we must point with the laser pointer these special marks during the procedure so the print and the cut are properly aligned.

For Silhouette CAMEO that has a special optical recognition mechanism we must place the printed paper to the cutter and the Cutter will recognize the special marks using optical recognition.

Instructions

In this area you can see information about the currently produced template. You can see the cutting properties that were selected for this template and you are instructed to place the correct production head.

For Cut, Stencil, Applique objects you are prompted to place the proper knife/blade to the cutter head and for Paint objects you are prompted to place the proper brush.



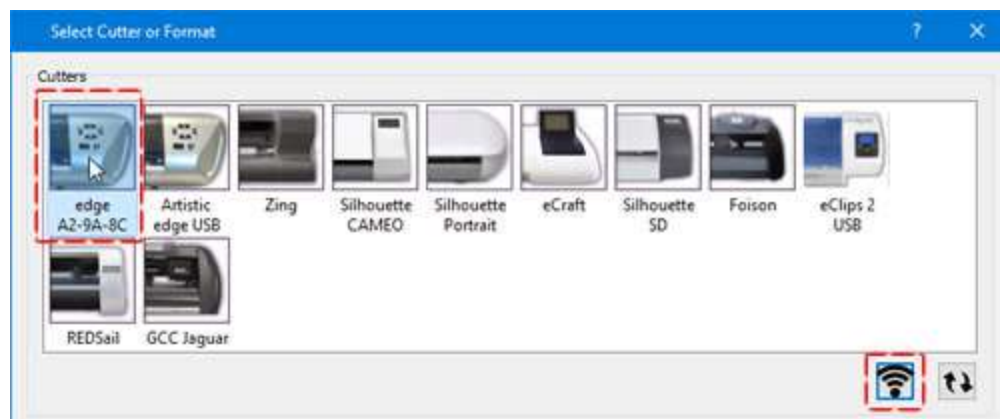
Artistic Edge wireless configuration

Artistic Edge cutter comes with an optional Wireless module. The following information-instructions apply only for those who have purchased the version with the Wireless module.

The cutter has 2 Wireless operating modes.

- Access point mode: The cutter is not connected to a router but it implements a Wireless access point and the computer connects directly to this access point. The access point is called Edge-xx-xx-xx.
- Client mode: The cutter is connected to a router and the computer communicates with the Cutter through the network connection.

By default when starting the cutter for the first time the Access point mode is enabled. This means that in order to connect to the cutter you must first connect to the Edge-xx-xx-xx access point. If you are connected to the Edge-xx-xx-xx access point then the cutter name will appear as on the following figure in Export to Cutters dialog. If you can not see the Cutter name then you should first check if Wireless functionality is enabled on the Cutter, the Wireless/Light button should be highlighted. If it is not highlighted please read the following instruction in order to Turn on the Wireless functionality.



Turn on and off Wireless module

Artistic edge Cutter with Wireless dongle included has a wireless button next to power button (On-Off). When the Wireless is enabled this button is ON with a white light otherwise it looks turned off. If Wireless is Off then in order to turn it on, press and keep pressed the Wireless button for about 5 seconds until it is highlighted with a white light. At this point if we search through the available wireless networks we should be able to locate the Edge-xx-xx-xx wireless access point and we should be able to connect to it. Likewise, by holding the Wireless button pressed down, we can disable the Wireless functionality.

Notice: In order to be able to send a design via Wireless to the cutter the Wireless should be enabled and highlighted and we should be connected to its access point, if it is in Access point mode or connected to the network that the cutter is connected when switched to Client mode.

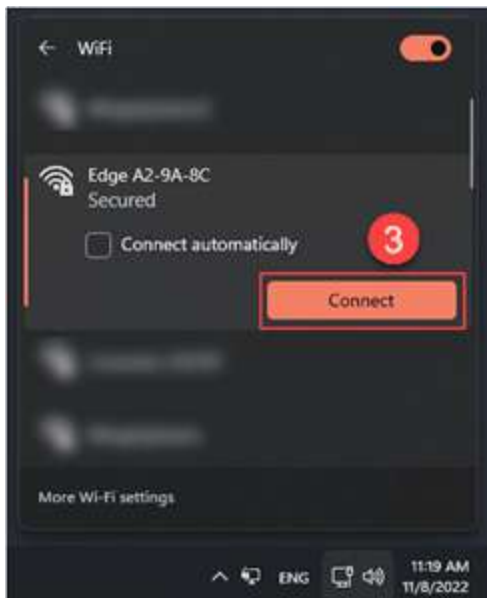
Connect to Artistic Edge access point

First of all we must mention that the you should ensure if the wireless function is activated. if it is not please Push and hold down Light/wireless button for three seconds. The button will light up once the wireless function is activated. Wireless access point to become ready and then search again for the Edge access point.

In order to connect to the Edge cutter you must press on the network icon on your system tray in order to view available networks.



From the available networks select the one called Edge-xx-xx-xx and press Connect to join the network.



You will be prompted for a security key, please enter 12345678 click Next and wait for a while for the connection to be initialized. It is very important to ensure that you're entering the password correctly, because sometimes, if the password is incorrect, it may look like you're connected to a network, but no actual file transfer will happen.

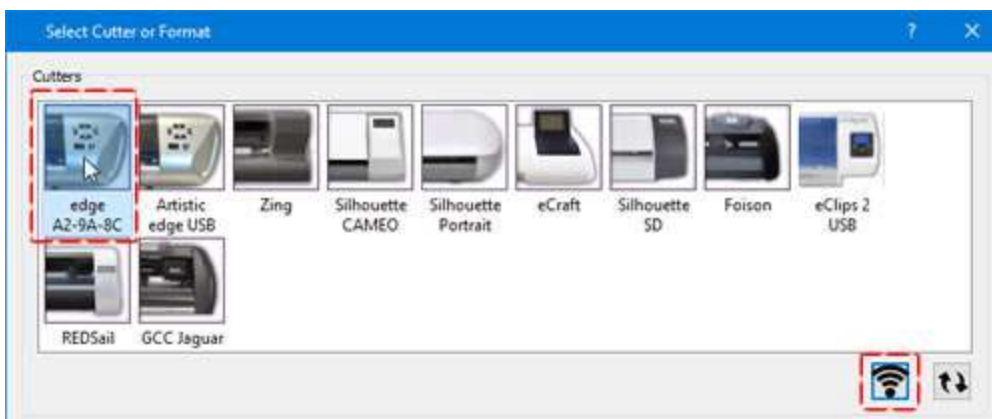


Now you are connected with the Edge cutter directly. To send a Cut design to it, do the following:

Note: While you are directly connected with the Edge cutter, the Internet will not be available. To connect your PC back to the internet you have to close your cutter or repeat steps 2-3 but this time connect to Your Wireless network.

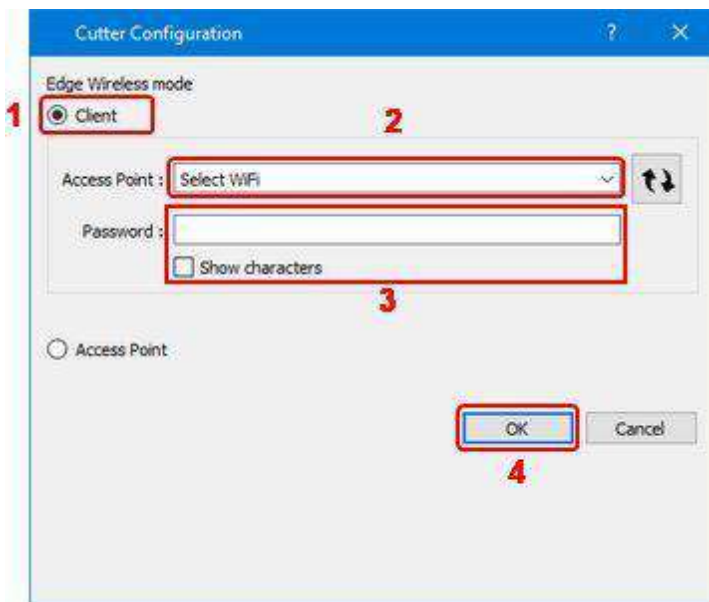
Select Wireless operation mode

If you are connected to Edge-xx-xx-xx access point and you can see the Cutter name on Export to Cutters dialog then you are successfully connected to the Cutter. On the area below the available cutters and when Edge wireless is selected you can see a wireless icon that can be used in order to manage Wireless operation mode, see on the following figure.



Click on the Wireless button and the Cutter configuration dialog will appear. As you can see on the following dialog the Access point mode is grayed out, this means that this mode is already active and we can not change into that mode.

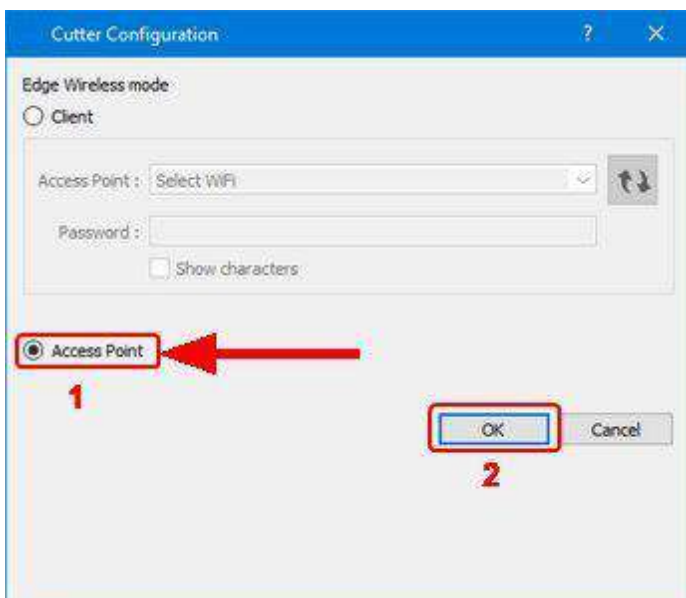
You can now add Artistic Edge cutter to your Wireless network permanently and have it available every time you need it. In order to do that we must switch the Cutter into Client mode. From the Cutter configuration dialog select any of the available Wireless networks and then type the security key for the selected network. You can check the field show characters in order to make sure that we have typed the correct security key. Finally press OK to apply.



A warning dialog will appear informing you that at this point both the Power button and the Wireless button will start blinking for about 30 seconds until the Cutter is connected successfully to the wireless network. Please wait for a minute while the auto-configuration of the cutter with the network takes place. Have in mind that you may have to re-connect to the network that you connected the cutter in order to be able to communicate with the cutter wireless.

Switch into access point mode

At any point and for any reason if you like to connect directly to the cutter you must use Export to Cutters dialog in order to manage Wireless operation mode as described in previous part. Now when entering the dialog (following figure) the option to switch to Access point mode is now enabled and you can select it. Check Access point mode and press OK to proceed, wait for the cutter to re-initialize until the buttons become steady ON and finally connect to the Edge-xx-xx-xx access point again.



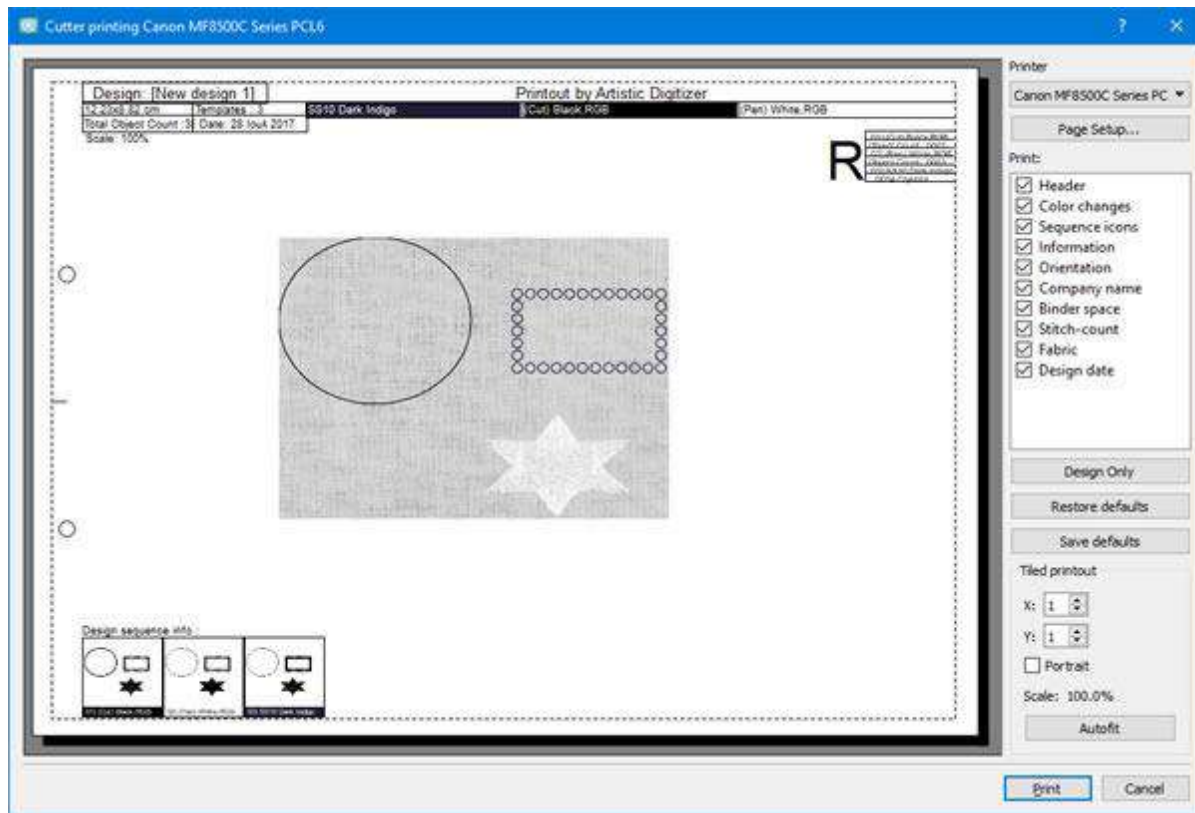
Emergency reset to Access point mode

In case that you can not connect to the cutter or any miss-configuration has happened and you can not access the cutter you must reset the cutter to the default Access point mode and then re-connect to any wireless network in Client mode again. In order to reset the cutter you must keep pressed the Wireless button and Right limit button together, for 3 seconds. When the power button and the Wireless button turn off then release the button. At this point the Wireless button will start blinking until the network initialization is completed, when blinking stops you are ready to connect to Edge-xx-xx-xx access point in order to use the cutter.



Print templates

The software provides extensive options for printing your designs with Cut, Stencil, Applique, Crystals and Paint before sending them to the cutter. You can print the design parts-templates together with much information that are useful for the production process. The printout of the design provides information needed to evaluate before sending a design to the cutter. This is a special print that you can only use from Export to cutter dialog, under the templates are there is a print button. The following dialog will appear, you can see a preview of the printout of a design.



Cutter Printout

In print preview window, we can see a preview of the Cut design together with provided information. On the right part we can see various customization of the printout. These customizations are:

- We can use Setup button in order to select and customize the properties of the printer that we are going to use.
- We can also use Save to JPG option in case that we don't want to print it, but we want to save it for later reference or to review on our computer monitor.
- In section Print we can select which parts we want to be visible. Click on any of the checkboxes in order to enable/disable visible items.
- If you want this selection of visible items to be the default for any Cut design, you can use save defaults button. Use the Restore defaults button to use the default values that you have already saved.
- Also, there is a Design only button. Press this button in case that you want to print only the actual design (stitches).
- Finally in Tiled printout section we can customize some aspects of the print, number of pages, orientation, and scale. We can also set number of stitches that we want to be visible on the print preview.

Print: In this section of the printing dialog you can specify which information you want your printout to include. Every item of the printout can be enabled or disabled by clicking on the square on the left of its description. If the item is enabled the changes can be viewed on the preview area.

- **Header**
The header is at the top of the page, showing the size, color/crystal changes, number of crystals, Crystal types that are used, the crystal colors and their names.

Size	Number of templates	Crystals used	Pen/Brush used
7.40x6.72 cm	Templates : 5	SS10 Ruby	(Stencil) Black,RGB
Total Object Count : 43	Date: 24 Feb. 2015	(Cut) Black,RGB	(Pen) Magenta (dye),RGB
Scale: 100%			

Size on paper Object count Design date Knife/Blade used

Header

- Object order
The box shows the sequence of the crystal/color changes. These information is really useful in order to know the order the objects will be send to the cutter.

01) (Stencil) Black,RGB
Object Count : 6
02) (Applique) Firebrick,RGB
Object Count : 1
03) (Pen) Magenta (dye),RGB
Object Count : 3
04) (Cut) Black,RGB
Object Count : 1
05) SS10 Ruby
32 Crystals

Crystal/Color changes

- Sequence icons
The sequence icons are at the bottom of the page. They show parts of the design split by color/crystal change. Also, in the bottom of the icon you can view the name of the color/crystal that should be used, plus comments.

Design sequence info :				
01) (Stencil) Black,RGB	02) (Applique) Firebrick	03) (Pen) Magenta (dye)	04) (Cut) Black,RGB	05) SS10 Ruby

Sequence icons

- Information
Information is at the bottom of the page. The information area lists any extra information you want to view on the printout. These information can be added at File > Design Properties > General tab.
- Orientation
The orientation is the icon shown with the "R" character at the top right corner of the printout. This is important because it shows how the printed page should be put on the cutter to identify the starting point of the design.



Orientation

- Company name

The company name, which is at the top of the printout, can be changed from the Printing tab of the Tools > Options dialog.



Company name

- Binder space

This option makes the necessary margin (on the left side of the page) in case you want to put the printout in a folder.

- Object count

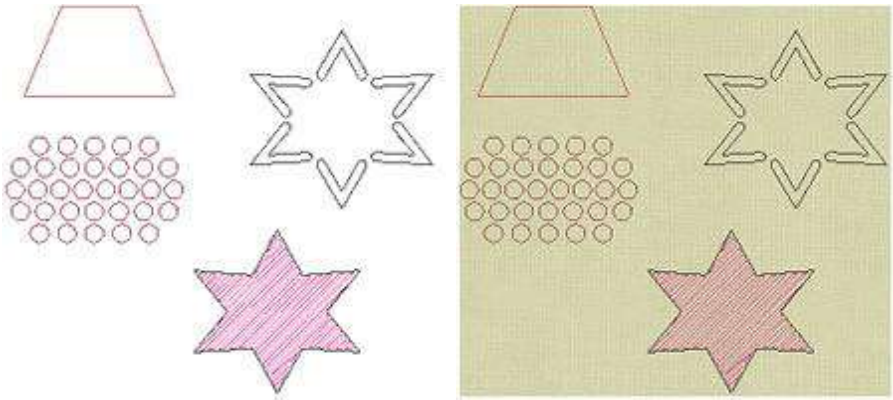
The number of objects in your design can be viewed at the header of the printout.

7.40x6.72 cm
Total Object Count : 43
Templates : 5

Crystal count location

- Fabric

Hides or Shows the fabric behind the design.



Without fabric – With fabric

- Design date

The date that the design was created can be viewed at the top left of the printout.

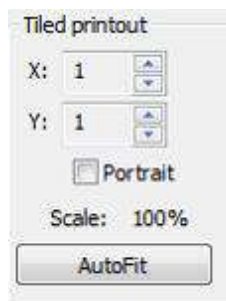
7.40x6.72 cm	Date: 24 Feb. 2015
Total Object Count : 43	
Templates : 5	

Design date location

Tiled printout

This section manages the way that your design will be printed. When the printout dialog is called up, the first two fields indicate the number of pages needed for printing: "X" for horizontal and "Y" for vertical; the

number of designs printed on each page can be changed by using the arrows on the right hand side or with the mouse wheel. The changes you make can be viewed on the print preview as you make them.



Tiled printout

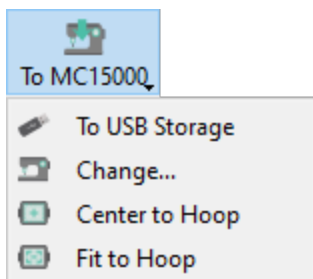
The Portrait option specifies how the design is positioned on the page. If it is enabled, then the design is printed vertically as a portrait. If disabled, then the design is printed horizontally as a landscape.

The Scale field shows if the design will be depicted smaller than its actual size and the percentage of the reduction. The first time that the printing dialog is used, the software finds the best way to show the design in actual size with the least number of pages.

To automatically restore the parameters indicated at the beginning of this process you could click on the AutoFit tab. If your design is previewed in more than one page, you can print them, cut the border of the page, which is already marked, and tape them to have your design complete.

Send to machine / USB

Using this "to Machine" icon, you get access to various hoop and export options.



- **Send by WLAN:** The "By WLAN" option allows you to send a design via Wireless Lan to an embroidery machine if supported and you are connected properly to the machine via WLAN. This option is available only when machines that support WLAN connection are available.
- **Send by Cable Connection:** The "By cable Connection" is used to send a design through cable connection to the machine. The machine must be connected to the computer by USB cable.
- **Export to USB storage:** Use the "To USB storage" option to send the design to a USB storage drive and then plug this removable storage device to the embroidery machine and load the design you want.
- **Change machine - Hoop:** By default when creating a design the default hoop and machine is used for the design. Using the change option you can change the machine and-or the hoop, if you want to send the current design to another machine or hoop. The "Edit hoop" dialog hoop will appear to select an alternative machine and-or hoop. The default applied Machine and Hoop can be changed by pressing the

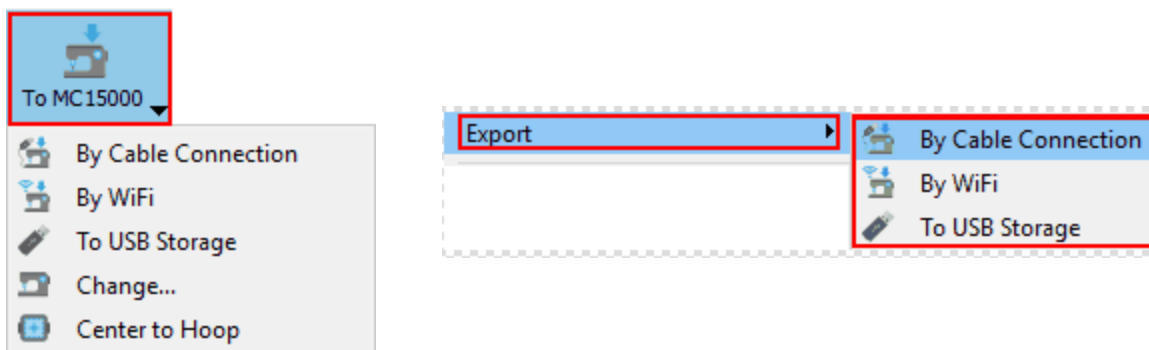
Hoop icon on the Welcome tab. You can also change the Machine / Hoop using the respective icon on Tools toolbar and even create designs with multiple hoops.

- **Center to Hoop:** Using this option you can center the design into the hoop automatically. This is an easy way to align the hoop with the design and the design will be then centered to the hoop.
- **Fit to Hoop:** With this option you can fit any design into the selected hoop. Simply click on the "Fit to hoop" option, and the program will automatically scale the design to fit within the usable area of the hoop. If the design is larger than the usable area of the hoop it will scale it down to make it fit. On the other hand if the design is smaller than the embroider-able area of the hoop it will scale it up to make it fit. The software always keeps a safety distance from the hoop's edge. If the software finds that the design fits better if the hoop is in landscape mode, it will rotate the hoop and make it fit.

The available options on this dialog depend on what the selected machine supports and if you need to send something to your machine, your machine must be first selected for this design. The choice of machine determines the available hoops, connections and file types for export. Now according to the selected machine the software, the software provides the available ways to connect to the machine and transfer files.

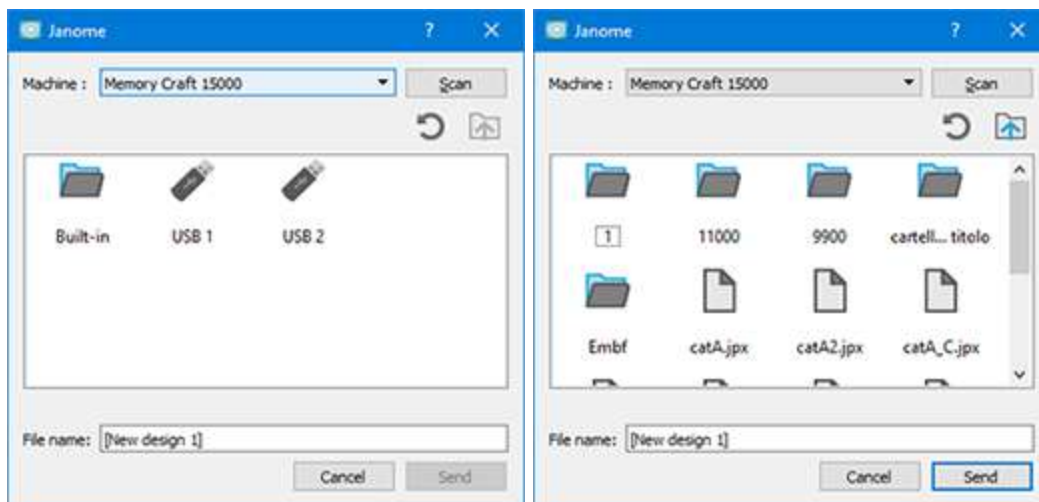
For example if you select to connect to Janome "Memory Craft 1500" , this machine supports Direct USB cable connection and Wireless connection.

If the machine is connected to your computer, either via USB or via WiFi to your network you will see a "By cable connection" or a "by WLAN" option on "standard" bar and on "Export" section of "File" menu. Using any these options you can connect to the machine and transfer designs. The software automatically detects if the selected machine is currently connected to the PC USB port.



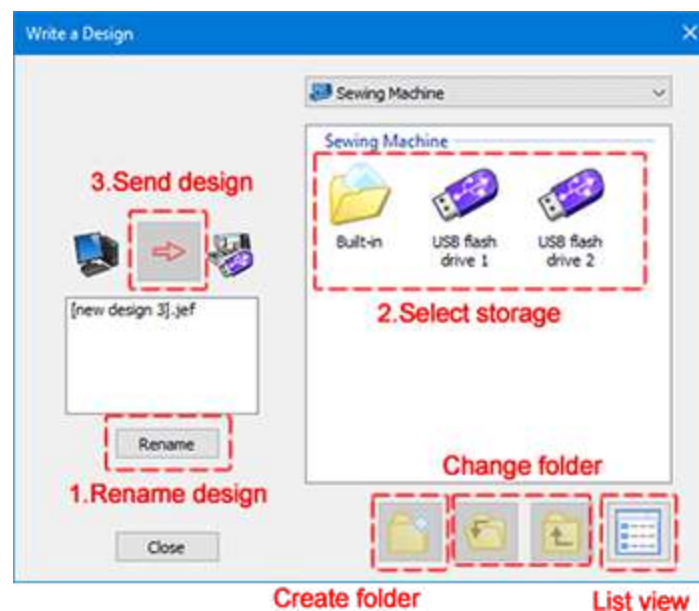
Send by WLAN

The "By WLAN" option allows you to send a design via WiFi to your machine. First you need to select your machine in case that there more machines of the same type on the same network. In case there seems to be no machine available, make sure that your machine is turned on and connected to the wireless network. Then press "scan" to see if your machine is detected. When your machine is connected, you can see the available storage places of the machine. Select any of the available storage places of your machine and click to view its contents. Define a name for your design and press "Send" to save the current design to the machine.



Send by Cable Connection

Likewise, if you use the "To machine name" option, the dialog of the following figure will appear and you can send a design through cable connection to the machine. Select a name for the design and then select a destination place from the right area. Now by pressing the arrow that is pointing to the Sewing machine area the design is transferred to the connected machine.

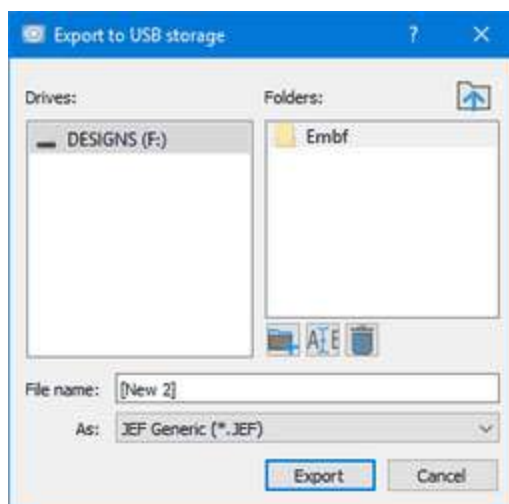


When using "To machine" option make sure that it is physically connected to your PC. if there is a connection problem you will see a confirmation message if you try to send a design while the machine is unconnected.

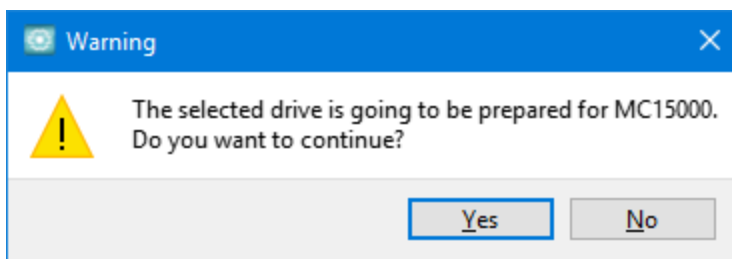


Export to USB

Use the "To USB storage" option to send the design to a USB storage drive and then plug this removable storage device to the embroidery machine and load the design you want. Using the "To USB storage" option the following dialog will appear and you can select any of the connected storage devices and save your design. Once you select a storage device you will see have the available folders on the right area. Click to select a folder, provide a name and by pressing "OK" the design is saved to the USB storage device.



if this is the first time that this storage device is used the program will prompt you to prepare the necessary folder structure for the selected machine. You can select a machine, that you are working with, through the "Welcome" tab by clicking on the "Hoop" icon or by pressing "Hoop / Machine" icon on tools bar and then as you can see on the following figure, you need to select the manufacturer "Company", the model of the "Machine" and once you select a hoop, your selection is applied. The software will remember you selection and from now on you do not need to change the selected machine unless you want to connect to another machine.



The USB storage device must be formatted using the "Fat32" file system in order to be able to correctly save designs for most of the embroidery machines.

Selections

To make changes in your design, you must first select the objects to be manipulated. There are various way to select the objects you like. The "Select" tool  is the most frequently used selection tool but there are also various other way to select objects. Besides from using the mouse for your selections you can also use the keyboard or Select by stitch type, when you want to select all objects of a specific stitch type or Select by color if you want to select all the objects that are using a specific color. In the following topics we will present all the available selection ways.

Select with mouse (click)

In order to edit objects you need to select them first. By default when starting the program and when no other tool is selected the program is in the default Rectangle selection  mode. This is the default selection mode, what ever you click gets selected and if you form a rectangle on the design area and all the object(s) that are in this rectangle become selected. if you have any other tool and you want to go to selection mode simply click on the rectangle selection icon . So the easiest way to select an object, is to simply click on it using your mouse. A highlight rectangle appears around the object to reveal that it is selected. This is helpful for not losing your current selection when you have to work on a complex design. This section covers selecting objects with a mouse. To select multiple objects, hold "Shift" or "Ctrl" keys and then click on the objects you wish to select. The difference in the usage of "Shift" - "Ctrl" keys is that when pressing "Shift" key you can only add to selection. If an object is already selected and you click again it remains selected. When holding "Ctrl" key you can add or remove objects from the selection. If the object clicked on is not already selected, it will be added to the selection. If it is already selected, it will be deselected.

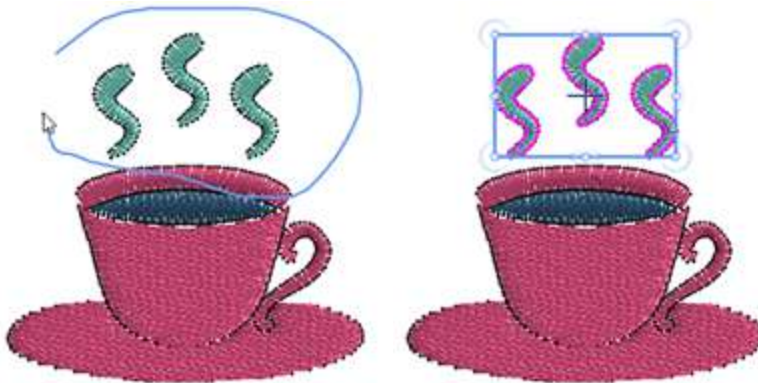


Multiple selections can also be created by forming a rectangle around the objects you wish to select. Hold left mouse key pressed and drag to form a rectangle around an object, once you release the mouse it gets selected. Likewise, if there are multiple objects inside the formed rectangle they are all selected. All objects that are completely within the rectangle that is formed get selected.



if you hold "Alt" while forming a selection rectangle the objects that are partial into the formed rectangle also get selected. This is an easy way to select objects which are large and have irregular shape.

Besides the rectangle selection tool, there is also the lasso selection  tool. If you move your mouse on top of the rectangle selection tool a fly-out toolbar will appear showing both (Rectangle and Lasso) selection icons, click to select the one that you want to use. When lasso is selected instead of forming a rectangle you now click and drag over the design area in order to draw a freehand selection line around the objects that you want to select. Release the mouse and all objects that are entirely inside the shape are automatically selected. This is an easy way to select objects which are large and have irregular shape.



The last used selection tool is visible on the toolbar. You can click on its icon to start using for your selection, or place the mouse over the selection icon and from fly-out menu select the alternative selection tool. You can also use "Ctrl", "Shift" and "Alt" key, as described above to make multiple selections using lasso selection or include partially covered objects.

There is an option "Allow polygon selection with lasso" in Options dialog, Tools tab. When this option is enabled you can click while forming the Lasso selection and by specifying the nodes of a shape you can create a polygon shape selection with lasso.

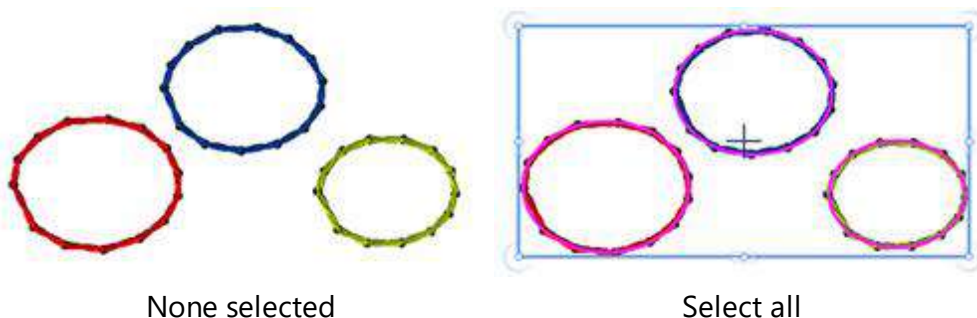
Note: By default the Rectangle selection  tool is the default selection tool. You can set the lasso selection  to be the default selection tool from the Tools tab of the Options dialog box that is located under the Tools menu.

Select with hotkeys

Most selecting of objects is done using the mouse, however, there are a few preset selection option that you can access through "Edit" menu or using some handy keyboard shortcuts.

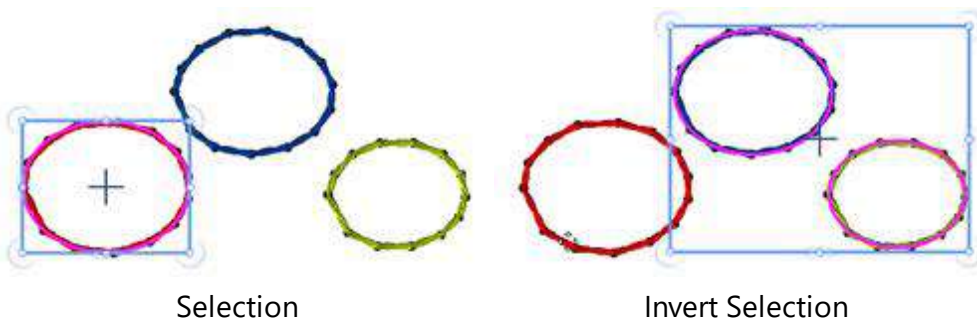
Select all

Using this option from the "Edit" menu, or by clicking the shortcut key "Ctrl+A" (for Mac OS Cmd+A), you can select all the objects in the design. This option is useful when you want to modify all the objects of your design at the same time. Any change will be applied on all selected objects at the same time.



Invert selection

Using this option from the "Edit" menu or using "Ctrl+Shift+I" (for Mac OS Cmd+Shift+I) shortcut key, you can invert the object selection, select all unselected objects, and vice versa. This option is useful when you want to select a larger portion of a design. Select a small object or group of what you don't want, then choose Invert selection to capture the larger portion. You've selected the portion you want in this reverse process.



Select none

There are various ways to deselect everything. First you can click with your mouse at any point outside of the created design and everything will become unselected. We can also use "Select none" option of "Edit" menu and nothing is selected. This function is the opposite of "Select all" function where you are selecting all the

designs in the working area. It is useful when you want to clear your current design selections to make a new selection

Navigate through objects

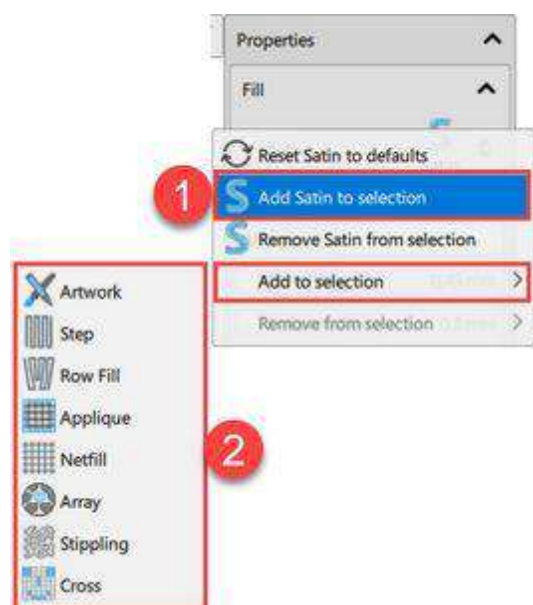
There is also an easy way to navigate through the design objects using hotkeys. The shortcut key has the following functionality:

- Using "Ctrl+Home" hotkey you can select the first object of the design (for Mac OS Cmd+Home) .
- Using "Ctrl+End" hotkey you can select the last object of the design (for Mac OS Cmd+End).
- Using "Tab" hotkey you can select the next object of the design. If nothing is selected the first object of the design will be selected. Each time we press the "Tab" key a different object will be selected, which is the next in the designing order of the design. If we continue pressing the Tab key, we will continue changing objects, until we reach the last object of the design.
- Using "Shift + Tab" hotkey you can select the previous object of the design. If nothing is selected the last object of the design will be selected. Each time we press the "Shift + Tab" hotkey a different object is selected, which is the previous in the designing order of the design. If we continue pressing the Shift + Tab, we will continue changing objects, until we reach the first object of the design.

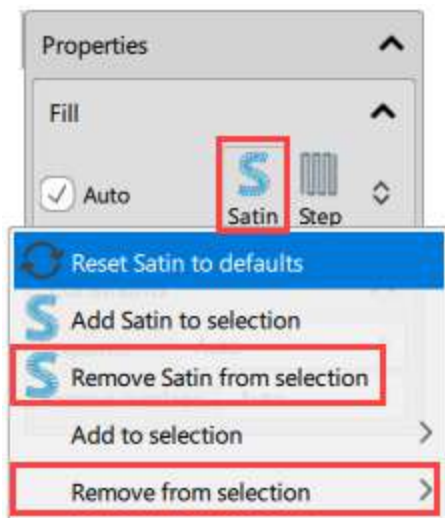
Select by stitch type

Sometimes it is very useful to select all the objects, of the same type. For example you may need to select all satin objects and apply a color change or any other transformation. To do so "Right click" on the "Satin" icon

S on Properties toolbar and from appearing menu use "Add Satin to selection" option. If other objects were already selected, then the satin objects will be added to the current selection. If the type you wish to add to selection is not visible on properties toolbar, you can click on the icon to expand the list of fill or outline types and then right click on the desired type. In the same way, you can use Add to selection option from the right click menu and select the stitch type from appearing list.

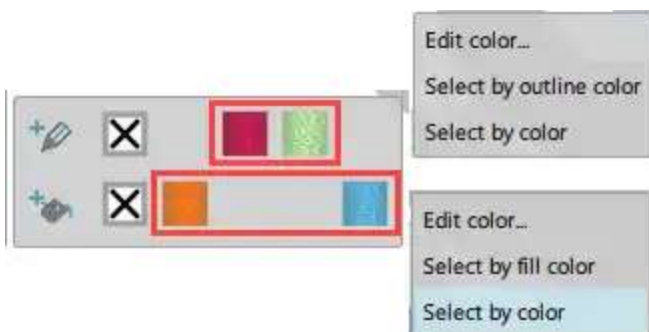


Likewise, it is easy to remove the objects of a selected stitch type from a selection. For example right click on Satin type and use "Remove Satin from selection" option, if you wish to deselect all satin objects or use Remove from selection option and select the type you wish to be removed from the appearing fill or outline list. "Selections by type" makes your life easier, especially for big and complicated designs object, and apply your embroidery changes to your entire selection.



Select by color

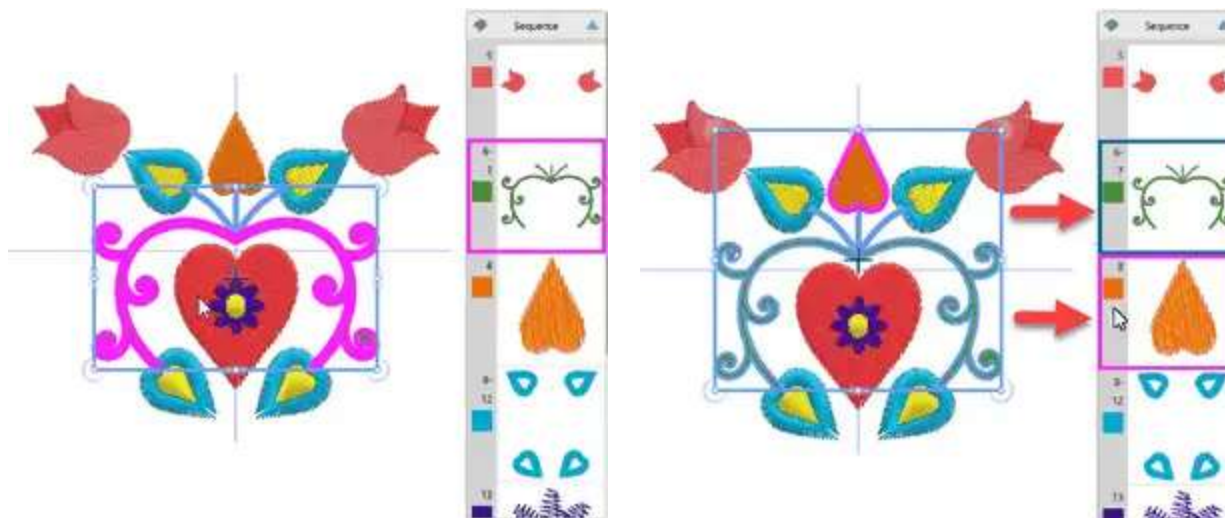
In many case it is very useful to select all the objects that are using a specific color. This option is very handy when you want to replace a color for example - it is not necessary to select the objects manually. You can change color, stitch type, apply a style or any other transformation you want. You can select Fill color, by Outline color or simply by color. In order to make a selection by color you need to right click on the color you wish to select on palette bar. If you right click on a "Fill" color then you can choose to select all objects that are filled with this color or all the objects that are using this color for either fill or outline. In the same way, if you right click on an outline color, you can select all objects that have this outline color or all object that have this color for fill or outline.



Select on sequence manager

Sequence manager is a visual assistance tool that provides a graphical representation of the designs overlapping order. The functionality and capabilities of sequence manager are described later in this manual. At this point we will mention only the selection capabilities that it implements. If you click on any item on sequence manager then and it gets selected on the design area. You can see the specific item selected in the

design area with a highlight rectangle around it. You can also select multiple sequence items by holding "Ctrl" key and clicking on the items to be selected (On Mac OS use "Cmd" key).



1 sequence item selected

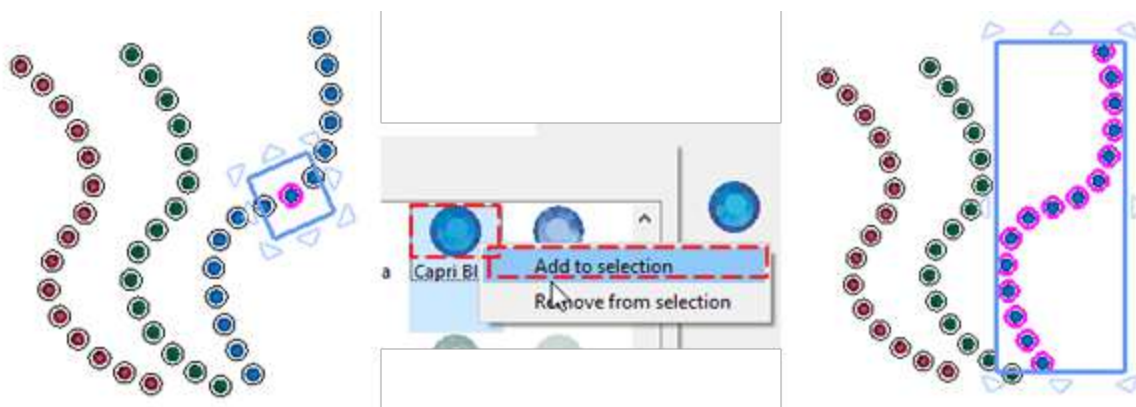
Multiple sequence items selected

Selection by Crystal

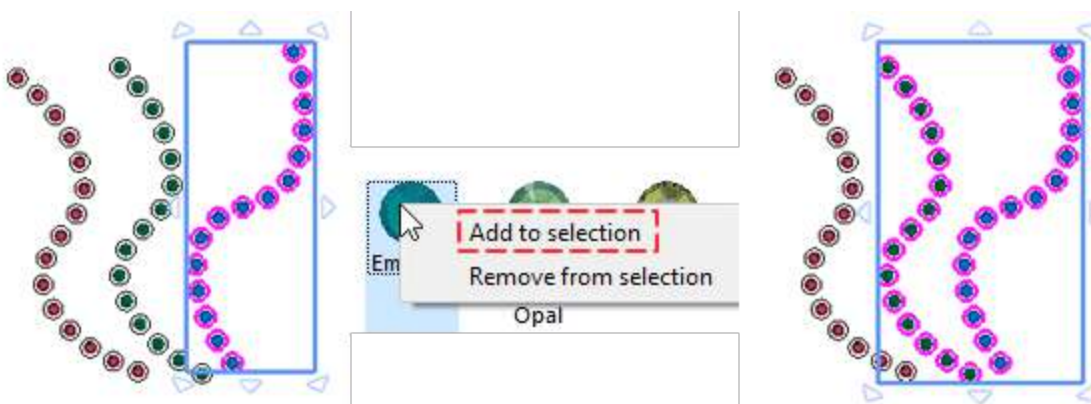
When you are working with designs that have of multiple types of crystals, it is useful to be able to make selections of multiple crystals according to their type or color. The "Crystals" technique  must be enabled in order to be able to use the "Crystals" tools of the software. The crystals applied on a design may be, separate crystals, crystals on fill or crystals on outline. Each of these type of crystals has a different set of options, so you cannot apply the same change to all of them at once. This is the reason why using the way of selecting multiple crystals which is described below, allows you to only select one type of them. In other words, if you have crystals on a "crystal fill" with the same color as some other crystals which are separate crystals, you cannot select all of them using the "Add to selection" option based on their common color. "Add to selection" tool helps you make selections easily especially for big complicated crystal objects, where you can apply your changes to the entire selection at once.

Select separate crystals of the same type

When you have many separate crystals of different crystal colors and you need to make selections of them, you need to have one selected so that you can see the "Crystal" options on "Properties". Then click on the crystal on "Color/Shape" to see all available crystal colors. Now find the selected crystal highlighted and in order to select all crystals of this specific Color, right click on it and use "Add to selection" option. All the crystals of the same Color will be added to the selection.



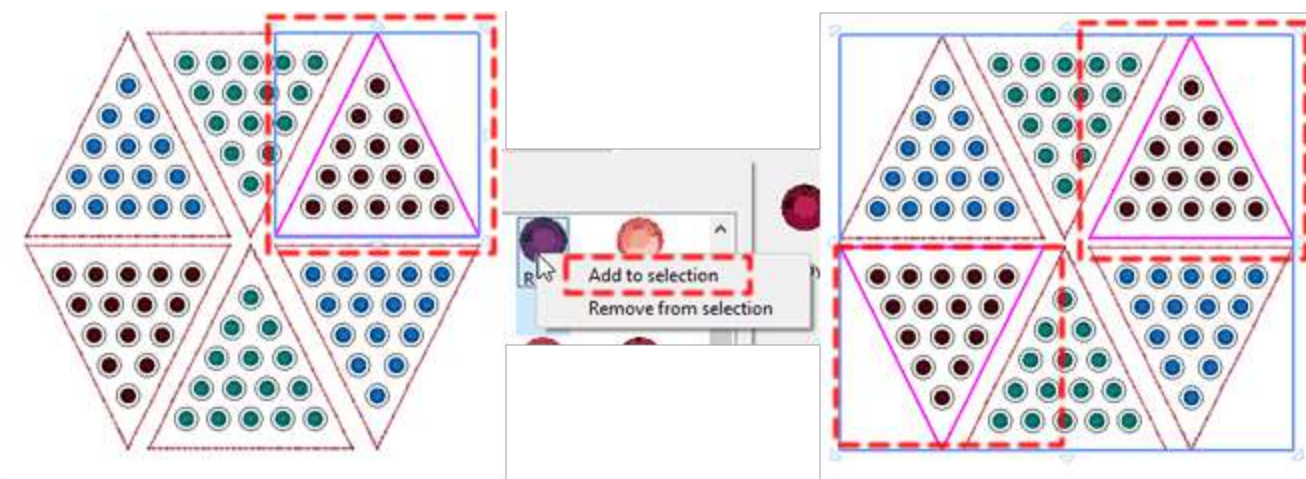
Now, you can add all the crystals of another color to your selection if you know the crystal color. Leave your selection as is and click on the crystal on "Color/Shape" section to see all the available crystal colors. Now if you right click on the color of another set of "Crystals" and use "Add to selection", the crystals of that color will be added to the selection as well.



Once you have select multiple crystals, you can apply a change to all of them at once, using the available options on "Properties" bar. You can also remove crystals from your selection. Right click on the crystal color that you want to remove and use the "Remove from selection" option. All crystals that had the select crystal color will be removed from the selection.

Select crystal fills of the same type

In the same way you can select multiple "crystal fill" objects that are using the same crystal color. Select a "crystal fill" object and the options of "Crystal fill" will appear on "Properties". Then click on the crystal on "Color/Shape" section to see all available crystal colors. Now find the selected crystal color highlighted and in order to select all crystals of this specific Color, right click on it and use "Add to selection" option. All the crystals of the same Color will be added to the selection. Now you can apply any change to all of them.

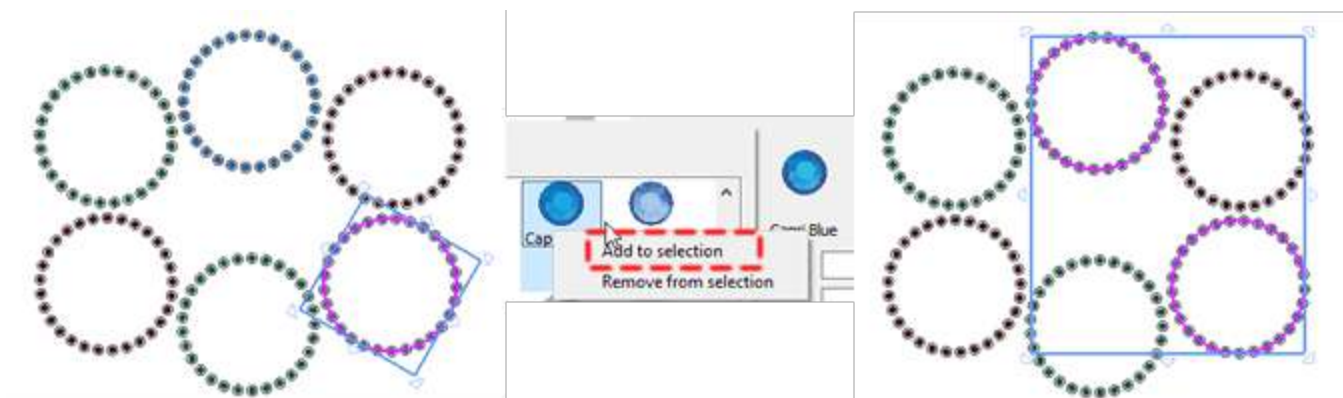


To add more crystals fills to your selection you have to right click on another crystal color that you know that exists in the design and use "Add to selection" option. All the crystal fill objects that exist in the design with this crystal color will be added to the current selection. Now, if you want you can change the properties of all selected crystals. For example change the crystal Size or the crystal Color/Shape.

You can also remove crystals fill objects from your selection. Right click on the crystal color that you want to remove and use "Remove from selection" option. All the crystal fill objects that had the same Color will be removed from the selection. By following the same steps you can remove more crystal fill objects from your selection.

Select crystals placed on the outline

In the same way you can select multiple "crystal outline" objects that are using the same crystal color. Select a "crystal outline" object and the options of "Crystal outline" will appear on "Properties". Then click on the crystal on "Color/Shape" section to see all available crystal colors. Now find the selected crystal color highlighted and in order to select all crystals of this specific color, right click on it and use "Add to selection" option. All the crystals of the same Color will be added to the selection. Now you can apply any change to all of them.



To add more crystals outline objects to your selection you have to right click on another crystal color that you know that exists in the design and use "Add to selection" option. All the crystal outline objects that exist in the design, with this crystal color, will be added to the current selection. You can also remove crystals outline objects from your selection. Right click on the crystal color that you want to remove, use the "Remove from selection" option. All the crystals outline objects that had the same Color will be removed from the selection. By following the same steps you can remove more crystal outline objects from your selection.

[View your designs](#)

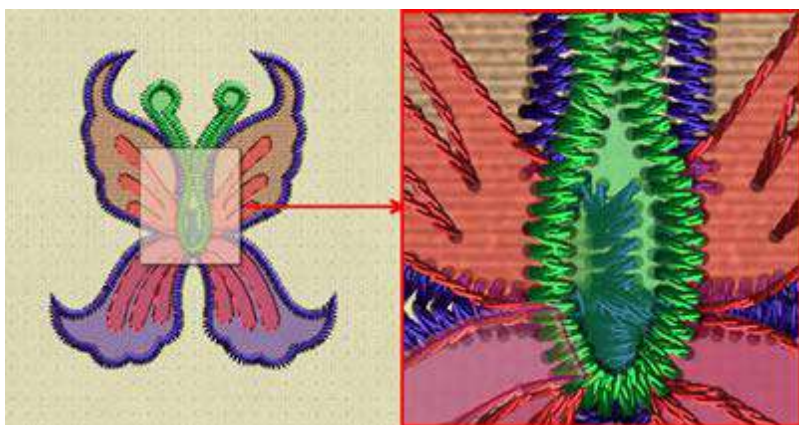
In this section we will present all the available ways and tools that can help you have the best view while creating or editing your designs. Additionally we will present the various view modes (3D preview, stitch view, thickness view) and the customizations of the available workspace components. You can easily change the view of a design by zooming in to get a closer look or by zooming out to see more of the design. You can experiment with a variety of zoom options to determine the amount of detail you want. Panning and scrolling are two additional ways to view specific areas of a design. When you work at high magnification levels or with large designs, you may not be able to see the whole design. Panning and scrolling let you move the page around in the design window to view previously hidden areas. You can use the Pan tool to pan around a large image and view particular areas.

Zoom tools

The easier way to change the view, during any digitizing or editing process is by using the mouse wheel. By default if you use the mouse wheel, the wheel scrolls horizontally. In case that you want to zoom in and zoom out using the mouse wheel you need to hold "Ctrl" key (For Mac OS "Cmd") while you move the wheel and the wheel switches temporary to zoom mode. Finally if you need to scroll vertically, press "Alt" key while you move the wheel. Additionally you can change view using the available zoom tools on "Tools" bar (Zoom in , Zoom previous , Pan , Zoom entire design , Zoom all ) or by selecting a zoom preset value from the lower right corner of the application.

Zoom in

Using the "Zoom in"  tool, you can zoom in by clicking and dragging to select a specific area to magnify. You can also access the Zoom in function by pressing the Z key. Using this tool you can enlarge the portion of your design to check on details. Select the "Zoom in" tool from the "Tools" bar and the cursor will become a magnifying glass. Then, click at the point from where you want the new view port to start and drag the mouse holding the left button. The area you marked will be the new view port.



Zoom previous

Using "Zoom previous"  this option you can get the previous zoom view of your design. The new view port will be the same as it was before the last zoom-in. You can activate "Zoom previous"  from the "Tools" bar. If the icon is not visible, place the mouse cursor over "Zoom tools" and all the zoom tools

will appear. Click to select the "Zoom previous" tool, the Zoom Previous tool will become the current tool on Zoom tools area. You can also "Zoom previous using F3 shortcut key.

Pan tool

The "Pan"  tool lets you move a design around your screen like you would move a paper around on a desk with your hand. You can activate the Hand tool (pan) function using the "Pan" icon on Tools toolbar or by pressing the H shortcut key. The cursor will change to a hand like the one on the icon and you can use it by clicking and dragging on the screen. Another way to Pan is using the mouse wheel, if you scroll up or down you can move upper or lower and if you hold "Alt" key and scroll the mouse wheel up and down you can move to the left -right.

Zoom Entire Design

Using this option you can view the whole design fitted into the visible screen. You can activate the zoom entire design  function from the "Tools" bar, on "Zoom" section, or using the key F4. If you have a multi-functional keyboard, make sure that F keys are not locked.

Zoom All

Using this option you can view the hoop and the the entire design fitted into the visible screen. You can activate the zoom-all  function from the "Tools" bar, on "Zoom" section, or using the key Shift+F4. If you have a multi-functional keyboard, make sure that F keys are not locked.

Zoom presets

You any one of the zoom presets, using the menu that appear on the lower right area. The zoom presets that you can choose from are 25%, 50%, 75%, 100%, 125%, 150%, 200%, 250%, 300%, 400%, 500% and 600%. If you set the exact size of your monitor, from the Monitor tab of the Options dialog box under the Tools menu, every time that you will select the 100% of the zoom presets you will view the design in its actual size.

Measure

The measure tool calculates the distance between any two points in the work area. You can activate the measure tool function from the Tools toolbar icon  or by pressing the F9 shortcut key. With this tool you will be able to measure any time you need to know the size of your embroidery design, or any portion of it. Click and drag from any point that you want to start the measurement from until the point you want to measure. A virtual line appears from the starting point to the point where the cursor is and displays the distance the distance is displayed under it.



The software remains in this Measure mode until the user selects another mode.

Units

With this drop down menu you can specify the unit in which the length will be displayed.



- Millimeters: With this option selected you measure the length in Millimeters
- Centimeters: With this option selected you measure the length in Centimeters
- Inches: With this option selected you can measure the length in Inches

Design view

You can select to view your designs in various ways, "3D preview", "Stitches" view and "Outline" view. By default the software is starting with a realistic "3D preview" that shows how the design would look when embroidered. The stitching style, the color of stitches and the way which the design will be sewed give you the perception of a real embroidered result. In the "3D preview" the threads are much thicker than in the "Stitches" view. You can switch from "3D preview" to "Stitches" view, by clicking on the "3D preview" option of "View" menu or by pressing "P" key. The "3D preview" is switched off and you are on "Stitches view". Now you can see the stitches as lines. You can also enable-disable the view of the stitches using "G" key. When in "Stitches" mode, you can also disable "Stitches" and go to "Outline" view. In this view you can only see the artwork of the design, so it is easier if you want to edit the artwork of the design. This view also makes it easier to see all of the parts in the design and to make adjustments.



3D preview

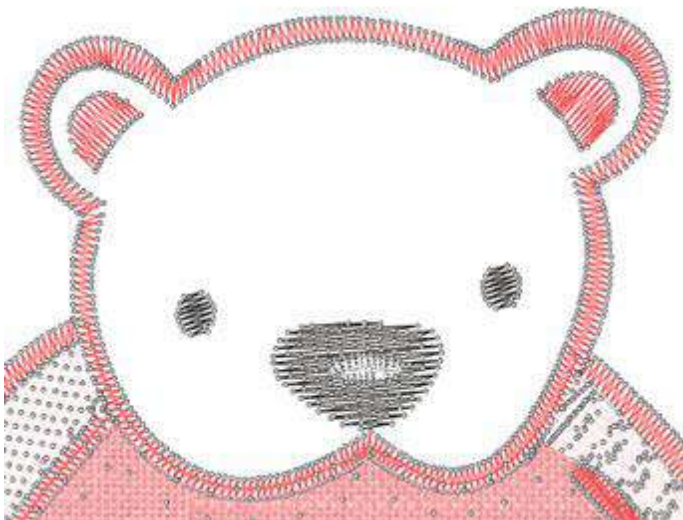


Stitches view



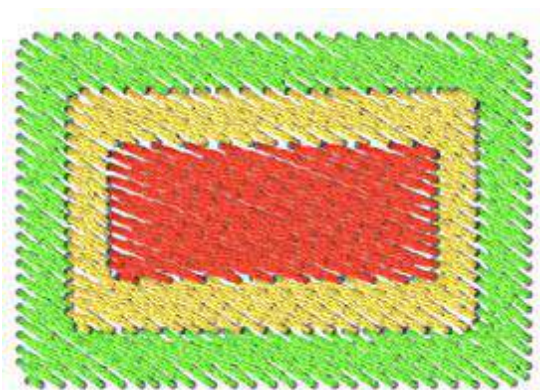
Outline view

When you are on the "Stitches" view, there is an additional option "Stitch points" on the view menu. When this is enabled, you can see the actual stitch points. Stitch points are the points where the machine's needle bores into the fabric. With this view, you can distinguish the stitch length, density, and bore points.

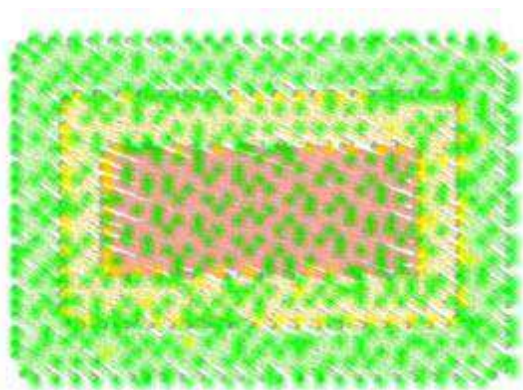


Thickness view

This option is very useful in order to create professional looking designs. Stitches that fall on top of other stitches don't create nice embroidery. There may be times when we intentionally choose to let this happen to create a special effect, but in the majority of cases we'll want to know whether stitches fall on top of the other, in order to eliminate it. You can enable "Thickness view" by using the respective option from the "View" menu and then you can see the design in a special way where you can actually stitches that are on top of other stitches appearing with darker color. Green are non overlapping stitches, yellow is stitches with minor overlapping and red is multiple stitches one on top of another. To return to the previous view, you need to click on the same option once more.



Overlapping objects



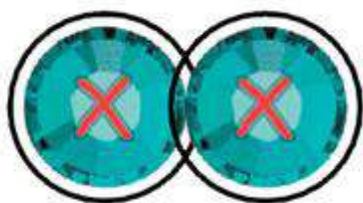
Thickness View

Overlapping Crystals

This option is very useful when you are creating designs with crystals. You can enable this option from View menu by selecting Overlapping crystals or by pressing the O shortcut key. By enabling this view all crystals that overlapping will be marked with an "X" in order to be easily recognizable. If the overlapping between the crystals is limited on the outline of the crystals the "X" will be yellow.



If the overlapping between the crystals is on the actual crystals the "X" will be red.



Every time you finish a design with crystals it is a good practice to enable the Overlapping crystals option in order to check if there is any overlapping in your crystals that you have not noticed and needs to be fixed.

Notice: It is advisable not to leave the Overlapping Crystals always on because it might slow down your PC.

Set light source

When in "3D preview" there is a way to change to change the light source of the 3D preview. Using "Set light source" of view menu a special dialog appears with a 3D ball. On the 3D ball there is handle that shows the current light source. Click and drag this handle on the ball to change the source that the light comes from. You can also adjust the Intensity of the light that illuminates the threads. By clicking and dragging the

"luminosity" track-bar to the left the light decreases and to the right the light increases. Select the amount of light you want to illuminate your embroidery designs. It is a 3D tool that gives you the ability to illuminate your design from different angles. The best way to make the adjustment accurately is by having an embroidery design loaded prior activating the "Set light source" option. Any change you are making is immediately previewed on the design allowing you to make accurate adjustments. You can also use "Save" this light source as default, in order to have by default for every design. Once a default value is selected and saved as default it will be used for every new design. You can also use "Reset" to default in order to reset the light source to the default value.



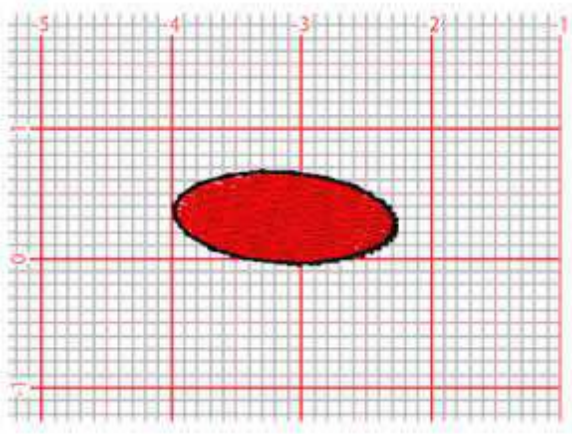
View Grid

You can enable-disable the view of the "Grid" using the respective option of "View" menu. When "Grid - Show" is enabled the grid will appear on the working area. The Grid appears as vertical and horizontal lines with a virtual ruler on the edge of your design area. These values on the edge of the design area, are the values of virtual X and Y axes based on centimeter or on inch values. The grid can help you draw, size and align the objects precisely and create the design you want. In case that you want to create a design and have the cursor snapping on the "Grid" to help you create something more accurately you can also enable option "Grid-Snap" of "View" menu.

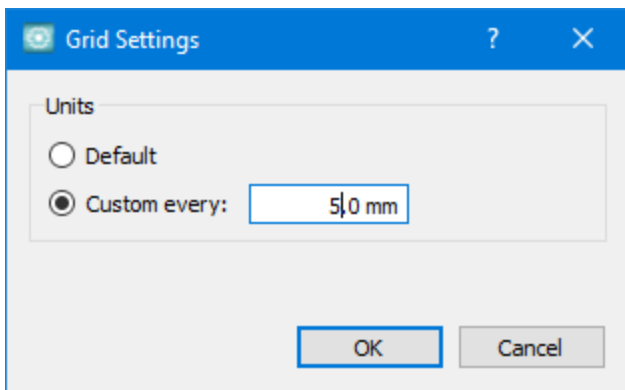
You can also use Ctrl+Shift+G keyboard shortcut to switch between show grid and hide grid (Mac Cmd+Shift+G).

if you hold Alt key pressed, while dragging or drawing an object, you can temporary toggle the Snap of the Grid from enabled to disabled and vice versa. This means that you can temporary disable the snap, functionality in order to perform an operation or enable temporarily when disabled.

In case you select "US" measurement system, from Tools-Options-General tab the grid will show information in US(inches) and not Metric.



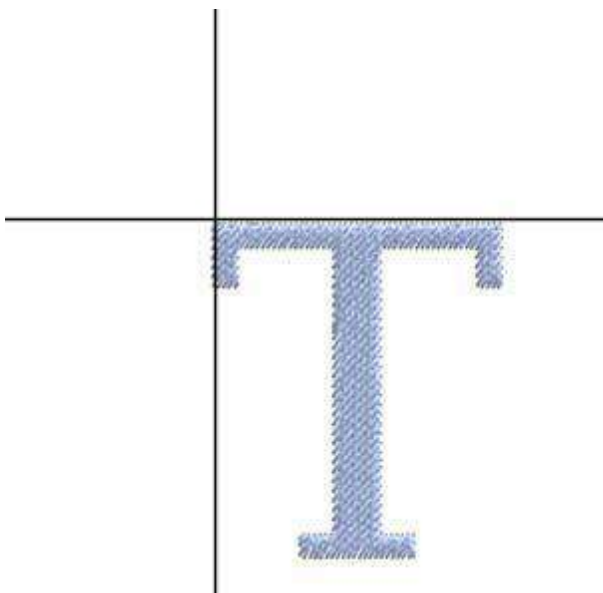
In case that you need to adjust the grid size, navigate to "View - Grid" and used option "Edit". On the appearing dialog you can set the value that you need for the grid. Once you press "OK" the grid size is automatically updated.



View Crosshair

We added Cross-hair tool and we expanded its range to both screens for better and more accurate design creation when using digitizing tools.

Using "Crosshair" option in "View" menu, a cross follows the mouse when it is on the design and helps you align and position design items. You can also initiate the crosshair display by pressing the letter "Ctrl +H" from the keyboard while you are working with the design.



You can change the color that will be used for Crosshair lines from "View > Customize UI colors". There you can adjust the colors that refer to Crosshair.

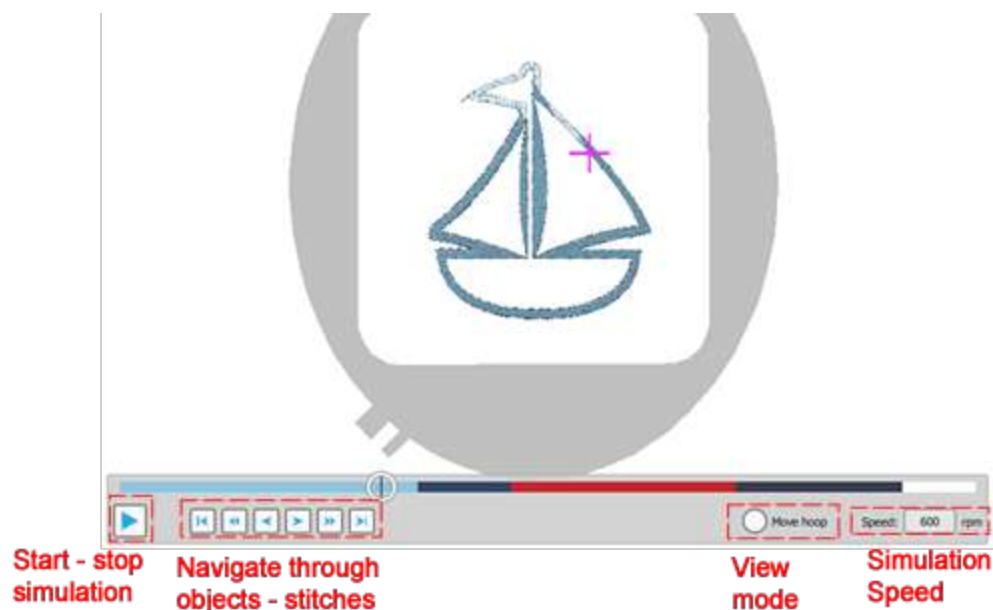
View Hoop

You can enable - disable the view of the hoop using "Hoop" option of View menu. By default any design you create is previewed on the default hoop that you can select on the "Welcome" tab. When the hoop is disabled you can only see a gray line, that shows the usable area of the hoop. In case that you want to select another hoop for this design only then you can use "Machine/ Hoop" option on "Tools" bar. The Hoop is very useful because it will make sure that the design which you are creating will fit on your embroidery machine hoop. There is a variety of hoops from which you can select and you can even add your own. More information about how to work with hoops in Change hoop section.

Slow redraw (Shift+F11)

A very valuable step before turning on your embroidery machine in order to embroider for first time, any of your designs is a simulation like process. Slow redraw provides an automated way to simulate the embroidery process. Move through objects stitches and preview the placement of every stitch. It's a good chance to correct any detail on your design.

Slow redraw is only available if "Embroidery" technique  is enabled. You can enter "slow redraw" by pressing on "Slow redraw" icon  on tools toolbar or use "Shift+F11" keyboard shortcut.



You need to press start  button to begin the visual simulation. You can also press Space key to start - pause the simulation. The simulation will start from the start of the design. You can stop the simulation by pressing Stop button or press Esc key on your keyboard. After stopping the simulation, you can always start over and continue from the stitch you left the simulation. When the simulation is stopped you can move the current point indicator at any point of the colors line or move through object-stitches using the buttons next to the start button. These buttons help you to select the object or the stitch that you want.

	Design start, go to the first stitch of the design.	Home key
	Previous object, go to the first stitch of the design.	Up key
	Previous stitch, move to previous stitch.	Left arrow
	Next stitch, go to next stitch	Right arrow
	Next object, move to the first stitch of the next object	Down key
	Design end, go to last stitch of design	End Key

You can type a "speed" value in case to wish to make the simulation faster or slower. The speed can take values from 100 - 4000 rpm. Finally if you enable the "Move hoop" option you can switch from the default view mode that the head of the machine is moving to a mode that the head stays at the same place and the design (Frame/hoop) moves in such a way in order to pass under the head to be embroidered.

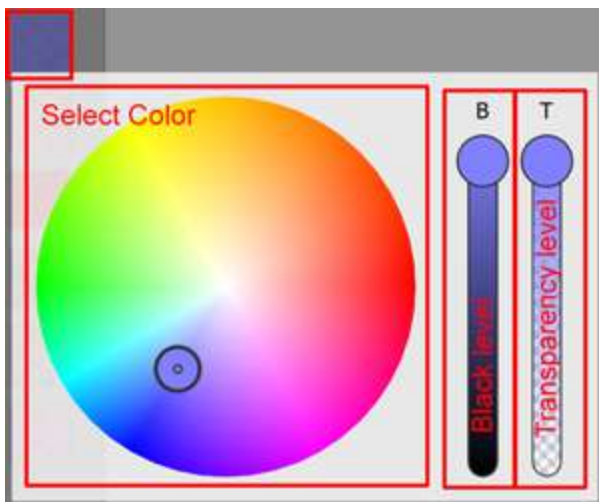
Customize UI colors

To customize the colors of the user interface (UI) you have to select the "Customize UI colors..." option from the "View" menu.

The "Customize UI colors" dialog will appear where you can change the colors of the UI components.



To change the color of a UI component you have to click on the color next to its name. From the pop-up dialog that will appear you can specify the color you want by clicking on the color wheel, adjust the black level (how much dark or bright it will be) of the color and the transparency level by dragging on the respective track-bar.



Once you are satisfied with the color you have selected, you can click outside the dialog to confirm it.

If you want to set your color selections as the default ones, click on the "Save as defaults" button at the bottom of the dialog.

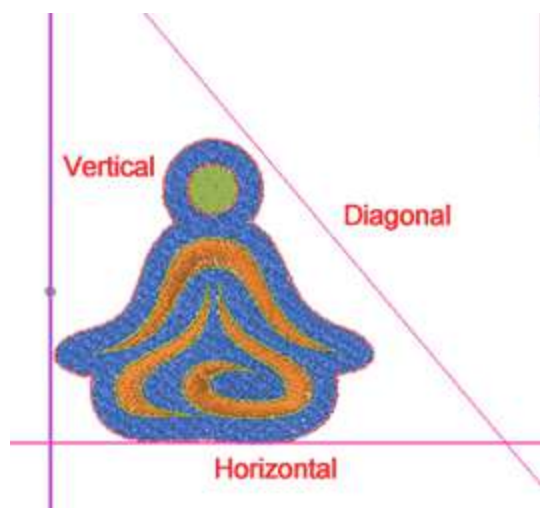
If you want to restore the default colors of the software, click on the "Restore" button at the bottom of the dialog.

Guidelines

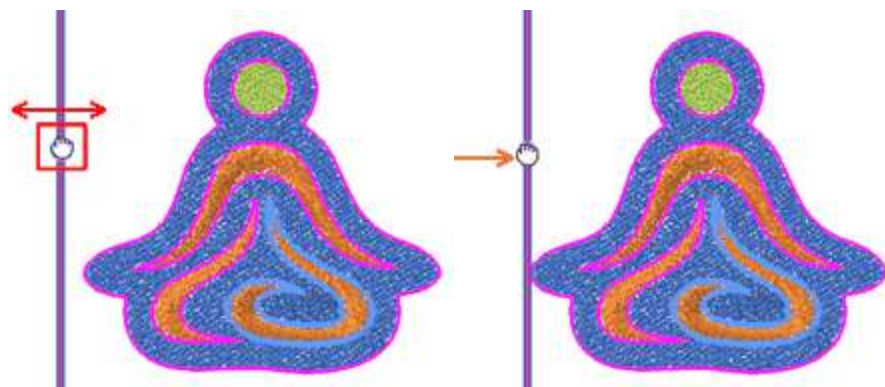
Guidelines are very useful while creating - editing a design, in order help you align and position the design parts. There are three types of guidelines, "Vertical", "Horizontal" and "Diagonal".

You can "Show" - "Hide" temporarily the guidelines by enabling - disabling the "Show" option of menu "View - Guidelines".

In order to add - remove guidelines you need to start "Guidelines" mode by pressing the "Guidelines" icon . When you start this mode, you can click and drag to add any guideline you want. Now you are in working mode that you can not change your design, you can only draw, change and delete guidelines. Click and drag vertically to add a vertical guideline, horizontally to add a horizontal and diagonally to add diagonal guidelines.

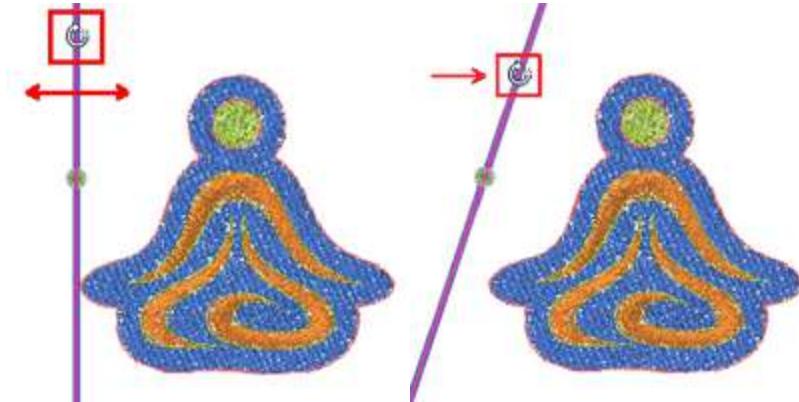


When you click on any of the guidelines you can see the line with an outline to reveal that the guideline is selected. You can delete this guideline by pressing "Delete" key. You can move the guideline if you place the mouse on top of bullet that appears on the center of the guideline. Then the cursor turns into a hand and you can click and drag to move the guideline.

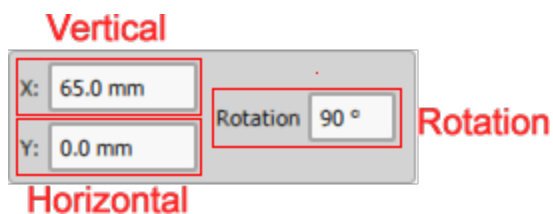


If you place the mouse anywhere else on the guideline the cursor turns into a rotate handle and you can rotate the guideline. You can hold "Alt" key and the rotation will snap on every 30 degrees. You can also hold

"Shift" key and the rotation will snap on every 15 degrees. Additionally if you press Ctrl key while you are not on top of the center bullet, you can change from rotate to move operation.



You can also change the position and rotation angle using numeric values. When you select a guideline you can see on "Tools options" bar, the horizontal - vertical position of the guideline and the rotation angle. By typing a value you can change the position of the guideline and the rotation. To move a horizontal guideline you need to adjust the "Y" value and for a vertical the "X" value. If you type a "Rotation" value you can change the angle of the guideline. The rotation is performed based on the green bullet that appears on a guideline when selected. You can change the position of the bullet by adjusting the "Y" value for the Vertical guidelines, the "X" value for horizontal and "X-Y" for diagonal.



All inserted guidelines have snapping abilities that can be found very useful when you are designing. All objects can snap on Horizontal and Vertical guidelines that you have placed on the working area while moving the objects towards them. This is very useful when you want to align the objects of the design to specific position and makes your life easier while designing. Also, it is possible to do the opposite and move the Horizontal and Vertical guidelines towards the objects and be able to snap on its edges/sides.

If you want the design objects to snap on the guidelines you can enable the "Snap" option of menu "View - Guidelines".

Work Area

The "Work area..." option is can be found in the "Guidelines" mode and will allow you to insert a working area that will be used as a guide.

From the "Work Area" dialog that will appear you will be able to:

1. Select the position of the guideline shape that will be inserted. You can do that by specifying the vertical and horizontal center of the shape (X and Y Center positions).

Center position X:	0,0 mm
Center position Y:	0,0 mm

2. Select the type of area:

- Rectangular area: You can set the dimensions of the rectangular area by specifying the "Width" and "Height".

☒ Rectangular area	
Width:	100,0 mm
Height:	100,0 mm

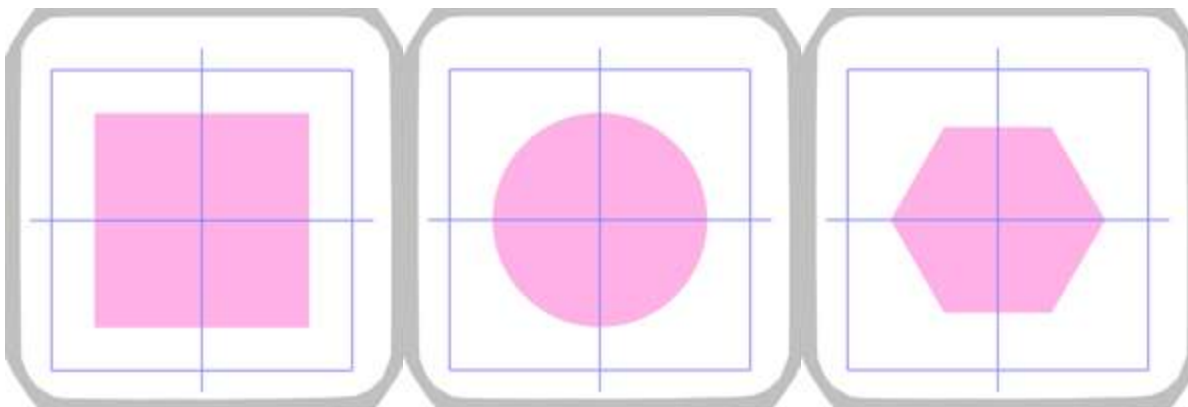
- Circular area: You can set the dimensions of the Circular/ellipse area by specifying the "Width" and "Height".

☒ Circular area	
Width:	100,0 mm
Height:	100,0 mm

- Polygonal area: You can set the dimensions of the Polygonal area by specifying the "Width", the "Height", the number of "Sides" and the "Start Angle" of the shape.

☒ Polygonal area			
Width:	100,0 mm	Sides:	6
Height:	100,0 mm	Start Angle:	0°

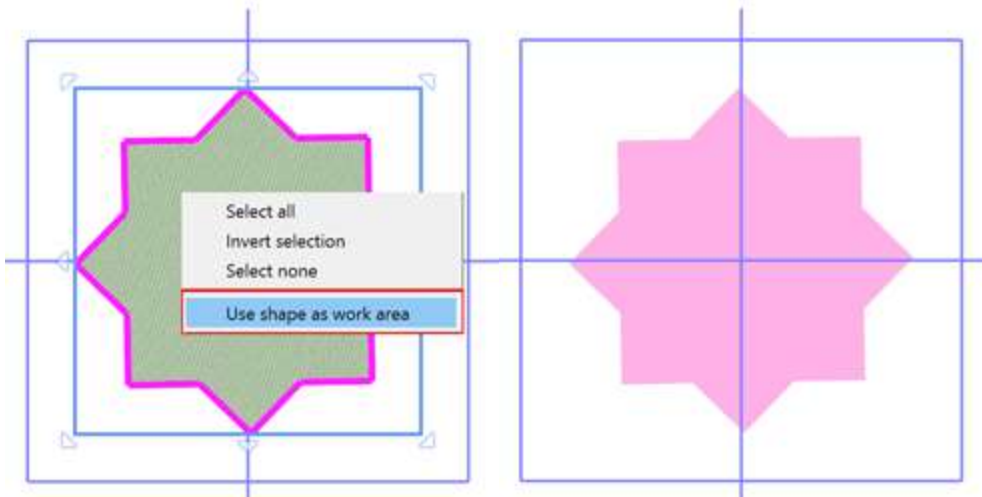
After setting the values you want, click OK to insert the "Work area" on the working area.



To delete a "Work area" you have to select it while you are in Guidelines mode and press the "Delete" key on the keyboard.

Use shape as work area

Any shape can be used as a work area. You can create any shape you want by using the available tools, select it and from the right click menu select the "Use shape as work area" option.



Create objects

The software comes with a powerful integrated graphics editor that you can use to create vector graphics. Vector graphics are scalable without sacrificing quality. Instead of using pixels, vector graphics use mathematical equations to draw your design. Of course, the software performs the math behind-the-scenes, so the only thing you need to focus on is your creativity. Once you create a design then you can automatically apply any object type for the created design. In this way you can create any shape you like and then select any of the available types, that is, embroidery, paint, rhinestones, cut, stencil. In this chapter we will present the available designing tools and how to use them to create designs. Most of the design tools can be found on the toolbar that is floating on the left area of the application window.

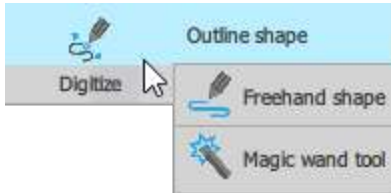
The available Designing tools are the Outline shape tool (digitizing tool), the Freehand tool, the Create shapes tool, the Text tool and the Insert symbol - Insert Clipart tools. By combining these powerful designing tools, you can create outstanding designs.



Digitize tools

Whether you are getting started or you are an experienced designer, using "Digitize tools", you can draw a design from scratch. All the digitizing tools are located in "Digitize" section of tools bar. The available tools are the "Outline shapes", the "Freehand shapes" and the "Magic wand". The icon of the last used tool is visible on the "Digitize" section which you can activate with a single click. In case you need to select an alternative tool, place the mouse cursor on top of the "Digitize" section and a flyout menu appears with all the available tools, click to select the tool you like. The selected tool is now visible on the bar, for easier re-use. The

"freehand shapes" lets you sketch as if drawing on a paper. The outline shapes" creates connected curve or line objects. You can create open curves, branched curves and closed curves.



Digitized objects are added after the last digitized or selected object.

When inserting new objects while digitizing, they will automatically be placed in the desired location and inherit color settings from previously digitized objects. This streamlines the process of inserting small sections(tacking sections), making it easy for you to stay organized and efficient. These change to the digitizing function greatly improve the user experience and productivity.

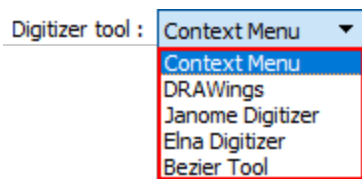
For example if you want to add an object after a specific object, with the same settings of that object, you have to do the following:

1. Select the object.
2. Start the digitizing process with the preferable tool.
3. Digitize the new object and complete the process. The new object will be added exactly after the selected object and it will have the same color with it.



Outline shapes

Using the "Outline shapes"  tool you can create connected curve or line objects. Before we describe how it works we must mention that since this is the most used digitizing tool, we thought it is best to provide various operating modes, so that users accustomed to different designing software, such a vector designing programs, find it easier to become familiar with the use of this tool. You can select an operation mode from "Tools – options", Tools tab in section "Digitizer". All operating modes have the same capabilities the difference is in the way of punching, so we will describe the usage of the tool in general and then we will present the way of punching for each operation mode. The operation modes are "Context menu", "DRAWings", "Janome Digitizer", "elna Digitizer" and "Bezier tool".

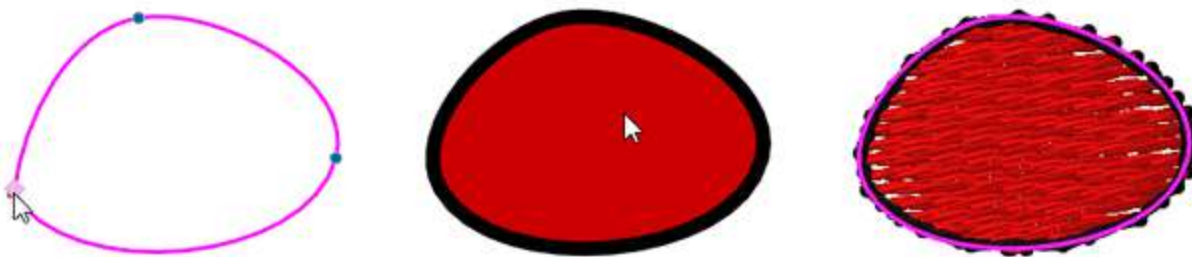


In general, when the tool is activated you can draw points by left clicking on the design area. In this way you can easily create the parts of your design. Since this is an embroidery design you may need to embroider some parts together while others should be separate. The parts that you want to be together should be sections of the same object. When the outline shapes is activated you start creating sections and each section must be finalized. The way a section is finalized is different in each operating mode so we will describe the way. The tool though remains active and you can add other sections to this object. You can continue adding sections for as long as you like. When you want to stop adding section for this object you need to finalize this object. When an object is finalized the outline tool remains active and you can create another object, that may also have multiple sections. The basic difference between the operation modes is the way that sections and objects are finalized.

There are though some keys ("Enter" or "Esc") that can be used for closing section - object in any of the operation modes. Using "Enter" or "Esc" keys once, the current section is finalized; if you press one of these keys twice, the whole OBJECT is finalized. When you have finalized an object and you need to release the tool, click on the rectangle selection or use "Enter" or "Esc" keys for a third time. Basically this is the procedure that you follow in order to create shapes that have one or more sections. Now that you know the procedure in general we will present some techniques that are the same for all operation modes.

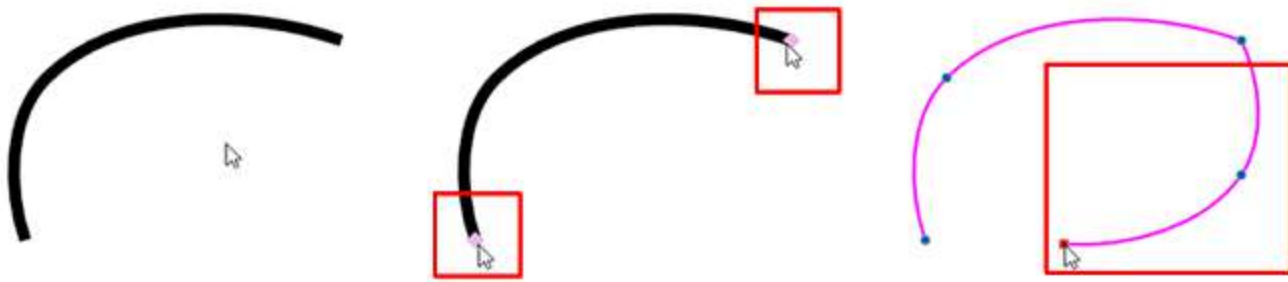
Notice: In some modes the shape that you create is by default curve based while in other modes the created shape is by default connected lines.

First of all we need to mention that if you connect the last point with the first point then you create a closed shape.

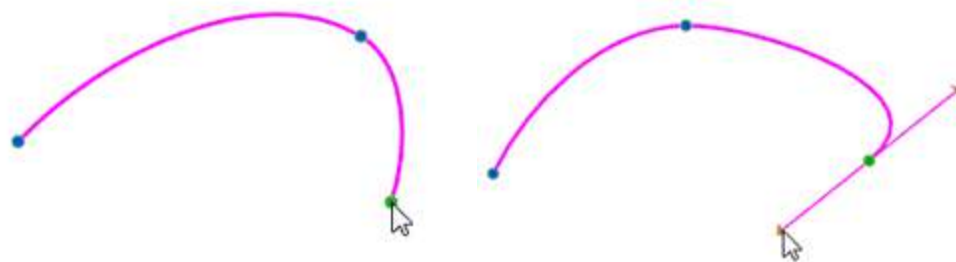


At any point you can delete the last inserted point by pressing the "Backspace" key. In this way you can fix something you do not like during the designing process.

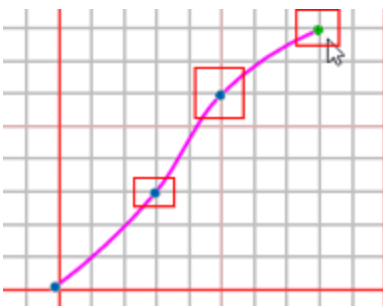
You can add parts to open sections until the object is finalized. To do so, place the mouse over a starting or ending point and you will see the cursor changing. now if you start drawing from that point, the new drawing is added to this section.



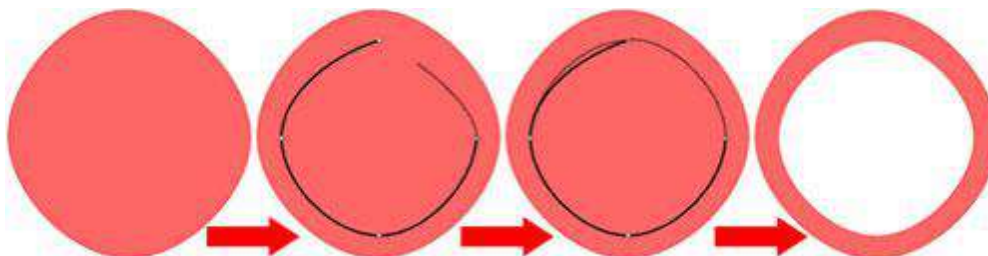
While drawing you can also click and drag to further edit the created curve.



if you hold the "Alt" key pressed down the mouse cursor snaps on the grid for your convenience. While drawing the cursor snaps on the lines of the grid, to help you draw more accurately. When you press the Alt key the object automatically moves/snaps on the closest vertical and horizontal lineation of the ruler. From that point you can draw a line to the position you want based on the grid.



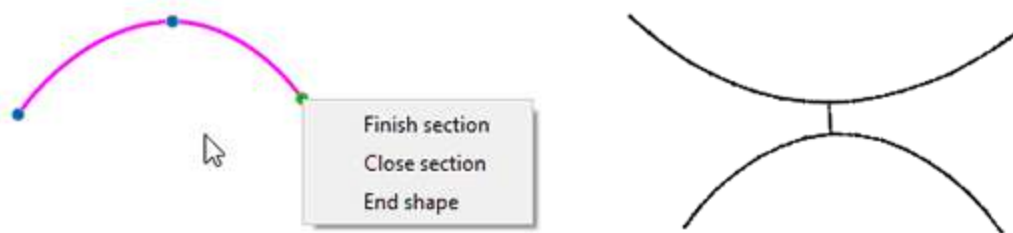
Finally, have in mind that you can easily create holes, if you create any closed shape section on top of another.



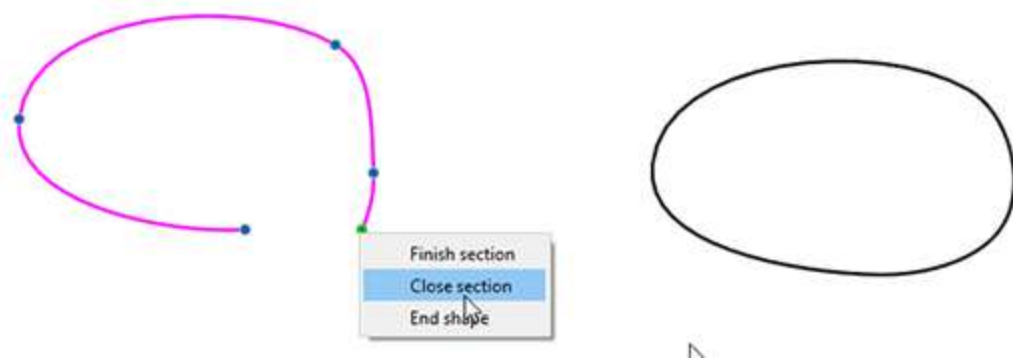
Now lets see the differences in the usage between the operating modes. Since the digitizing process takes places using an input device, mouse, touch-pad or track-pad the differences between the operation modes are in the usage of the mouse.

Context menu

When this mode is enabled, you define the control points of the shape with a single left click. The defined points are connected by default with a curve. The connecting curve is affected by the defined points to look natural. In this mode when you want to close a section or an object you need to right click and use the provided options of the appearing menu. The available options are "finish section", "Close section" and "End shape". Using "Finish section" the current section is finalized while the tool is still active in case you need to start a new section. If you create another section then both sections will belong to the same object. Select the "End shape" option to finalize this object. Both section belong to the same object and that why they have connecting stitches, so they are embroidered together.



The "close section" can help us create a close shape. Using the "close section" option, the point that was last defined gets connected to the starting point and this becomes a closed shape.

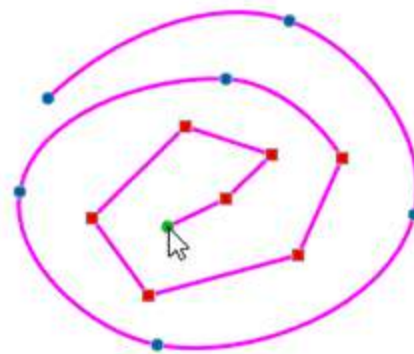


DRAWings mode

The way of punching in this mode is the same as in "Context menu" mode. The basic difference is that when working with this mode you do not have a "context menu" to select an action while digitizing. Using a single right click the current section is finalized while the tool is still active in case you need to start a new section. Add as many sections you like and when you are ready to end the current object, right click twice. In order to release the tool as well you can right click once more, when you have already finalized an object.



The "Context menu" and the "DRAWings" modes are both by default curve based. the points that you define are connected, by default by a curve. In case that you need to add corner points, hold the "Shift" key down while drawing and the next point you draw, will be a corner point. All round nodes are curve nodes, while the square sign points are corners. In this way you can easily combine curved and straight segments.



Janome Digitizer mode

The "Janome Digitizer" mode by default adds line parts. When the tool is activated, left click to draw points. Click once on the working area to set the starting node and a preview line appears from the starting point and follows the cursor. If you click once again, a line is added starting from the first defined point to the second. Then a new preview line begins from the second point. In this way you can continue adding connected lines. In this mode when you need to finalize a section or an object you need to use "Enter" or "Esc". Use any of the keys once to finalize section and twice for an object. When an object is finalized and you need to release the tool, you can choose one of the following ways. You can click on the rectangle selection



tool or use "Enter" or "Esc" keys once more.



The tool creates by default straight lines, but if you want to add a curve, "right click" while adding a node and this will be a curve node. In the same way if you "Click and drag" while setting a node you adjust the curvature of the previous segment.

elna Digitizer mode

The "elna Digitizer" mode by default adds line parts. When the tool is activated, left click to draw points. Click once on the working area to set the starting node and a preview line appears from the starting point and follows the cursor. If you click once again, a line is added starting from the first defined point to the second. Then a new preview line begins from the second point. In this way you can continue adding connected lines. In this mode when you need to finalize a section or an object you need to use "Enter" or "Esc". Use any of the keys once to finalize section and twice for an object. When an object is finalized and you need to release the tool, you can choose one of the following ways. You can click on the rectangle selection



tool or use "Enter" or "Esc" keys once more.



The tool creates by default straight lines, but if you want to add a curve, "right click" while adding a node and this will be a curve node. In the same way if you "Click and drag" while setting a node you adjust the curvature of the previous segment.

Bezier tool mode

When working with "Bezier tool" mode, the outline tool by default adds connected straight lines. Click once on the working area to set the starting node, while moving the mouse a preview line appears from the starting point and follows the cursor. If you click once again, a line is added starting from the first defined point to the second. A new line begins from the second point. In this way you can continue adding connected lines. In this mode a single right click, closes the current section and if you right click twice you can finalize the object. When an object is finalized and you need to release the tool, you can choose any of the following ways: You can right click once more or click on the rectangle selection tool  or use "Enter" or "Esc" keys once again.



The tool creates by default straight lines, but if you want to add a curve hold "Shift" key down and the next point that you add will be a curve node. In the same way if you "Click and drag" while setting a node you adjust the curvature of the previous segment.

Freehand shapes

With the Freehand tool  you can design simple lines or complete shapes. When the tool is activated, it is like drawing with a pen, left click and hold, while moving your mouse, the mouse cursor is your pencil. When releasing left click this section is closed and the freehand tool is still active and you can continue creating sections that will belong to the same object. Any part you create will belong to the same object. So you can keep adding sections that you want to be embroidered together. To finalize the created object right click once. The created sections belong to the same object and they have connecting stitches, so they are embroidered together. The freehand tool remains active but if you create any new part it will be a separate object. If you wish to release the tool right click once more.

You can also create lines and connected lines, to do so click once to define the starting point and once more to define the second point. Between these two points a straight line has been created. If you want to continue a previously created section before the object is finalized, point your mouse over the starting or ending point of this section and you will see the cursor changing. Click once to continue with a straight line or click and drag to create a freehand shape. If the starting point is connected to the end point then a closed shape is created. In this way you can create freehand parts, lines, connected lines and closed parts.



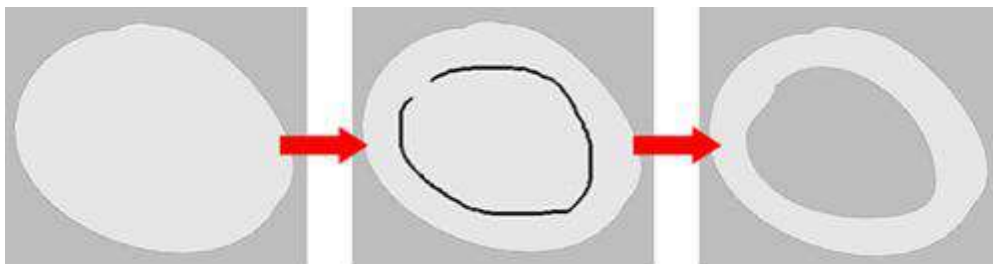
Connected lines - Freehand curve - Straight line - Closed shape

If you have created an object that contains multiple section but you need one to be separate, you can select the object and from the right click menu use "Break apart" option. This will separate the designed objects.



In order to terminate digitizing with "Freehand shapes" you can right click after an object has been finalized or click on the rectangle selection tool from the Tools bar.

The way that the Freehand tool works it is helpful to create holes inside the shapes you are creating. For example if you want to create a wheel shape you have to draw the outer circle and then draw the inner smaller circle. When the designing of the inner circle is finished, a hole will be created inside the bigger circle.



Closed shape

Design hole

freehand hole created



While using Freehand tool to create a freehand shape you can hold the Shift key down to make the curves you are drawing smoother. This ability helps to make the design easier.



If you hold the "Alt" key pressed down the mouse cursor snaps on the grid for your convenience. While drawing the cursor snaps on the lines of the grid, to help you draw more accurately.

Also, when you select the Freehand tool, the smoothness level option appears on Tools options bar. With this tool you can set the smoothness level of the freehand artwork that you will create. The scale of smoothness level option is from 0 to 10 and can be adjusted by entering the value you want on the respective field or by using the increase/decrease arrows next to the field. If you set the smoothness level value to 0 the freehand curves that you will draw will have a lot of nodes and its curvature will not be so smooth.



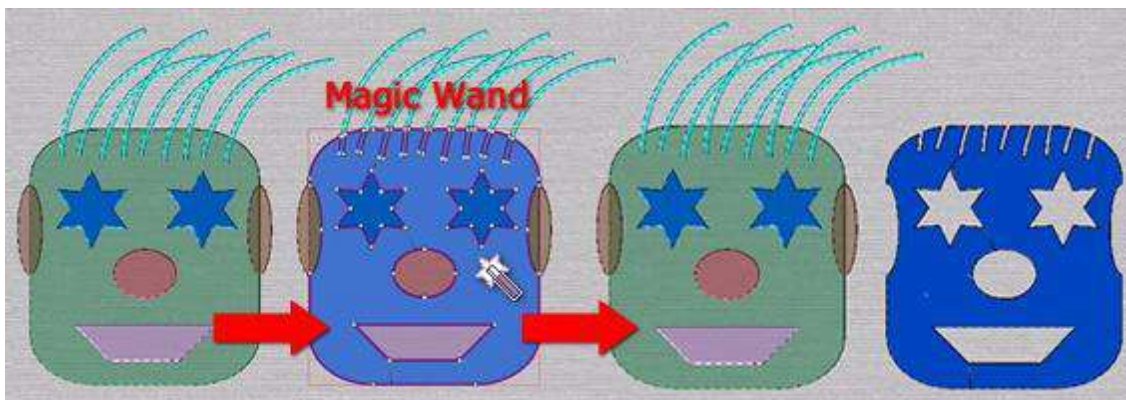
On the other hand if you set the smoothness level value to 10 the freehand curves that you will draw will have the minimum nodes needed and its curvature will be smooth. Middle range values have average smoothing

effect on the drawn curves. The Smoothness level options must be set before the creation of the curve you want to use.

Finally, while drawing a shape and you make a mistake, you can press the Backspace button from the keyboard and delete the last inserted section until the previous node. If you want you can delete more of the design by pressing the Backspace button again. You can continue drawing the shape from that point and finish the shape you want to create.

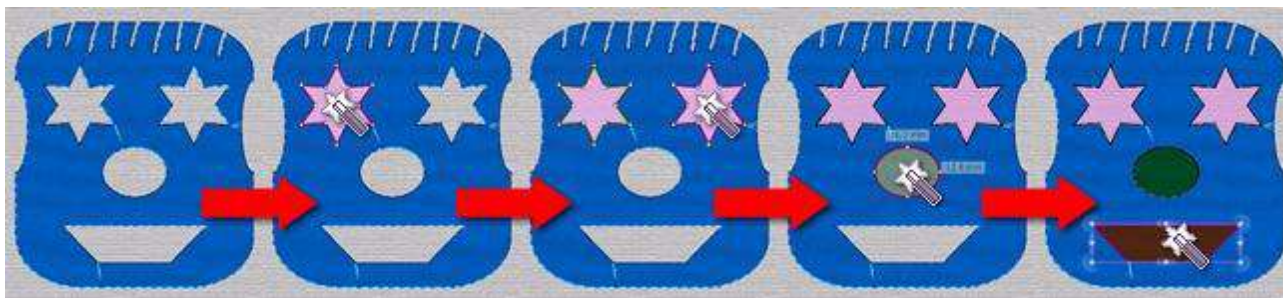
Magic Wand shapes

The "Magic wand"  creates new shapes based on the shapes of your design, so in order to use this tool you need to have a design with some parts that are overlapping. You can find the magic wand tool on the digitize section of the Tools bar. When starting the magic wand the cursor changes. Now for any shape that you click upon a duplicate is created. When used in overlapping shapes it creates shapes based upon their visible parts and this is the reason that this tool was created. When using "Magic wand" for overlapping objects then it will create an object identical to the intersection area of the overlapping objects. All the created objects, remain selected in order to be easier for you to move them, change their stitch type or make any other modification. For example, the eyes, nose, mouth and hair are shapes created on top of the head part. Using the magic wand we can create a face shape with holes for the eyes and mouth. It is a very useful tool that can help you create strange shapes easily. To stop using the tool you have to simply right click with the mouse and the software will switch to the Selection rectangle mode.



Select the Magic wand tool -> Click on the area you want to produce -> Drag the created object out

Another functionality of this tool is that you can fill holes of a design with the shapes that these holes are forming. The only thing you have to do is to select the Magic Wand tool and click in the hole. The software will automatically create a new object that fills the hole.



Select the Magic wand tool -> Click in the holes -> Create new objects that will fill the holes

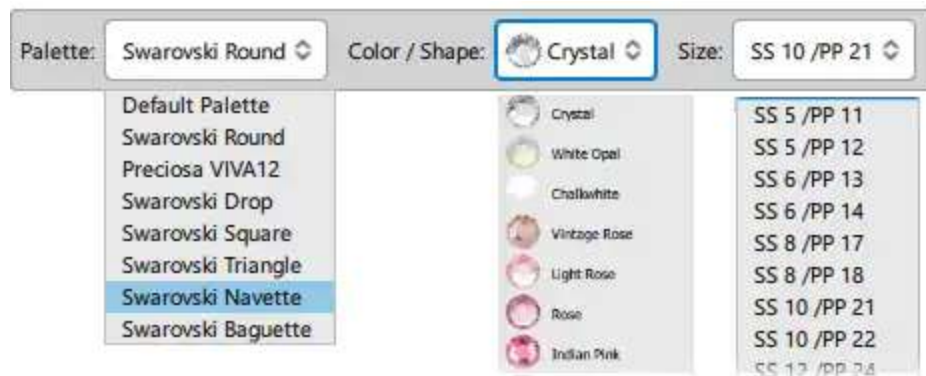
Insert Crystal

Using the "Crystal shape"  tool you can insert crystals anywhere in the design simply by left clicking once in the position you want each crystal to be added.

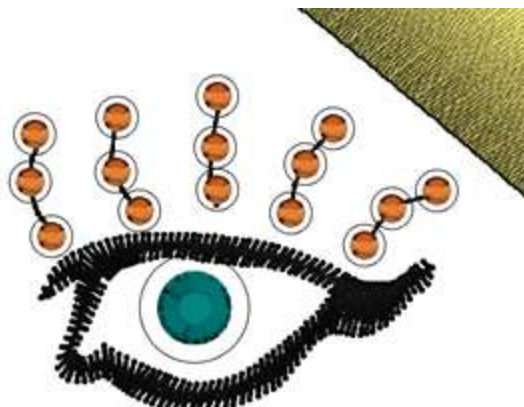


Notice, in order to use Crystals, the "Crystals" technique needs to be enabled.

When "Crystals" technique is enabled then you can find the "Crystal shape"  tool on Tools bar and using this tool you can add crystals manually to the design. When you start this tool, a crystal is attached to the mouse cursor and you can place it anywhere on the design. Before you left click to place the Crystal, you can customize it from the tools option bar. You can select one of the available palettes, some of the palettes have different crystal shapes but at this point we will use round crystals. Then you can select a COLOR from the respective list and finally you can select the size of the crystal.



Now, you can give a crystal touch to any design. When you want to release the tool, right click once. With just a single click you can place a crystal wherever you want it. If you want to end the insertion of crystals you have to right click once or to select a different tool from the Tools toolbar like the Rectangle selection tool. You can also adjust the properties of the selected crystal afterward, using the Properties.



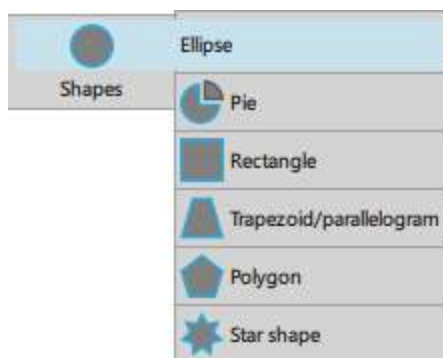


Remember that you can easily select multiple crystals by color, right click on the crystal color use "add to selection", all the crystals with this color are selected and you can change the properties for all of them at once or you can change color, size or even move them.

Now that the design is ready, you need to cut the template for the added crystals. To do so, you need to export to Cutter.

Draw shapes

The use of the ready-made shapes can help you create embroidery designs more easily. The available shapes are Ellipse, Rectangle, Pie, Star, Polygon and Trapezoids/Parallelograms. The icon of the last used shape is visible on the "Shapes" section which you can activate with a single click. In case you need to select an alternative tool, place the mouse cursor on top of the "Shapes" section and a flyout menu appears with all the available shapes, click to select the tool you like. The selected tool is automatically activated and it is now visible on the bar, for easier re-use.



Once you have activated any of the shapes, the mouse cursor changes to reveal that you are in design mode. Click and drag to define position and size of the inserted shape. While dragging you can see a virtual preview of the inserted shape. Release the mouse and the shape is finalized. The shape tool is still active and you can continue adding more ellipse shapes. In the following topics we will present how to insert and adjust any of the available shapes.



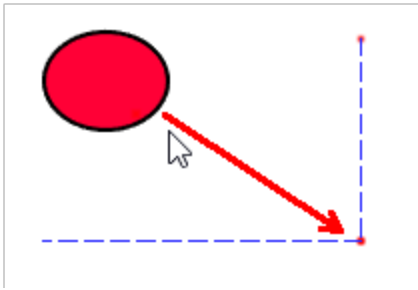
One thing that you should have in mind is that before you click and drag to place any shape you can adjust the options of the inserted shape, if available, on Tools options bar. The same options can also be adjusted after placing the shape as well.

Ellipse - Circle



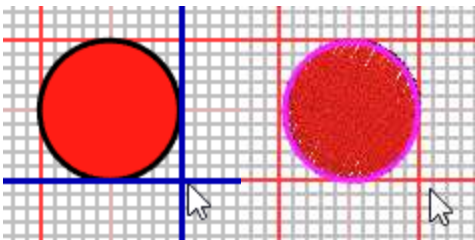
Using the "ellipse" shape you can draw ellipses and circles. Once you have activated the ellipse shape the mouse cursor changes to reveal that you are in design mode. Click and drag, diagonally, on the design area to draw the ellipse you want. While dragging you can see a virtual preview of the ellipse, when you

release the mouse the ellipse is finalized. The ellipse shape tool is still active and you can continue adding more ellipse shapes.



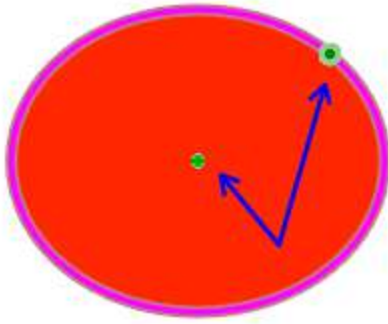
You can also start ellipse shape using F7 key.

if you hold the "Ctrl" key pressed and you drag diagonally you can draw a perfect circle. By holding the "Alt" key pressed while drawing an ellipse, the drawing snaps to the closest vertical and horizontal lineation of the grid. From that point you can draw the object to the position you want based on the grid.



You can draw an ellipse or a circle from its center outward by holding down Shift as you drag. By holding the "Shift" key pressed while drawing an ellipse the center of the ellipse will change and become the point from where you started drawing the ellipse.

At this point we must mention that you can easily edit any ellipse shape using node editor . When starting node editing mode any of the ellipse shapes has only 2 nodes, these are special nodes that can be used to adjust the inserted shape. The one on its outline, can be used to dynamically edit the ellipse with the same ease as when created. The other control point exists on the center of the ellipse, this can be used in order move the ellipse. There are not any normal nodes, as in any shape designed manually. if you to edit the ellipse like any normal curve object then you must first convert the ellipse into curves.



When a shape is converted into curves, the special nodes are no longer available. The shape now has normal object nodes according to the curve parts of the object.

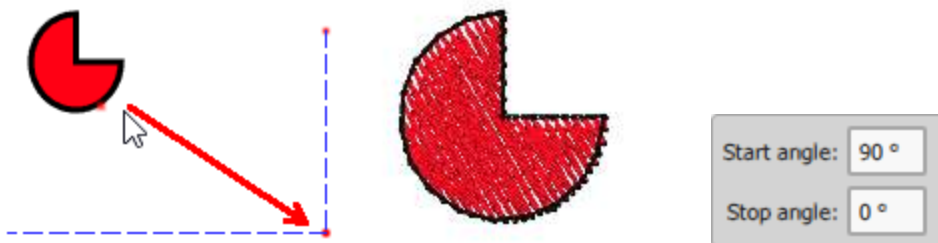
Pie



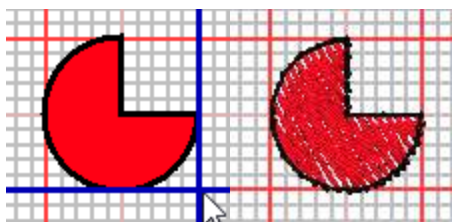
The Pie shape tool allows you to draw and customize pie shapes. The usage is simple, once you start "Pie" shape you can click and drag diagonally on the design area to draw a pie shape. On tool options bar, you can customize the start and the end angle of the inserted pie shape, then click and drag to define position and size of the inserted pie. Once you release the mouse, the pie is finalized and the "Pie" shape remains active and you can add as many pies you like. When you are done, right click to release the "Pie" shape. If you select any of the inserted pie shapes then you can adjust the start - end angle of the pie after creation as well.



You can start "Pie" shape using Shift+F7 shortcut key

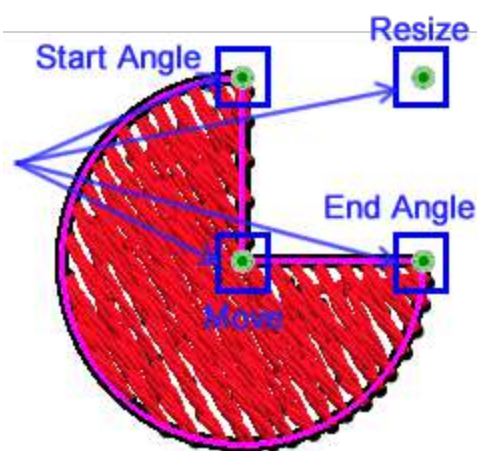


By holding the "Alt" key pressed while drawing a pie, the drawing snaps to the closest vertical and horizontal lineation of the grid. From that point you can draw the object to the position you want based on the grid.

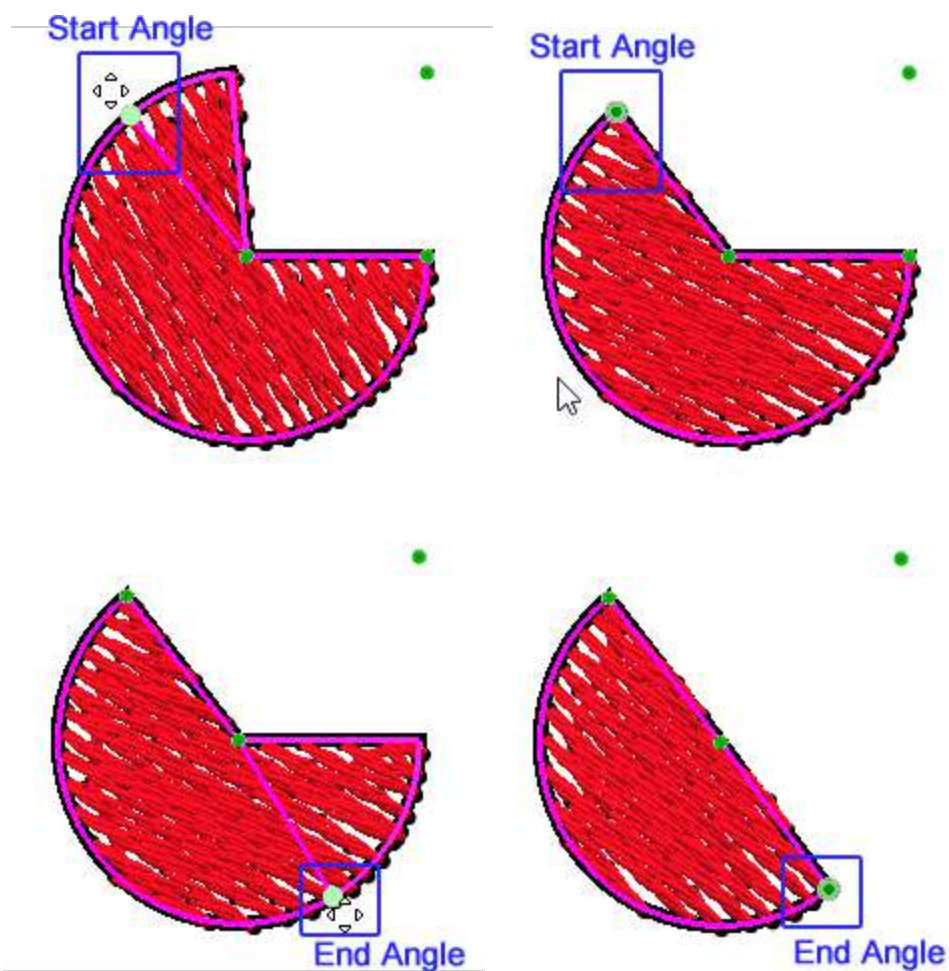


You can draw a pie from its center outward by holding down "Shift" as you drag. By holding the "Shift" key pressed while drawing a pie, the point from where you started drawing will become the center of the pie.

Any inserted pie shape can also be edited using node editor. The pie shapes have 4 special control nodes, the one on upper right corner, can be used to dynamically resize the pie with the same ease as when created. The control point on the center of the pie, can be used in order move the pie.

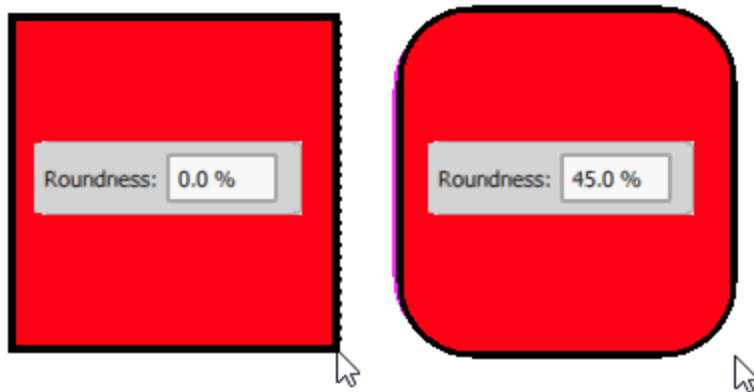


Additionally there are 2 handles for adjusting the "Start angle" and the "End angle". Using these 2 nodes you can change the start and the end angle and change the shape of the pie. You can increase or decrease the opening of the Pie. If you hold the Ctrl key while dragging a handle, the mouse will snap on every 22.5 degrees allowing you to make precise changes on the Pie shape. At any point the easier way to define the starting and ending point of the Pie, is typing a value on Tools options bar. You can do that before the creation, when the tool is activated, you can do it afterwards, when ever you select the pie shape and you can also change start - end angle in node editing as well. In any of these cases when a pie shape is selected those two options appear on the Tools options bar. if you want to manually edit the shape of the pie you must first convert into curves. After converting into curves these special nodes are no longer available.



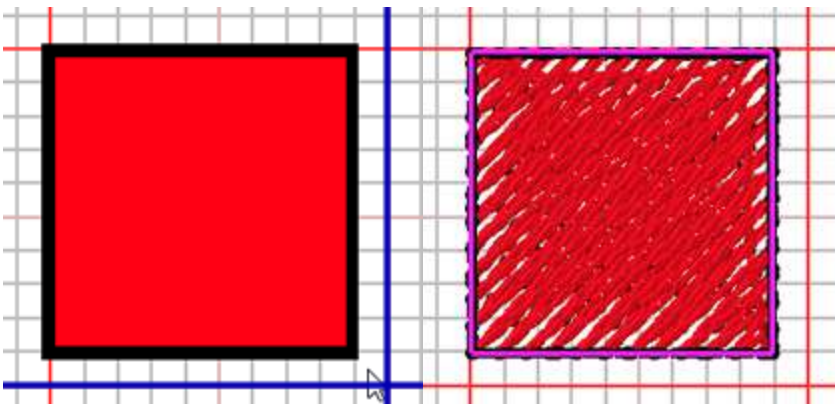
Rectangle

Using the "rectangle" shape  you can draw rectangles and squares. Once you have activated the rectangle shape, the mouse cursor changes to reveal that you are in design mode. Click and drag, diagonally, on the design area to draw the rectangle you want. While dragging you can see a virtual preview of the rectangle, when you release the mouse the rectangle is finalized and it is placed on the defined position. The rectangle shape tool is still active and you can continue adding more rectangle shapes. For the rectangle shape you can also define the roundness of the corners using the option that appears on "Tools options" bar. This can be done either before you draw the rectangle or afterwards. By changing the roundness value you can increase the roundness of the rectangle's corners. The Roundness is a percentage value that can take values from 0 to 100. The 0 value will have as result normal corners and no roundness. The 100 value will have round corners to their full extend. Therefore, by giving a specific value you can produce the result you want.



You can start "rectangle" shape using F6 shortcut key

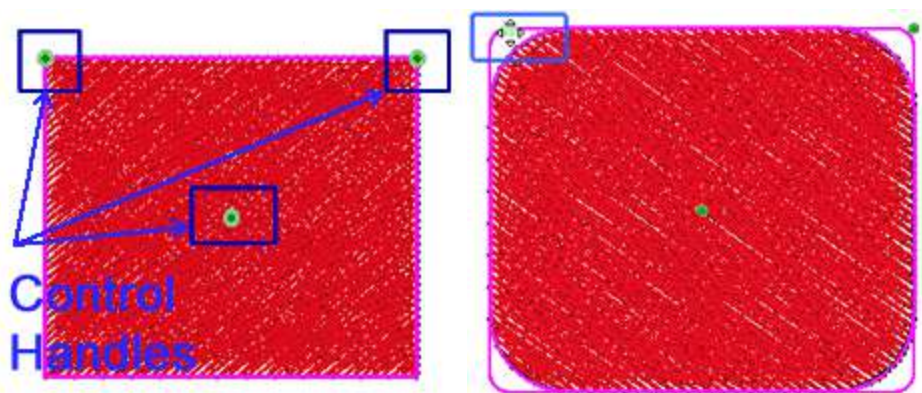
By holding the "Alt" key pressed while drawing a rectangle, the drawing snaps to the closest vertical and horizontal lineation of the grid. From that point you can draw the object to the position you want based on the grid.



You can draw a rectangle from its center outward by holding down "Shift" as you drag. By holding the "Shift" key pressed while drawing a rectangle, the point from where you started drawing will become the center of the rectangle.

By holding both Ctrl and Shift key pressed while drawing a rectangle, the center of the shape will be the point from where you started drawing the shape and the shape will be a Square. This is helpful when you know the center of the design and you want to add a rectangle that will have as center specific point.

The rectangle shape can be also edited using node editor, any rectangle shape has 3 special nodes, the one on upper right corner, can be used to dynamically resize the rectangle with the same ease as when created. The control point on the center of the can be used in order move the shape. Finally using the control point that is on the upper left corner you can adjust the roundness of the corners. if you want to manually edit the shape of the rectangle you must first convert into curves. After converting into curves these special nodes are no longer available.



Trapezoid - Parallelogram

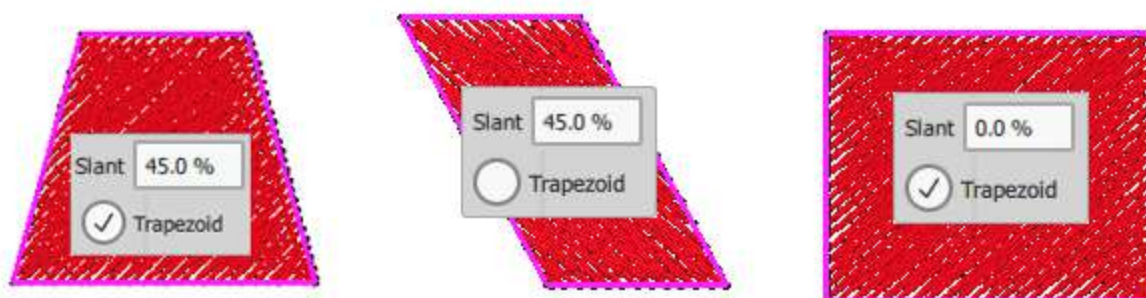
Using the "trapezoid/parallelogram" shape  you can draw Trapezoid and Parallelogram shapes. Once you have activated the trapezoid/parallelogram shape, the mouse cursor changes to reveal that you are in design mode. Click and drag, diagonally, on the design area to draw the trapezoid/parallelogram you want. While dragging you can see a virtual preview of the created shape, when you release the mouse the shape is finalized and it is placed on the defined position. The trapezoid/parallelogram shape tool is still active and you can continue adding more shapes.

You can also start Trapezoid/Parallelogram shape  by pressing the Shift + F6 shortcut key from the keyboard

For the trapezoid/parallelogram there are some options available on "Tools options" bar. You can adjust these options either before you draw the shape or afterwards.

The "Slant" option is used to adjust the corners of the trapezoid / parallelogram. The Slant is a percentage value, that represents the distance that the top left corner will have from its starting position. Slant takes values from 0 to 100. When it is set to 0 then a rectangle is created. The 100 value will have as result a triangle because the two corner handle will be positioned at the middle of the top side. Therefore, to create a Trapezoid you have to insert values from 0 to 100.

You can switch between Trapezoid and Parallelogram, by checking the "Trapezoid" option. When "Trapezoid" is checked then the shape is a trapezoid, otherwise it is a parallelogram. If slant value is 0 then the shape is a rectangle and this option has no result.



Trapezoid

Parallelogram

Square

By holding the "Alt" key pressed while drawing a trapezoid/parallelogram, the drawing snaps to the closest vertical and horizontal lineation of the grid. From that point you can draw the object to the position you want based on the grid.



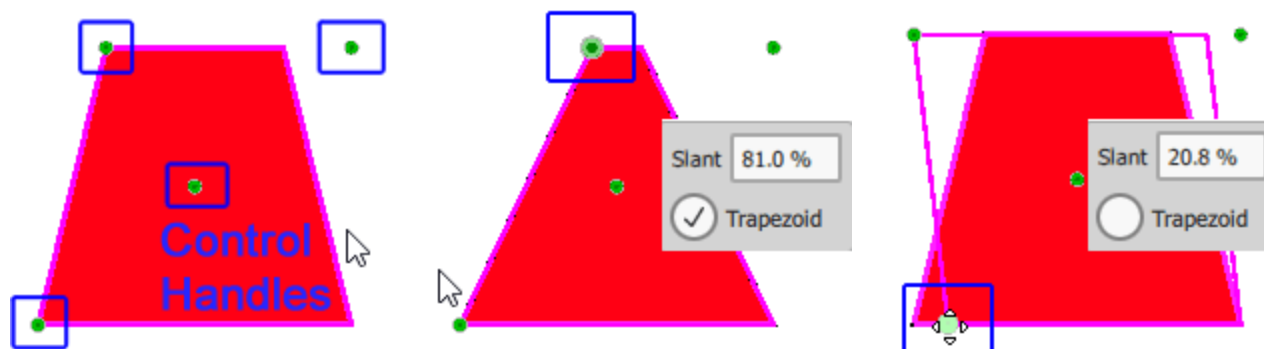
You can draw a trapezoid/parallelogram from its center outward by holding down "Shift" as you drag. By holding the "Shift" key pressed while drawing a trapezoid/parallelogram, the point from where you started drawing will become the center of the rectangle.

By holding both Ctrl and Shift key pressed while drawing a rectangle, the center of the shape will be the point from where you started drawing the shape and the shape will be a square. This is helpful when you know the center of the design and you want to add a Trapezoid/Parallelogram shape that will have as center a specific point.

Trapezoid/Parallelogram shapes can also be edited in Node editing mode. The trapezoid/parallelogram shape has 4 special nodes, the one on upper right corner, can be used to dynamically resize the shape with the same ease as when created. The control point on the center of the shape can be used in order move the shape.

Using the control point that is on the upper left corner you can adjust the slant percentage. If the slant angle is 0, the shape will be a rectangle, in this case using the control handle of the upper left corner you can change the rectangle into trapezoid. While dragging both top corners are moving towards to the center of the top side, creating a perfect Trapezoid. If you drag the top left handle until the middle of the top side you will create a triangle. Therefore with this tool you can create also triangle shapes.

By clicking and dragging the handle of the bottom left corner to the right, you can transform the rectangle to a Parallelogram. While dragging the handle both bottom left and top right corners are moving towards the opposite corners creating a perfect Parallelogram. if you want to manually edit the shape of the trapezoid/parallelogram you must first convert into curves. After converting into curves these special nodes are no longer available.



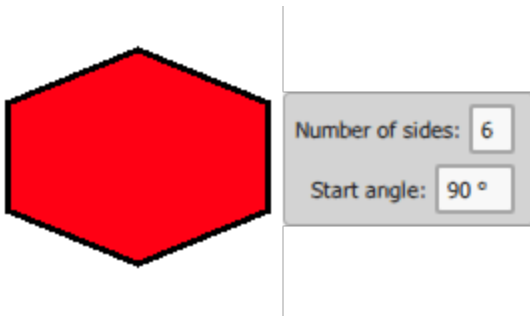
Polygons



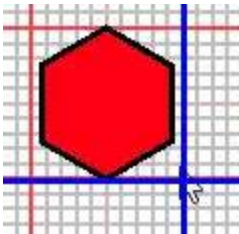
Using the "polygon" shape you can draw polygon shapes. Once you have activated the polygon shape, the mouse cursor changes to reveal that you are in design mode. On "tool options" bar, you can select the

"number of sides" and the "start angle". Click and drag, diagonally, on the design area to draw the polygon you want. While dragging you can see a virtual preview of the polygon, when you release the mouse the polygon is finalized and it is placed on the defined position. The polygon shape tool is still active and you can continue adding more. You can also change the options of the polygon on "Tool options" bar after it has been created. With the "number of side's" value you can set the number of sides you want the selected polygon to have. The default value of sides is 6; The minimum value is 3, because with less than 3 sides we cannot create a polygon object, and the maximum value is 16. You can change the value by selecting the current value and typing a new one. Then press the "Enter" key to confirm the new value. The change will be applied immediately on the shape. With the "Start angle" you can define the start angle that the Polygon will be placed upon. The value of the Start angle is in degrees; therefore, if the Start angle value is 90 the starting position of the angle will be the top point of the polygon.

You can also start polygon shape using 'Y' key.



By holding the "Alt" key pressed while drawing a polygon, the drawing snaps to the closest vertical and horizontal lineation of the grid. From that point you can draw the object to the position you want based on the grid.

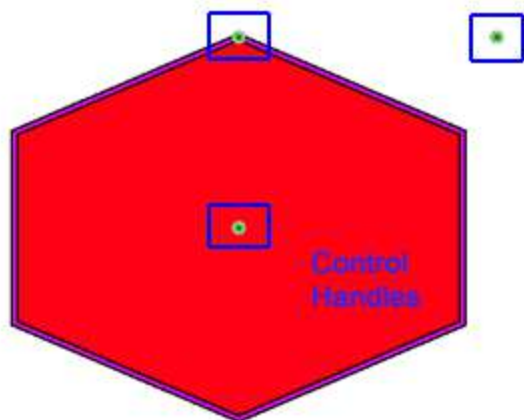


You can draw a polygon from its center outward by holding down "Shift" as you drag. By holding the "Shift" key pressed while drawing a polygon, the point from where you started drawing will become the center of the polygon.

By holding both Ctrl and Shift key pressed while drawing a Polygon, the center of the shape will be the point from where you started drawing the shape and the shape will be a perfect Polygon. This is helpful when you know the center of the design and you want to add a polygon shape that will have as center a specific point.

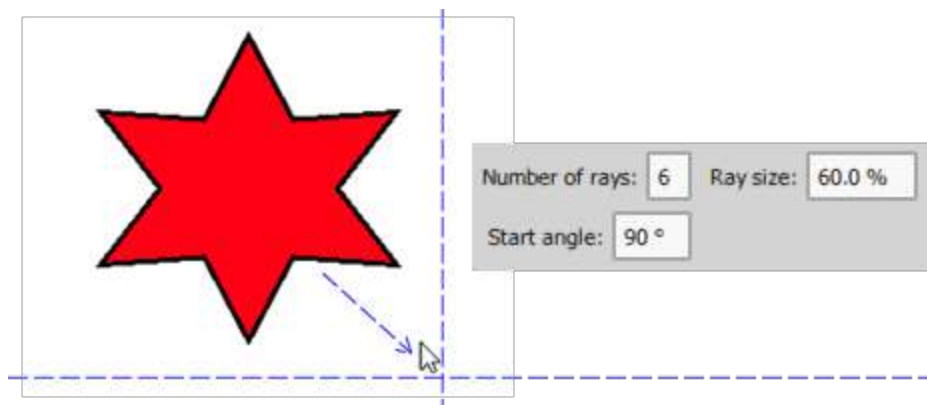
You can also edit polygon shapes using node editor. The polygon shape has 3 special nodes, the one on upper right corner, can be used to dynamically resize the shape with the same ease as when created. If you hold the Ctrl Key pressed during the resizing process the polygon will be resized proportionally and become

a perfect polygon. The control point on the center of the shape can be used in order move the shape. Finally there is a node on top of one of the corners and by dragging this node you can change the angle of the polygon. if you want to manually edit the shape of the polygon you must first convert into curves. After converting into curves these special nodes are no longer available.



Star

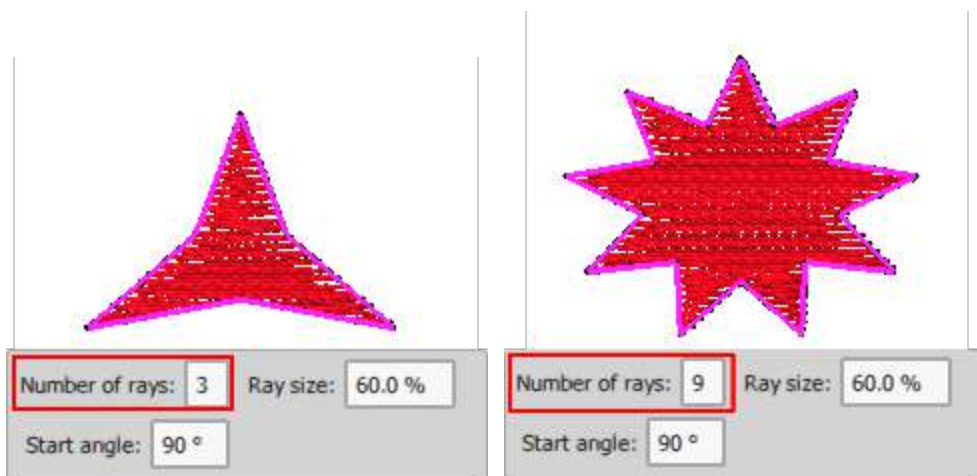
Using the "star" shape  you can draw you own star shapes. Once the star shape is activated, the mouse cursor changes to reveal that you are in design mode. On "tool options" bar, you can define the "number of rays" the "Ray size" and the "start angle" for the created star. Click and drag, diagonally, on the design area to draw the star in the way you want. While dragging you can see a virtual preview of the star, when you release the mouse the star is finalized and it is placed on the defined position. The star shape tool is still active and you can continue adding more. Continue adding stars or right click to release the tool. You can also change the options of the star on "Tool options" bar after it has been created.



You can also start "star" shape pressing the 'S' key.

With the "number of ray's" value you can set the number of rays you want the selected star object to have. The default value of rays is 6; therefore when you insert a star shape, by default it comes with 6 rays. The minimum value of Number of ray's option is 3, because with less than 3 rays we cannot create a star object, and the maximum value is 16. You can change the value of the field by selecting the current value and typing

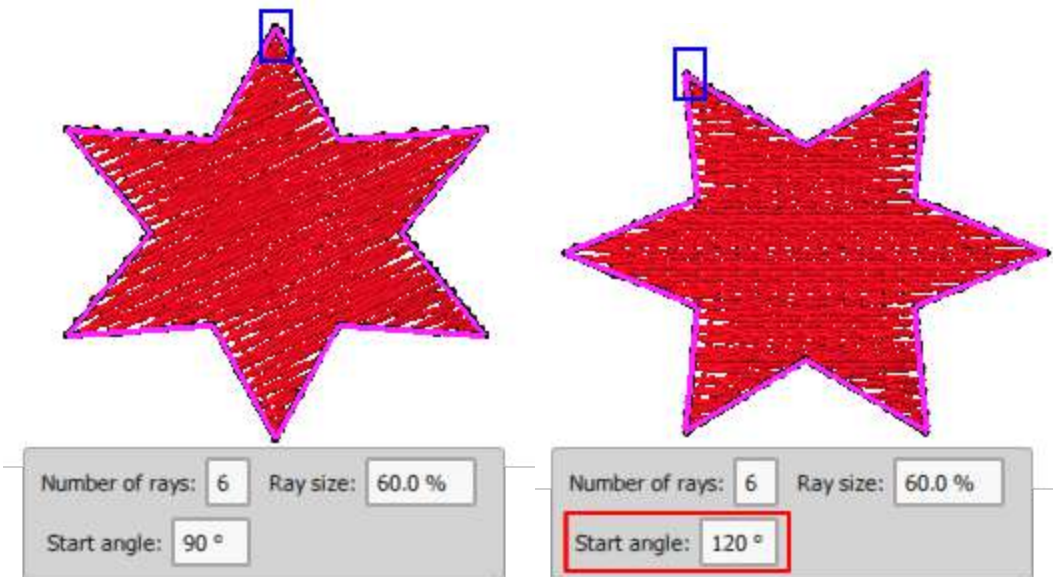
a new one. Then press the Enter key from the keyboard to confirm the new value. The change will be applied immediately on the shape.



With the Ray size you can define the percentage distance between the center of the Star shape and the line that connects two sequential ray vertexes of the star. Therefore the 0 value is the center of the Star and the 100 value will be on the line that connects two sequential ray vertexes. If you set the Ray value to 100 the star will become a polygon. You can change the value of the field by selecting the current value and typing a new one. Then press the Enter key from the keyboard to confirm the new value. The change will be applied immediately on the shape.



With the Start angle you can define the starting position of the angle that the star is making based on virtual X and Y axes. The value of the Start angle is in degrees; therefore, if the Start angle value is 90 the starting position of the angle will be the top point of the star, which is also the initial position of the handle (the same with 90o degrees on X and Y axes). You can change the value of the field by selecting the current value and typing a new one. Then press the Enter key from the



By holding the "Alt" key pressed while drawing a star, the drawing snaps to the closest vertical and horizontal lineation of the grid. From that point you can draw the object to the position you want based on the grid.



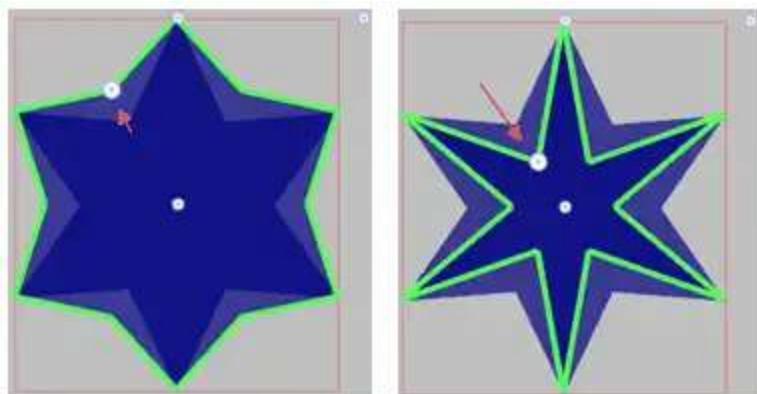
You can draw a star shape from its center outward by holding down "Shift" as you drag. By holding the "Shift" key pressed while drawing a star, the point from where you started drawing will become the center of the polygon.

By holding both Ctrl and Shift key pressed while drawing a star, the center of the shape will be the point from where you started drawing the shape and the shape will be a perfect star. This is helpful when you know the center of the design and you want to add a Star shape that will have as center a specific point.

The star shape can also be edited in node editing mode. The star shape has 4 special nodes, the one on upper right corner, can be used to dynamically resize the shape with the same ease as when created. The control point on the center of the shape can be used in order move the shape. The node that is on top of one of the corners can be used to adjust the start angle of the star.



By clicking and dragging diagonally the handle between the two rays at the top left quarter of the shape you can change the size of all rays at the same time. Mainly you can change the distance of the ray (the base) from the center of the design.



if you want to manually edit the shape of the star you must first convert into curves. After converting into curves these special nodes are no longer available.

Tool options

The "Tool options" pane, appears on the upper left corner of the design area. This pane is content sensitive; it shows the properties and options for any selected object or tool. When an object is selected you have immediate access to some of its properties and using the available controls you can change them. For example when you select an object you have a basic set of options available. Using these options, you can move, scale, duplicate, mirror and rotate any selected object.

Size		Proportional		Rotate	
X: 0.0 mm	Width: 18.5 mm	Scale x: 100.0 %	☒ Proportional	Mirror x	Rotate: 0 °
Y: 0.0 mm	Height: 16.5 mm	Scale y: 100.0 %	Duplicate	Mirror y	
Position		Scale	Duplicate	Mirror	

Besides the basic set of options, this bar may also hold configuration options for various designing tools. For example when you start "Text" tool, you can see the available text options, that you need to customize for the inserted text. You need to type text and then customize size and various placement options. In the same way, for example when you are drawing a star shape, on Tool options bar you can see star shape options. You can customize the star either before you draw it or after. When adjusting the "star" options before drawing the star you see the star options as on the following figure. When the star is finalized and you select it, then on Tool options you can see the basic set of together with the star shape options.

Text: Text	Font size: 25,0	☐ Bold ☒ Smart text	Envelope: ☐ No envelope	Placement: A Horizontal
Font name: xpg001	Spacing: 0,0	☐ Italic	Abbreviations	Value: 25

Insert text

Number of rays: 6	Ray size: 60.0 %
Start angle: 120 °	

Draw star shape

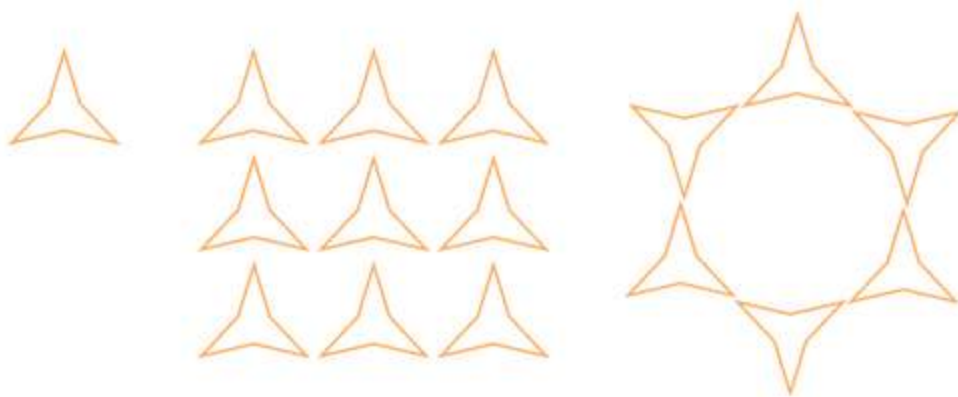
The standard options that will appear when you select an object are:

- **Change Position**, By changing the X and Y values you can reposition the object inside the design area. The position of the selected object is calculated based on its center. Therefore any inserted value in the X and Y fields will define the position you want the center of the object to be located in the design area. In order to change these values, type the value you like in the respective fields and then press enter or click outside of the field. The change is automatically previewed in the design area.
- **Resize**, By changing the Width and Height values you can change the dimensions of the selected object. The values represent the exact dimensions of the object and not the approximate dimensions that you are viewing on the selection rectangle whenever you select an object. To change the Width and Height values, you have to click inside the relative field and then type the value you like. Press Enter from the keyboard or click outside the field to confirm the value you have entered. In case that the option proportional is checked and you select to scale one dimension the program automatically adjusts the other dimension in order to keep the same analogy between the horizontal and the vertical size.
- **Scale**, the Scale X-Y (%) provide the capability to scale the object by a providing a percentage of scale according to the initial size. You can scale the object according to the X dimension or according to Y dimension. In case that the option proportional is checked and you select to scale one dimension the program automatically adjusts the other dimension in order to keep the same analogy between the horizontal and the vertical size.
- **Duplicate object**, press this button and an exact duplicate of the selected object will be created on top of the initial object.
- **Mirror object**, the next 2 buttons can be used to Mirror the original object based on the Horizontal or Vertical axis. It is like flipping the object around a horizontal or vertical axis that is located on the horizontal or vertical center of the object.
- **Rotate object**, using this field you can set a number in degrees to rotate the selected object. Type a numeric value or use the arrows next to the field to specify one, press enter or click out of the control. The object is automatically rotated clockwise for the degrees that you have specified.

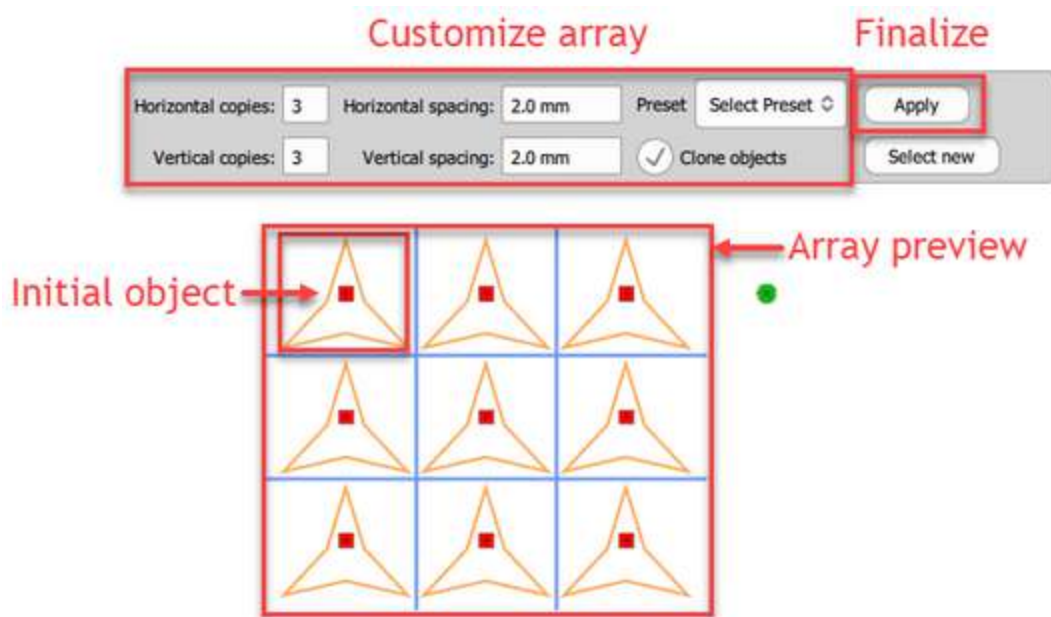
Arrays (Circular-Rectangular)



The "Arrays" section on Tools bar contains "Rectangular" or "Circular" layout tools. Any of the "arrays" creates copies of one or more objects and places them in a patterned way (Circular - Rectangular). Select one or more objects and with array tool you can multiply them along the design area and create unique formations. Starting from a simple shape you can easily create "Rectangular" or "Circular" layout with copies of the initial object. The icon of the last used array is visible on the "Arrays" section which you can activate with a single click. In case you need to select the other one, place the mouse cursor on top of the "Arrays" section and a flyout menu appears with all the available arrays, click to select the one you like. The selected one is automatically activated and it is now visible on the bar, for easier re-use.



The array layout is created for selected objects, so always have in mind that you must first select one or more objects. After clicking on any of the array icons a preview of how the array will look like will appear. Now you are in preview array mode. You can customize the array and then apply it.

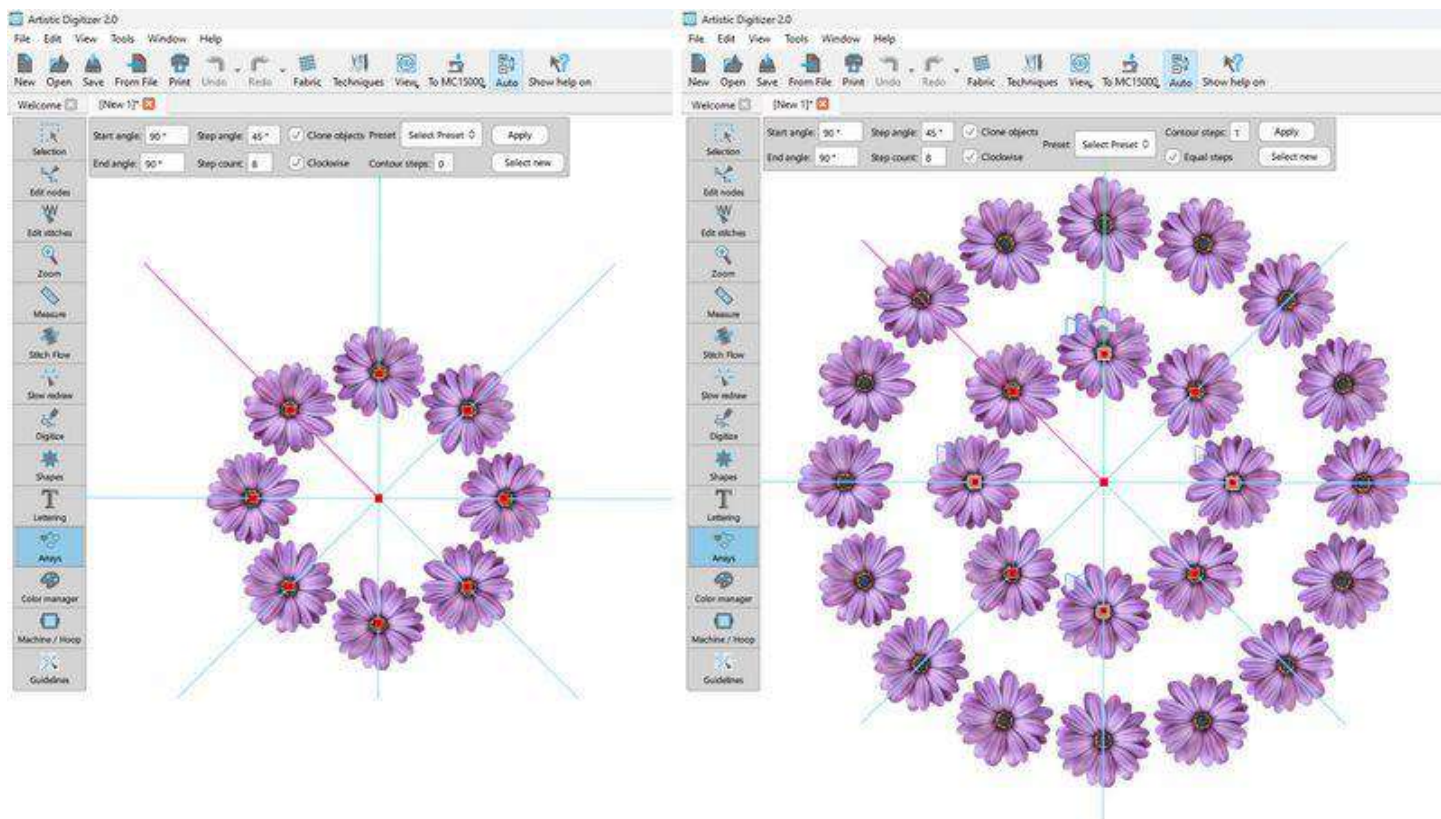


When applying an array you can mark the created copies as "Clone objects". In this case if you reshape any of the copies, all other clones will be affected as well. This gives you the power to edit the shape of the copies and have a real time preview of how the array will be.

In some cases while in preview array mode you can get carried away and think that you can use other tools or change design mode. The array hasn't been applied until you press Apply array button. Anyway if you by mistake try to select any other design tool or change design mode before you have applied the array, a warning about applying array will appear. At this point if you don't want to apply the array yet, select No and you are brought back to the state before the array. If you select Yes the array will be applied with its current configuration.

Array with bitmap fills

Bitmap images in a rectangular or circular array can add a new dimension to any project. Whether it's a cross-stitch design, Photostitch, PaintStitch, or Sketch, these arrays allow for unique patterns and symmetry. In order to create these arrays, simply select the bitmap image and choose the shape of the array from the options provided. From there, adjust the size and placement to your liking. The result is a visually striking design that will certainly impress. Give it a try and see how these array shapes can enhance your next project.

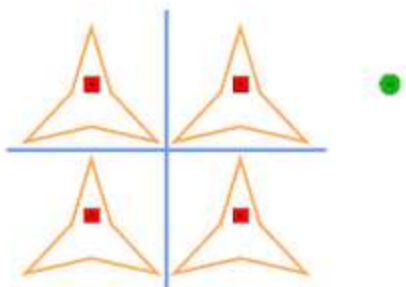


This is especially useful when you use bitmap images with transparencies.

Rectangular array

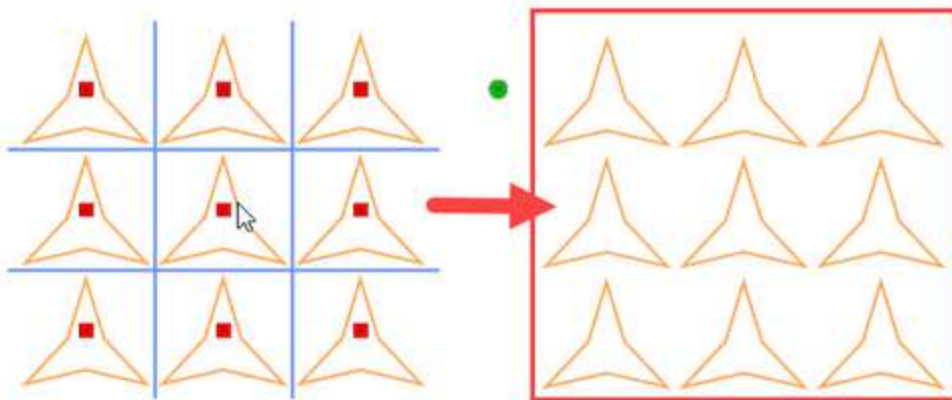
Lets see how you can apply "Rectangular" array . The usage is simple, first you need to select one or more objects, the array tools are non functional until you select something. Then you need to start the "Rectangular" array by clicking on its icon on "Tools" bar. If the "Rectangle" icon is not visible, place the mouse cursor on top of the "Arrays" section and from appearing menu click on the "Rectangular" array icon. Immediately you see repetitions of the selected objects placed in a rectangular way and on "Tools options" bar you can see all the customization options of the rectangular array.

Horizontal copies: Horizontal spacing: Preset:
Vertical copies: Vertical spacing: ☒ Clone objects

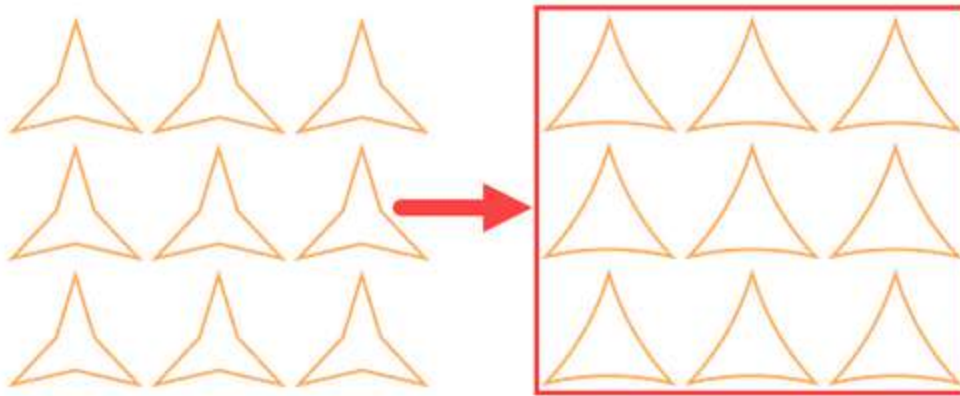


First you need to select the number of copies, Horizontal and Vertical and then you can adjust the spacing between them. When you are happy with the array press apply to finalize the array. At any point if you wish to change the initial selection of object you can press "Select new" and make a new selection.

Horizontal copies: Horizontal spacing: Preset:
Vertical copies: Vertical spacing: ☒ Clone objects

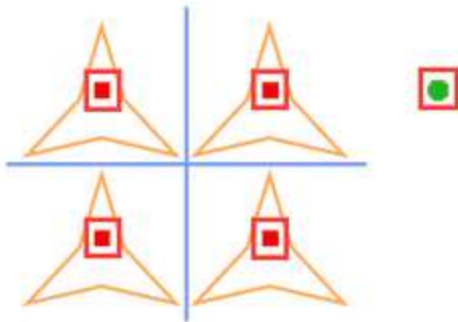


At this point we must mention about "Clone objects" option. You can enable - disable this option before applying the array. If this option is enabled, the copies of the original object are marked as clones. This means that you can reshape them all together by simply reshaping one of them. This option can save us a lot of time and it is also a tool that can produce unique embroidery designs. Any shape transformation you make, on any of the cloned copies, is applied to all of them immediately.



Visual control handles

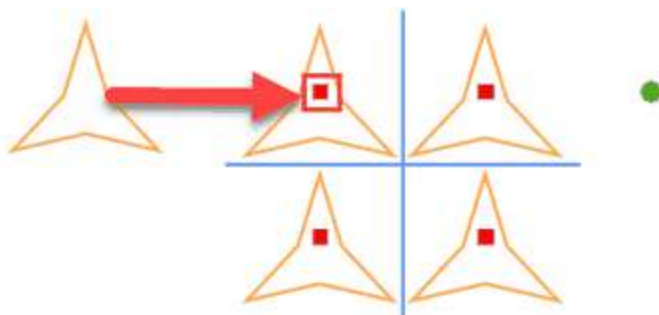
You can also adjust array options visually, using the highlighted handles, that are on top of the copies.



Move array

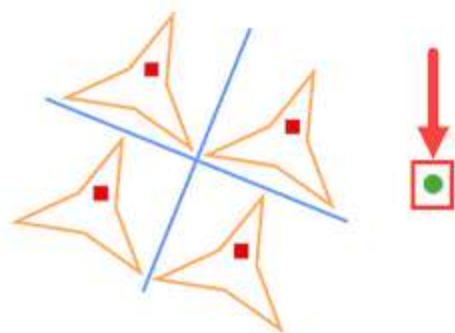
Using the handle on top of the initial object to adjust the location of the whole array.

The first upper left copy is actually the initial object. The control handle that is on top of it can be used to move the whole array to another place. Only the part that is visible on the preview will remain after we apply the operation. As you can see on the moved part the initial part that has no control on top of it is not part of the array anymore.



Rotate array

You can use this handle that is outside of the array grid in order to rotate the whole array.

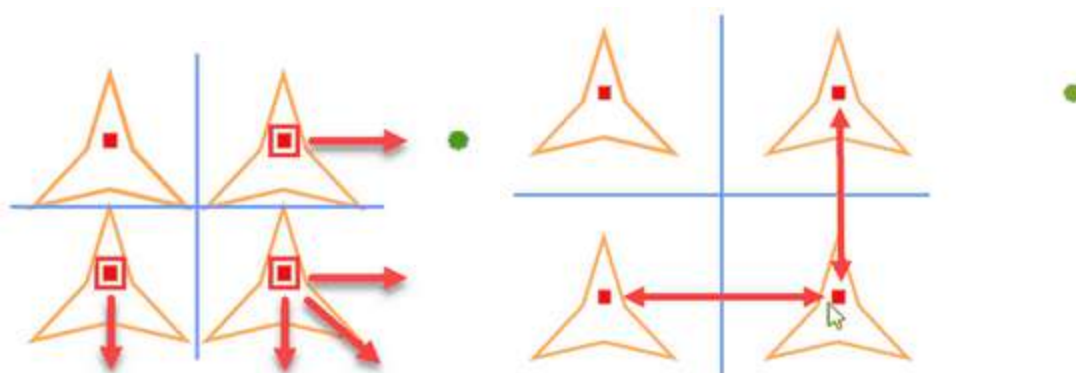


Adjust horizontal - vertical spacing

Using any of the horizontal or vertical handles you can adjust horizontal or vertical spacing.

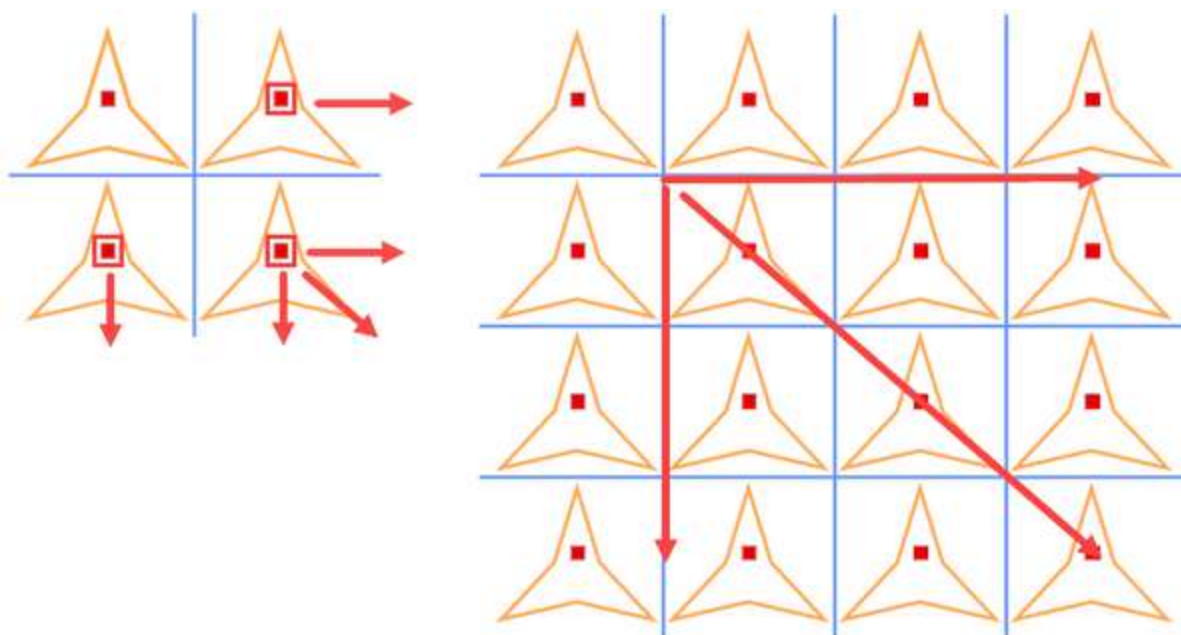
Notice using any of the handles that are not on the first row or column you can adjust both horizontal and vertical spacing at once.

If you hold Ctrl key while changing horizontal and vertical distance, the horizontal and vertical distance is kept the same.



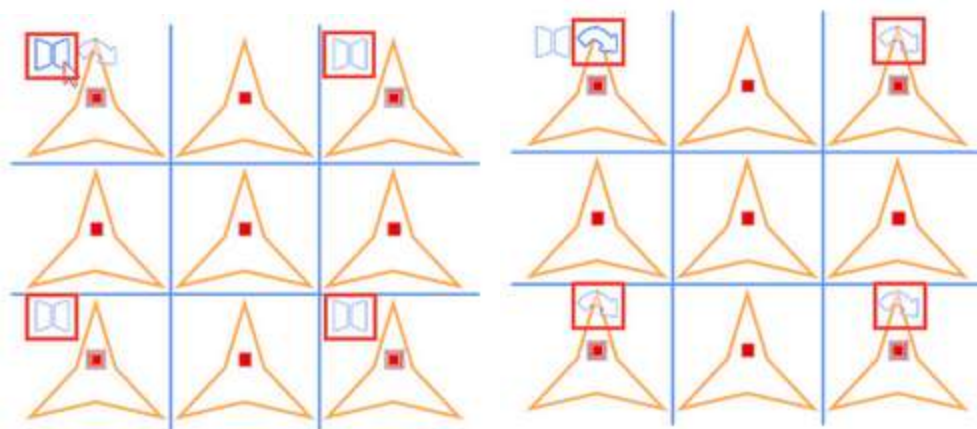
Add remove rows - columns

You can easily change number of Horizontal and Vertical lines. Hold Shift key and then click and drag from any control handle to any direction you like. Drag to the right and you can see columns added. Drag to the left and they are removed. Drag to the bottom to add more lines and Diagonally to add Rows and Columns at the same time. The distance between the copies remains the same. Take this in consideration while dragging; you have to drag for a distance such as the distance between the copies, in order to create another row or Column.



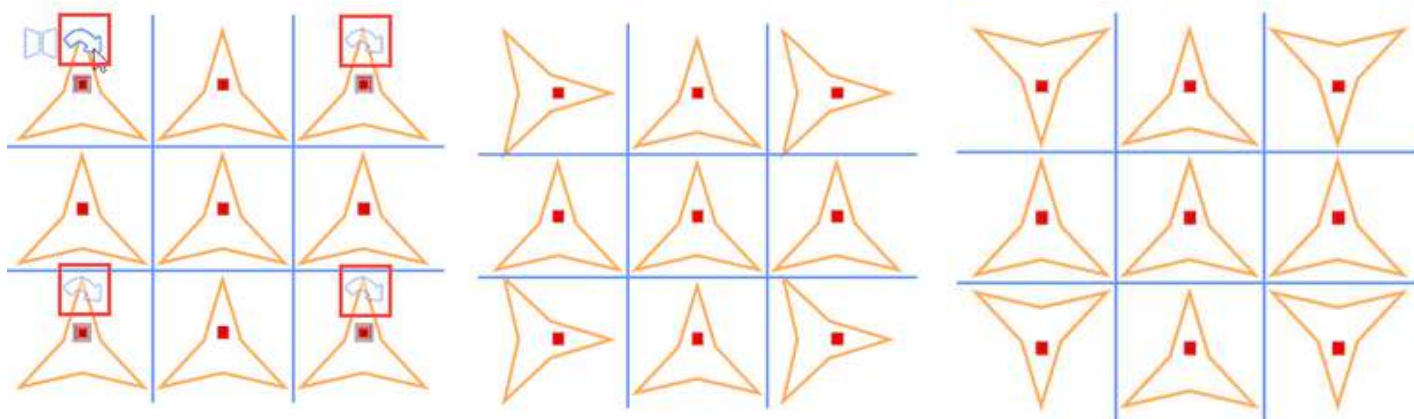
Change the orientation of copies and create mirrored objects

A very nice way to create unique patterns in your designs is by using different orientation or use mirrored copies in arrays. If you place your mouse over any of the control handles these 2 handles appear . These handles appear highlighted not only on the current clone but also on every 2 clones to any dimension (Horizontal-Vertical). It is like a 2x2 table pattern, the clone after the next of the clone horizontally and vertically is affected. If you press the Rotate handle then



Rotate copies

The first handle is a rotate handle . Change the orientation of the clones with 90 degrees step. With a simple left click you rotate the clone 90 degrees. Click once more to rotate again.



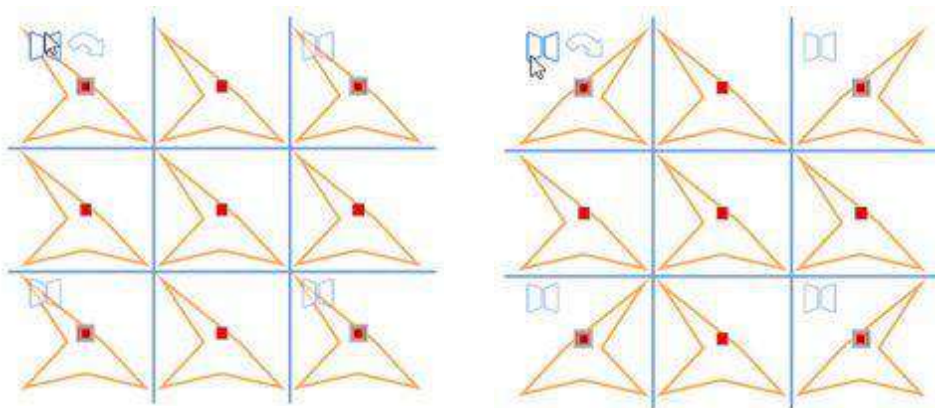
Place your mouse over any of the control handles. You can see all the affected copies with a highlighted handle over them.
array

Click once on the rotate handle and the copies are rotated 90 degrees.

Click once more and they are rotated again 90 degrees.

Mirror copies

Next to the rotate handle there is a mirror handle , place your mouse over it. On this copy and on all other affected copies the same handle appears highlighted. Click once to Mirror all these copies.



Place the mouse over any of the control handles, all affected copies are highlight too.

Left click once and all affected copies are mirrored.

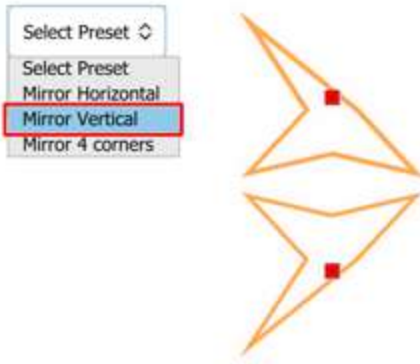
Select preset

Apply any of the mirroring presets on the array. The mirroring options you have are the following:

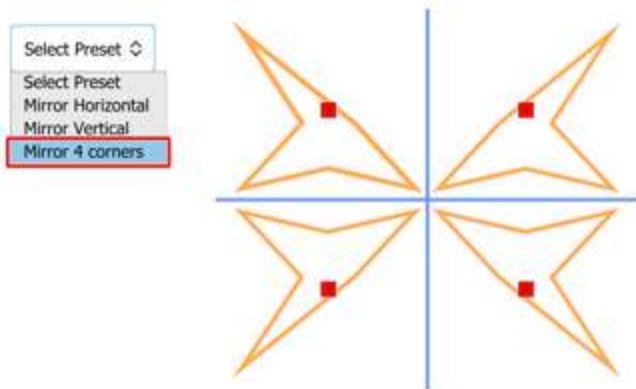
- Mirror horizontal: This option mirrors each subsequent array object in the same row horizontally.



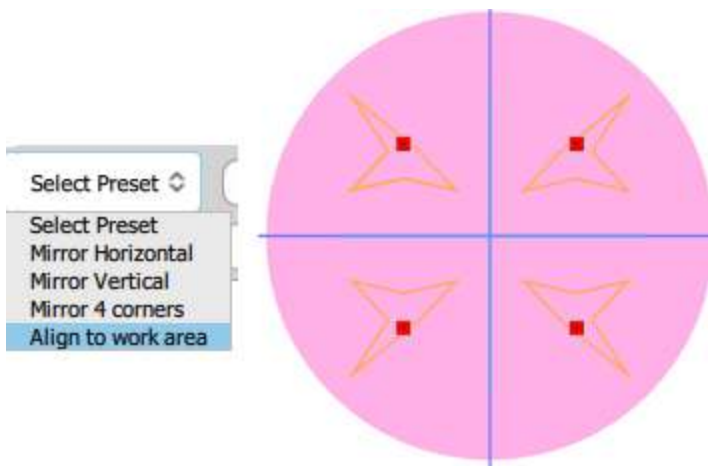
- Mirror Vertically: This option mirrors each subsequent array object in the same column vertically.



- Mirror 4 corners: This option creates an array of four mirrored objects vertically or horizontally like the four corners of a rectangle. This pattern can be repeated as many times is needed.

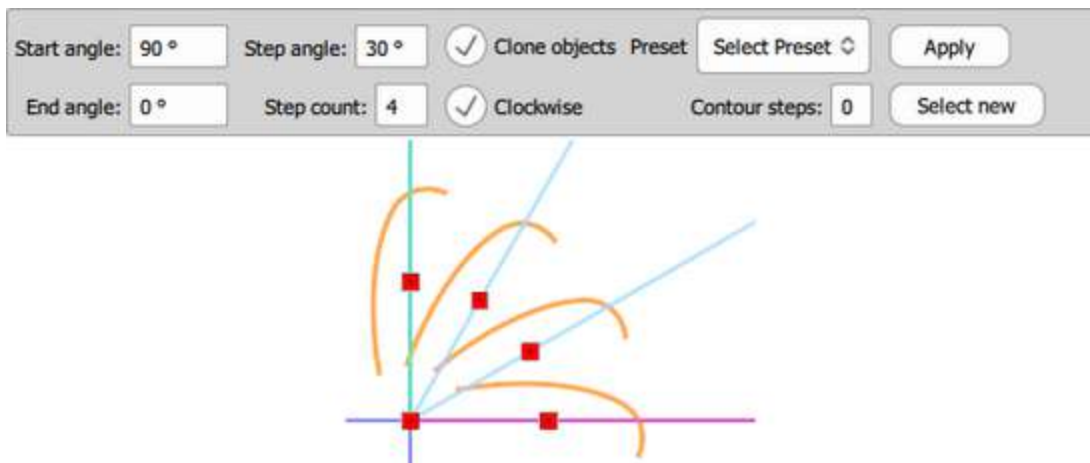


In case that you have any work area applied, you have an extra preset on the list, "Align to work area". This preset in reality makes a mirror 4 corners preset and creates four mirrored objects aligned to the work area center.

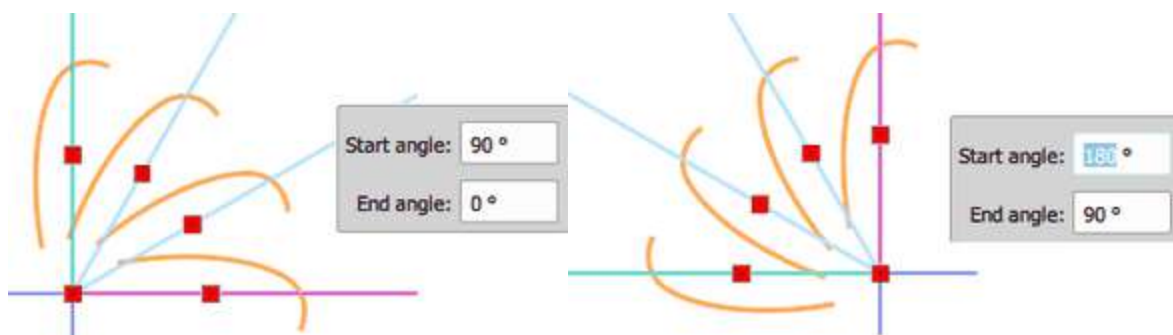


Circular array

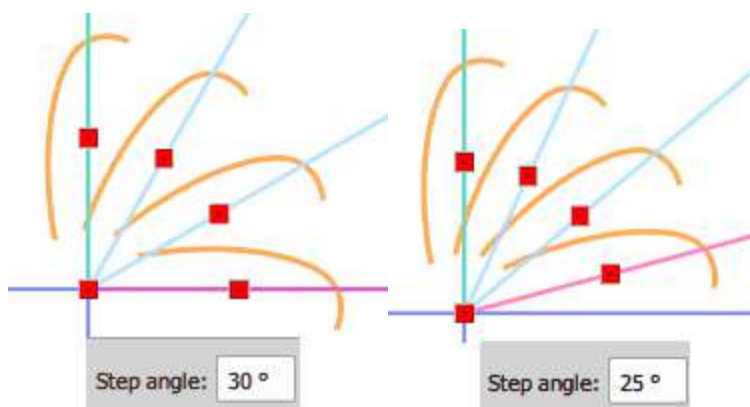
Lets see how you can apply "Circular array" . The usage is simple, first you need to select one or more objects, the array tools are non functional until you select something. Then you need to start the "Circular array" by clicking on its icon on "Tools" bar. If the Circular icon  is not visible, place the mouse cursor on top of the "Arrays" section and from appearing menu click on the "Circular array"  icon. Immediately you see repetitions of the selected objects placed on a circle -arc and on "Tools options" bar you can see all the customization options of the circular array. A virtual circle is created and the center of the circle is automatically placed on the center of the axis. Later in this section we will present how to change the virtual center and the size of the circle.



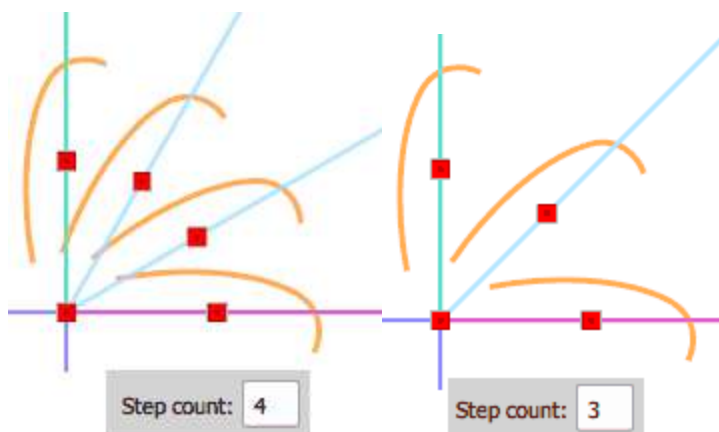
First you need to select the "Start - End" angle. With this option you can specify where the copies will be placed on the arc/circle. It is like selecting a part or whole circle to be filled with copies of the initial object. When setting the "Start angle", the "Step angle" and "Step count" remain as is and only the position of the arc on the circle changes. When changing the "End angle" the arc size changes, the step count is kept same, but the step angle changes so that the copies fit into the arc.



The next option that you can adjust is the "Step angle", in reality using this field you specify the angle step (degrees) that each copy of the circular array will be placed on. For example if you type 150 degrees, every copy of the circular array will be placed on the arc with 150 degrees between them and then end of the arc will change so that the same number of copies fit into the arc.



With "Step count" option you can specify the number of copies that you want to be placed on the circular array, between the specified start-end angles. For example if you set Step count to 3 copies instead of 4, the array will place 3 copies into the arc simply by adjusting the Step angle so that the copies fit into the arc.



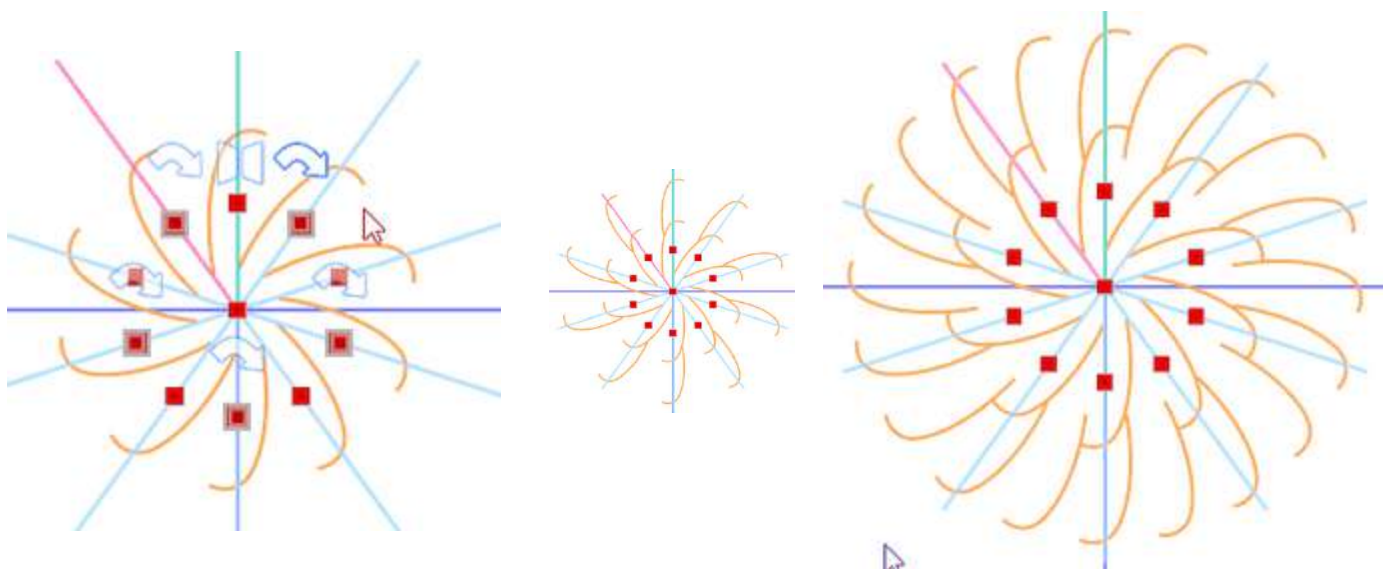
When "Clockwise" option is checked, (this is the default option) then the objects/designs will be placed on the circular array with clockwise order and vice versa if it is not.

The "Clone objects" can be enabled - disabled before applying the array. When this option is enabled, the copies of the original object are marked as clones. This means that you can reshape them all together by simply reshaping one of them. This option can save us a lot of time and it is also

a tool that can produce unique embroidery designs. Any shape transformation you make, on any of the cloned copies, is applied to all of them immediately.



Finally using "Contour steps" you can add contour lines on the array. Contour lines are evenly spaced concentric lines on the outside border of a circular array. Type the number of the contour lines that you wish to add. In this way you can repeat the circular array. When contour steps are added, the property "Equal steps" appears and it is by default enabled. When "equal steps" is enabled more copies are added on the contour line, so that all the lines have the same look. If you disable this option then the same number of copies is added in each contour line, but some gaps appear on the contour line.



Circular array

Added one
contour step

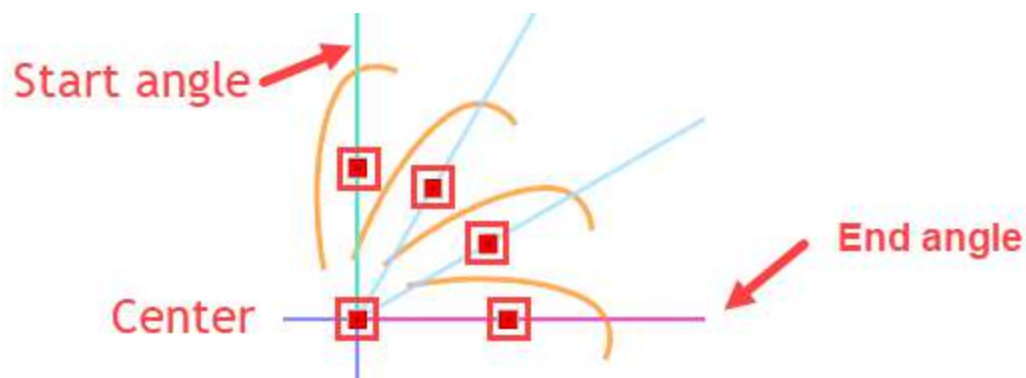
Enabled equal steps

At any point when you are satisfied by the result you can press "Apply" to finalize the array, or if you wish to change the base selection you can press "Select new" and you can make a new selection.

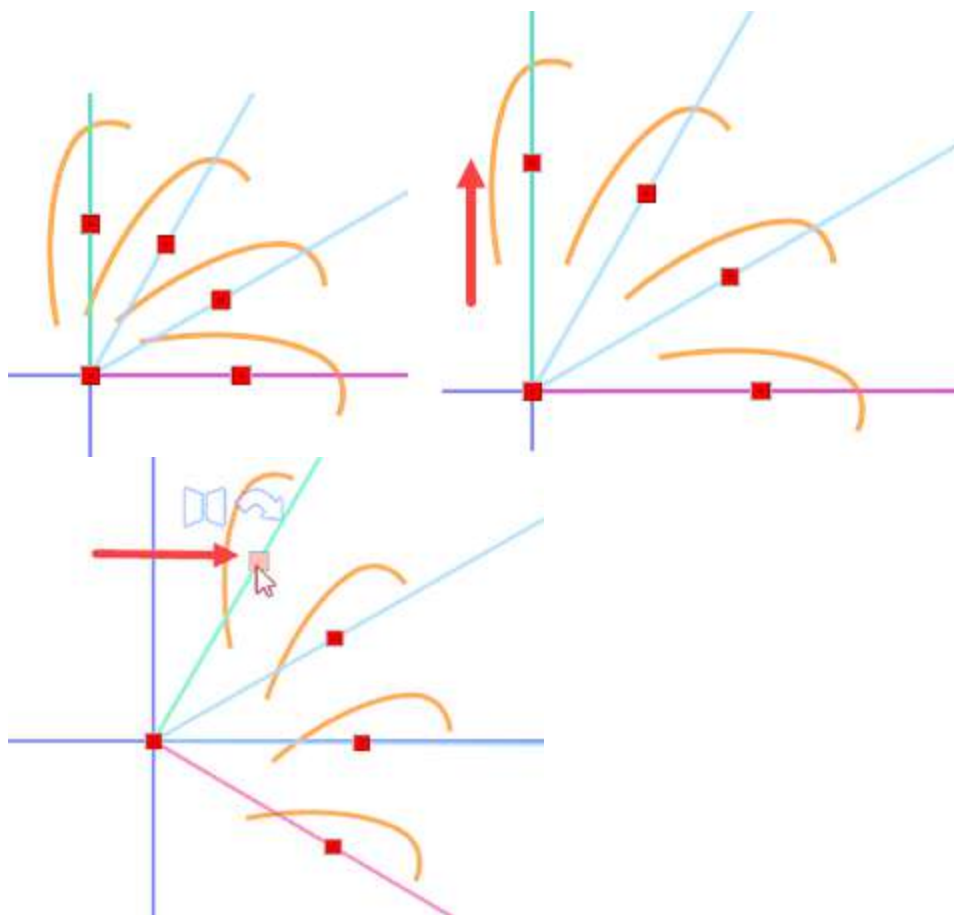
Adjust circular array using the visual control handles

Once you start "Circular array" , you are in a preview mode. While in preview mode there are various control handles that can be used to customize the array. You can adjust the array only before it is applied. While in Preview mode you can see that a copy is placed on the "Start angle" and one on the "End Angle",

the copy on the start angle has a green line, while the copy on the end angle has a red line. All copies between Start and End angle have blue guideline.



Using the control handle that is on top of the initial object which has a green line or any of the internal ones, that are on blue lines, you can perform various customizations. First of all if you move any of these handles away from the array center you can increase the distance from the center or decrease if you move towards the center. Using these nodes, you can also move the position of the arc. While moving the arc the copies keep the same rotation according to the horizontal - vertical axis. If you look on "Tools options" pane then you will see the new start and end angle according to the movement. The item that has a magenta outline is the initial object. It is not part of the array and when we apply the array it will be discarded.



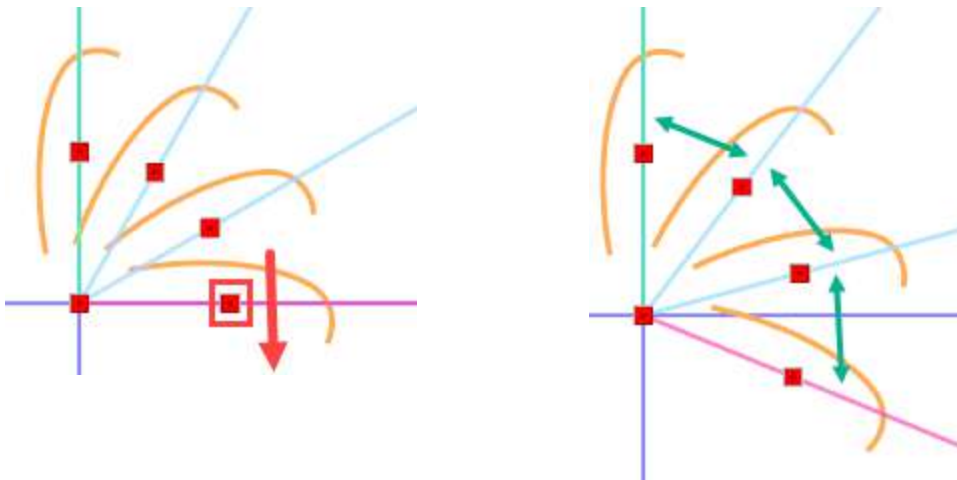
When using the first control handle or any of the internal ones, you can enhance the adjustments using Ctrl, Shift or Alt keys:

- if you hold "Ctrl" key while moving the any node, the movement of the array snaps on every 15 degrees.

- If you hold "Shift" key, while moving the first node the arc doesn't change and you can only change the distance from the array center.
- if you hold "Alt" key the distance from the array center remains unchanged and only the position of the arc is affected.

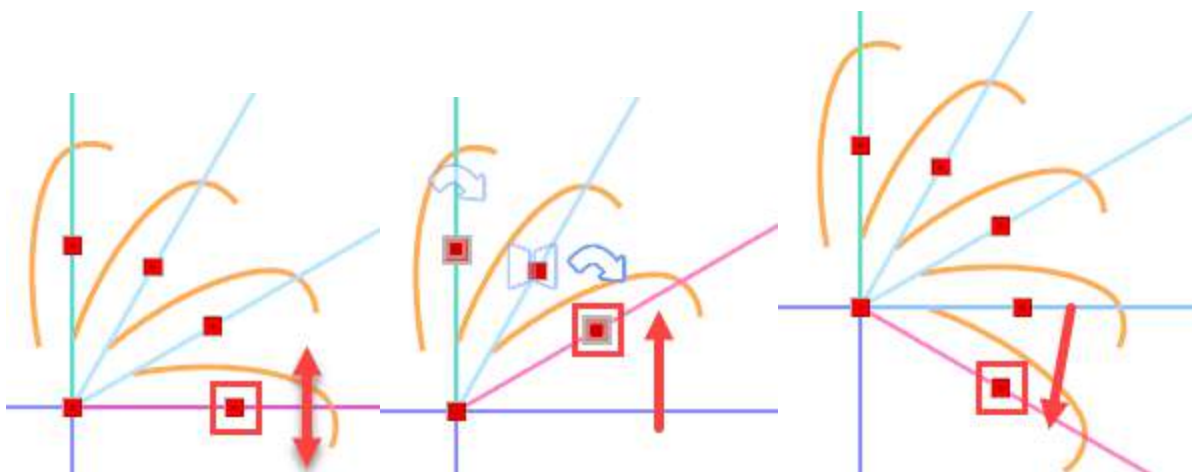
Change distance between copies (Step Angle)

When moving the first node, or any of the internal nodes, the distance between the copies is left unchanged (Step angle). If you want to change the distance between the copies then you need to move the last handle. When you move the last node the distance between the copies changes and the "end angle" changes accordingly, so that the same number of copies fits, with the new distance between the copies. So if you increase the distance the arc grows so that the same number of copies fits into the new arc. If you reduce the distance the arc will shrink too.



When using the last control handle you can enhance the adjustments using Ctrl, Shift or Alt keys.

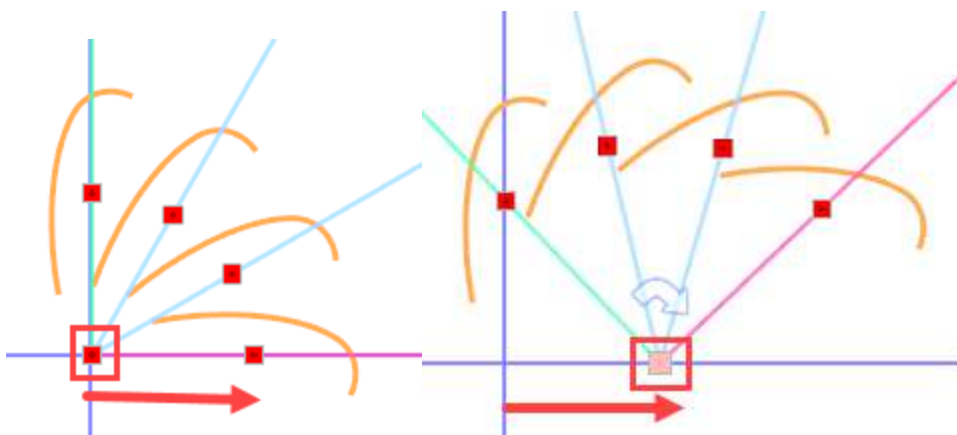
- If we Hold Ctrl key while adjusting the distance between the copies, the distance snaps every 15 degrees. This is very assisting in having more accurate angle changing.
- If you hold Alt key, you can change the distance between the copies, keeping the distance from the center the same.
- if you hold Shift key you can increase or decrease the number of copies, keeping the distance between them the same. Select the last control handle, hold Shift key and move to the direction you like. Move your mouse to the outside of the arc and you new copies are created on the circle to-towards the direction you are moving. If you move to the inner of the array, copies are re-moved. The distance between them does not change, it is the same as it was at the start of the operation. In reality moving the last control handle and holding Shift key you define with the mouse the arc that the array will be placed on. The start angle stays the same and moving your mouse you define the end angle. You must take in consideration that you must move the mouse clockwise or not according to what has already been selected for the array on tool options toolbar.



Move array - change center of rotation

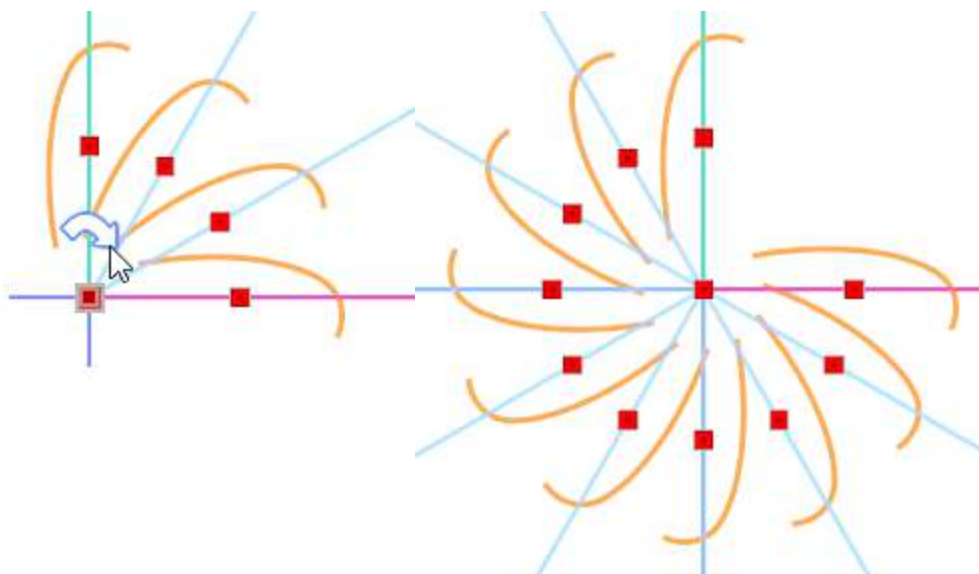
The center of the array is by default on the center of the axis (0,0). In some cases you may need to move the array center to have a better preview of how the array will fit on your design. You can move the array as is, simply by moving the array center. The array is kept as is and it only moved to a new location.

You can also move the rotation center of the array. To do so hold "Shift" key while moving the array center and the position of the initial object and the size of the arc will remain the same, but the rotation of the copies and the placement of the arc, changes according to the new center. While moving the rotation center you can also move it closer to the initial object.



Change the rotation

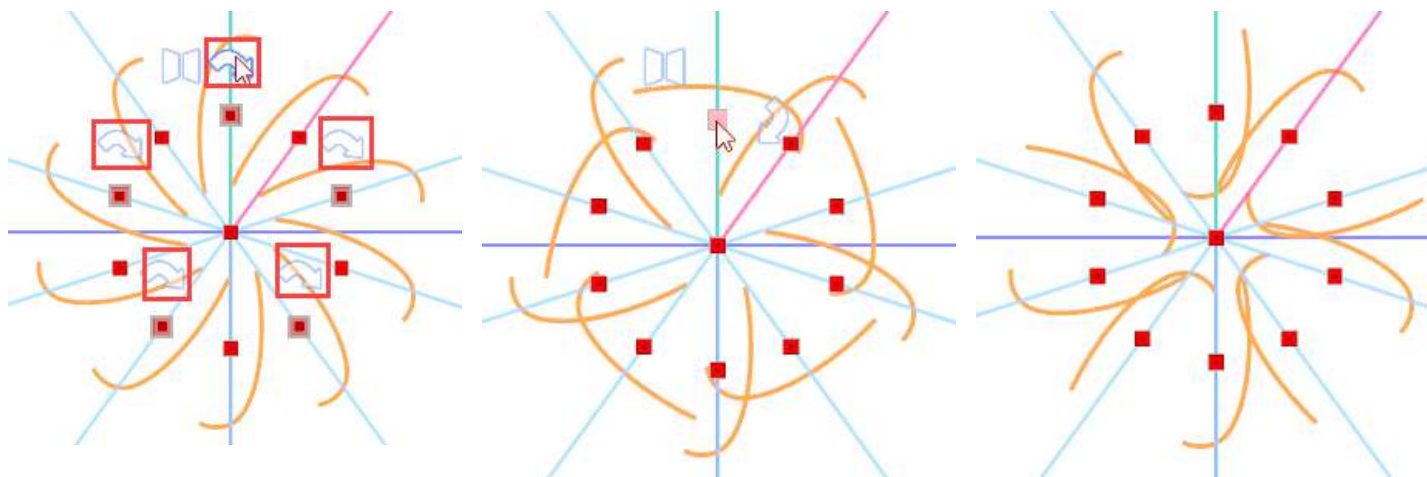
The direction that the array is created is usually clockwise. You can reverse this direction easily by leaving unchecked the Clockwise option on tool options toolbar. Another way to change the direction is by clicking on the round arrow that appears when placing the mouse over the rotation center. Click once and the direction of the array becomes anti-clockwise. Click once more and it is reversed once more. When the array is applied anti-clockwise then the arc is different so you do not have the same number of copies.



Rotate - Mirror copies

A very nice way to create unique patterns is using different orientation or use mirrored copies in arrays. If you place your mouse over any of the control handles these 2 handles appear . These handles appear highlighted not only on the current clone but also on every 2 clones, It is like a x2 pattern, and on every 2 clones the one is affected.

The first handle is a rotate handle . Change the orientation of the clones with 90o degrees step. With a simple left click you rotate the clone 90 degrees. Click once more to rotate again.

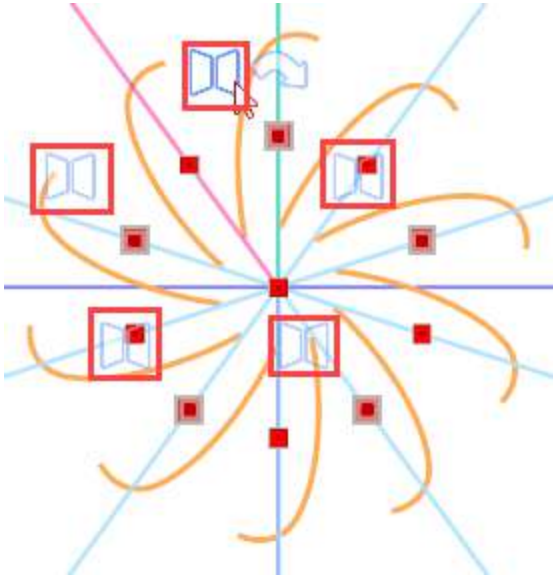


Place your mouse over any of the control handles; you can see all the affected clones with a highlighted handle over them.

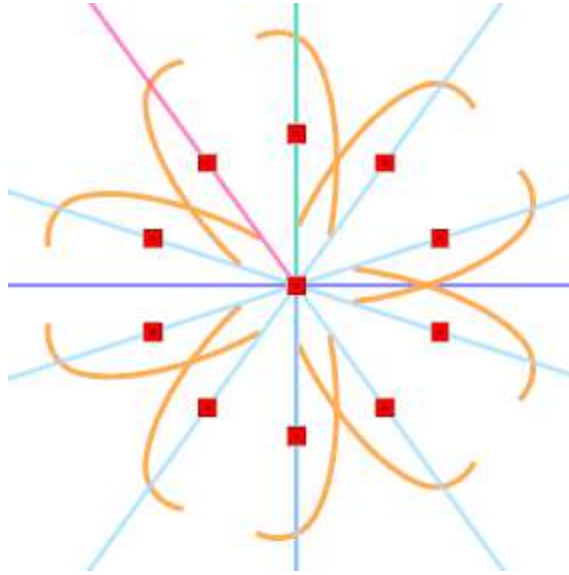
Click once on the rotate handle and the clones are rotated 90 degrees

Click again and they are rotated again 90 degrees

Next to the rotate handle there is a mirror handle , place your mouse over it. On this copy and on all other affected clones the same handle appears highlighted. Click once to Mirror all these clones.

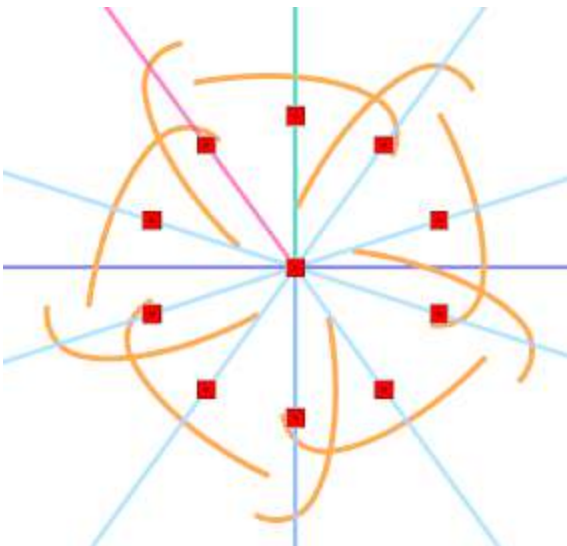


Place the mouse over any of the control handles, all the affected copies are highlighted too.

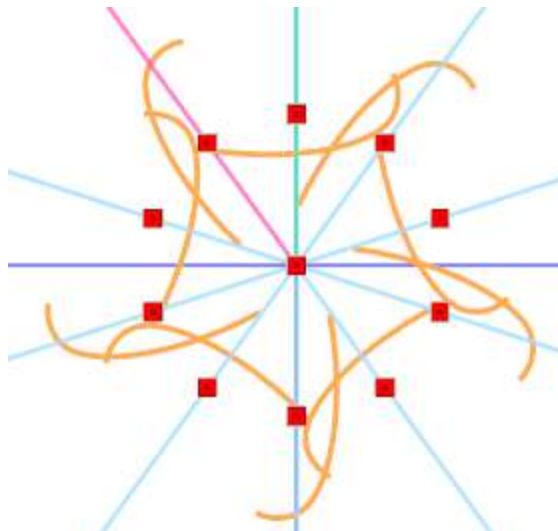


Left click once and all affected copies have been mirrored.

You can mirror any copy in any state. Rotate any copy and then apply mirror, now it is mirrored vertically. The mirror is applied based on the horizontal center of the selected object.



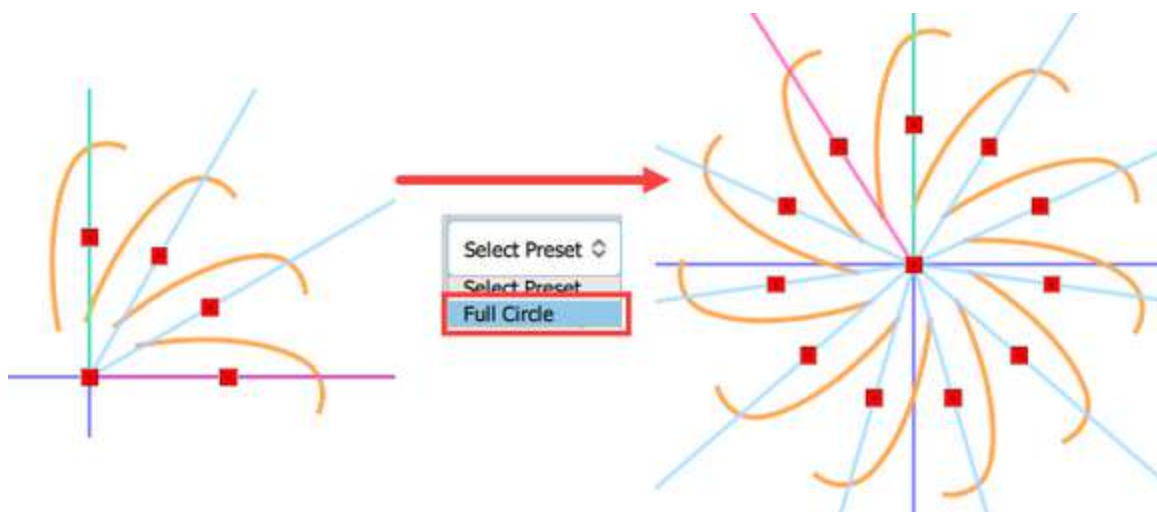
These 2 copies have been rotated.



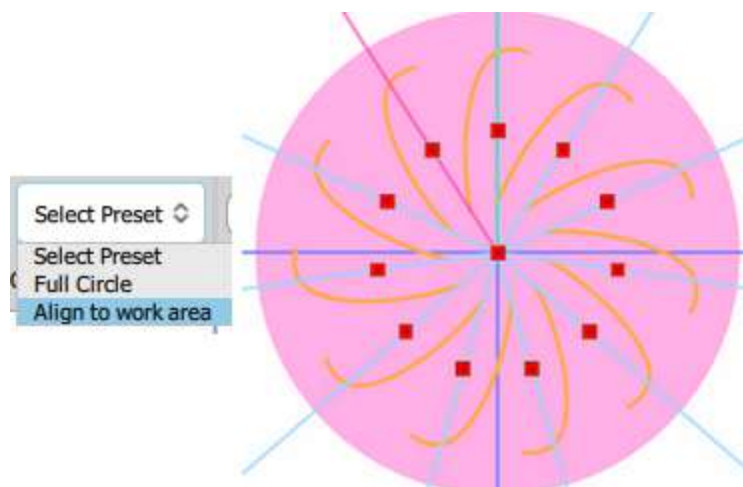
The rotated version is mirrored

Select Preset

From the Preset menu you can select the Full circle preset. This preset will use the selected object(s) to create a circle with an array of them. This option is very useful because it calculates the distance between the objects automatically.



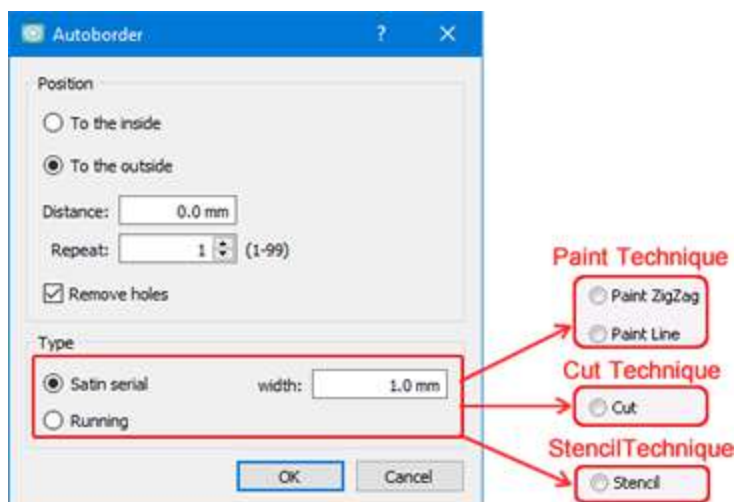
In case that you have any work area applied, you have an extra preset in the list, "Align to work area". This preset in reality makes a full circle array with the selected object, this time aligned to the center of the work area center.



Autoborder

The "autoborder" tool is a very useful tool for creating automatic borders. With this tool you can add a "Running", "Satin serial", "Paint ZigZag", "Paint Line", "Cut" and "Stencil" border to one or more objects. The respective "Techniques" should be enabled so that paint, cut and stencil types of "autoborder" are available. In order to use the "autoborder" tool you must first select one or more objects that you want to apply an autoborder. Then you can activate "autoborder" function in 3 ways, first by pressing on "Autoborder" icon

 that is located on standard toolbar, second using the "Autoborder" option of right click menu and finally using the "Autoborder" option of Tools menu. The dialog of the following figure will appear.

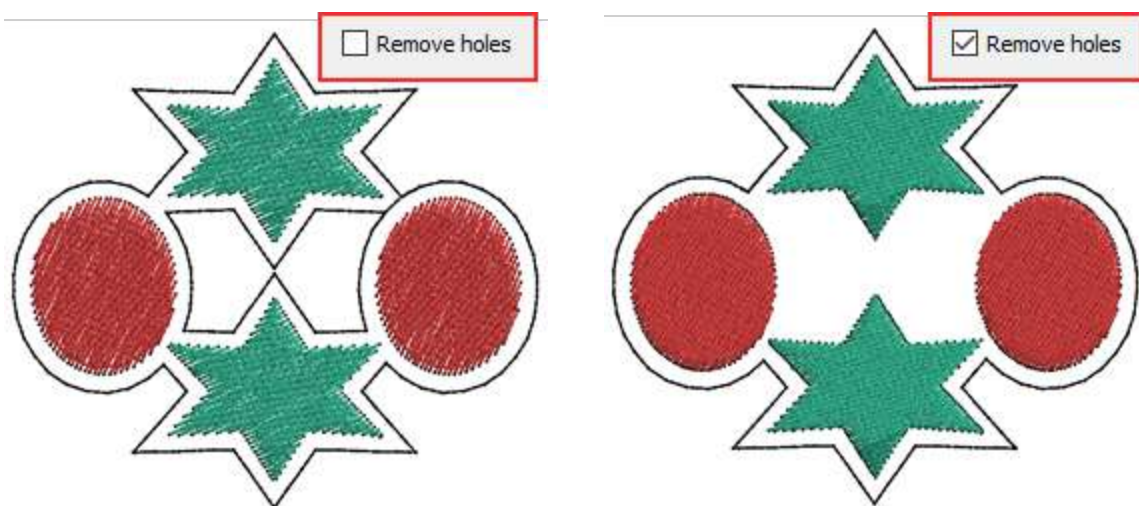


In "autoborder" dialog box you can define the "Position", the "Distance", the "number of repeats" and the "Type" of the autoborder. The position of the autoborder may be "To the inside" and "To the outside". For both options, if you do not enter a specific value in the "Distance" field, the autoborder will be placed on the same position. The value that will be entered in the Distance field is in millimeters, defines the distance between the default position of the border and the new position, inside or outside the object, of the border. Using "Repeats" field you can define a number of repetitions for the auto border. Any distance that you define in distance field will also be the distance between the repetition of the auto border.



Remove holes option is useful when you want to create an autoborder of many design objects. If this option is disabled, the smaller objects of the selection, tend to create autoborder around them and this autoborder is like a hole into the autoborder that is created around the whole selection. Enable this option in case that you do not like to have holes and create only an autoborder around a multiple object selection.

Finally you need to select the type of the Auto border. You can select between Running, Satin serial, Paint ZigZag, Paint Line, Cut and Stencil types. The respective Techniques should be enabled in order the options to appear. For Satin serial and Paint ZigZag you can also adjust the width you want the border to have.



Remove holes disabled

Remove holes enabled

Edit objects

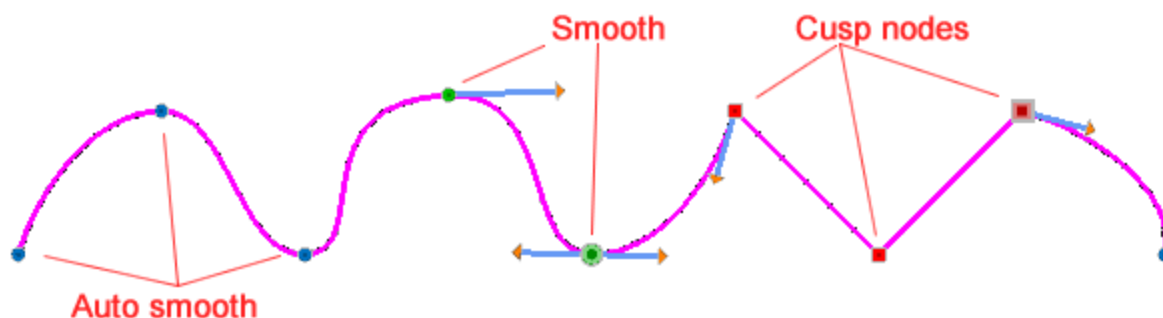
In the previous chapters we presented various tools and techniques, that are available in order to create a design or import artwork from many sources. In this chapter we will present most of the tools that can be used in order to edit the elements of your design. You can easily edit the shape of any design element, you can re-position, transform , align, group and many more options that will be described in this chapter.

Edit nodes

In general, anything that you create using the available design tools is a type of artwork made of lines-curves. You can directly edit the curves - lines and change the artwork of any object using "Edit nodes" mode. You

can start "Edit nodes" modes either by pressing its icon  on Tools bar or using F10 key. When entering this mode, the outlines of the selected object are highlighted and you can see all existing nodes and segments in a clearer way. The round and square dots that appear on the outline of the object are called nodes and they are the connecting points between the segments. If you place the mouse cursor on top of any node or segment, you can click and drag to change the shape of the outline. Even if you did not create the design you wanted with your first try, you can adjust the shape you created later by changing the position of the nodes and their segments. There are three kinds of nodes:

- "Auto smooth" nodes, they are indicated by a round dark blue icon. These nodes are automatically generated by the software, they have no control handles and the software uses intelligent mechanisms so that the connected curves are automatically adjusted when you move an auto smooth node.
- Smooth nodes: They are indicated by a green round icon. Usually smooth nodes are added to the design automatically at the middle of a curve or on the higher point of a curve. The lines that are passing through a smooth the node take on the shape of a curve, producing smooth transitions between the segments. The Smooth nodes have control handles that are always directly opposite one another and they can be used to adjust the connected curves. If you move any of the arrows you adjust both segments.
- Cusp nodes: They are indicated by a red square icon. Cusp nodes let you create sharp transitions, such as corners or sharp angles. When the segments connected to the cusp node are lines, there are no control handles. But if you slightly change any of the lines, it will become curved and handle arrows will appear on this side. With cusp nodes you can change one segment of the node without affecting the other. This is useful when you want to make precise adjustments on one part of the design without affecting another.



During designing the nodes that you are adding can be any of the node types and it depends on the tool you are using and the design you are creating. You can easily convert a node from one type to another simply by right clicking on the node and then using the respective option from the appearing menu (Auto smooth

node, Smooth node, Cusp node). Each type of nodes has different handles but the general idea is that if you click and drag at any point of the outline you can make adjustments to the object's shape and while changing the position of any node you can fine-tune the shape of the object.

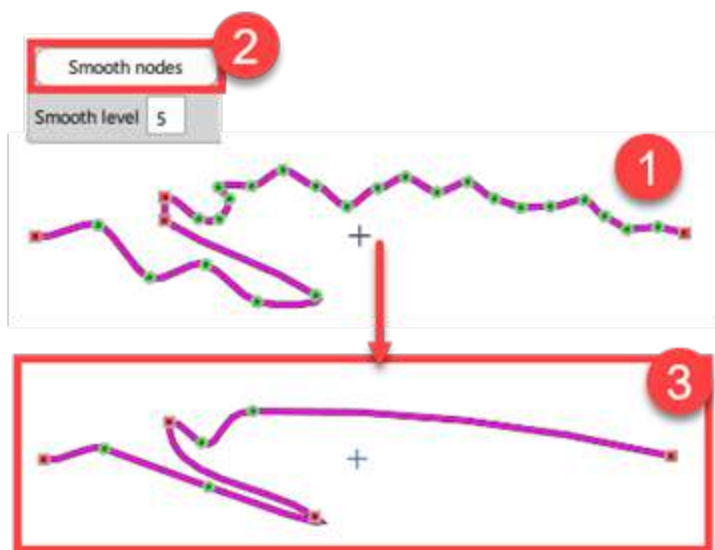


Most shape objects that you draw (rectangles, ellipses etc.) together with the Text - Monogram objects, have special type of nodes when you edit them in Edit nodes mode. To make such an object a curve object you have to select it, right click on it and from the right click menu select the "Convert to curves" option or press the Ctrl+Q keys together. The object will be converted to a curve object that you can edit its nodes and segments as in any normal object.

Smooth nodes

If you import an image and Auto-digitize / Trace to outlines the software may create too many nodes upon import due to the complexity of the image. Smooth nodes option come to help and remove unneeded nodes.

So start "Edit nodes" mode and select a series of nodes. Type a smooth level value, this numeric field take values from 1 to 10. When the value is one, actually minor node removal occurs and while the value increases more smoothing out and node removal occurs. With this way you can increase the quality of designs created after trace (Auto-digitize). Since cusp nodes are not be removed from this automatic tool, we recommend to convert the cusp nodes to smooth nodes and then apply the tool. notice if you use high smooth level the initial shape may change a lot, so smooth out by increasing the value and repeating until you are satisfied by the result.



Select Node(s)

As already mentioned you can easily edit the shape of any object simply by changing the objects curve or moving objects nodes. You can easily select and manipulate individual or multiple nodes. Selecting multiple nodes lets you shape different parts of an object simultaneously. When you start "Edit nodes" you can see the nodes of any object you select. The easiest way to select a node is to simply click on it, when a node is selected, its sign becomes bigger to indicate that it is selected.

If you want to select more than one node, click and drag the mouse on the screen forming a rectangle. All the nodes contained within this rectangle will be selected.

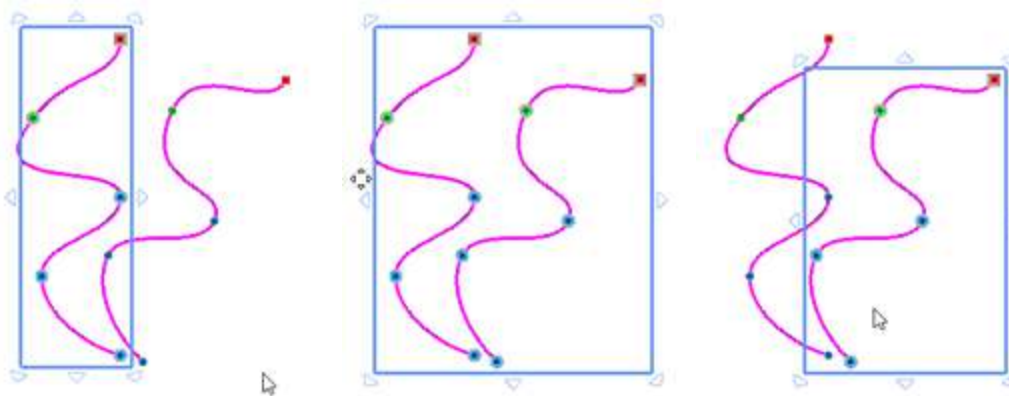
In case you need to select multiple nodes that can't be contained in a rectangle, you can select the nodes one by one holding the "Ctrl" button when you are clicking on the node you want to select. When using "Ctrl" key for node selections, if you click on an already selected node you can inverse the current selection status, selected nodes become unselected and the vice versa.

In case that you want to select all the nodes which are between two nodes, you have to click on the first one and holding the "Shift" key click on the last node that you want to select.

All the selection ways can be used in combination. For example if you use "Shift" key to select a series of nodes, then you use Ctrl to add any additional nodes to the selection.

When a node is selected, control arrows may appear that can be used to adjust the curvature of the connecting segments. Auto smooth nodes do not have control arrows, because the software automatically makes the best fit to the curve. When you have multiple nodes selected these arrows are not available.

You can also make some selections using right click menu. When you right click on any node and you have 3 selection options, Select polyline, select all and inverse selection. Using select polyline, you can select all the nodes of a specific part, for example the object of the following figure, is consisted of 2 parts, right click on any node, use select polyline and all only the nodes of the sub-object will be selected. Using select all, you can select all the nodes of an object. Finally using invert selection we can select all nodes except the ones already selected.



Select polyline

Select all

Invert selection

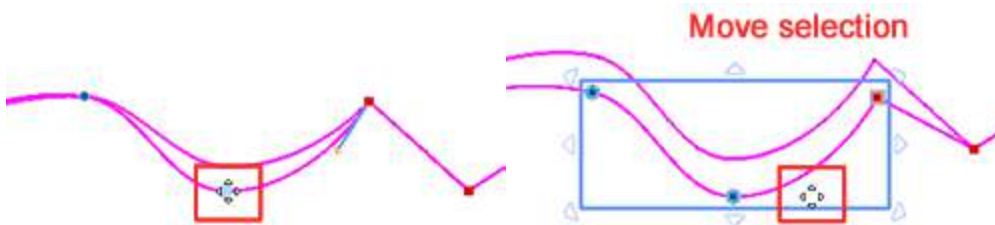
Edit shape

When working with "Edit nodes" mode, our main goal is to edit the shape of an object. This can be achieved in various ways, you can move one or more nodes, you can edit the curve - line and you can also insert an additional node inside a curve that will help you re-shape it more easily.

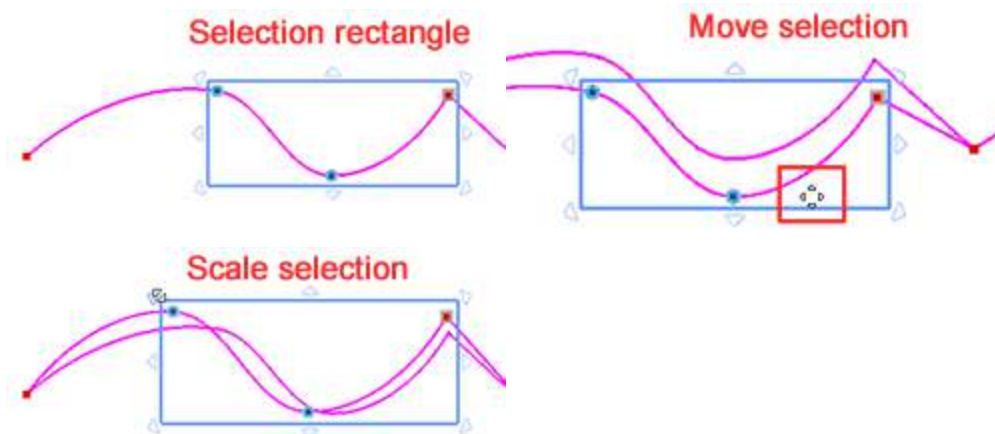
Move nodes

First, you can simply edit the shape of an object by moving one or more nodes. In order to move specific nodes you have to select them first using any of the available methods (Rectangle selection or single click selection). Then you have to click on any node that is included in the selection and drag the mouse to the point you want. The nodes will be moved to position you want them to be. As you can see on the following

figure the connected curves are affected by the movement of the node and the shape of object changes according to the movement of the node.



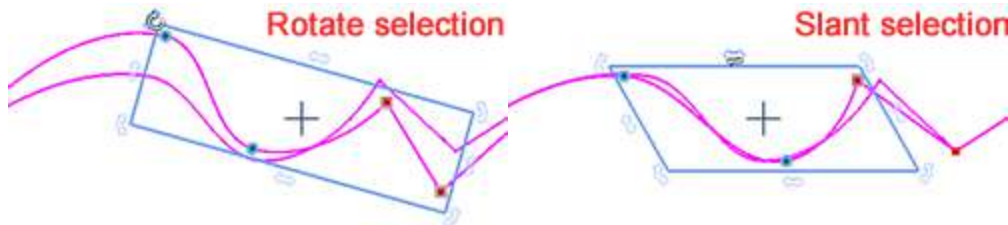
When you select multiple nodes a highlight rectangle appears around the selection revealing the selection and providing control handles. By moving the selected nodes all the segments that are attached to them are also changing. Using the available control handles you can easily perform advanced transformations to the selection of nodes. This can help us in many cases when editing shape nodes. Lets see how this works. by default when you select multiple object on the selection rectangle you can see arrows signs. Place the cursor on top of any of them and by dragging to the direction you like you can scale the selection of the nodes. if you drag to the outside of the selection you can enlarge or if you drag to the inside you can shrink the selection. Using the corner handles you get a proportional scale but if you use the side handles only the selected sided is scaled.



By holding the "Alt" key pressed while moving nodes the cursor will snap to the closest vertical and horizontal lineation of the grid. From that point you can move the nodes to the position you want based on the grid.

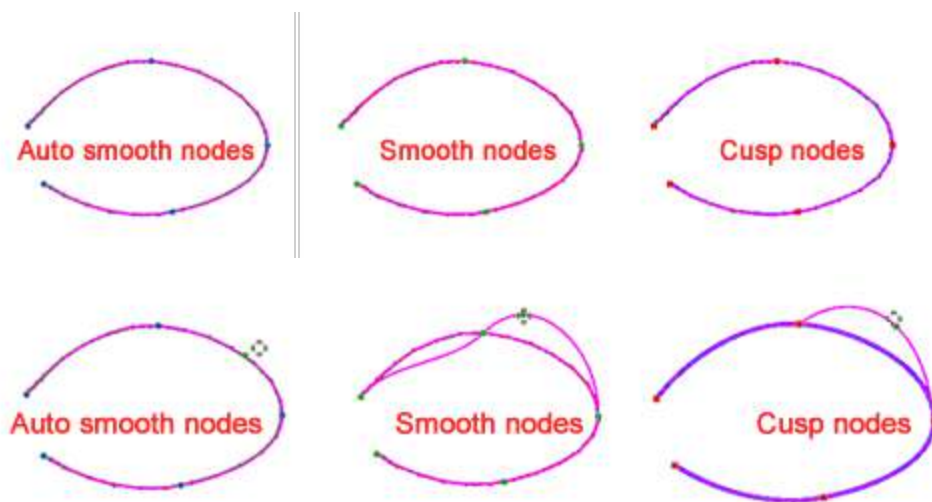
When you have a multinode selection and you see the scale handles, with a single left click inside the selection rectangle, the available handles switch from scale handles into rotate - slant handles. On the corners you have rotate handles and you can click and drag to rotate the selected section. You can rotate to any direction you like. The section is rotated based on the rotation center which is the cross that is usually located into the center of the highlight rectangle. You can move the rotation center in order to make any rotation you like. You can also rotate the section based on the opposite diagonally corner by holding "Shift" key. On the middle of the sides you have slant handles which can be used to skew the selection. if you click and drag this double head arrow you can skew the selection to the directions that the arrows show. All the skewing transformations are made based on the center of the selection, which is the cross that is on the center of the

selection. You can move that cross and skew the selection based on the defined point. If you hold the Shift key pressed, while skewing the skew is performed according to the opposite side.

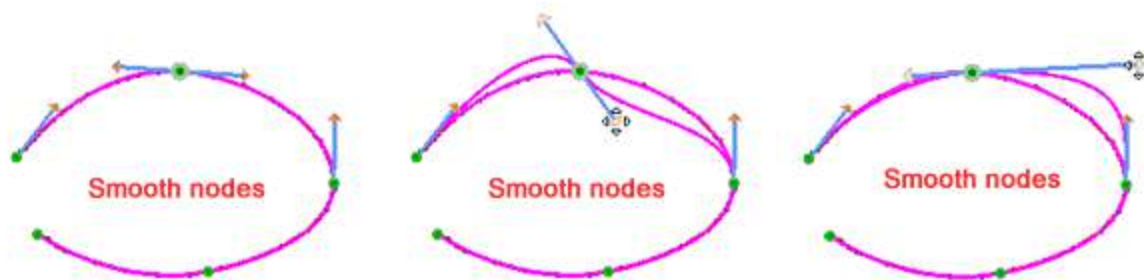


Edit curve

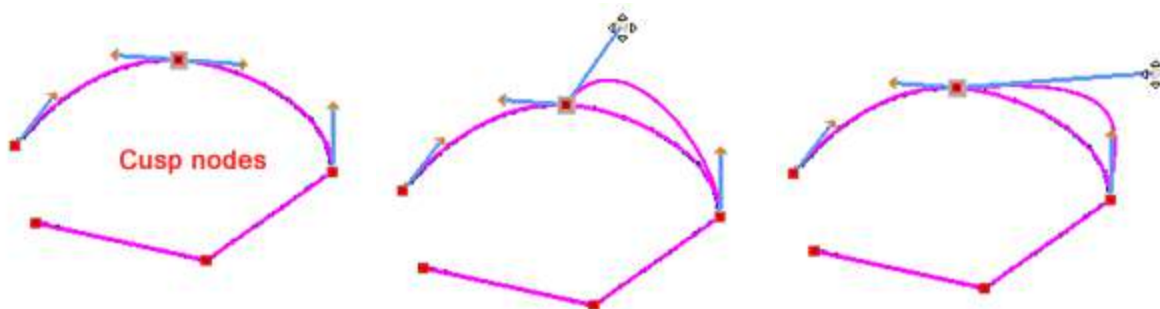
You can also edit the shape of an object by editing any of the curves. If you place the mouse cursor on top of the outline you can see a green node sign appearing, if you click and drag while you are on top of the outline you will see the curve changing. At this point we must mention that the curves that are connected to auto smooth nodes cannot be edited because the software automatically adjusts the curves according to the position of then nodes. For smooth nodes when you change a curve, all the curves that are connected, are also affected. For cusp nodes when you are editing a curve, only the current curve is affected.



You can also edit a curve using the arrow control handles of a node. When you select a smooth - cusp node, control handles appear. For "auto smooth" nodes and "cusp" nodes that are connected to a straight line there are no arrow control handles. Arrow handles appear on the nodes that are connected to curve segments. Using the arrows, that appear on top of smooth nodes you can adjust the connected curves. By changing the direction and the length of the arrow handle, you can make precise coarse adjustments on the curve. For smooth nodes, when you use the arrow handles both curves that are connected to the node will change accordingly.



For cusp nodes that are connected to curve segments you also have arrow handles when you select a node. The basic difference is that when you are using an arrow of a cusp node only the specific side is affected.



Add - delete nodes

While editing the shape of objects you may need to insert an additional nodes on a curve to help you re-shape it more easily. To insert a new node, place the cursor on top of the position on the curve where you wish to insert it, right click and from appearing menu use "Add node" option. If this is not the exact point that you wanted to insert the node, you can click on another point of the curve. when using the "Add node" option a new node is inserted to the position that you right clicked. Another way to add a node is by double clicking on the position you want the node to be added or position the mouse over the point you want the node to be added and press the Num+ button form the keyboard to insert it. The newly inserted node can be edited as any existing node. The new node that is inserted is always a smooth node. If you want to insert a cusp node you have to insert a Smooth node first and by right clicking on the node select the Cusp node option.

You can also automatically add a node between two nodes by selecting the node and pressing the Num + key. A node is added on the middle of the curve segment before the selected node. You can also add automatic nodes to more than segments by selecting multiple nodes. Press the Num+ key and automatic nodes will be added to all curve segments before the selected nodes.



In the same way you may need to remove nodes in order to re-shape an object more easily. If you do not need a node you can delete it. First select the node(s) that you want to delete and then click the Delete key

on your keyboard. You can also right click on the node you want to remove and select the Delete node option from the right click menu.



If you delete one or more nodes of a curve, the shape of the object it might change.

To line - To curve

Sometimes, when you edit the shape of an object, it may be useful to change some curves into straight lines or straight line into curves. If you have a curve and you want to change into a straight line, right click on any point of the curve and from appearing menu use "To line" option. You can also use "To line" option when you right click on a node. In this case you should have in mind that the curve that is starting from this node will be converted into a line. You can apply also the same option to more than one selected nodes. The nodes of the changed curve are converted into Cusp nodes.

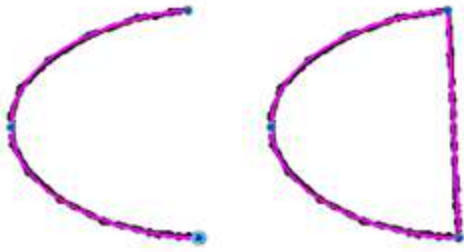


The "To curve option" is the opposite of the "To line" option. When you have a shape that has straight line segments you can change them into curves so that you can make any shape you like. There are two ways to apply the "To curve" option. First you can right clicking directly on the line and from the appearing menu use "To curve option". The line will not change but now you allowed to change the curve. You can also select the node that the line is starting from and in the same way to change into curve and edit. You can apply also the To curve option to multiple nodes, by following the same steps.



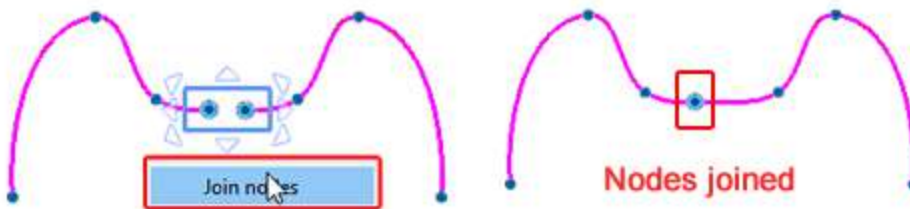
Close outline

In many case when you have shapes with open outline, you may want to connect the last node with the first node. You can only close the outline that belongs to the same curve object. In order to close an open outline you have to select the ending or the starting node, right click and from appearing menu use "Close outline" option. The selected node will be connected to the starting or ending node of the object with a line and make it closed shape. Then the object can be handled as a closed shape. Another way to create a closed shape is to select the ending/starting node of an open shape and move it towards to the starting/ending node. When the ending node will reach the starting node they will be automatically connected and make the object a closed shape.



Join nodes

In many cases you may have created some parts, as separate sections and you may want to join them into one part. To do that you need to connect the nodes of two different curves and make them a single curve. Select the nodes that you wish to join. These nodes should be the first or the last node of each curve, but not necessarily the same type of node (curve or curve break). These nodes should be near each other and the two curves should be in the same section.

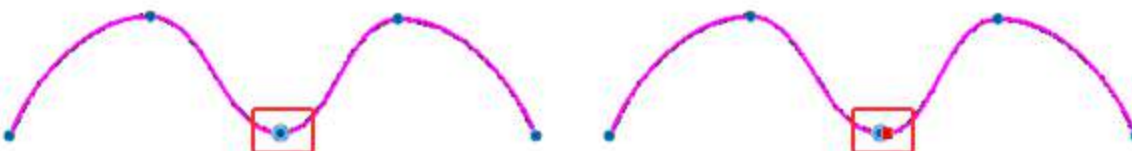


In case you want to connect curves that belong to different object you need to "Combine" them into the same object first. Click on the rectangle selection tool from the Tools toolbar and then select the two curves you want to connect. Right click and from the appearing menu use "Combine" option. The two curves will become one object with two sub sections (the two curves). From now on you can join nodes as described above.

If the joined parts are still an open outline object you can make it a closed object, either by joining the nodes or using the "Close outline" option.

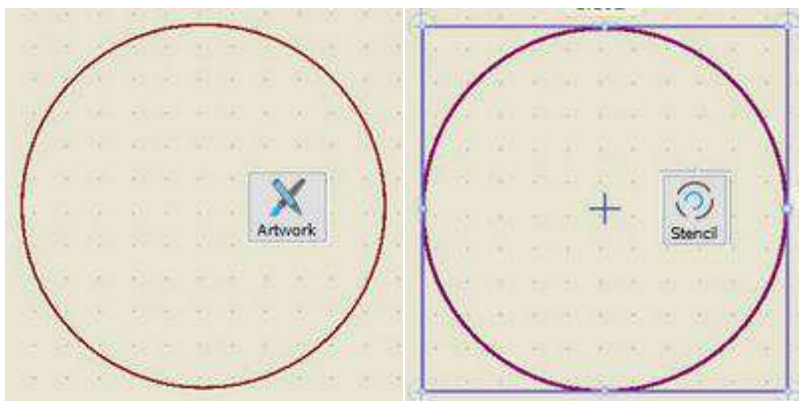
Split outline

There are many cases that you may need to split a curve object into more curves and create sections. While you are in "Edit nodes" mode you need to right click on the node that you wish to create a split and from appearing menu use "Split outline" option. The selected node will become two nodes that belong to the same object but in two different sections. If this function is applied on a closed shape it will become an open shape without fill color. If this function is applied on an open shape like a line art object it will be split in two line art objects. In case that you have applied the Split outline option on a segment of a shape, the shape will be split and two separate nodes will be added. The subsection still belong to the same object. If you wish to separate them and handles them separately then you need to "Break apart" the object into its subsections.

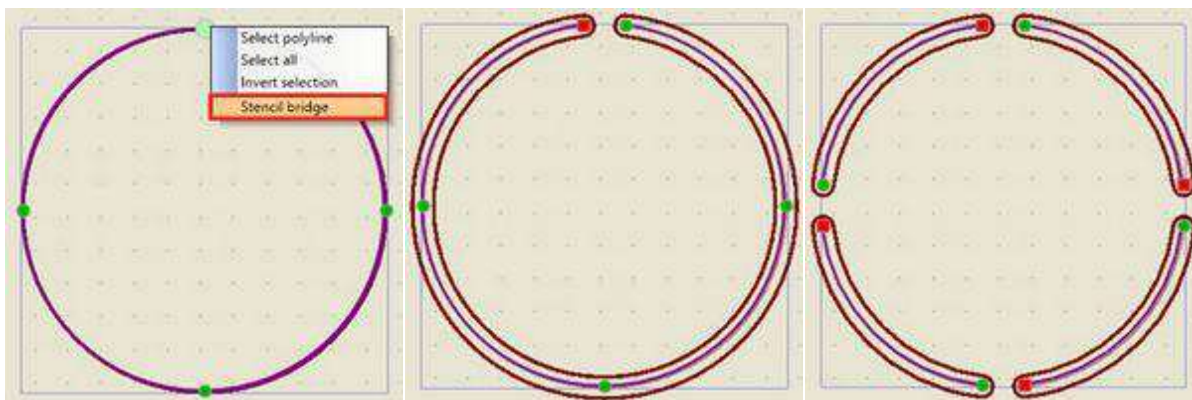


Stencil bridge

There is a special chapter that shows how the Stencil mechanism works, in this article we will present how to add stencil bridges for stencil objects. When you see an object to have "Stencil" outline, if it is a closed object you see no difference in the preview. This is the initial artwork (left part) and in the right part of the figure you can see the same object with stencil  type applied. As you can see the object has not changed since it is a closed shape.



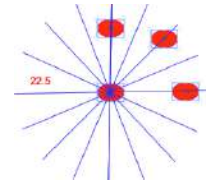
In order to convert it into stencil outline, we must create stencil bridges. Start "Edit nodes" mode, right click at any point you like and from appearing menu use "Stencil bridge" option. The closed shape will become open and you will see a stencil line appearing around the original outline. A special split is made to the outline of the object, in the same way we can easily create as many stencil bridges as we like.



Position objects

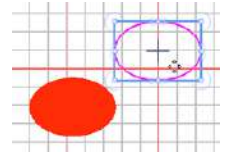
While you are creating or editing a design, one of the most useful tasks is the positioning of objects. There are various ways to position objects, you can simply drag them to a new position, you can move them using the arrow keys of your keyboard and finally you can set horizontal and vertical coordinates. Any of the positioning ways can help you work more easily and more precisely. The easiest method, is to drag, that is, tap or click to select an object and drag it to any position you like. While moving, you can see a preview of the new position and when you release the mouse the object is placed into the new position.

While dragging, you can hold the "Ctrl" key pressed, and the movement of the object will snap on a virtual grid of guidelines, on every 22.5 degrees. This snapping can help you make accurate movements. In this way you can easily move into the same horizontal or vertical position if you move the object horizontal - vertical, or diagonally if you move the object diagonally. The point that you clicked when started dragging is used as the center point of the virtual guidelines.



if you hold Ctrl + Shift keys together you can only move the object horizontal or vertical.

If the option Grid - Snap is enabled on "View" menu, then while moving an object the cursor will snap to the closest horizontal or vertical lineation of the grid. if you hold Alt key pressed, while dragging or drawing an object, you can temporary toggle the Snap of the Grid from enabled to disabled and vice versa. This means that you can temporary disable the snap, functionality in order to perform an operation or enable temporarily when disabled.

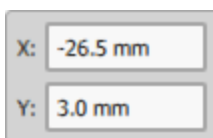


Move objects with arrow keys

The position of an object can be also changed by using the Arrow keys from the keyboard. Select one or more objects and then click on the respective arrow key to move towards the direction that you want to move. You can move the objects until you are satisfied with the position that objects have. Every time you click on the arrow key, the object(s) moves 1mm to the direction of the arrow. If you hold the Ctrl key pressed and then press the arrow key, the object(s) will move 5mm to the direction of the arrow. Finally, if you hold the Shift key pressed and the press the arrow key, the object(s) will move 0,10mm to the direction of the arrow. By using the arrow keys and its combinations you can position the object(s) exactly in the place you want.

Move an object with X and Y coordinates

Another way to change the position of a shape, which is also the most accurate one, is to move an object based on its X and Y coordinates. When you select an object its coordinates appear on the Tool options toolbar.



X & Y coordinates

Tool options is a proprietary toolbar that holds the options of the selected object. In order to change the position of the object you have to change its coordinates, X and Y and place new ones based on the grid of the working area. From the grid you can find the exact portion you want the design to be placed and enter the respective values. The ruler is defining virtual X and Y axes and that is why you can enter negative numbers as values to X and Y fields. The specified coordinates define the position of the center of the object.

While moving one or more objects to a new position, you can press "D" key and switch into duplicate mode. This means that when you release the moved object into the new position a duplicate object is created and the initial object will remain unchanged.

Copy - Duplicate - Delete

Using "copy-paste" you can easily re-use design parts from your designs or bring artwork from any bitmap or vector designing application. You can copy objects, using keyboard shortcuts (Ctrl+C, Ctrl+X, Ctrl+V), using the copy icon on the standard toolbar or using the available options of "Edit menu". For example if you select an object and copy (Ctrl + C), the object is placed into the clipboard, then you can use "Paste" option to place it into the same design or to another design. Since the software has information about the position of the object the objects are always placed on the original position and remain selected to move it where ever you like. Actually whenever you copy paste on the same design a duplicate object is created. You can also have the same results using the duplicate option on Tools options bar. You can also "Cut" an object (Ctrl + X), in this case the cut object is placed on the clipboard and it is removed from the working area. In order to make it appear again you have to paste it. You can "Paste" an object (Ctrl+V) only when you have previously copied something. If the clipboard is empty, the Paste option is disabled. The copied parts remain until something else is copied. So when you have copied an object, you can keep on pasting it until, you copy something new and then it is no longer kept on the clipboard.

You can copy artwork from another application and paste directly into any design. The imported artwork may need to be converted in some cases, for example when copying from photo editing software a conversion dialog may appear.

Delete

Whenever you no longer need an object you can delete it. To delete any selected object(s) you need either to press the Delete key or use "Delete" option from the right click menu. The selected objects will be removed from the design and can be recalled only by selecting the Undo from the standard toolbar.

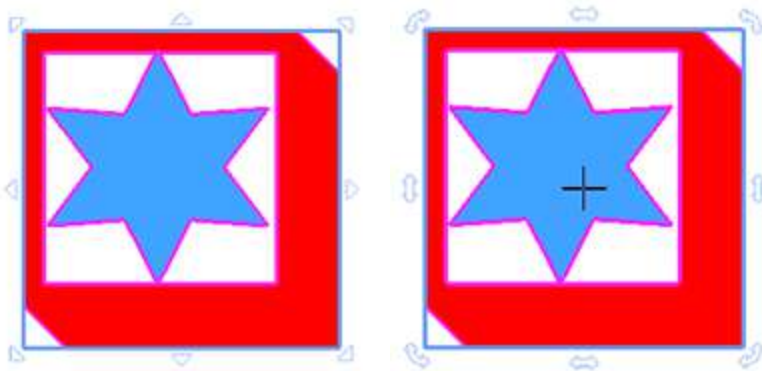
Transform objects

While creating or editing a design it is often needed to change the appearance of objects. You may want to scale a design for use in different a project or just adjust something that you may not like the initial creation. The software provides capabilities for transforming design objects just like a graphics program. The main difference is that when transforming an object the software automatically recalculates the fill or outline types. For example if you transform an object that is filled with embroidery all the stitches re be regenerated. The quickest way to transform objects is simply using the mouse. For more precise results, you can select an object and transform using the options on Tools options bar. For example, you can specify a precise rotation angle or specify the size of an object. You can scale, skew, rotate and mirror objects in various ways that will be presented in detail in the following section, now we must mention a variation that exists for the control handles.

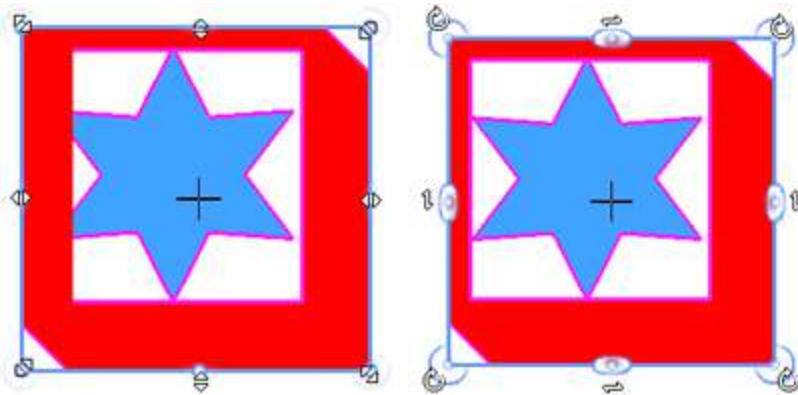
Separate Rotate - Resize

Since the transformations are one of the most frequent tasks, we thought it would be best to provide various operating modes, so that users accustomed to different designing software, such a vector designing programs, find it easier to become familiar with. Whenever you select one or more objects, you can see a highlight rectangle around the selection with some bullets on the corners and on the middle of the sides. These bullets are actually the control handles for any transformation. If you place the mouse on top of any of

these bullets the cursor changes into a double arrow head. By dragging to the directions of the arrows you can re-size the selection. If you click the object once on the object, new handles appear. You can use these handles to rotate and skew the object.



For the users that are not used to clicking in order to switch the transform handles, there is an alternative way. If you switch to the alternative transform controls, at first when you select an object you will not notice any difference. The main difference is that in order to access rotate - skew handles you need to place the mouse on top of the respective control handles and a little to the outside of the highlight rectangle. You can select an operation mode from "Tools – options", Tools tab. You need to deselect the option "Separate resize-rotate" and on the next program start the control handles will switch to this mode.



Each of the above methods lets you apply transformations to a single object or to multiple objects simultaneously.

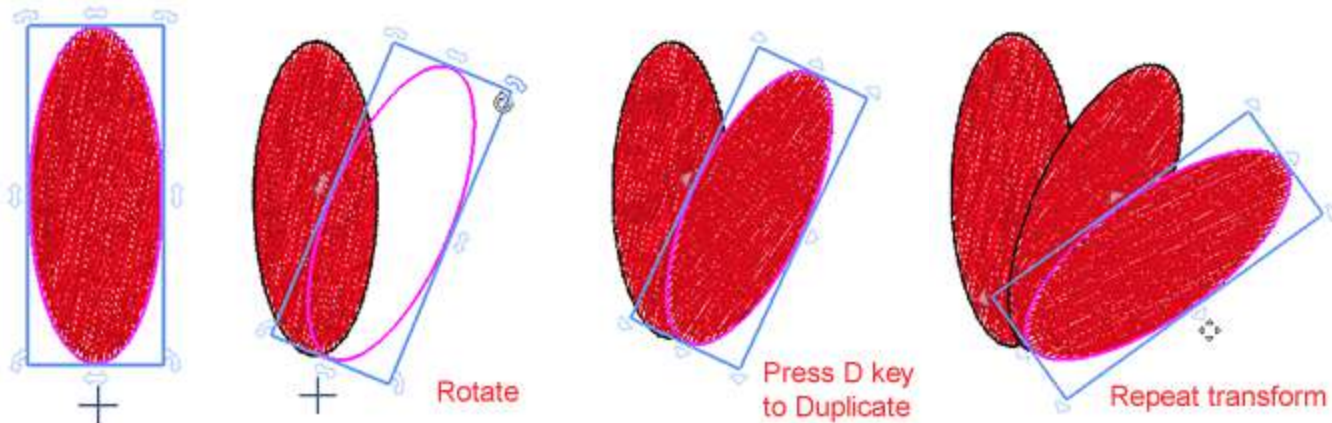


At any point while transforming one or more objects you can press "D" key and when you release the mouse to apply the transformation you will get a transformed duplicate of the initial object.

Repeat transformation

One option that can save us a lot of time and effort is the ability to "Repeat last transform". If you want to repeat your last transformation you have to select the object you want the last transformation you made to be applied. Then Right click on the object and select the "Repeat last transform" option from the appearing menu. The last transformation you made will be applied to the selected object as many times as you use the

"Repeat last transform option". Every time you make a transformation it is automatically becoming the last transformation and this one will be used when the "Repeat last transform" option will be applied. For example, if you have rotated an object you can repeat the last rotation as many times you want using the Repeat last transform option from the right click menu or by pressing the Ctrl+R shortcut keys from the keyboard. The object will be rotated, by keeping the same rotation angle with the last made rotation, as many times as you used the Repeat last action option.

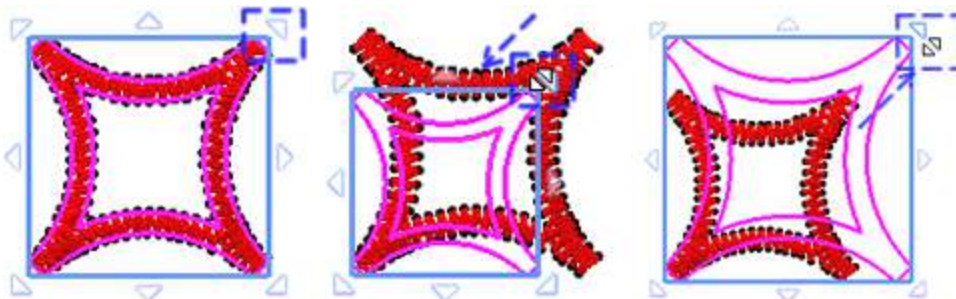


Clear transform

In many cases you may wish to revert all transformations applied on an object. If you right click on an object that has transformations applied, there is an option to clear transform. Using this option you can Cancel all the applied transformations. The "Clear Transform" option is available for any object that has been repositioned, resized, slanted, rotated or when any other transformation has been applied. The reverted transformations can be more than one. The object is reverted to its initial state and position that it was designed.

Scale - Size objects

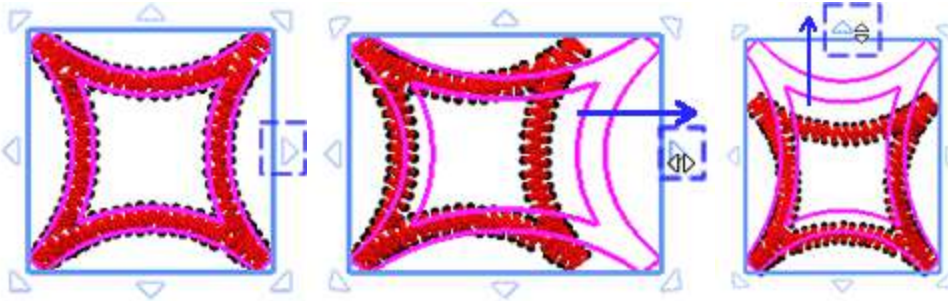
As already mentioned in previous section, when you select one or more objects, a highlight rectangle appears around the selection with control handles on the corners and on the middles of the sides. You can scale - stretch the selection by dragging those handles. Using the handles on the corners you are scaling proportionally, this means that both dimensions are changing but the analogy between them is kept the same. if you drag to the inside of the object the object is shrunk, otherwise it is enlarged.





if you hold down "Alt" key and drag any of the corner handles you can scale both dimensions freely, without keeping the same analogy between them.

Using the handles that are on the middle of the sides you are scaling only one dimension at the time. In reality the object is stretched.



While scaling, you can always view on the "Status bar", that is located at the bottom of the application window, the new size and the percentage of the scaling according to the initial size.



if you hold down "Shift key" and drag one of the handles you can scale based on the center of the selection.



if you hold down Ctrl key and drag any of the on handles, the scale operation is performed by a step of 25% of the original size. While dragging to scale, the operation snaps on multiple of the size of the object, 25%, 50%, 75%, 100%, 125%. This works both when scaling using the corner handles, both dimensions scaled by 25% step, or when stretching one side, only the selected dimension is scaled by 25% step.



At any point while scaling one or more objects you can press "D" key and when you release the mouse to apply the scaling you will get a scaled duplicate of the initial object. In this way you can easily create mirrored objects. Drag to the opposite direction, until you see the proportional change on the status bar reaches the -100%. Then before releasing the mouse you can press "D" to produce a mirror object.

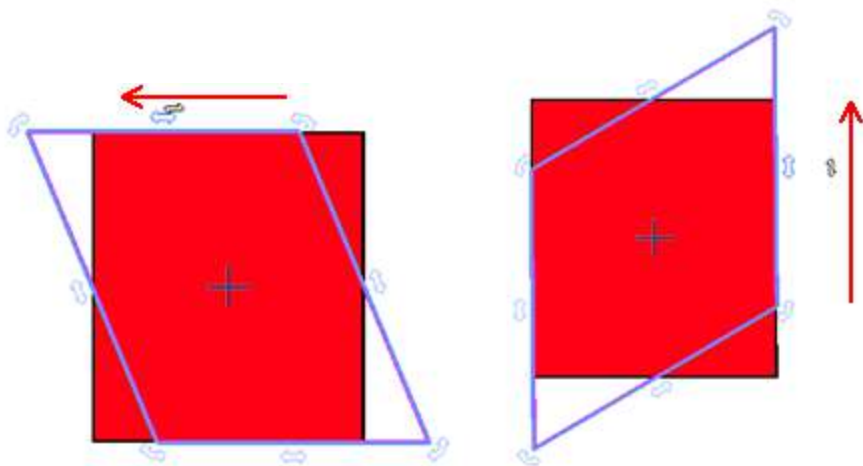
The objects can also be scaled more precisely by typing the size or percentage of scaling on Tools option bar. Whenever you select one or more objects, you can see and on "Tools options" bar the dimensions, "Width, Height" and by typing a value you can scale the selected objects. Whenever you type a value you can

press "Enter" to apply. If "Proportional" option is enabled, when you type a width value, the height is updated as well to keep the same analogy. If you disable the "Proportional" then you can stretch the objects by changing any of the dimensions. In the same way you can scale by a percentage of the original shape. You can scale both dimensions by percentage if "Proportional" is enabled, or stretch by percentage if you disable and scale only one dimension.

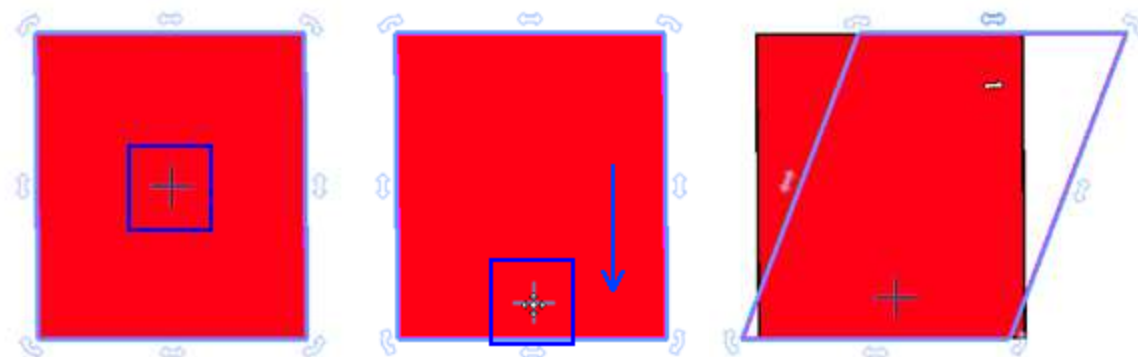
Size	Scale %	Proportional
Width: 17.0 mm	Scale x: 100.0 %	☒ Proportional
Height: 13.0 mm	Scale y: 100.0 %	Duplicate

Skew - Slant objects

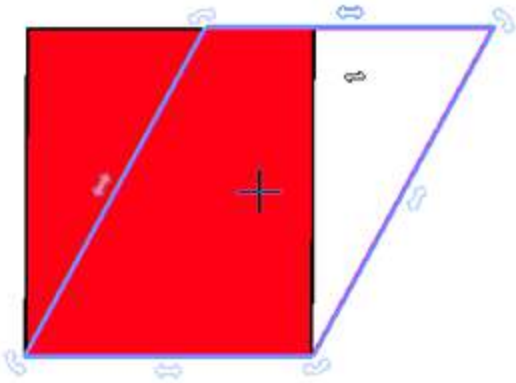
Skewing lets you slant an object to one side. In order to skew an object, you need to click on the object to display the skew handles, and drag any of the skew handles to any direction. On the middle of each side there is a skew handle.



By default all skewing transformations are made based on the center of the selection, which is the cross sign that appears on the center of the selection. You can move the skewing center by clicking and dragging it to the position you want, even outside of the design. By positioning the center of the design outside of it you can skew the design based on the new center.

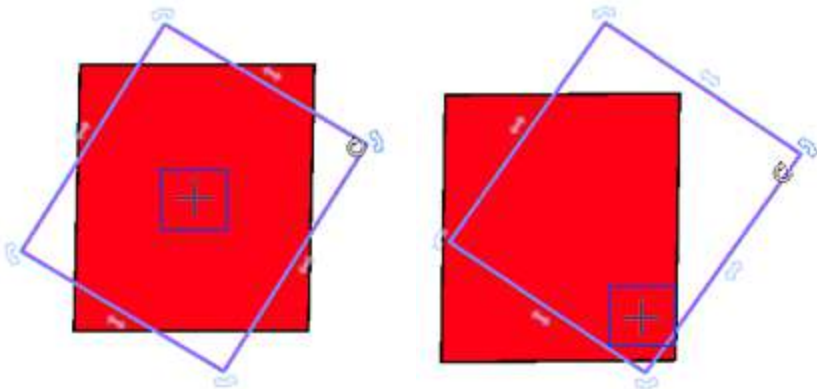


If you hold the "Shift" key pressed, while skewing the object, the operation will be performed according to the opposite side.

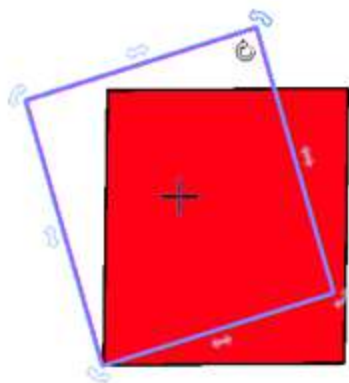


Rotating objects

Rotating lets you turn an object around its center axis or a point relative to its position. When you select one or more objects, you can see sizing handles on the selection rectangle. Click the object a second time and rotation handles appear at the corners of the object and an anchor point displays at the object's center. Click a rotation handle, and drag clockwise or anti-clockwise to rotate the object according to the anchor point. This cross point is that is by default at the center of the selection, is actually the rotation center. Any rotate operation is performed based on this point. In case needed you have the ability to move this rotation center. Select the rotation center and drag it to any position you want. If you want you can move it outside of the design. Once you have moved the rotation center you can rotate the design based on the new rotation center.



If you hold the Shift key pressed, while rotating the object, the center of the design will change automatically and will be positioned at the diagonally opposite rotation handle, based on which the rotation will be made.



If you hold "Ctrl" key pressed. while rotating the object, the rotation snaps on every 22,5 degrees based on the rotation center allowing you to make more accurate rotations.

You can also rotate objects precisely by defining the exact rotation degrees on the Tool options bar. To do that you have to select the object you want to rotate, change the rotation center by dragging it to the position you prefer, if you like, and type the exact degrees you want to rotate the design in the Rotate field. Press Enter key to apply the rotation and the object will be rotated the exact degrees you have defined. The Rotate option can take values from 0o to 360o if you want to rotate the design anti-clockwise and from -0o to -360o if you want to rotate the design clockwise.

Rotate:

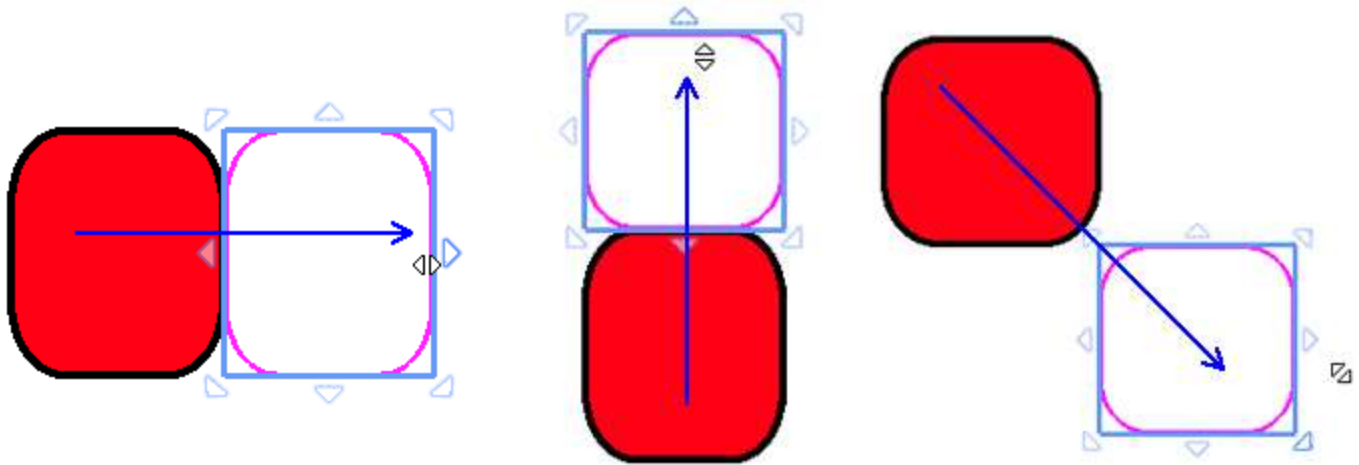
0 °

Mirroring objects

While creating a design, in many cases, it is very useful to create mirror objects. Mirroring an object is similar to resizing procedure. Select an object so that the control handles appear around the selection. If you drag any of the corner handles all the way to the opposite direction until the complete mirror of the design appear on the working area. According the mirroring you want to do, you have to drag the respective handle that will give you the mirroring you want. You can mirror the design Vertically, Horizontally and Diagonally.



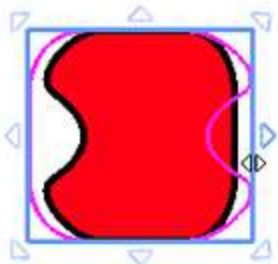
if you hold Ctrl key while dragging a control handle to the opposite side of the object, the scale operation snaps on every 25% of the objects size. In this way you can drag until you see 100% on status bar and then you will get a mirror with exactly the same size.



At any point while scaling you can press "D" key and when you release the mouse to apply the transformation you will get a scaled duplicate of the initial object.



If you want to mirror an object but keep the same position you can hold shift key and the object will mirror based on the center of the design and not on the opposite side/handle of the design.

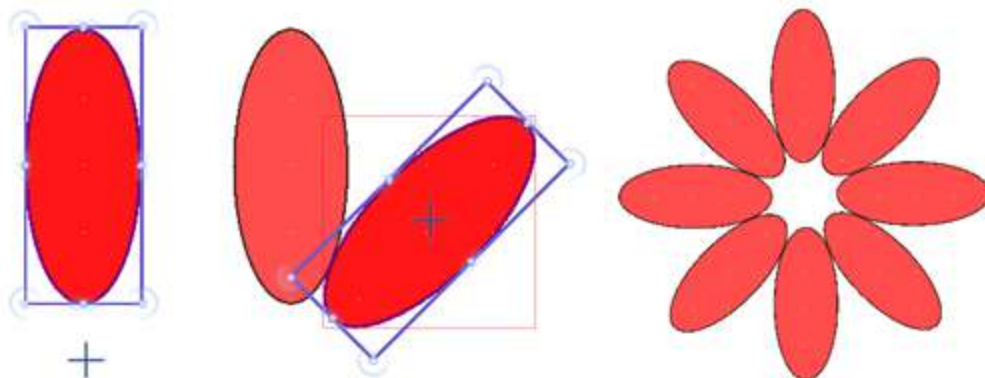


Another way to mirror a selection accurately is by clicking the "Mirror X" and "Mirror Y" buttons that appear on Tools options bar. To mirror the design vertically you have to select it and click on the Mirror X button. The design will flip and you will view its vertical mirror. To mirror the design horizontally you have to select it and click on the Mirror Y button. The design will flip and you will view its horizontal mirror.

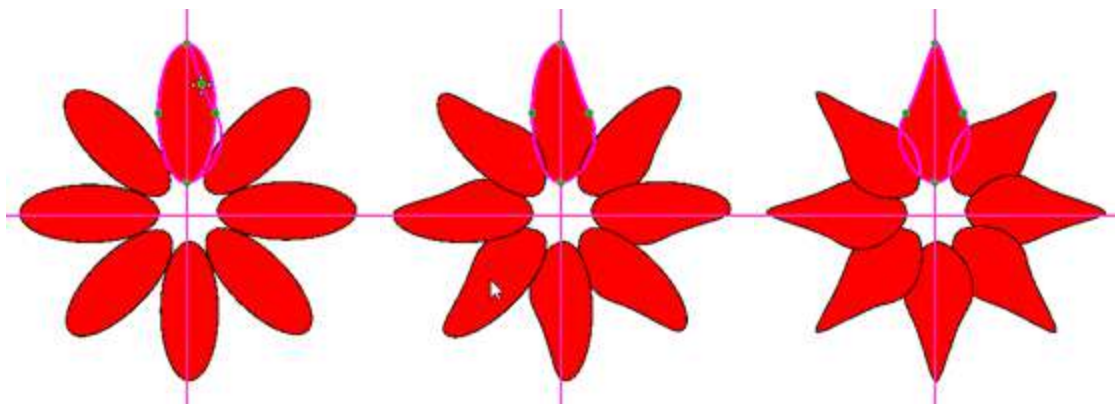
Add new objects as clones

A very useful capability for making designs with repeated shapes is "Add new objects as clones". When "Add new objects as clones" option of "Edit" menu is enabled, any created duplicate of an object is marked as a clone of the initial object. If you reshape any of the clones all other clones are reshaped too. You can create clones in various ways. The easiest way is by selecting one or more objects and the press "Duplicate" button on Tools options bar. The other way is, while moving or transforming any object (resize, rotate, slant), if you press "D" key once you switch into duplicate mode and when the transformation is applied a duplicate of the original object is created. A transformed object has been created, leaving the original object intact.

For example, create an ellipse, click on the ellipse to see the rotation handles and move the rotation center outside of the ellipse. Make sure that "Add new object as clones" is enabled. Using any of the corner handles, rotate the ellipse. Press "D" key once, while rotating and when you release the mouse a rotated duplicate will be created. Press Ctrl+R to repeat this transformation and create more clones.



Once you have created the clones, you can now take advantage of the clone editing. If you edit the shape of any clone (Node editing mode) all other clones will be affected as well. In this way you can improve the pattern in an aspect that you didn't imagine at first.

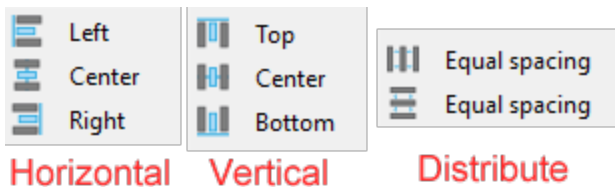


Once you have created cloned objects you can access some extra functionality that is located on the right click menu, in order to better control these items. You can select all clones by using "Select all clones" option of "Clones" submenu that appears when right clicking on any of the clones. Now you move all of them or apply a change on all of them. Another useful option is that you can select one or more of the clones and detach it from the other clones by selecting "Detach from clone's" option of "Clones" submenu that appears when right clicking on any of the clones. The detached clone will no longer inherit the changes that are applied to any of the clones. It is a normal object now.

Align - Distribute

In many cases it is useful to align - distribute created objects. Using align, distribute options can help you create your designs even easier and quicker. In order to align objects you need to first select 2 or more

objects, then on the standard toolbar that is located on the top area of the application an "Align"  icon appears. Click on the icon and you can see all the available ways to align objects. Click on any of the icons and you can align selected objects to each other, and position them exactly where you want them. You can also distribute the objects automatically and make their sides appear at equal intervals (vertically or horizontally).



The alignment of the objects is performed according to the last selected object. If you select multiple objects holding the "Shift" or "Ctrl" key, have in mind to select last, the one that you want the alignment to be based on. In the same way, if you select using lasso or rectangle selection, you need to form your selection so that the one that you want to base the selection is last selected. Otherwise you can select all the object s you want and then holding "Ctrl" key to deselect and then reselect the one that you want to base the operation on.

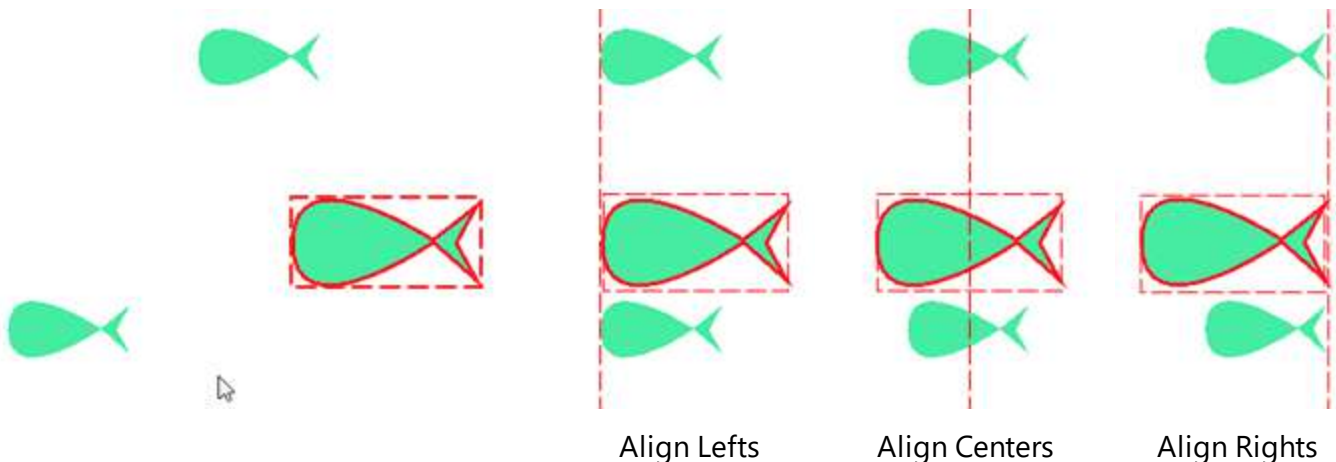


The "Align" icon is only visible when you select two or more objects. If you select only one object the options will remain disabled. After selecting the objects you have to select the alignment option you want to apply on them based on the highlighted object.

Horizontal alignment

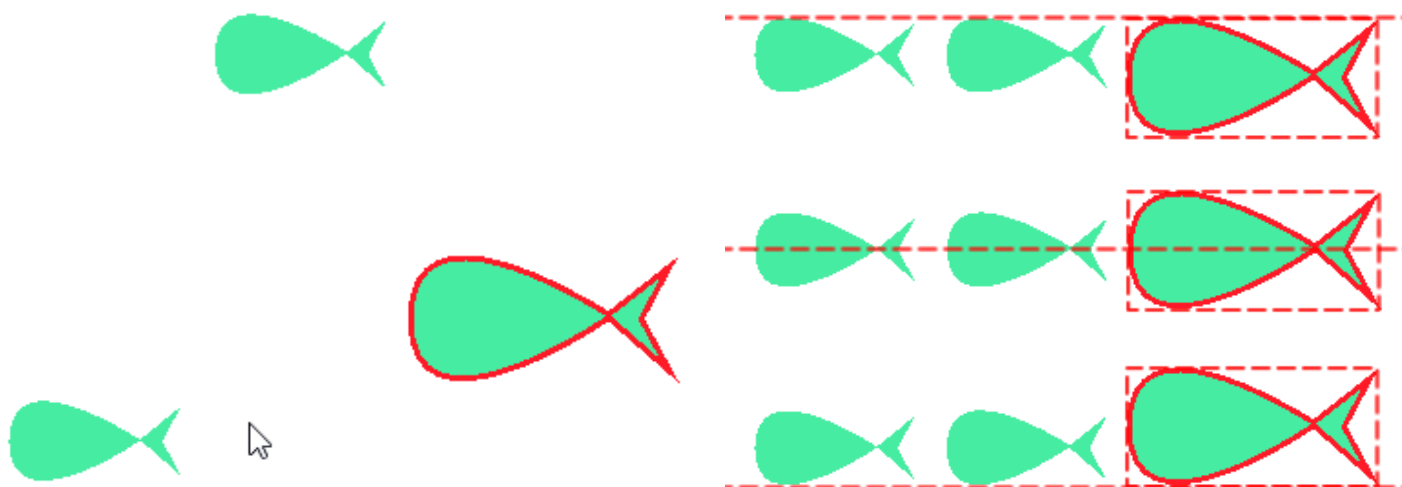
The first 3 buttons are for horizontal alignment.

- Press align Left  or "L" key to align the left sides of the selected objects to the left side of the last selected object.
- Press align centers vertically  or "C" key to align the centers of the selected objects to the center of the last selected object.
- Press align Right  or R key to align the right sides of the selected objects to the right side of the last selected object.



Vertical alignment

- Press align Top  or 'T' key, to align the tops of selected object to the top of the last selected object.
- Press align centers horizontally  or "E" key to align the horizontal centers of the selected object with the center of the last selected object.
- Press align bottom  or "B" key to align the bottoms of the selected objects to the bottom of the last selected object.



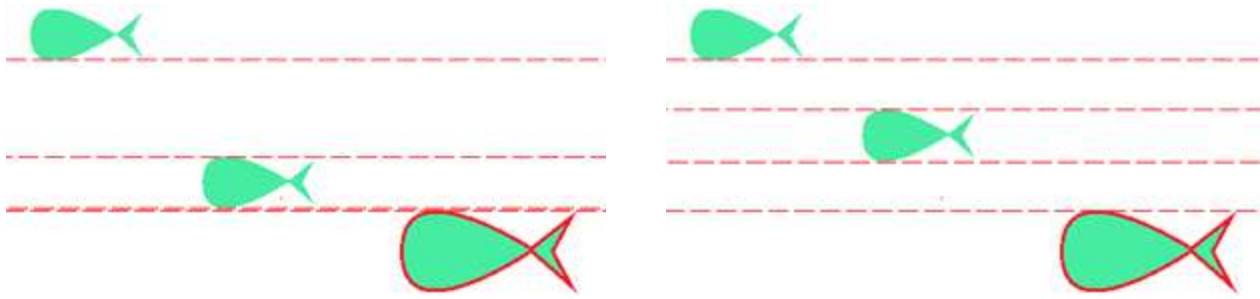
Distribute

When you select more than 2 objects on the align menu you have 2 more options for distributing objects. Select the distributing option you want and the sides of selected objects will appear at equal intervals horizontally or vertically.

- Press Equal horizontal spacing  or Shift + C key, to make the horizontal distance between selected objects equal.
- Press Equal Vertical spacing  or Shift + E to make the vertical distance between objects becomes equal.



Distribute horizontally

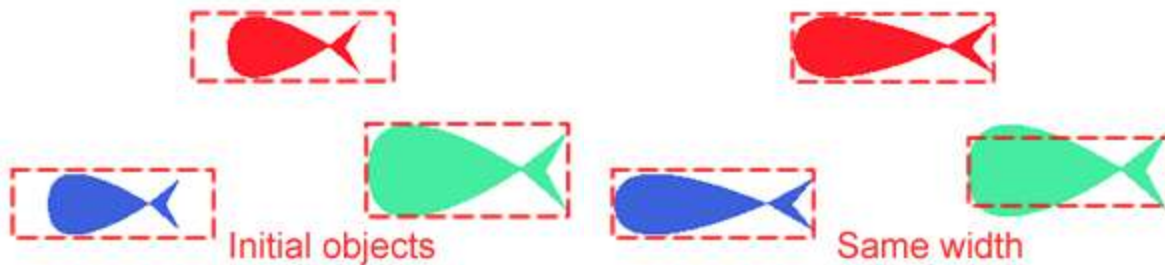


Distribute vertically

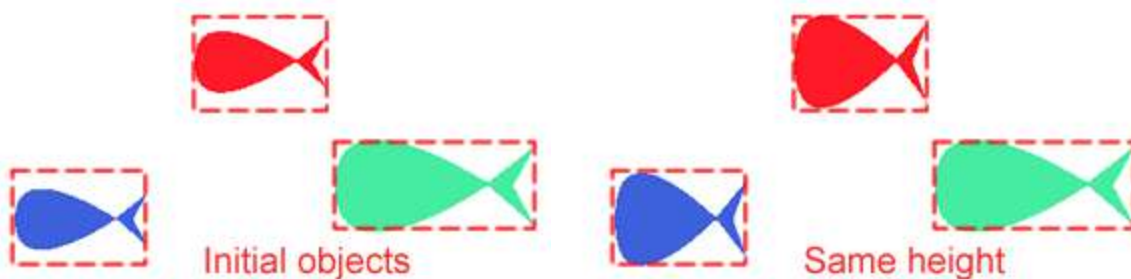
Auto-size objects

The software provides an easy way to automatically re-size objects based on the dimensions of a specific object. So you can select objects and make their size match the size of another. In order to re-size objects you need to first select 2 or more objects, then on the standard toolbar that is located on the top area of the application a "Resize"  icon appears. Click on the icon and you can see all the available ways to re-size the selected objects. There are three auto-sizing options:

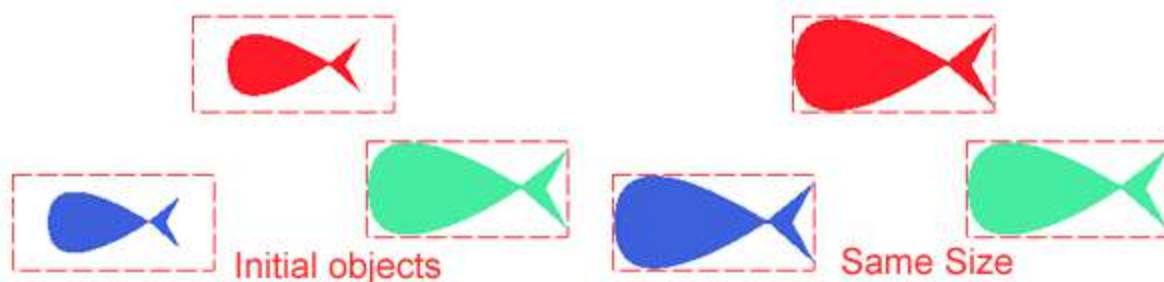
- Press "Make same width"  or use "Shift + W" keys, to make the selected objects have same width with the last selected object



- Press "Make same height"  or use the Shift + H keys, to make the selected objects to have same height with the last selected object.



- Press "Make same size"  or use the "Shift + S" keys, to the selected objects have the same size with the last select object.



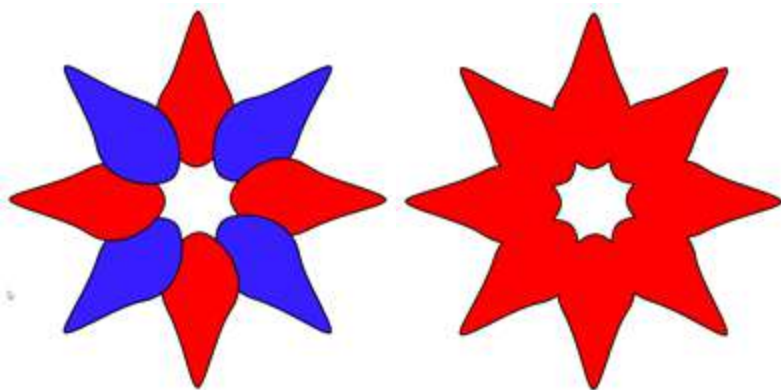
Shaping objects

You can create irregular shapes using weld, trim and intersect options. These shaping options  can be accessed in 3 ways, select 2 or more objects and

- Right click on the selected objects and from appearing menu go to "Shaping" and then use "Weld", "Trim" or "Intersect".
- On Edit menu go to "Shaping" sub-menu and then use "Weld", "Trim" or "Intersect".
- On standard toolbar, on the top area of the application, a "Shaping"  icon appears when multiple objects are selected. When you click on this icon all available shaping options appear.

Weld

You can "weld"  objects to create one object with a single outline. The new object uses the welded objects' perimeter as its outline and adopts the fill and outline properties of the last selected object. You can weld objects regardless of whether they overlap each other. If you weld objects that do not overlap, they form a weld group that acts as a single object. In both cases, the welded object takes on the fill and outline attributes of the target object.



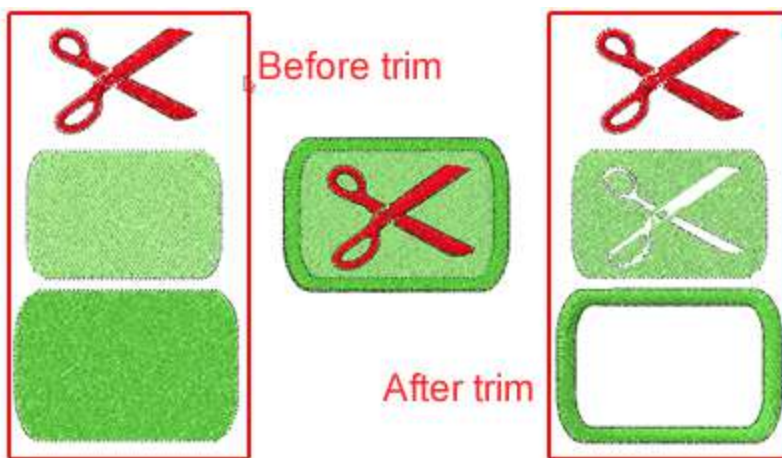
The welded objects adopt the properties of the last selected object. So, if you made a multiple selection of objects holding the Shift - Ctrl key pressed, the welded object will adopt the fill and outline properties of the last selected object. If you made a multiple selection of objects using

Rectangle or Lasso selection, the new object will adopt the fill and outline properties of the last object in the order of objects.

When you "Weld" objects that do not overlap you can separate them to its sub-objects using the "Break apart" option from the right click menu.

Trim

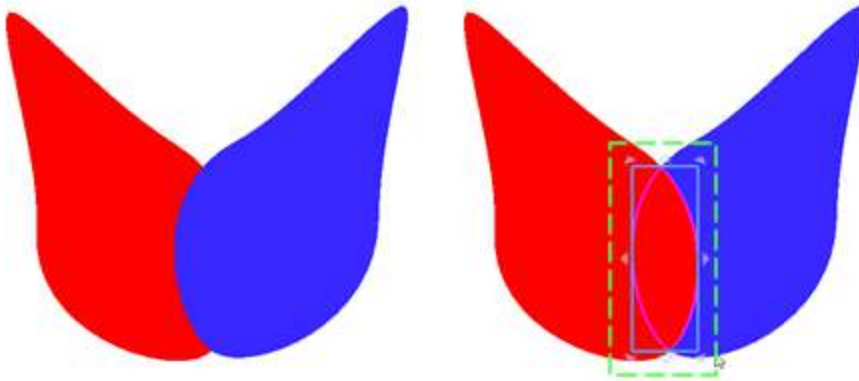
Trimming  creates irregularly shaped objects by removing object areas that overlap. When you trim objects only the visible parts remain after the trim operation. The area that the object on top, cover over the objects below is removed. You can apply the Trim function only to objects that overlap partially or entirely.



"Trim" and "Remove overlaps" options have similar functionality but not the same. The software with the "Auto" functionality uses intelligent mechanisms to remove the unneeded parts of the design from the final embroidery result but it is not removing the overlaps from the artwork. Therefore, when you export the design to an embroidery file, the overlapping areas are removed automatically, but if you export the same design to SVG file the overlapping areas are there as they were designed. On the other hand if you apply the Trimming function on the objects the embroidery result will be the same but the SVG artwork will differ. If you open the SVG file you will view that the objects you trimmed remain there trimmed and not as they were before you apply the Trim tool. This is the main difference between Trimming and Remove overlaps tools. Trim tool alters the vector shape but Remove overlaps tool does not.

Intersect

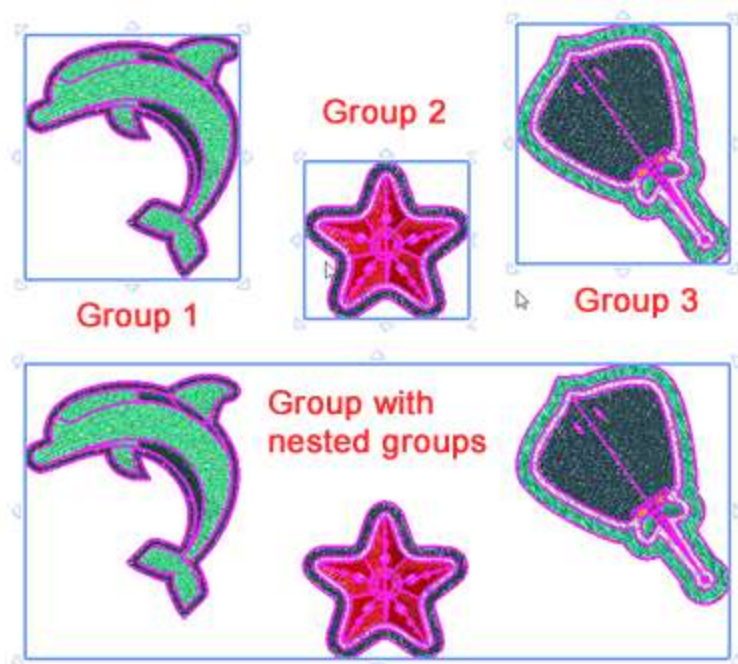
Intersecting  creates an object from the area where two or more objects overlap. The shape of this new object can be simple or complex, depending on the shapes you intersect.



The new object adopts fill and outline attributes from the last selected object. So, if you made a multiple selection of objects holding the Shift - Ctrl key pressed, the new object will adopt the fill and outline properties of the last selected object. If you made a multiple selection of objects using Rectangle or Lasso selection, the new object will adopt the fill and outline properties of the last object in the order of objects.

Group - Ungroup

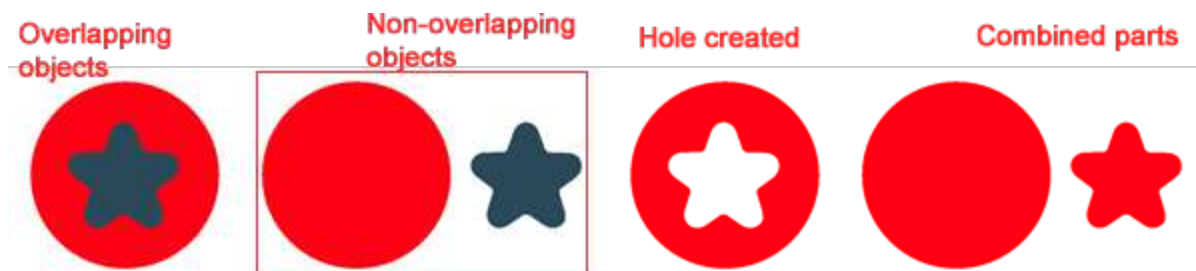
Grouping functionality is very useful in the designing face of the embroidery. When you group two or more objects, they are treated as a single unit but retain their individual attributes. Grouping lets you apply the same formatting, properties, and other changes to all the objects within the group at the same time. In addition, grouping helps prevent accidental changes to the position of an object in relation to other objects. You can also create nested groups by grouping together existing groups. In order to make a group you have to select the objects you want become one group by making a multiple selection of objects and from the right click menu select "Group" option or Ctrl+G keys together. The selected objects will become one group and will be treated as one object. In order to add objects to a group, select the object(s) and then select the group of objects, at this point if you use group option, the selected objects will be added to the group. If you want you can group multiple groups and make nested groups. To do that you have to select two or more groups of objects and from right click menu select Group option once more.



If you want to edit individual objects in a group, you must first ungroup them, edit the objects you want and re-group the object. In order to ungroup a group of objects or nested groups you have to select the group, right click and from appearing menu select ungroup option. You can also use Ctrl+U keys together to ungroup. The group of objects will break and all objects will be handled as separate objects. The nested groups will be separated to its sub-groups and will be handled as separate groups. You can continue ungrouping the sub-groups of the nested groups until all groups become separate objects. To delete an object from a Group you have to ungroup it first, delete the object you want and then re-group the rest of the objects.

Combine - Break apart

Combining two or more objects creates a single object with common fill and outline attributes. To combine two or more objects you have to select them, right click, and from appearing menu use "Combine" option. You can also use Ctrl+L keys together to combine objects. The two objects will become one with common fill and outline attributes. If the objects are overlapping then the shape of the object that is above will become a hole in the shape below. This is the way how the overlapped objects are combined. This is very useful when you want to create holes inside an object. If the objects are not overlapping then the objects will have the common attributes but the combine option will not affect the initial shape of the combined objects. The attributes of the combined object come from the last selected object, so keep in mind to select last the one that you want its color and other attributes to be applied to the combined object.

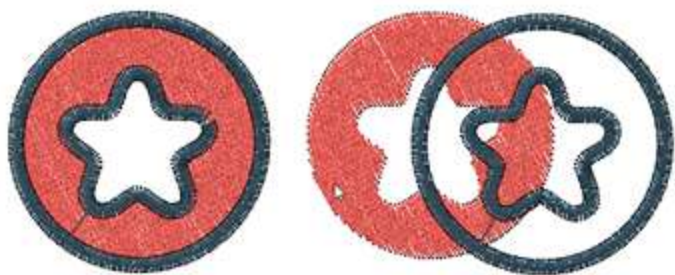


If you need to modify the attributes of an object that has been combined from separate objects, you can break apart the combined object. Select the combined object, right click on it and from appearing menu use "Break apart" option. You can also use "Ctrl+K" keys together to break apart. The objects will be separated to its initial objects but will retain their common fill and outline attributes. If you have just combined the objects and you want them back as they were you have to "Undo" your last action.

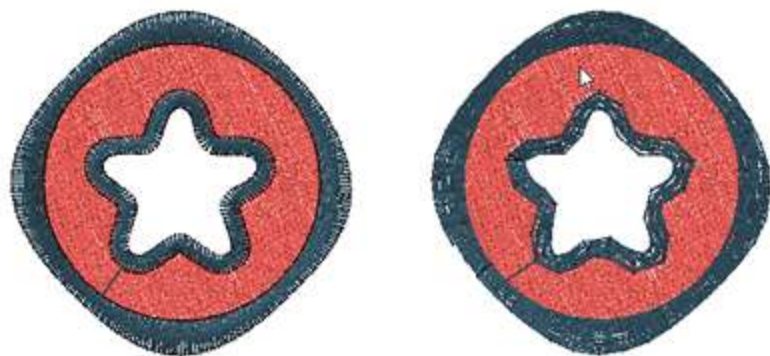
Combined objects that are not overlapping in embroidery are connected with a Jump-stitch between them. Therefore whenever you see two objects that are far one from the other and they are connected with Jump-stitch, this means that they are combined.

Convert outline to Object

A very special ability that the software offers is that you can convert an outline to an object. Converting an outline to an object creates a new closed object with the outline's shape. In many cases you may need to create a fill object with the shape of the outline in order to apply a fill type or any special effect. You can also edit the new object using "Edit nodes" and make the outline have a totally new look. You can convert the outline of an object to a separate object only if the object already has outline applied. If an object does not have outline color, you can click on the outline color  icon and select an outline color. Once you have selected an outline color then you can change the width of the outline and apply any outline type you like. In order to convert the outline to an object you need to right click on the object and from the appearing menu select "Convert outline to object" option. This option allows you to convert the outline/border that is attached on an object to a separate object and handle it as a separate Fill or Outline object. If you convert the outline to a Fill object, you will be able to fill it with any of the available fill types that it is not possible to do it otherwise. Also, you will be able to apply all kind of shape transformations on it.



If the outline thickness is smaller than 0.9mm and you apply the Convert outline to object option, the outline will be converted to Running and not to a Fill object. When you want to create a new fill object from the outline, the original outline should have at least 1mm outline width. Then you can apply to the create object any fill type and edit the shape of the object.



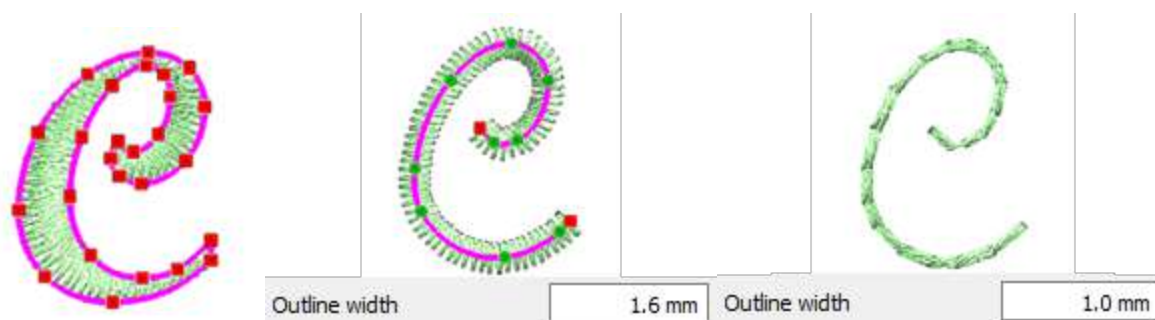
You can also apply "Convert outline to object" using the respective option of "Edit" menu or using Ctrl+Shift+Q keys together after selecting the object you want to apply it. The outline will be separated from the fill object and can be handled as a different object.

Convert fill to center line

In some cases you may need to create a line object with the shape of another fill object. See for example the following image and suppose you want to create a line object based on the left image. Right click on the object and from the appearing menu use "Convert fill to center line". This creates a line object as shown on the image on the right.



The outline type that will be applied on the new line object depends on the average width of the initial object. If the average width of the initial object is from 0 to 1mm, then running outline will be applied and if the average width of the initial object is $> 1\text{mm}$ then satin serial will be applied, as shown in the following images. You can apply the same technique on text objects to create small text objects with running stitch.



Undo - Redo

Using this option in the "Edit" menu, you can undo the very last action you took. You can also access the "Undo" function from the "Standard" toolbar by clicking on the  icon. If you decide to cancel the undo you made, click on "Redo" function. Using "Redo" option from the "Edit" menu, you can cancel the latest undo that you have performed. You can also access the "Redo" function from the Standard toolbar by clicking on the  icon.



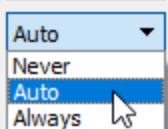
You can also change the undo level from Tools > Options in the General options tab.

We made major improvements in the software's "undo" capabilities. Through the implementation of differential compression, users can now enjoy practically limitless levels of undo functionality. This means that you can feel free to explore and experiment with their designs without fear of losing progress.

Remove overlaps

The software has an automatic filter which removes unnecessary overlaps between the objects in order to optimize your designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. The "remove overlaps" option is located on the Properties toolbar and it appears when you select an object filled with Satin, Step, Row fill , Netfill Satin Serial or Running stitches. There are three possible options that you can apply on a specific object, "Auto", "Never" and "Always". The "Auto" is the default option and the one that the software uses to automatically create the best possible results on the design. When the "Never" option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is "Always". When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered. The advantage of this option is that it is applied automatically during the creation of the design without having to apply it manually. It will automatically decide which objects will trim and which not based on embroidery rules.

Remove overlaps



Edit stitches

In the "edit stitches"  mode you can see the stitches of the current design. You can make as many adjustments as you want on the stitches and create the embroidery design that will be embroidered exactly in the way you want. In addition you will learn how to select, move, insert or remove stitches and any combination exists that can make your life easier.

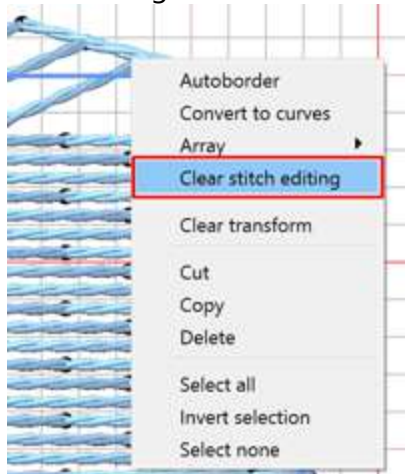
You cannot edit stitches on all objects.



In order to edit the stitches of an object, you have to either disable the "Auto-sequence"  or the object has to be stitch data object (opened .jef or .jpx file). Also, the object must contain only one stitch type. This means that the object cannot have Fill and Outline type at the same time.

After editing the stitches of an object you have limitations on the tools that you can use on it. The stitch edited object is locked and it does not change its status even if you edit its nodes or change the stitch type. To reset the status of the stitch edited object and unlock it, you have to:

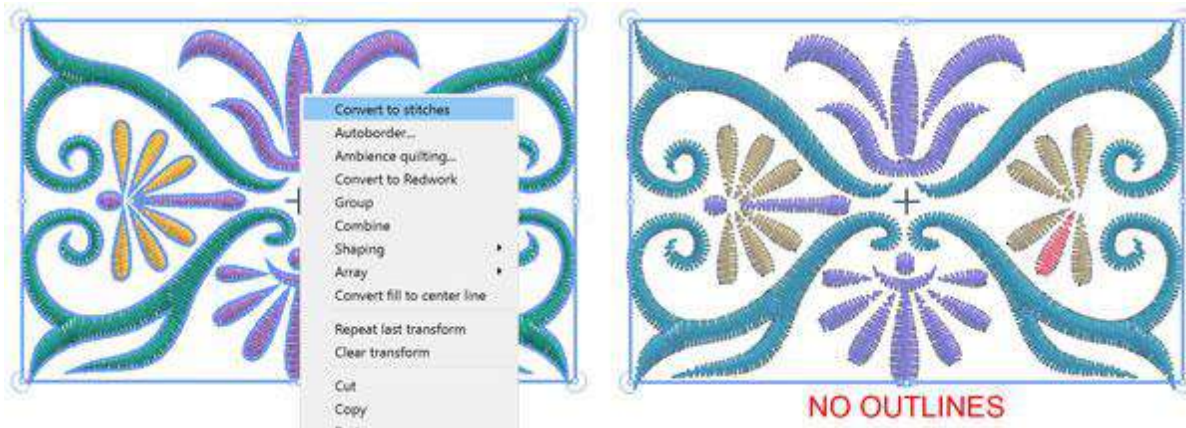
1. Select the object and right click on it.
2. From the right click menu select the "Clear stitch editing" option.



3. The object will be reset and any stitch editing will be lost.
4. You are now able to apply all the available tools on the object.

Convert vector-based objects to raw stitches for accurate stitch editing

One of the challenges of embroidery design is matching the stitches to the tension of the fabric. In order to make these adjustments, it's often necessary to remove the artwork from the design and work with just the raw stitches. That's why an important feature for any embroidery software is the ability to convert vector-based objects into raw stitches. This allows for more precise editing and produces better results on the finished product.



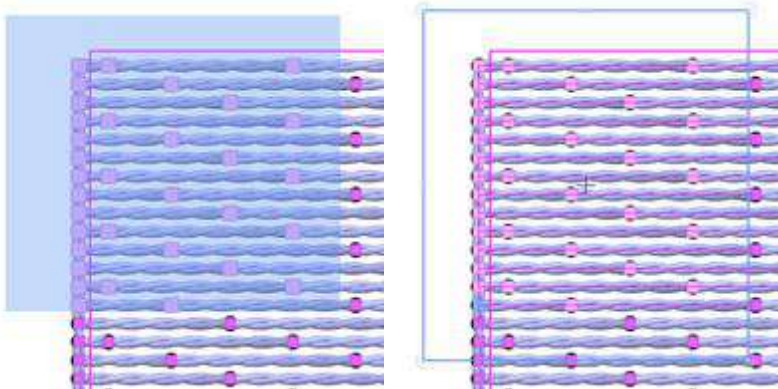
You can convert any object to stitches by right clicking on it and then selecting the "Convert to stitches" option. You can select the same option from the "Convert" button at the top bar. The outlines will be removed automatically. This will have as a result that every stitch editing you make (inside edit stitches mode) will be retained during resizing.

Selections in stitch editor

There are many ways to make selections in the stitch editor. You can make multiple selections or single stitch selections by creating a rectangle selection or by single clicking on the specific stitch you want to move.

Rectangle selection

Select more than one stitches by drawing a rectangle that will contain all the stitches you want to be selected. To do that you have to click on the "Edit stitches" tool at the "modes" toolbar, click and drag on the working area to draw a rectangle over the stitches you want to select and release the mouse click to confirm your selection. After making the selections you can move them by clicking and dragging on any of the selected stitches or make any other transformation you want.

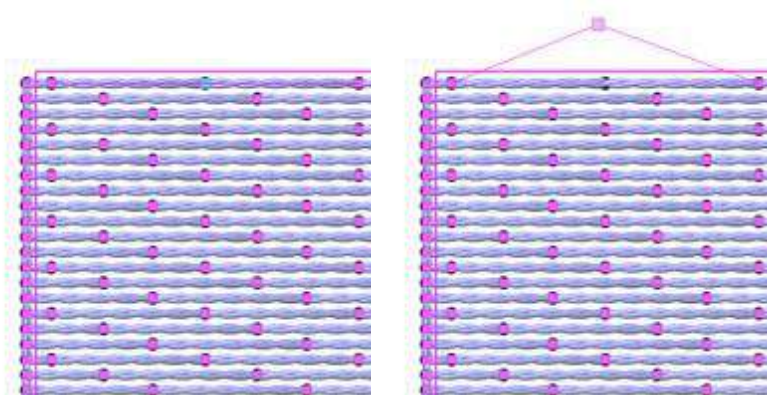


There are, also, special rectangle selections that you can do by using "Ctrl", "Shift" or "Alt" keys.

- Hold the "Shift" key pressed while making a rectangle selection to add more stitches to your selection.
- Hold the "Ctrl" key pressed to invert the current status of the selected stitches
- Hold the "Alt" key pressed while making a rectangle selection to remove them from your selection.

Single click selection

Click on a stitch you want to select it. The selected point is the same with the needle penetration point that the embroidery machine will make on the fabric.



There are, also, special "single click selections" that you can do by using "Ctrl", "Shift" or "Alt" keys.

- Hold the "Shift" key pressed while clicking on stitches to add more stitches to your selection.
- Hold the "Ctrl" key pressed to invert the current status of the selected stitches
- Hold the "Alt" key pressed while clicking on selected stitches to remove them from your selection.

Select All - None - Invert

More selection options are available if you right click on the selected object.



- The "Select all" option will select all stitches of the selected object.
- The "Select none" option will deselect all stitches of the selected object.
- The "Invert selection" option will invert your current selection. If you have selected a group of stitches and you apply "Invert selection" option, the currently selected stitches will be deselected and the rest stitches of the object will become selected.

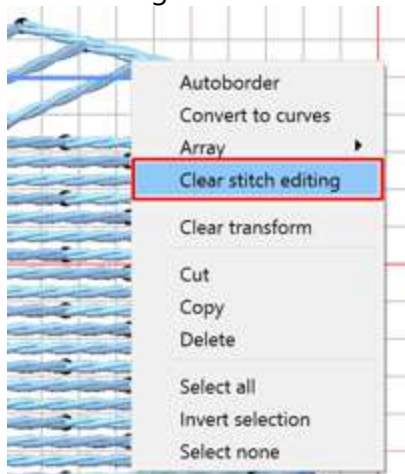
Move stitches

If you want to move one stitch or multiple stitches, first you have to click on the "Edit stitches"  tool from the left toolbar to activate the stitch editor. Then, you have to click and drag the selected stitches and move them to a new position. By using the selection techniques we described in the previous section you can make complicated stitch movements that give you powerful stitch editing abilities.

Also you can move the selected stitches by using the arrow keys from the keyboard.

After editing the stitches of an object you have limitations on the tools that you can use on it. The stitch edited object is locked and it does not change its status even if you edit its nodes or change the stitch type. To reset the status of the stitch edited object and unlock it, you have to:

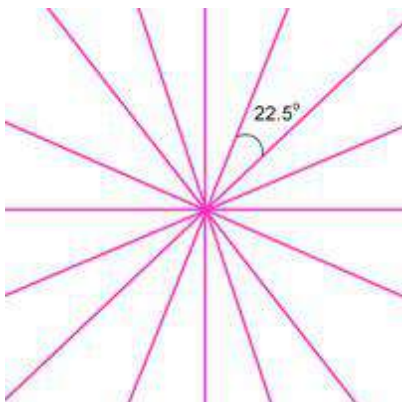
1. Select the object and right click on it.
2. From the right click menu select the "Clear stitch editing" option.



3. The object will be reset and any stitch editing will be lost.
4. You are now able to apply all the available tools on the object.

Snap movement

This movement of stitches can be activated by holding down the "Ctrl" key while click and dragging the selected stitch points.

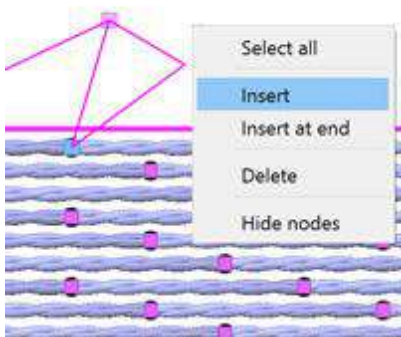


While dragging the selected stitches, they will snap on specific angles and help you to make accurate movements. The stitches will snap on 22.5 degrees intervals.

Insert stitches

Using this tool you can add stitches to the current design. This function can be used only when you are in "Edit stitches" mode.

First click on the stitch from where you want to start adding stitches and press the "Insert" key from the keyboard (for MS Windows users) or the "Insert" option of the right click menu. Each subsequent click adds a stitch after your initial location and before the stitch you have selected.

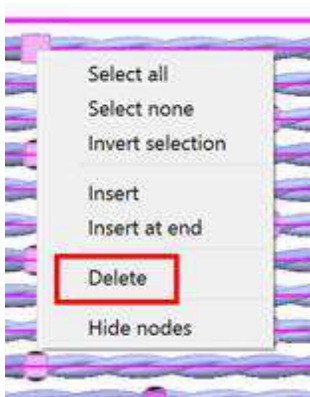


After finishing with the insertion of stitches you can simply right click with the mouse and the function will end.

If you want to add stitches at the end of the current object, you right click anywhere on the object and select the "Insert at end" option from the menu, following the same procedure we described previously.

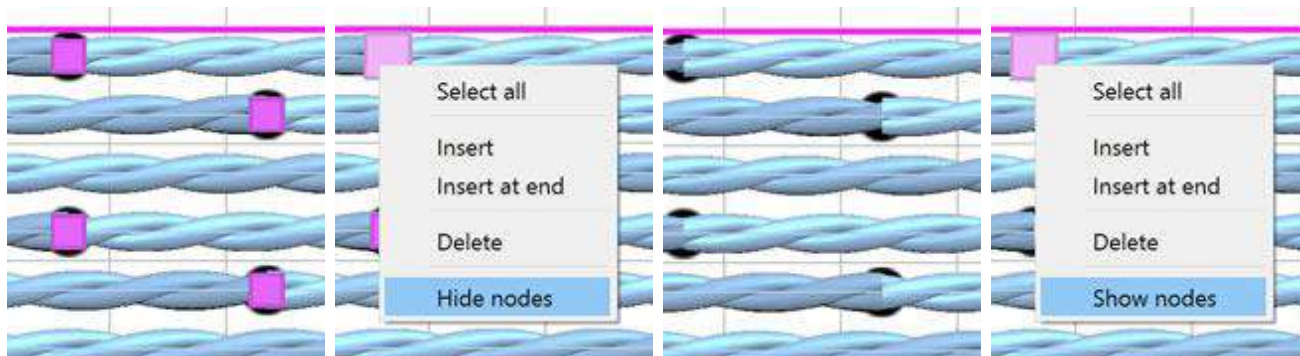
Delete stitches

In order to delete stitches, first you have to select the stitches that you want to delete, by using the selection options we described, and then press the "Delete" key from the keyboard or select the "Delete" option from the right click menu. This action will remove the selected stitches from the design and will recalculate the rest to fit in the changes.



View/Hide nodes

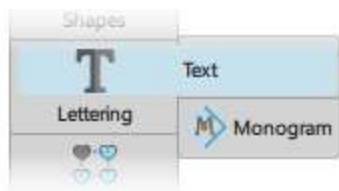
When you select an object with "Edit stitches" mode enabled, the needle penetration points appear as small rectangular nodes. You can either view or hide the nodes. To do that you have to right click on the object and from the pop up menu select "Hide nodes".



To make the nodes visible you can right click once more on the object and from the pop-up menu select "Show nodes".

Lettering

Lettering is one of the most valuable tools available. Using the lettering tools you can personalize and decorate your designs and create unique looks on any project. You can easily add text and monogram into any of your designs using the available lettering tools. Using the Text tool you add Text to any design you are working on and using monogram tool you can create monograms with optional frame. All the fonts that are installed in your computer are available to create Text Art designs easily. You can find the "Lettering tools" on the toolbar on the left side of the application window, on Lettering section. When you put the mouse over Lettering section you can see two options, one for text and one for monogram.



Add text

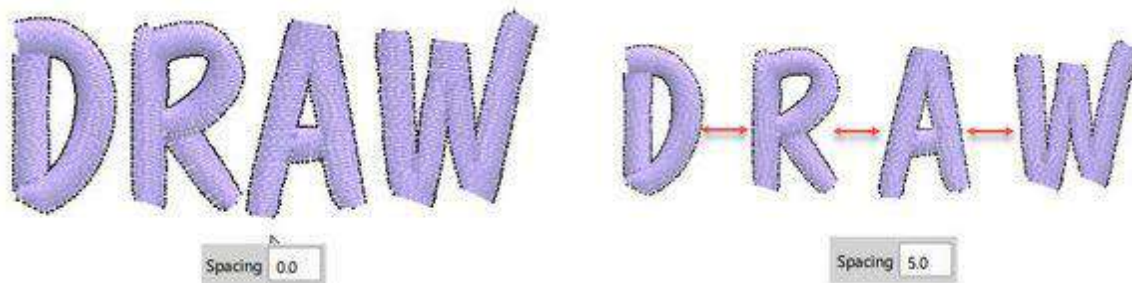
You can find the "Text" tool **T** on the toolbar on the left side of the application window, on Lettering section. Start the Text tool by pressing on its icon or using F8 keyboard shortcut. When you start the text tool, you can click on the design area to define the position of the text. Wherever you click, you set a blue dash and this is the position that your text starts from. If the position is not correct then click again to change the starting point. On the top part of the design area you can see the text options. From this place you can control all available Text options.



1. Type or paste the text you wish to add. To paste the text you have to select the "Paste" option from "Edit" menu or by selecting the respective option from the right click menu. The pasted text will be inserted

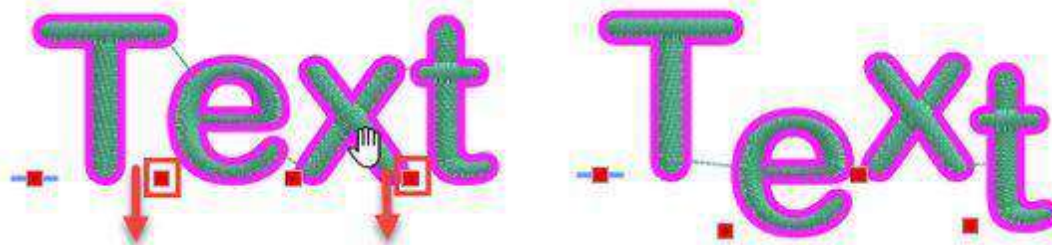
allowing you to edit it further. The inserted text will appear on the working area immediately. Any edit you make in the "Text" field is automatically applied on the existing text.

2. Expand the Font name list to select a Font. The Font will change on the text allowing you to visualize how the embroidery will look like with a different font. There are 2 types of fonts, the predigitized fonts, that have this zig zag icon , and the true type fonts that have this TT icon . The pre-digitized fonts are made from professional embroiderers, for high quality lettering sew outs. More than 200 pre-digitized fonts are included in the Lettering tool. The TrueType fonts are all the fonts that are installed in the computer. The text you have defined is automatically previewed with any font that you select.
3. Adjust the size of the font by typing a value. You can also scroll with your mouse wheel, if you are using one. This value actually represents the height of the characters.
4. You can adjust the distance between the characters using the character spacing.



5. Set the characters to be Bold.
6. Set the characters to be Italic.
7. Enable or disable smart text, which gives you the ability to type special phrases that are replaced by special characters. For example, using parenthesis enclosing a C you can add a copyright sign.
8. Edit the available abbreviations.
9. You can use envelope to transform the text.
10. Using this value you can adjust the shape of the selected envelope. The value can take values from 1 to 100. When the value=1 the shape is rectangle, while the value is increasing the shapes tends to be more like the selected shape.
11. Select the text placement to apply alternative placement options.

The red dots that you can see under each character are placement handles. So use the mouse to select any of them and move individual characters, to create unique text placements.



When you are done, adjusting the text options or placement you can click on the rectangle selection, and the text is finalized with the current properties. Now if you select the text object you just created you can see its dimensions on tool options toolbar and not text options. At this point the text object can be transformed as

any normal object. To adjust the text options again or edit the text, you need to select the text tool once again. Adjust the options as you like and click on the selection tool to release the text tool. You can edit text option or change the position of each character as long as it still a text object. In case that a text object is converted into curves then the text options are removed and you can only handle it as any other curve object.

While adjusting the text options, you can left click somewhere else and you can start a new text.

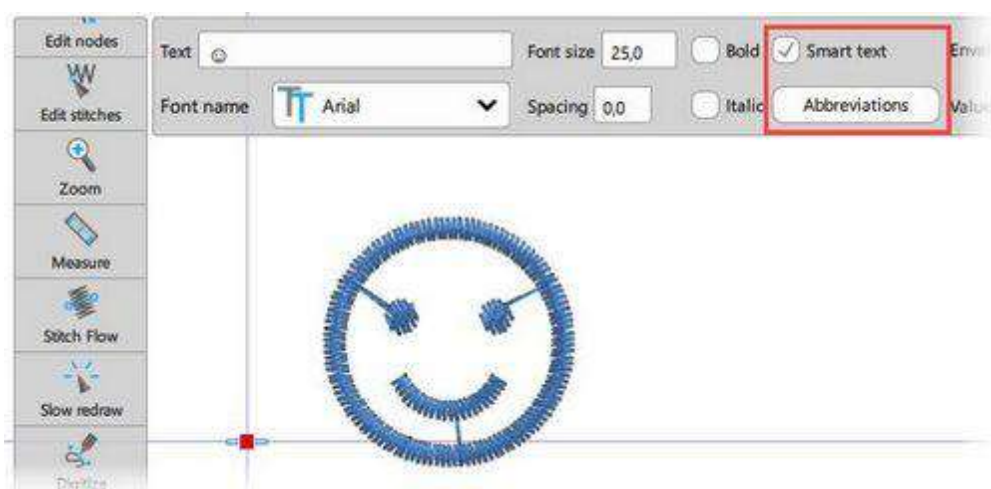
Additionally, when the mouse is on top of the characters, the cursor turns into a "Hand" and by click and drag you can move the created text to another position. It is similar to moving individual characters, but this time you move the whole text part.

Smart text - Abbreviations

We call an Abbreviation any combination of letters – characters that can be used in order to represent a special character which we can't easily add using the keyboard. The software includes a list with commonly used abbreviations that can be easily added to our text designs.

The "Smart text" option allows to enable or disable the usage of abbreviations for the inserted text. Therefore if you want to use "Abbreviations" you have to have it checked.

In order to see the list of the available abbreviations you must first activate the text tool by clicking on the **T** button from the "Tools bar" or by pressing F8 keyboard shortcut. When "Text tool" is activated various options appear in "Tool options" bar that can be used to customize the inserted text.



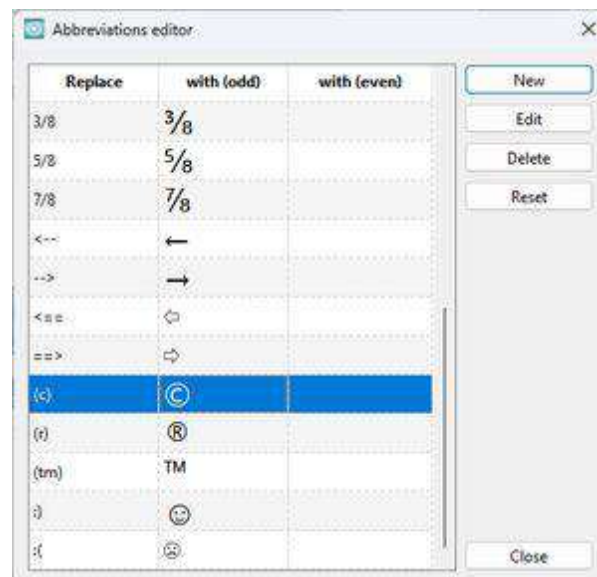
You can Press **Abbreviations** button in order to bring up the abbreviations editor.

In this dialog we can see the list of available abbreviations.

We can also manage abbreviations

1. Create new
2. Edit existing
3. Delete
4. Reset all modifications

The usage of these options will be described in a separate section.

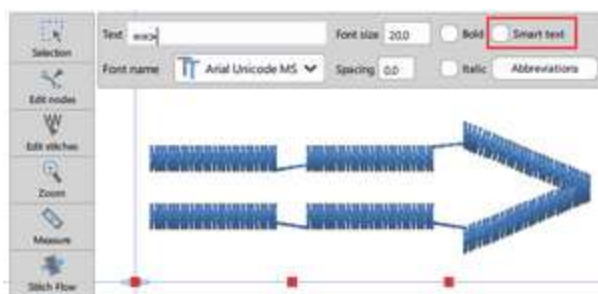


When typing text we can use any of the available character combinations in order to add various special characters. For example if we type "==">" it will automatically be converted into the "⇒", as there is an abbreviation for that special type.

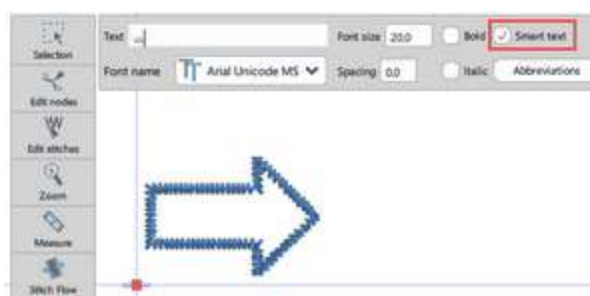
Likewise, you can use any of the available abbreviations. The program automatically recognizes the pressed keys and replaces the inserted text with the interconnected abbreviation.

Abbreviations

In order to use that feature and have abbreviations automatically applied on inserted text make sure that Smart Text option is enabled. In case that we want to write normally without applying abbreviations we must disable smart text option.



Abbreviation Disabled



Abbreviations Enabled

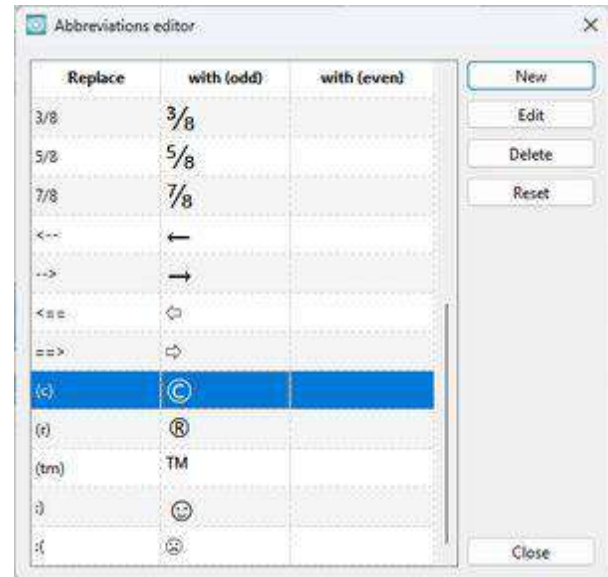


Not all abbreviations are available to all Fonts. If the abbreviation is converted to a character/text/symbol that is not the one you have set, then the currently selected font does not contain the character/text/symbol you are trying to produce.

Creating abbreviations

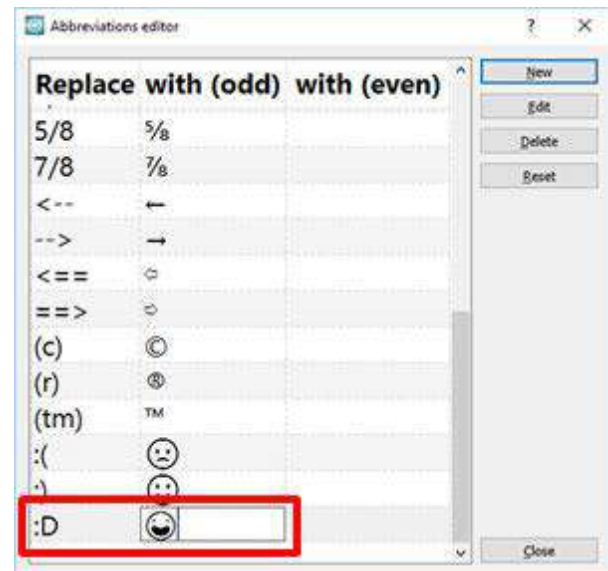
There are special characters that we may like to use in our designs.

Click on the "New" button to create your own abbreviations.



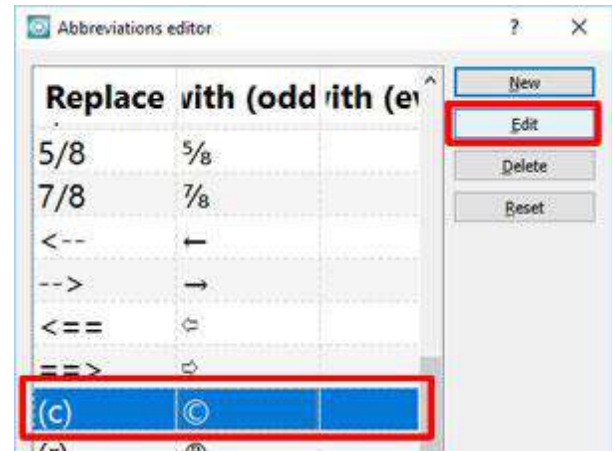
For example

1. Press the "New" button on "Abbreviations" editor dialog.
2. On the lower part of the dialog, a new row will be inserted. Double click on the empty cell to edit it.
3. Set the text in the "Replace" field that will be replaced with the symbol/text that you will set in the "with(odd)" field.
4. Press "Enter" ("Return" for Mac) to apply the new abbreviation.
5. In our case when we typed ":D" then it will be replaced by the laughing "😄" sign.
6. Click on "Close" to apply the change.

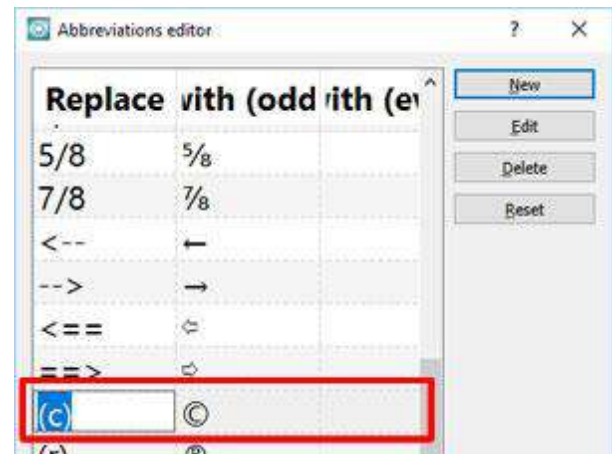


Edit abbreviation

1. Select any of the available abbreviations
2. Click on the "Edit" button or double click on the cell you want to edit.

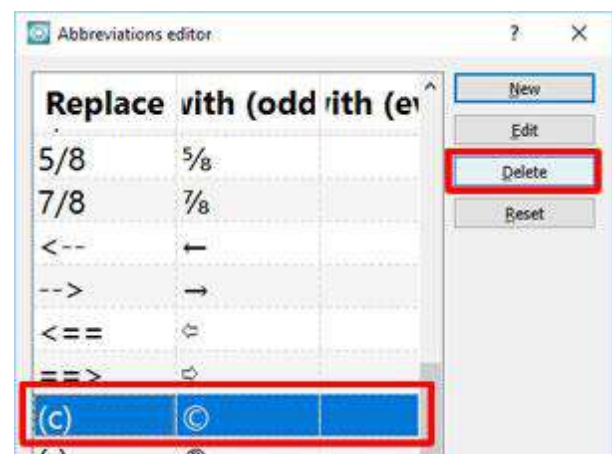


1. The cell will become editable.
2. Change the text in the "Replace" cell and then double click on the "with (odd)" cell or press "Tab" to change the special character.
3. Click on "Close" to apply the change.



Delete abbreviation

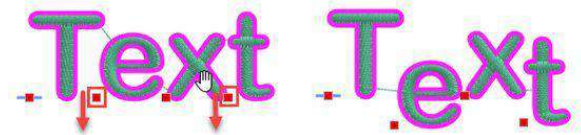
1. Select any of the available abbreviations.
2. Click on "Delete" button to remove it



Edit Text shape

In "Edit nodes"  mode (F10) you can edit the shape of the text objects. You have the ability to change the position of each Text character and create complex text artwork. Select the text object and activate Edit shape nodes mode. In this mode you can see a handle sign on the bottom part of each character. Click and drag to move any letter into a new position. Move any character to any position you like and create a text art design.

Move any of the letters.



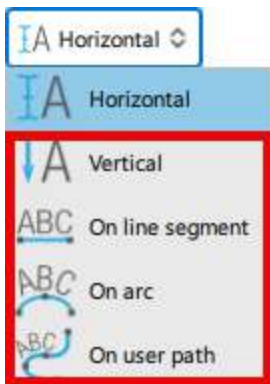
Just like that you can reposition the characters easily and create text art designs.



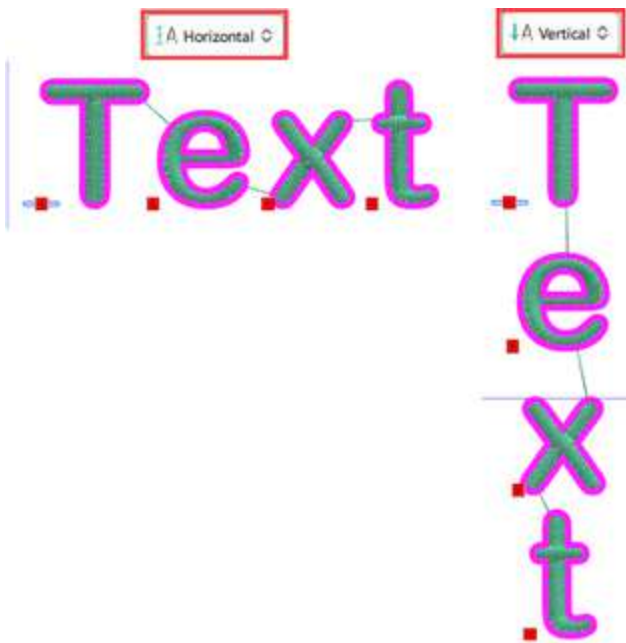
You can change the position of each character as long as it still a text object. In case that a text object is converted into curves then the text options are removed and you can only handle it as any other curve object. Another way to separate the characters and deal with them as separate objects is by converting the text object into curves and then break the object apart into curves. Select a text object, right click and from the appearing menu select "Convert to curves" option. Then right click once more on the object and from the appearing menu, select the Break apart option. The text object now is split to its characters and can be handled as any curve object.

Text placement

Using this option you can change the Text placement. By default the text is placed using "Horizontal" placement and there are no special placement options for this placement. You can change the way the text is placed by selecting any of the available "Placement" options that are available on "Tool options" bar when adding any text object. The placement options are:



- Vertical: The text is placed vertical.



- On line segment: The text is placed on a straight line that can be adjusted using the green handles on the edges of the line.



- On arc: The text is placed on an arc that can be adjusted using the three control handles of the arc. Using the handles on the sides of the arc you can change the start - end of the arc and using the one in the

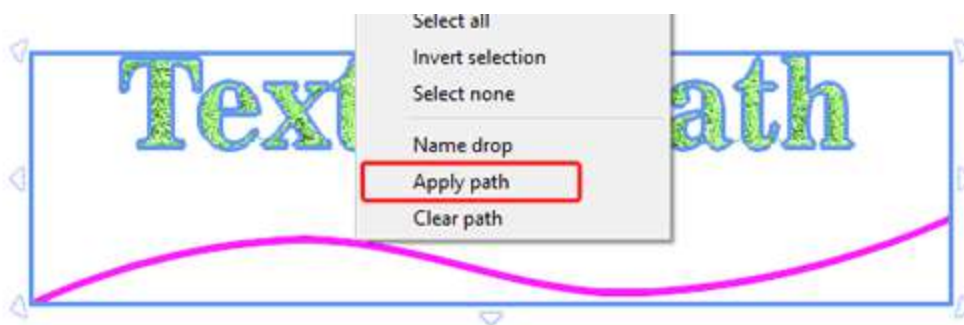
middle you can adjust the radius of the arc.



- On user path: The text will be placed on a user path that can be adjusted using "Edit shape nodes" and create any unique path you like.



Additionally, there is a way to use any part of your design as user path. For example you can select the text and the line part, as shown in the following figure, right click and from appearing menu select "Apply path" option.



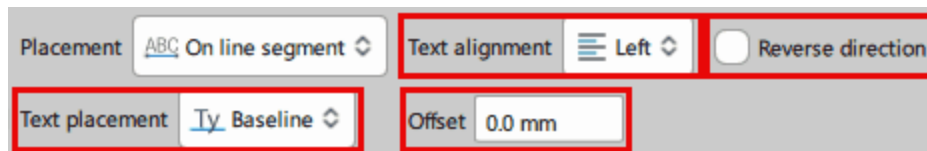
The line part is used as a user path.



When using "user paths" you can add nodes and use all node editing abilities to edit the path. This may seem more advanced but if you are an experienced user you can create unique baseline effects.

You can easily remove any applied path if you right click on the text object with the path, and use clear path option.

When selecting placement "On line segment", "on Arc" or "on User path", there a few additional options available. The additional options are : "Text placement", "Text alignment", "Offset" and "Reverse direction".



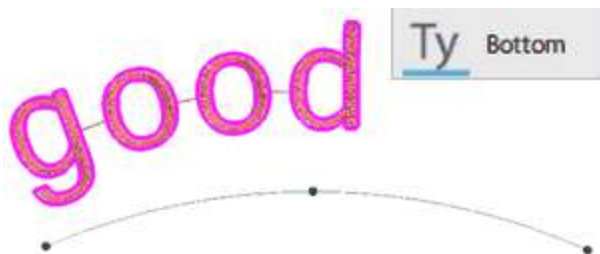
Text Placement

Using the "Text placement" options you can select the position of the text in relation to the path line.

- Baseline (Default): The Baseline option is the default option and positions the text on the curve having characters such as small 'g' to expand under the curve.



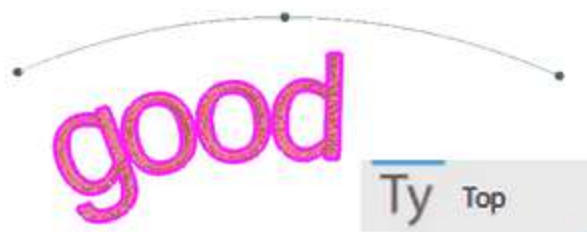
- Bottom: The Bottom option positions the text over the curve completely. The curve (path) will be position at the bottom of the text. The characters such as small 'g' will be positioned over the curve completely.



- Ascent: The Ascent option positions the text exactly under the curve, all letters go below the line, except from ascenders, like letter "d" that may go over the line. The curve line is positioned exactly over the text.



- Top: The Top option positions the text under the curve by keeping a small distance from the curve.



Text alignment:

Using the alignment options we can change the position of the text on the line and set the alignment to left, right, center or full.

- Left: The "Left" option is the default option and sets the Text on path to start from the Left side of the path.



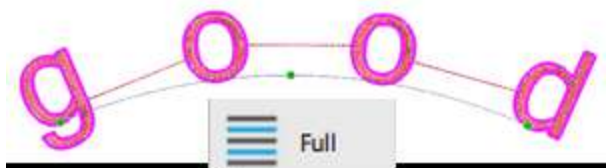
- Right: The "Right" option sets the Text on path to start from the Right side of the path.



- Center: The "Center" option centers the Text on the path.



- Full: The "Full" option justifies the Text on the path.



When you set the alignment to full, you can adjust the letter spacing, if you change the size of the line.

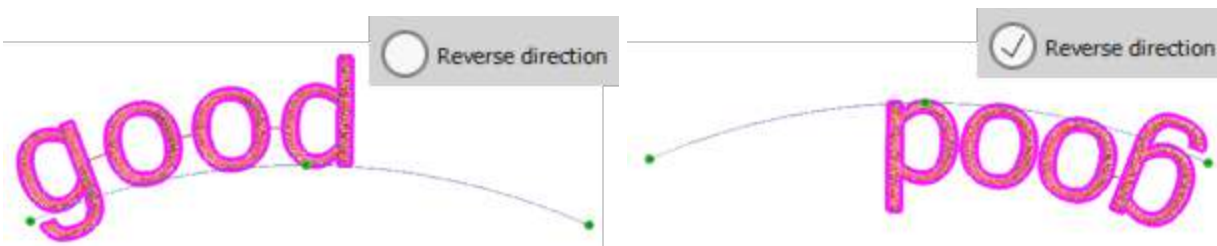
Offset:

The "Offset" numerical field specifies the distance of the Text from the path start. The default offset value is zero and you can change it by typing a new value in the field, and then press enter key from the keyboard to apply it. The "Offset" value can take positive or negative values and move the Text on the path accordingly.



Reverse Direction:

If you choose Reverse direction, you make the text start from the other edge of the line. When you place Text on a path or on a shape the text takes the direction of the path. If the path was drawn from left to right, then the Text will be also placed from left to right and over the path. On the other hand if the path was drawn from right to left then the Text will be also placed from right to left but will be positioned below the path.



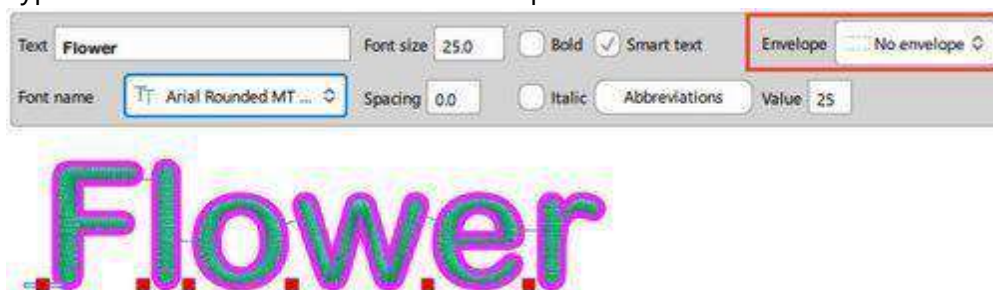
When the path or the shape was designed from right to left and the text you have placed on appears in the opposite way from what you expected, you can simply check the "Reverse direction" checkbox and the text will appear in the way you wanted to be.

Envelope on Text

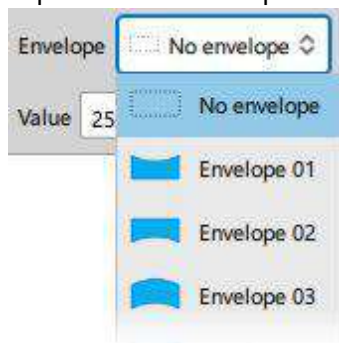
When adding any text object, you get to see the envelope option together with all text options, on Tool options toolbar. Using Envelope, you can easily transform the shape of your Text, by selecting any of the available envelope shapes. The envelope is only available for the "horizontal" placement.

To apply an envelope on any text, you have to

1. Type a text in the "Text" field of "Tool options" bar



- Expand the "Envelope" drop-down menu and select the envelope shape you want to apply.



- The software tries to fit the text into the desired envelope shape. So you will see the shape of your shape transformed.



- Using the "Value" option under the envelope drop-down, you can adjust the shape of the selected envelope. The value can take values from 1 to 100. When the value=1 the shape is rectangle, while the value is increasing the shapes tends to be more like the selected shape.

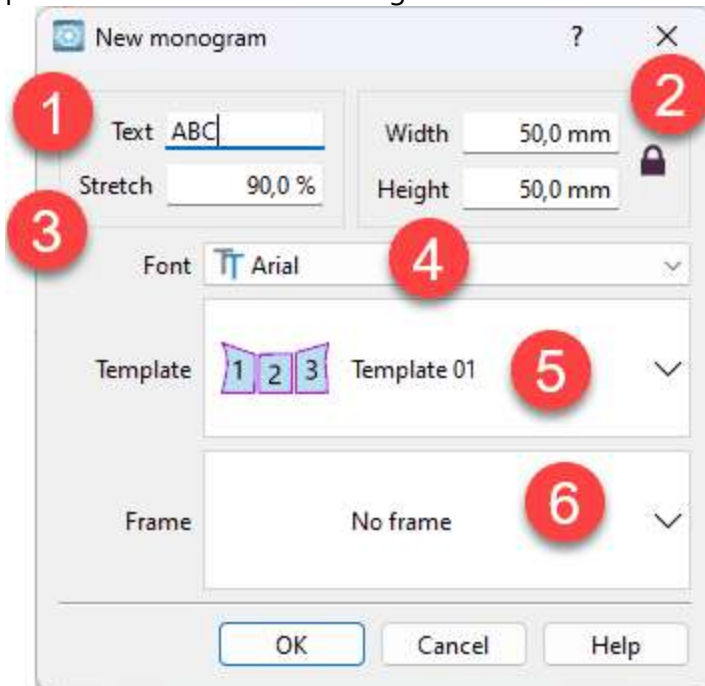


- If you changed your mind, you can apply a different envelope from the list and see how it looks. At any point, you can clear the applied envelope and reset it back to the way it was originally by selecting "no envelope".

Monogramming

With the Monogram tool you can create your own monograms, using various templates and decorative frames. To create a Monogram design you have to do the following:

- Click on the "Monogram" icon  that is located on "Tools" bar, in Lettering section. The "New Monogram" dialog will appear and you can customize all monogramming options. The dialog always comes with the setting of the last created monogram. If you move the wizard dialog you can see a preview of the created monogram.

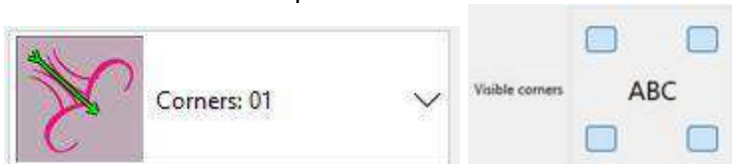


1. Type the monogram characters. There is a limit of 3 in characters that you can insert in the field.
2. Define the size of the area that the monogram will be placed by setting the "Width" and the "Height". While adjusting "Width" and "Height", using this lock, you can make sizing proportional or not. When the lock is on, any change of width also affects the height and if unlocked, you can adjust width or height individually.
3. The "Stretch" percentage of the monogram "Text". The default value is 90%. By increasing the "Stretch" value, the monogram text becomes bigger and comes closer to the decorative frame. By decreasing the "Stretch" value, the monogram text becomes smaller.
4. The "Font" that will be used for the monogram. You can either use Pre-digitized, True Type(TT), Open Type(OT) and Symbol(S) fonts.
5. The "Template" that will be applied on the inserted monogram Text. There are many templates from where you can select the one you prefer. Select one by clicking on it. It will automatically be applied and previewed on the workspace of the software behind the "New monogram" dialog.
6. The "Frame" that will decorate the Monogram. There are three "Frame" types. "Borders", "Corners" and "Sides".

- **"Borders":** Are embroidery designs that will frame the monogram Text that you will insert. The diagonal arrow shows the area where the Text will be placed.



- **"Corners":** Are embroidery designs that are suitable for placing them at the corners of the monogram. You have the option to add one up to four corner designs by clicking on the rectangles of the "Visible corners" options.



- **"Sides":** Are embroidery designs that are suitable for placing them at the sides of the monogram. You have the option to add one up to four side designs by clicking on the rectangle of the "Visible sides" options.

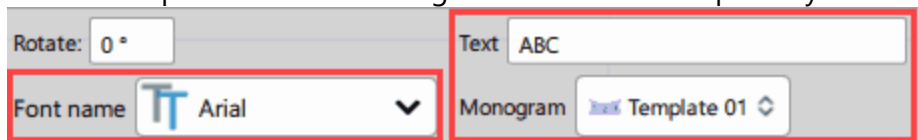


Every change that is made inside the "New monogram" dialog, it is previewed on the workspace behind the dialog. To apply the changes you have to click Ok. The monogram will be placed on the workspace ready to edit it further.

Edit monogram

To edit the monogram you have inserted you need to do the following:

1. Select the monogram text.
2. The "Tool options" bar will change and show all the options you can edit.

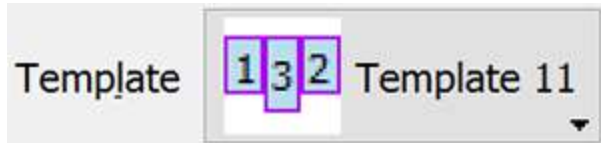


3. In the "Text" field you will see the monogramming characters you have inserted in the design. Change any character and press "Enter/Return" to apply the change.
4. To change the font type of the monogram, select a different one from the "Font name" drop down menu.
5. Finally you can change the template from the "Monogram" drop down menu.

Edit monogram template

The software comes with a set of monogram templates. All monogram templates are consisted of 2 or 3 rectangular areas that work as containers for the monogram characters. The monogram mechanism makes the best fit of any added character into any of the rectangular areas. All templates have numbers on top of

them which specify the position of each character you have inserted in the "Text" field. For example in Template 11, the third character will be placed in the middle rectangular area.



Also you have the ability to customize the inserted monogram containers inside the "Edit nodes" mode and transform their shape. In the following example we will edit a created monogram using Node editor mode.

1. Select any applied monogram.



2. Click on the "Edit nodes"  tool from the "Tools" bar.

3. All monogram characters are surrounded by a rectangle that has some nodes at the corners. Using node editing options we can completely change the shape and the position of the rectangle area. When editing the character container, the software tries to automatically fit the characters into the new edited area.



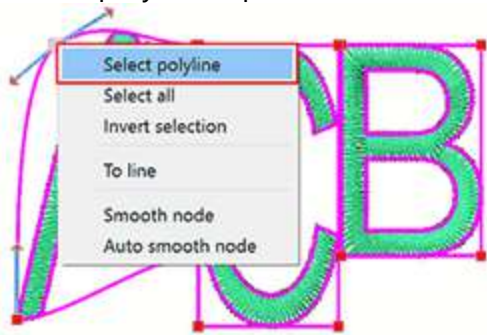
4. If you click on any of the corner nodes, two handles will appear that will allow you to change the curvature of each side. Click and drag the handles to adjust them.



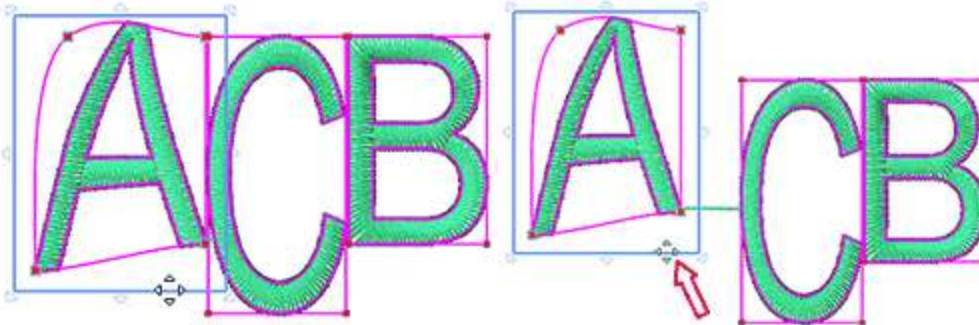
5. You change the character container by click an dragging each node to a new position.



6. You can change the position of a container by selecting a node and then from the right click menu select "Select polyline" option. All nodes of the container will become selected.



7. Position the cursor over the rectangle selection outline and move it towards the direction you want.



All node editing abilities are available to you in order to create a custom monogram text container.

Overlapping areas

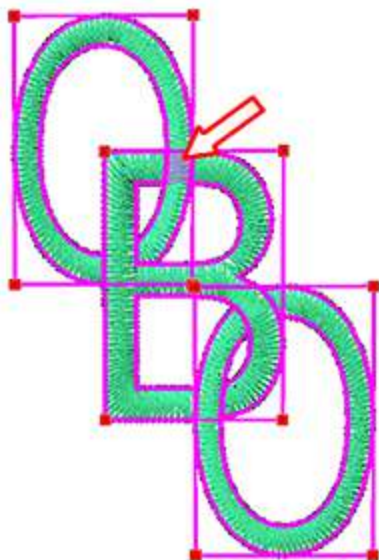
Monogram tool has the ability to specify which section of a character will be under or above when two or more are overlapping.

To do that you have:

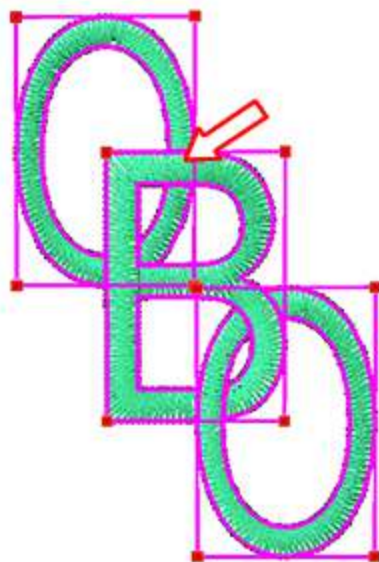
1. To switch to node editing mode by clicking on the "Edit nodes"  tool from the "Tools" bar.



2. Make sure the Monogram text is selected. Place the mouse pointer over any overlapping area. The area will be highlighted.



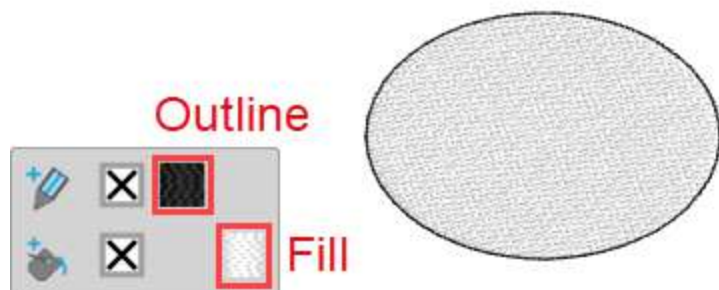
3. "Left Click" on the highlighted area to change the overlapping order. The part that was on top is now underneath.



4. By following the same steps you can change the overlapping order to the rest possible positions.

Working with colors

In this section we will present how to work with colors for your projects. By default when creating a new blank design, the "Used colors" bar, that is located on the lower part of the application, is blank. When you create an object the default "fill"  and "outline"  color are automatically applied and you can see them on "Used colors" bar.



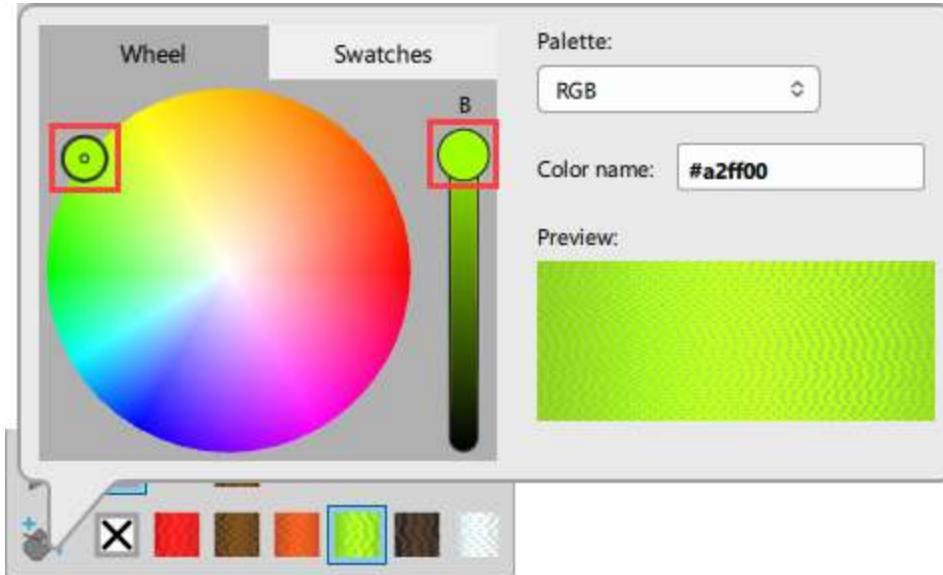
This bar holds all the colors that are already used on this design and you can apply any color to any object, remove fill or outline, select a new color and edit any color. The upper row, holds the "outline" colors and the lower row shows the "fill" colors. If you open a design with multiple objects you can see all used outline colors on the upper row and all used fill colors on the lower row. When an object is selected the colors that this object has appear highlighted. If you click on any other color (fill or outline), than those already applied to this object, then the color that you click is automatically applied to the selected object.



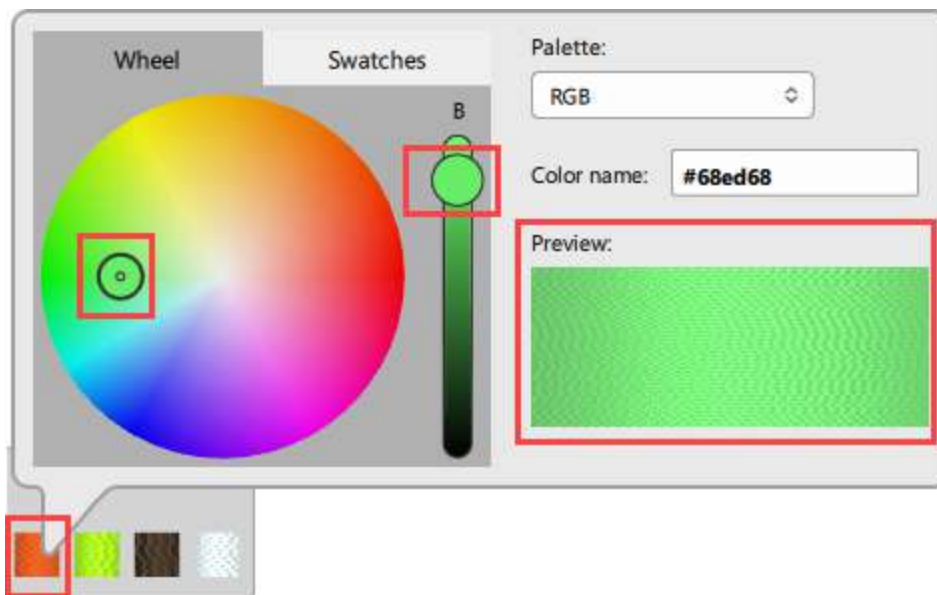
Click on the "none" color  (fill - outline) to remove the fill or outline from the selected object.

You can set a new color, to the selected object, by clicking on the "Fill"  or "Outline"  icons. The "color selector" appears to select a new color for the selected object. In the same way, if you click on any of the used colors you can edit the color. The "color selector" appears and you can change the color. The new color

is automatically applied to all objects that were using the previous color. You can also right click on any color and use "Edit color" option to edit the color.



Using the "color selector" you change the selected color. You can move the small circle inside the color wheel to select any other color. You can also adjust the brightness of the color, using the track bar that is next to the color wheel. When you drag this handle upwards the object gets brighter. At any point you can see a preview of the selected color on the preview area.

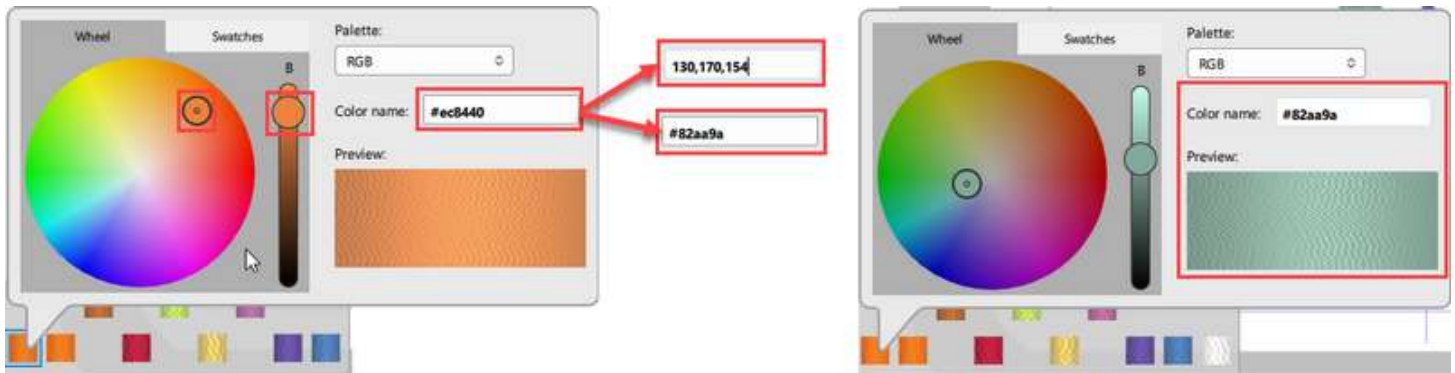


Another way to select a color is to type a value into "Color name" box. You can type a color in any of the following ways.

1. RGB value, if you are familiar with RGB colors you can type the RGB values separated with comma and the software will set the selected color. For example if you type 130,170,154 you will get the green of the following image.
2. Hex Color Codes, Color-hex gives information about colors including color models (RGB,HSL,HSV and CMYK), Triadic colors, monochromatic colors and analogous colors calculated in color page. You may find

a Hex color code of a color you want to use. For example the Hex color code of the green color in the following image is #82aa9a

3. Color names, you can type the name of any know color, like type green. The software will set a green color. But have in mind that green has many variations and the software will automatically select one only.



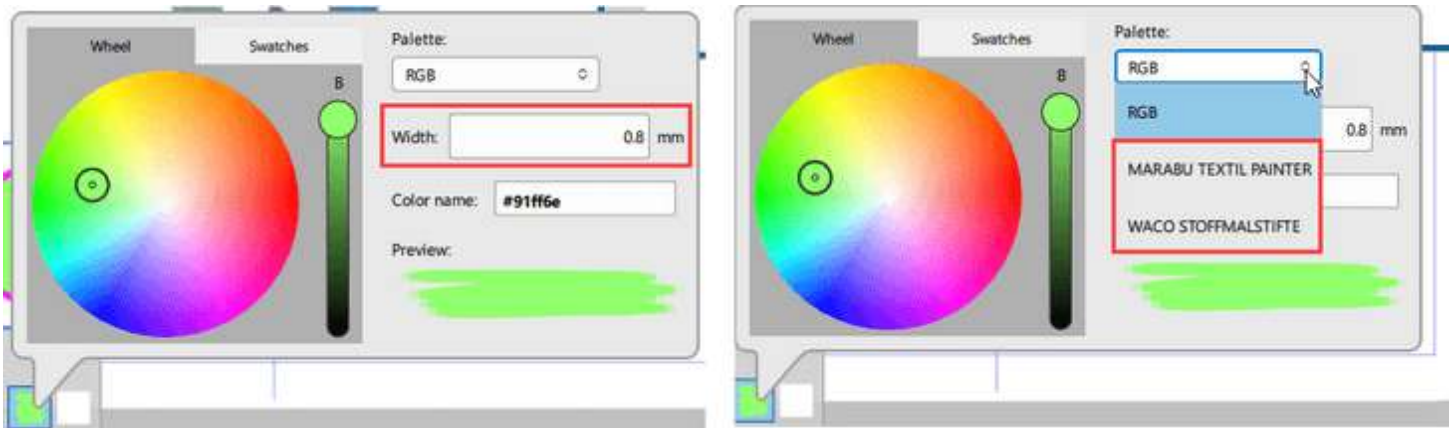
If you select a Thread palette the software automatically matches the color wheel color with the closest one from the thread palette you have selected.



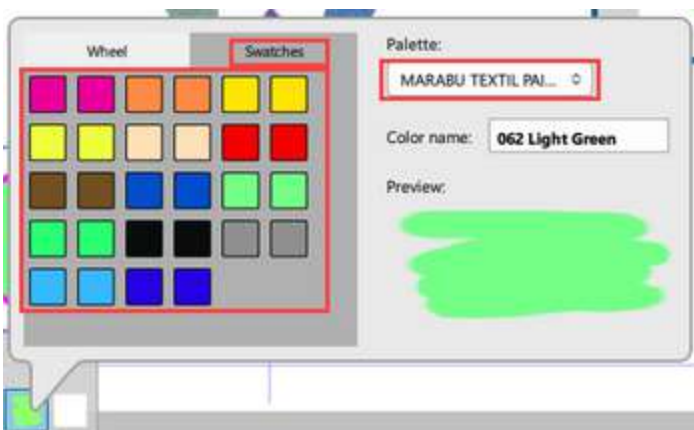
When you have a palette selected you can also see a list of the palettes colors by switching to "Swatches" instead of the color wheel. You can scroll trough these color and click to select any color from this list.



if you have the "Paint" technique enabled and you have applied any "paint type" on an object, then the color that this object uses will look like a Brush color. When you edit any of the "Paint" colors you can select one of the "Brush" manufacturer palettes.



When you have selected a "Brush" manufacturer palette you can also change to swatches view and scroll through the colors of the Brush palette that are available.



At this point we will not analyze how to work with Paint colors since they are presented into a separate section in the chapter about Paint. One thing to have in mind is that generally the Thread/Brush palettes have a limited number of colors. When a design has too many colors, the program can not always match all colors

to an identical color from the thread/brush palette. There is a mechanism that matches the design colors to the closest available from the selected color palette.

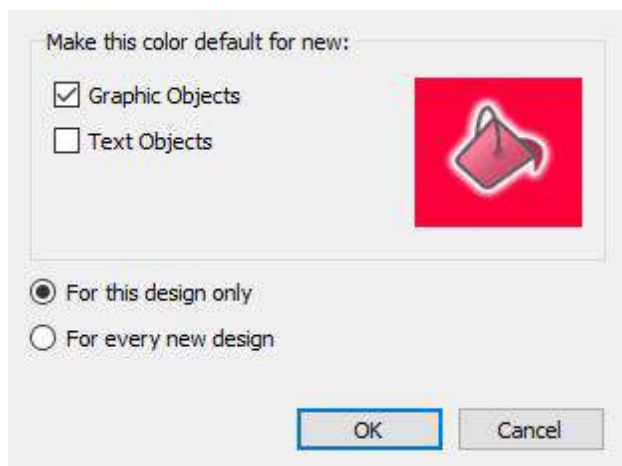


When you open an image as Cross-stitch, you can see the colors of the cross-stitch in the used colors bar, but if you change them, they are automatically reverted, since the cross-stitch colors are calculated according to the imported image only.

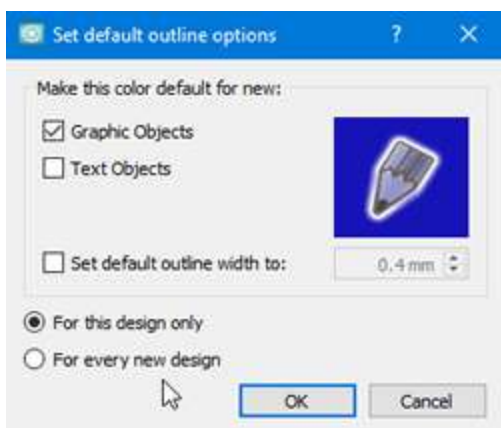
You can also use "Color manager" to manage and reduce the design colors.

Set default colors

As we have already mentioned, when creating an object a set of default "Fill" or "Outline" colors is automatically applied. You can change the default set of colors simply by clicking on a "fill" or "Outline" color, when nothing is selected. If you click on any "fill color, the "set default fill" color dialog will appear displaying the color you have selected. On this dialog you can select for which types of objects (Graphic objects or Text objects) the selected color will be used as default Fill color. Furthermore, you can select whether this fill color will be used only for the current design or for every design from now on. If the color that you want is not listed on "Used colors" bar then you should first add the color by clicking on the "Fill"  or "Outline"  icons.



In the same way you can change the default outline color. When no object is selected, click on any outline color and the dialog "Set default outline color" will appear, displaying the color you have selected. You can select for which types of objects (Graphic - Text) the selected color will be used as default outline color. Furthermore you can select whether this outline color will be used only for the current design or for every design from now on. From the same dialog (outline) you can also change the width of the default outline color. Check the "Set default outline width" check-box and type the width you want in the respective field. The default outline width will be set to the new value and the change will be applied to the "current design" or "on every design" according to your selection on the selection of the default.



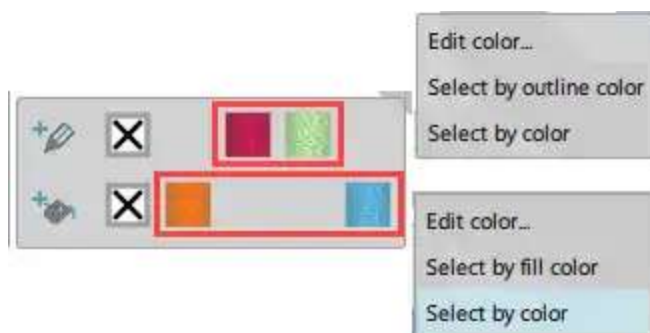
If you have objects selected that you do not want to release, but you want to set a default fill - outline color, you must hold "Ctrl" key and then click on the Fill - Outline color that you want to set. The same dialog will appear. Your selection will not be filled with the clicked color, it will be just set as default Fill - Outline color.

From the same dialog (outline) you can also change the width of the default outline color. Check the "Set default outline width" check-box and type the width you want in the respective field. The default outline width, will be set to the new value and the change will be applied to the "current design" or "on every design" according to your selection on the selection of the default.

In case that you don't want the created objects to have Fill and/or Outline color by default, you can click on the "none"  color at the "Fill" row, if you don't want to have Fill color, or at the "Outline" row, if you don't want to have Outline color, and set both to "none" if you don't want either of them to have color by default.

Selections by color

In many cases it is very useful to select all the objects that are using a specific color. This option is very handy when you want to replace a color for example - it is not necessary to select the objects manually. You can change color, stitch type, apply a style or any other transformation you want. You can select by Fill color, by Outline color or simply by color. In order to make a selection by color you need to right click on the color you wish to select on palette bar. If you right click on a "Fill" color then you can choose to select all objects that are filled with this color or all the objects that are using this color for either fill or outline. In the same way, if you right click on an outline color, you can select all objects that have this outline color or all object that have this color for fill or outline.



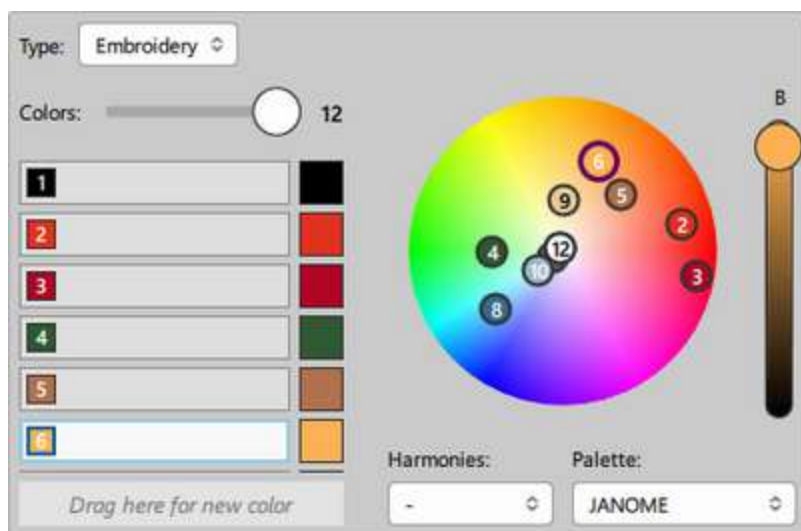
Color manager

In general you can easily import artwork from various sources. Files that are created in other applications are imported and converted into embroidery designs. When importing artwork from other sources, you should always have in mind, the limitations about embroidery designs. If you import a vector design that has 50 colors, it would be too difficult to produce with so many color changes. Additionally the available colors of each thread palette are limited. The "color manager" can always help us optimize and handle the colors of a design. Using the "Color manager" you can:

- Reduce the colors of a design
- Edit the colors on color wheel
- Apply a Thread palette to all design colors
- Apply color harmonies to all design colors.

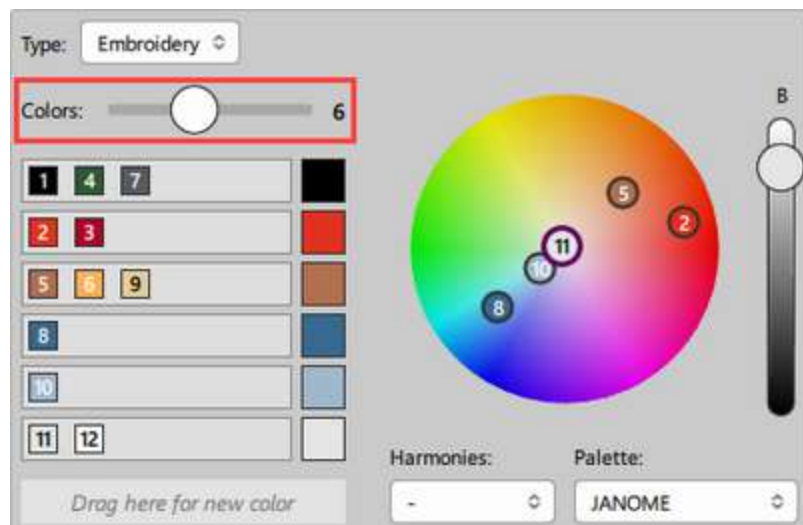
Reduce colors

For embroidery designs, you need to select a thread manufacturer palette and then using the "Colors" track bar you can reduce the colors of the design. When reducing the colors, the color manager automatically matches multiple design colors to a representative color of the selected thread palette. The color changes are automatically visible on the design.

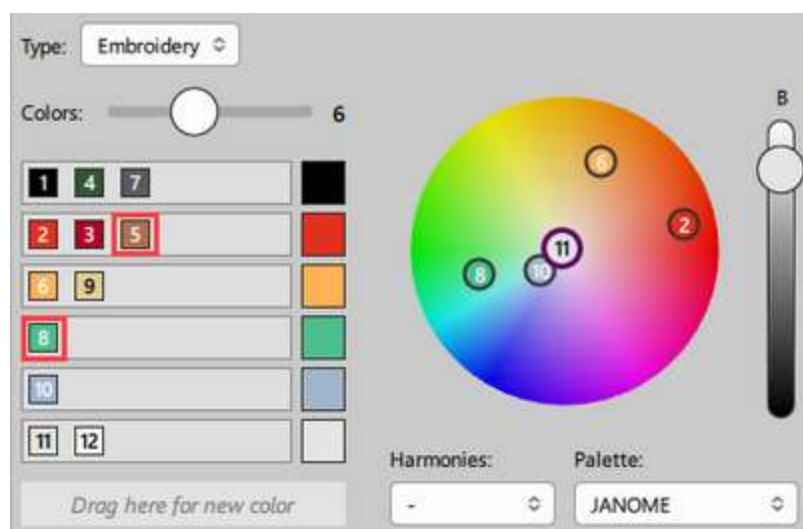


For example, if you have a design with 13 colors, select a Thread manufacturer palette and reduce the colors to 6, then the color manager automatically groups multiple colors and matches them to the closest color

from the selected thread palette. As you can see on the following figure, there are 3 variations of red on the design and the reduction matches them to the closest available red from the selected thread palette.



If you do not like the automatic grouping of color you can always drag a color from the left list to any of the other color lines or drag to the area labeled "Drag here for a new color" to add a new color. For example, you can drag the green color to a new color and move the brown color to the red color group.

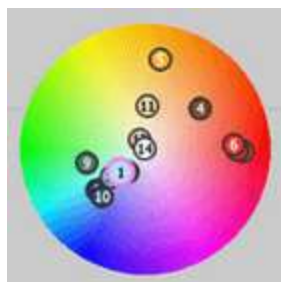


Always have in mind that you can "Undo" any change you have made by clicking on the undo icon (Ctrl+Z) or click on the Redo icon to cancel the last Undo (Ctrl+Shift+Z) you have made.

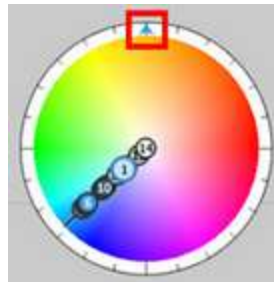
In order to apply the changes you need to click the rectangle selection icon . The colors are reduced permanently, if you have changed your mind you can only "undo" the operation. If you open color manager again the available colors are the reduced colors. You can only manually create new colors. You can select any of the numbers that are on top of the color wheel and change the color by moving it to another point and by adjusting the brightness. If you have too many colors and it is not easy to locate the color you need to

edit, you can move the mouse cursor over the color on the design and click to select it. The color is selected on the color wheel, the little circle gets another outline.

Using "Harmonies control" you can automatically replace the colors of the design using various techniques. For example if you apply Monochromatic, all the design colors are replaced by tones of the same color. More information about harmonies is provided into the Harmonies topic.



Original design



Monochromatic



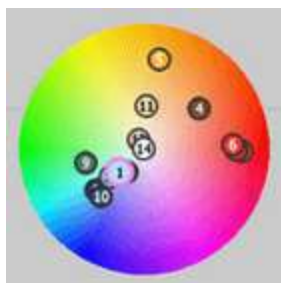
In the same way you can optimize a design with paint colors. If you have a design with embroidery and paint colors, on the top area of the "Color manager" dialog you can select the type of colors you wish to edit. So by selecting "Paint" you can optimize and reduce the "Paint colors".

Harmonies

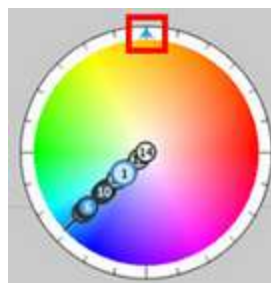
As already mentioned previously, using "Harmonies" you can automatically replace the colors of the design using various techniques. On the following figures, you can see how all the harmonies are applied on the same design. On any color harmony, the color that is labeled with number 1 is the base color. You can change all harmony colors at once if you drag the triangle on the outer circle of the color selector.



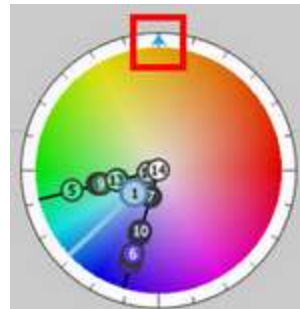
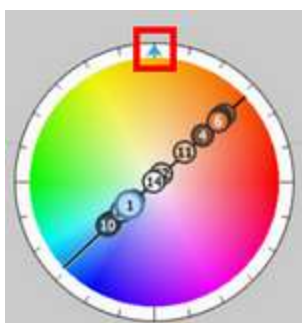
If you double click on any of the numbered circle icons that represent the design colors you can set that color as a base color and the harmony colors are calculated based on this color. When you select a harmony, the color labeled number 1, is always used as a base color, so if you have previously selected another base color and change harmony you will switch back to the default.



Original design

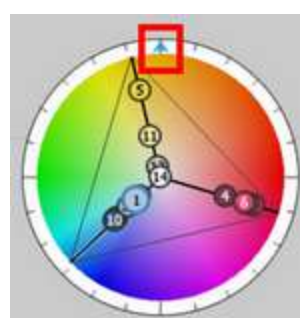
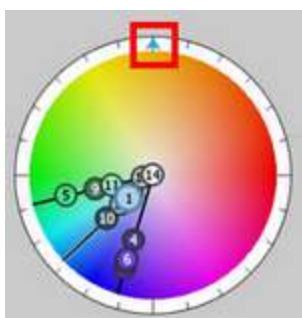


Monochromatic: The monochromatic harmony uses one base color and the rest of the design colors are replaced by tones of the same color.



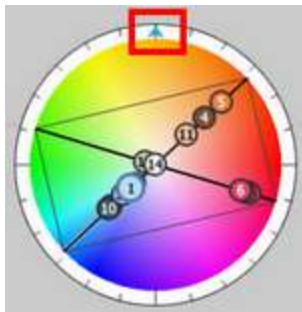
Complementary: This harmony places all the design colors one opposite to the other on the color wheel, so all colors are considered to be complementary colors (example: red and green). The high contrast of complementary colors creates a vibrant look.

Diad: The diadic or diad color harmony uses two colors that are separated by one color on the color wheel.



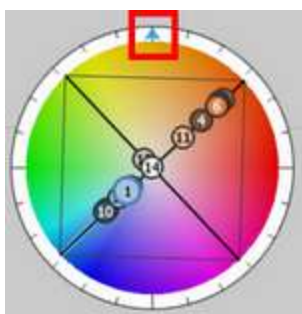
Analogous: The analogous harmony puts the colors next to each other on the color wheel. The colors usually match well and create nice designs.

Triad: The triad harmony puts the colors on a triangle and they are evenly spaced around the color wheel. Triadic color harmonies tend to be quite vibrant, even if you use pale or unsaturated versions of your hues.



Tetradic: The rectangle or tetradic color harmony places the design colors arranged into two complementary pairs, and creates a rich color scheme offers plenty of possibilities for variation.

Split - complimentary: The split-complementary color harmony is a variation of the complementary color scheme. In addition to the base color, it uses the two colors adjacent to its complement. This harmony has the same strong visual contrast as the complementary color scheme, but has less tension.



Square: The square color harmony is similar to the rectangle, but with all colors spaced evenly around the color circle.

Re-order design

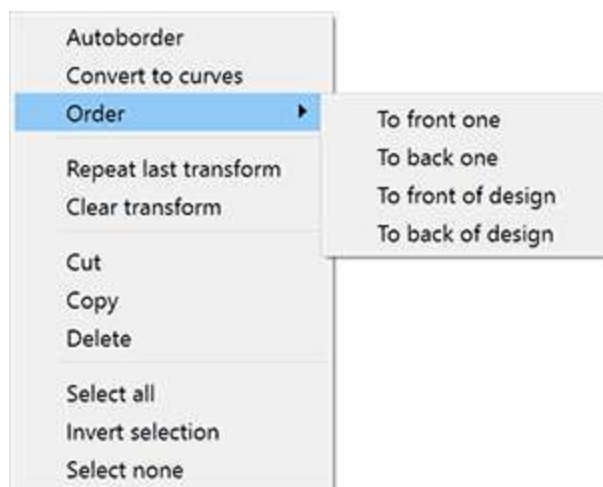
The software includes two ways to re-order the objects/shapes of a design. The first is from the "Order" option of the right click menu and the second the "Sequence manager" bar. The first method can be used in all cases and the second only if the Auto sequence  is disabled. We will explain how each method can be applied in the following sections.

- Re-order from right click menu
- Re-order with Sequence manager

Re-order objects

One way to re-order objects is by using the order option from the right click menu. You can change the selected objects order by bringing one to front and send another to back. The re-ordering you are making is for the graphic design mainly. While having the auto-sequence  set to "Auto", the final embroidery sequence will be based on various optimization that will be applied on the design and will not be identical with the order that the graphic design had initially. To completely manage the order of the design you have to set the sequence to "Manual".

There are four available reordering options which are "To front one", "To back one", "To front of design", "To back of design". To apply any of the reordering options to the object(s) you have to select it and then right click on it in order the pop-up menu to appear. From the right click menu expand the Order sub-menu and select any of the four reordering options.



- To front one: With this option you can move the selected object forward one position. If the selected object is positioned at the top of the design then the To front one option will not be available. Another way to apply this option directly is by pressing Page-Up shortcut key (PgUp) together from the keyboard.
- To back one: With this option you can move the selected object behind one position. If the selected option is the last object of the design, this option will not be available. Another way to apply this option directly is by pressing Page-Down shortcut key (PgDn) together from the keyboard.
- To front of the design: With this option you can move the selected object(s) to be in front of all other objects of the designs. Another way to apply this option directly is by pressing End shortcut key (End) together from the keyboard.

- To back of the design: With this option you can move the selected object(s) to be behind of all other objects of the designs. Another way to apply this option directly is by pressing Home shortcut key (Home) together from the keyboard.

For example, in the figure below we have three circles; and the pink circle is at the lowest level, the green to the next level and the yellow to the top level.



In order to change the order of the circles we have to select the pink one and from the right click menu select "Order > To front one" option.



Immediately the circle from lowest level goes one level above. We can also do the opposite by selecting the yellow circle and from the right click menu select "Order > To back of the design" option.



This option sends the circle to the lowest level of the design. The reordering tools can help you create exactly the design you want to embroider.

Sequence manager

"Sequence manager" provides a graphical representation of the design's order and an easy way to change it at will. The "Sequence manager" is located next to "Properties" bar. All design items are represented as icons in a square box. The "Sequence" manager has two modes:  "Auto" and "Manual".

"Auto"

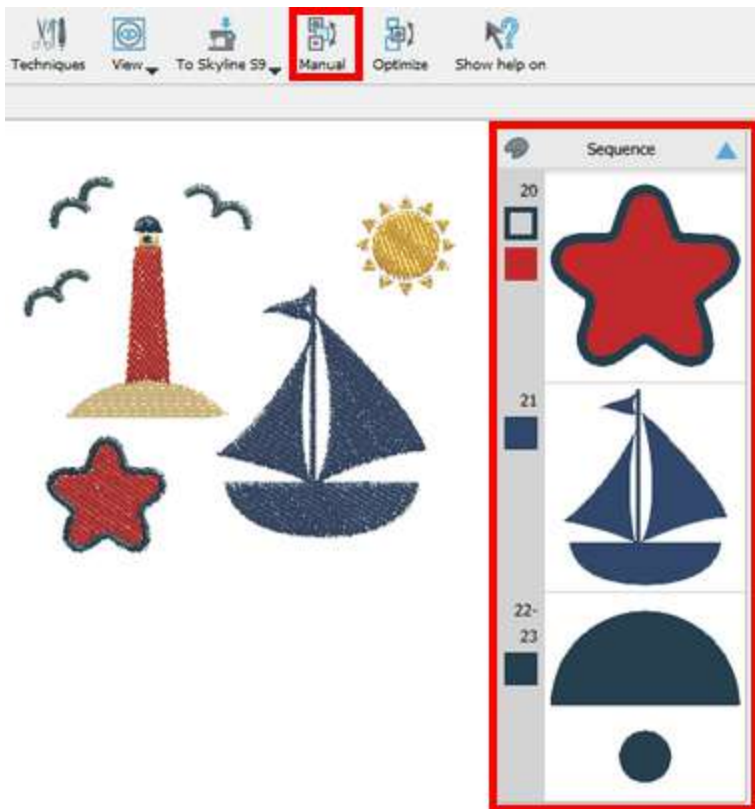
When the sequence is set to "Auto", the software optimizes the embroidery design to produce the best possible quality. Towards that end the objects that are filled with stitches cannot be re-sequenced and therefore appear grouped in one object. The objects that have different types, such as cut or paint, appear grouped only with their own type only of objects and may be re-ordered as a group.



The program uses intelligent mechanisms to automatically create the sequence of the stitch items and (while in the Auto mode) you can't control the order according to which the objects will be embroidered by using the sequence manager. You can only specify some optimization preferences to guide the software on how you want the design to be embroidered. When the sequence is set to "Auto" you can easily separate normal stitch objects from crystal, cut, stencil, paint or appliqué objects and change the order between them.

"Manual"

When the sequence is set to "Manual" or when the "Embroidery Technique" is disabled you can see all objects/shapes individually on the sequence manager. You can then re-order them at will simply by dragging them upwards or downwards.



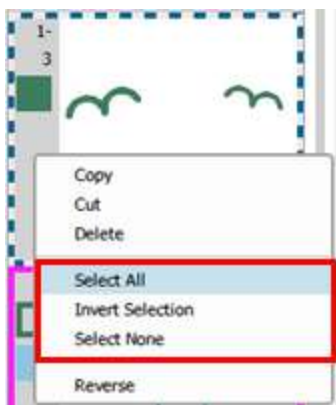
The objects positioned higher on the Sequence manager are those that will be embroidered first or the ones that will be positioned lower in an overlapping stack.

More information about the usage and customizations of the Auto-sequence is provided in chapter Embroidery sequence.

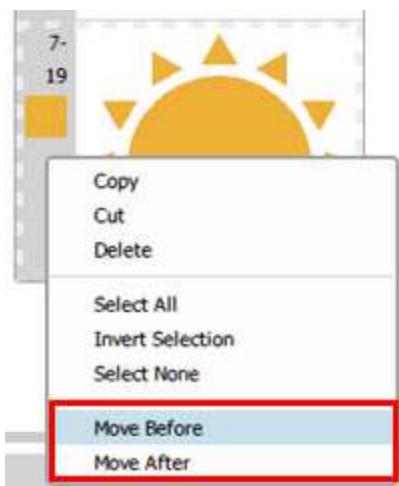
Sequence manager bar

The Sequence manager appears by default on the right area of the window next to "Properties" bar. If you click on any icon of the sequence manager it gets selected and you can see it inside the design area with a highlighted rectangle around it. You can select multiple items using the "Ctrl", or Cmd key on mac OS, and/or the "Shift" keys. To select a series of sequence icons hold the "Shift" key pressed down, click on the first icon of the series and then on the last one. All the sequence icons between the ones you clicked are now selected. If you hold the "Ctrl" key pressed down and click on multiple sequence icons they get selected too. Using the "Ctrl" key, you can also remove icons from a selection. If you hold the "Ctrl" key and click on already selected sequence icons, these icons are deselected. You can also use the "Ctrl" and "Shift" keys in combination, that is, if you select a series of sequence icons using the "Shift" key and then hold the "Ctrl" key pressed down, you can add other non-sequential icons to the selection or remove selected icons from the selection. If you right click on any sequence icon when one or more sequence icons are selected, then you also get some general selection options. Using "Select all" you can select all sequence icons, using "select none" you can deselect everything and using "Inverse selection" you can select all other icons except the ones already selected.

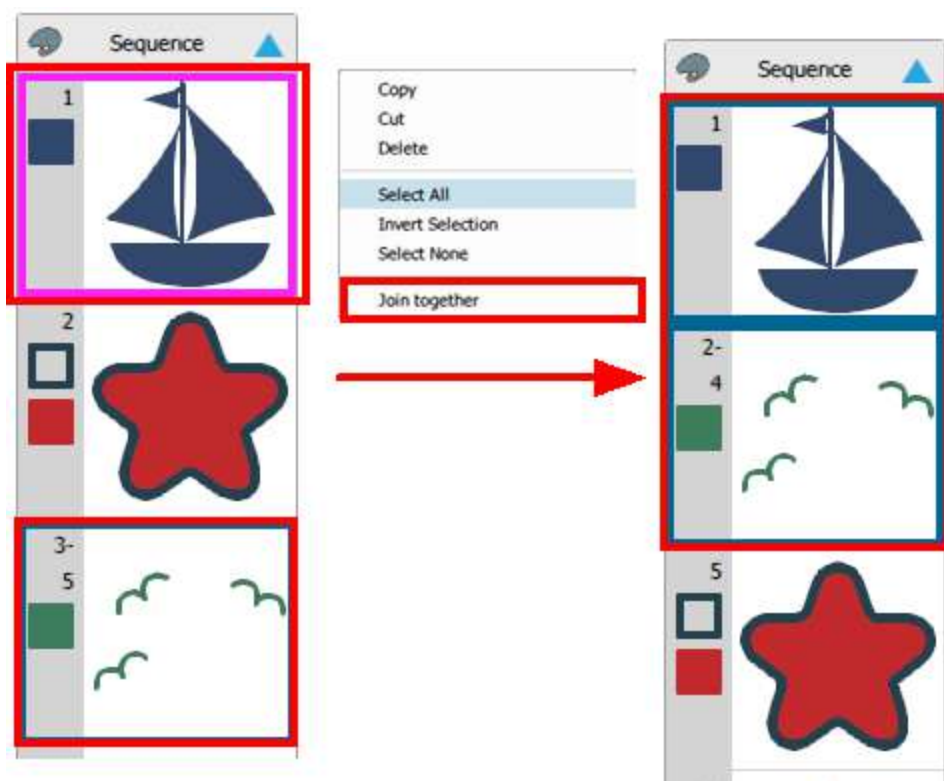
When deleting an object, the next object in the sequence automatically becomes selected. This allows both the Sequence Manager and the user's focus to remain on the current position, streamlining the workflow and saving production time.



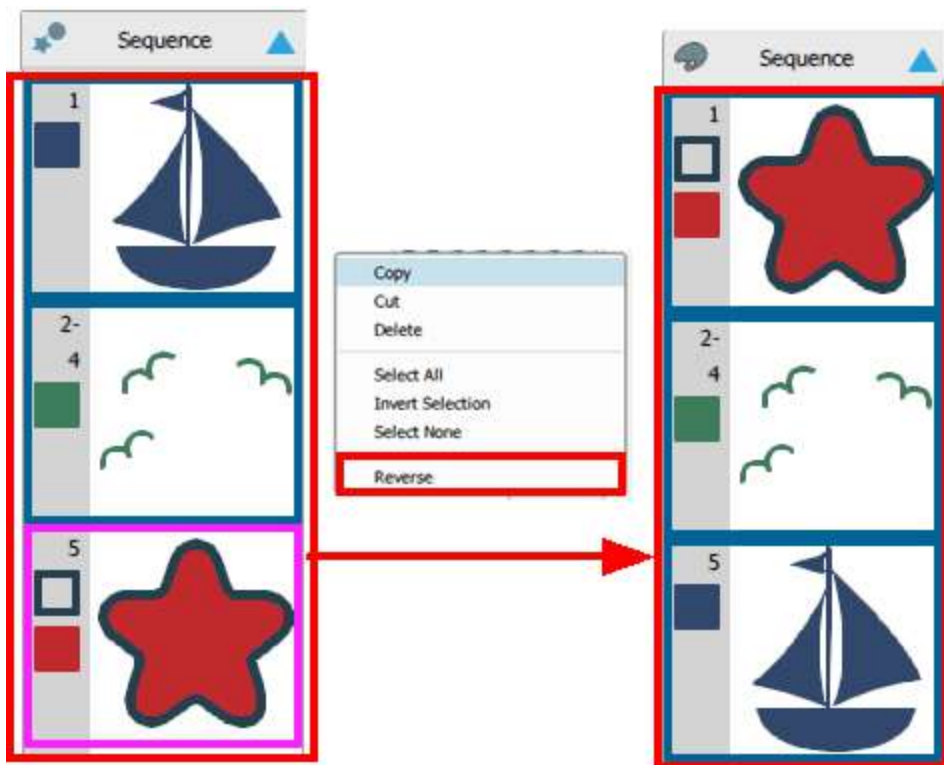
Next to each sequence icon you can see a numeric value which represents the position of this design part in the embroidery sequence. You can click and drag one or more sequence icons up or down to change their position in the embroidery sequence. For designs with too many design parts it may not be easy to drag the sequence icons to the position you want them to be. In such case, it would be easier to move one or more selected sequence icons to scroll up or down to the direction where you want them to be and right click on the sequence icon where you want them positioned. On the appearing menu you can now choose from the new options “Move Before” and “Move After”, to position the icons right before or after (accordingly) to where you right clicked.



If you select non sequential icons and right click on any of the selected icons, you have the option (Join together) to bring these sequence icons one next to the other. The icons will be then moved next to the icon you right clicked upon.

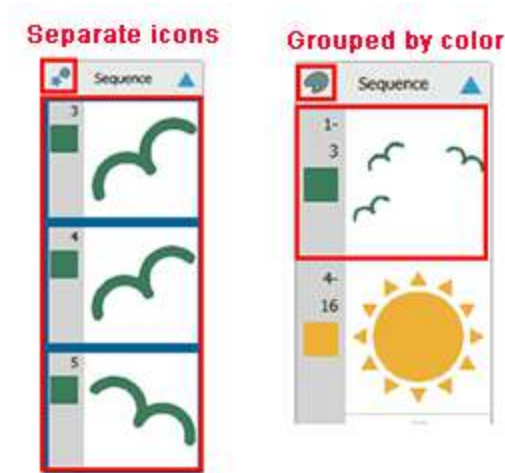


On the right click menu there is also the option to reverse the order of two or more sequence icons. To do so, simply select two or more sequence icons, right click on top of the selection and use the "Reverse" option.



Group by color

When the sequence is set to "Manual", one more icon  (group by color) appears on the title bar of the sequence manager. When you see this icon , all the design parts are separate icons. If you click on this icon, then the design parts are grouped by color and the icon changes into this palette icon . This means that all the sequential objects/shapes with the same color are grouped into one icon. It is a two state button, so by default you see all objects as separate icons, if you press once the objects are grouped by color and if you click once again you switch back to separate icons. The group by color function does not group objects/shapes with the same color if they have different fill or outline types. For example, it will not group two rectangles which even though they have the same color, the one is filled with "Step" fill type and the other with "Paint Step" fill type. When the sequence icons are grouped by color then next to each icon you see a series of numeric values. Additionally, you can see the fill and outline colors that are used for each icon.



For Cut, Paint, Stencil and Applique objects, the order that will be set at the sequence manager will be the same as the order that appears when you export the design to be cut (File > Export > To Crystals/Cutters).

The sequence manager can only be resized or minimized and cannot be closed. To resize the sequence manager place the mouse cursor on top of the left edge of the sequence manager, until the cursor switches into a size handle. Click and drag to the right to make it smaller or to the left to enlarge it. If you shrink it too much, the sequence numbers and the colors are hidden. To minimize the sequence manager, you have to

click on the pointing  icon on the header and to maximize it you need to click again on the same  icon which will now point to the opposite direction.

We can also change the sequence of the design items using Order options that appear on the right click menu. These ordering options will be described in a separate section. In order to simulate the embroidery sequence, you can use slow redraw tool.

Hide/Show item

When editing designs, it can be helpful to hide certain objects in order to better focus on the underlying shapes and layers. That's why we've added a tool that allows you to hide and show specific objects at will. This feature is handy when working with designs that have multiple layers, such as fill areas, shapes, and

borders stacked on top of each other. With the ability to hide these layers for clearer editing, creating intricate designs becomes simpler and more efficient.

To hide or show an object you have to select it from the working area or from the Sequence manager, right click on it and select "Hide/Show item" option from the right click menu.

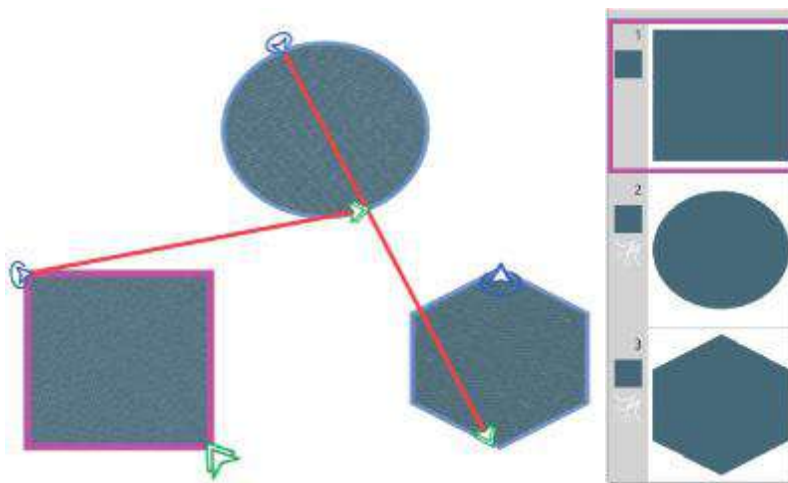


Re-arrange



Our new rearrange tool allows users to effortlessly modify design sequences, trim points, and start/exit points all at once. It works within a single color layer, displaying the entire sequence graphically and allowing for simple drag operations to make changes. Users can also add or remove trims and adjust start and exit points with ease. This innovative tool streamlines the design process, saving time and improving efficiency.

The rearrange tool becomes available after switching from "Auto" sequence to "Manual". To activate it you must select any object and click on it. The connections between the objects will appear with a red line.



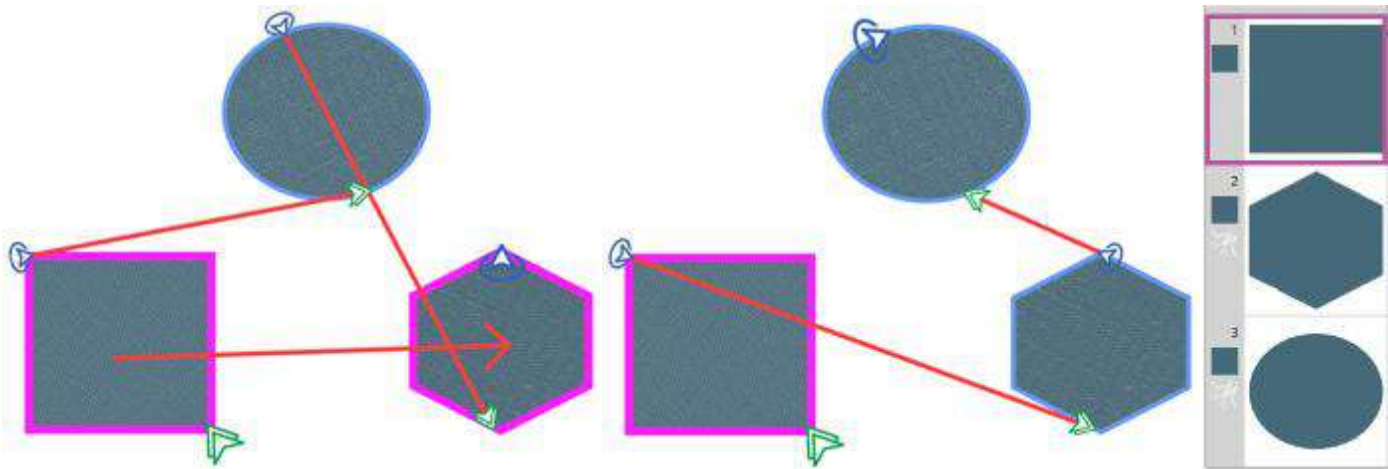
In the same mode, you will view the "Entry"  and "Exit"  points of each object.

The "Entry"  point is the exact location where the first stitch will be placed, and the object will start filling with stitches.

The "Exit"  point is the exact location from where the object will exit the object and the last stitch will be placed.

Change the order between two objects

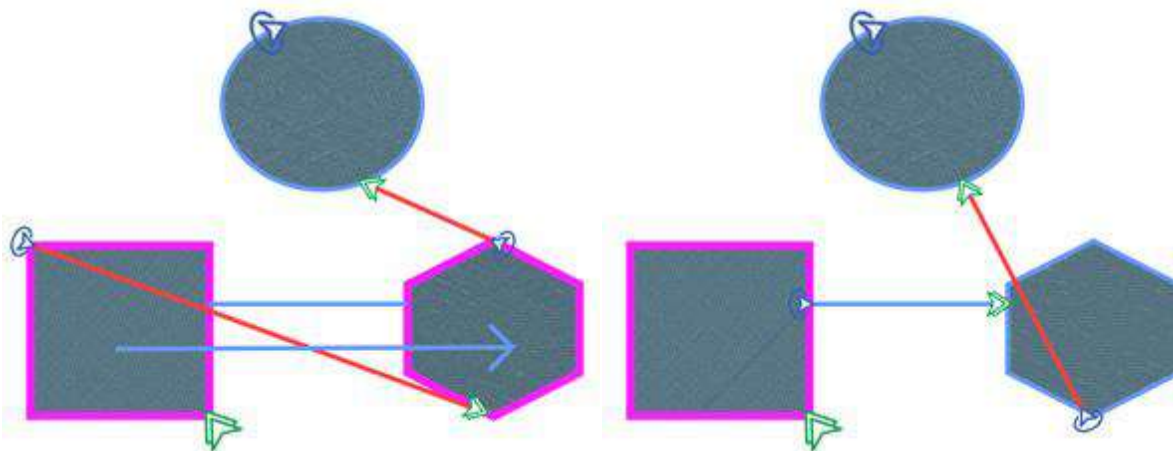
To change the order between the objects with the same color you must drag from one object towards the object you want to be embroidered after it. During dragging a blue arrow will appear showing the direction. Once the arrow gets inside the object you want, it will become "red", showing you that you can release it and apply the change.



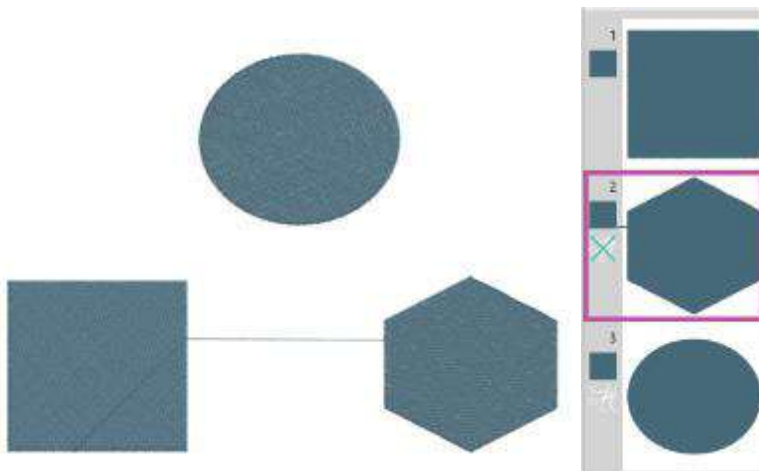
The order on the sequence manager will change automatically together with the red line connecting the two objects. The "Entry" and "Exit" points of the new connection will be set automatically from the software.

Change the order between two objects by forcing a jump-stitch

If you want to force a jump-stitch (no thread trim) between the two objects hold down the "Alt" key while dragging from the first object to the second. The "Entry" and "Exit" points will be set at the closest connection distance between the two objects. When the arrow hovers over the second object, it remains blue.

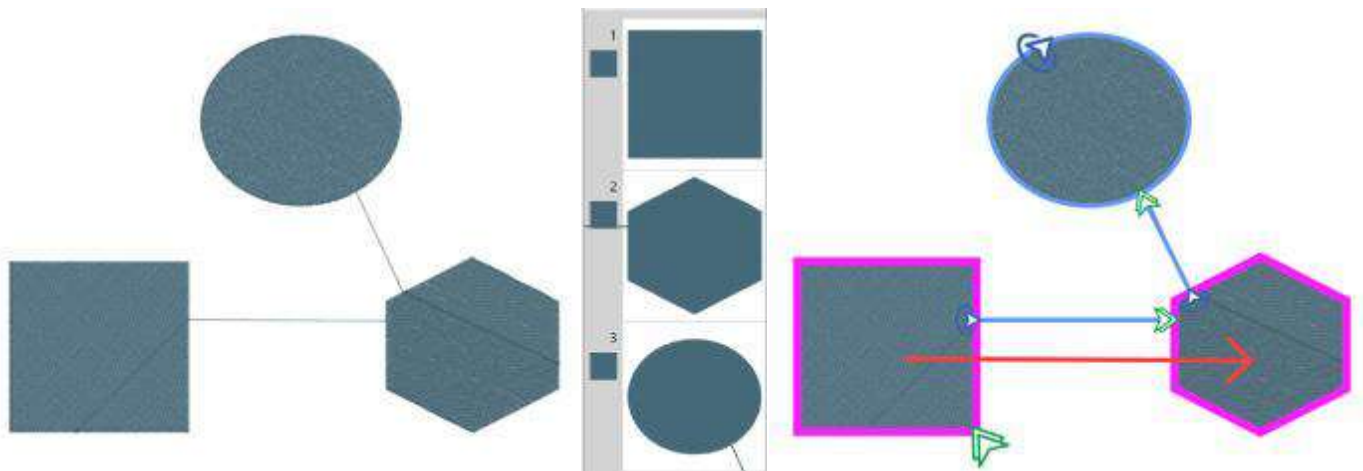


On the sequence manager, you will see that the "No-thread trim"  icon is added on the object and the connection will be made with a jump-stitch.

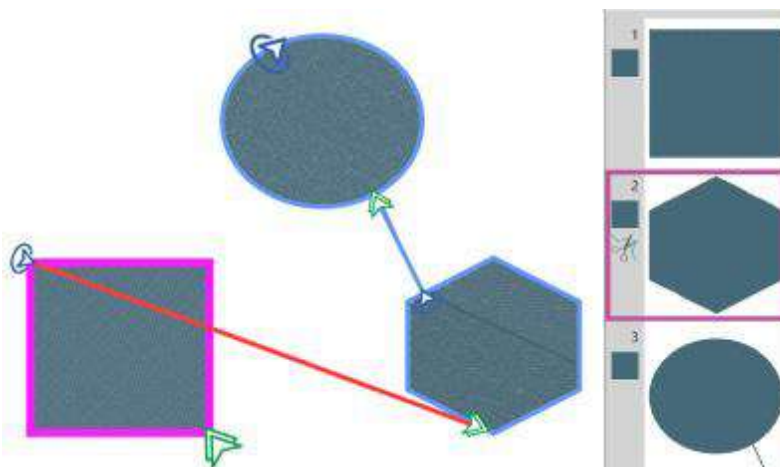


Change the order between two objects by forcing a thread trim

If you want to force a thread trim between the two objects that were set to have jump-stitches by the software, hold down the "Ctrl" or "Cmd" key while dragging from the first object to the second.

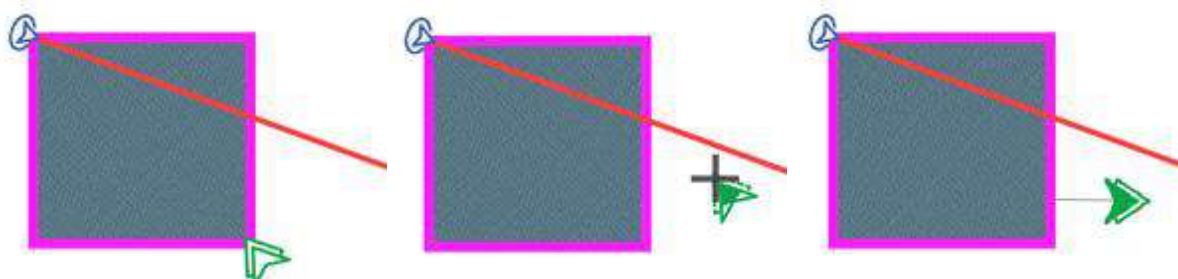


A thread trim will be made between the two objects and the "Thread trim"  special function will be added on the sequence manager. The "Entry" and "Exit" points will be reset and set automatically from the software.

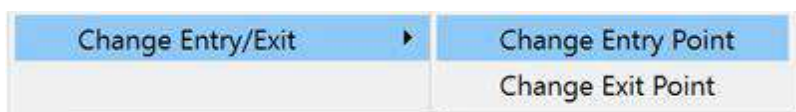


Change entry or exit point

To change the "Entry"  and "Exit"  points while you are inside the Rearrange tool you can simply hover over the respective icon and the cursor will change to a cross. While the cursor is a cross, click and drag it to its new position. You can position it on the edge of the object or even outside the object. By releasing the mouse click, the change will be applied, and the stitches of the object will be recalculated to adjust to the change you made.



You can also change an "Entry" or "Exit" point of an object by using the relative option from the right-click menu while you are in object "Selection" mode. To do that select an object and then right click on it. From the pop-up menu expand the "Change Entry/Exit" option and then select either "Change Entry point" or "Change Exit point" option. The cursor will change to cross and you can set the new Entry/Exit point by clicking on the position you want.



If you want to cancel your change you can press the 'Esc' key.

Reset "Entry" or "Exit" points

If you want to reset the position of an "Entry" or "Exit" point, hover over it and double click when the cursor changes into a cross. It requires that you have already changed their position, otherwise they will remain at the same position.

You can also reset an "Entry" or "Exit" point of an object by using the right-click menu while you are in object "Selection" mode. Select the object and from the right click menu expand the "Change Entry/Exit" option and then select either "Change Entry point" or "Change Exit point" option.



The cursor will change to cross, and you can reset Entry/Exit point to its initial position by "Right-clicking" once. For example, if you have selected the "Change Entry Point" the software will reset the entry point to its initial position (if it has been changed) and exit this mode.

Tools

In this section we will present some of the available tools that are included in the software.

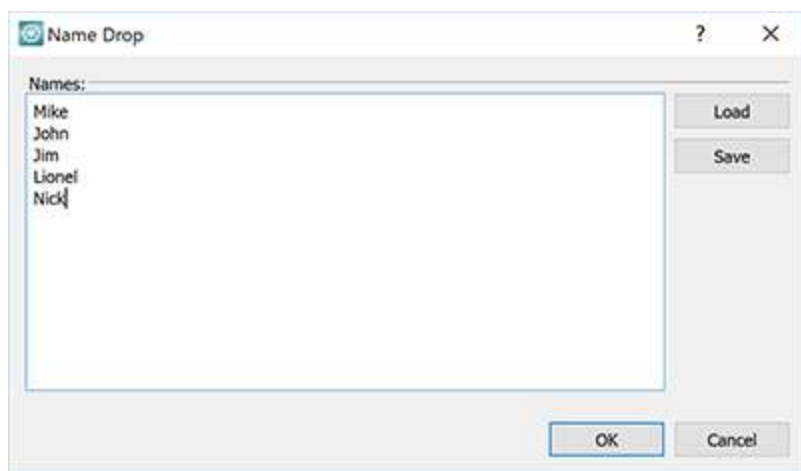
Create Name Drop

The "Name drop" tool is the easiest way to create multiple designs with different inserted text in each design. For example, if you want to embroider the names of all countries in the world you can simply create the embroidery design that will be the same in all designs, insert the name of the first country and by using the "Name Drop" tool produce all the other designs. It will be clearer to you when we will analyze the way that "Name Drop" is applied.

Name drop tool

The "Name Drop" function can be activated from the right click menu of a selected text object, when the Object editor is active. If activate "Name Drop" function the "Name Drop" dialog box will appear

In the dialog box you have to adjust many parameters in order to get the result you want. All the possible adjustments will be analyzed below.



- "Load": With the "Load" button you can load an existing "Name Drop" list. All the names that the list has will appear in the "Names" text area where you can edit them.
- "Save": With the "Save" button you can save a "Name Drop" list in a file, which you can load when you will needed again. You can save the "Name Drop" lists anywhere you like and load them whenever is needed.
- "Names": In the "Names" text area are listed all the names that will be used in order the "Name Drop" function to be applied. Any changes produced from adding or deleting names are all listed in the "Names" text area.

To apply the name drop you have to click OK.

Create Name drop

In order to create the "Name Drop" you have to follow the steps listed below:

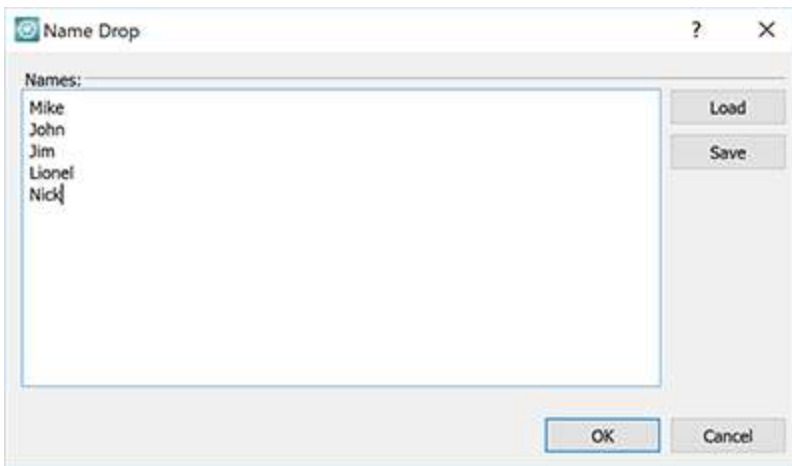
1. Create or load the design you want to use



2. Insert the text where you will apply the "Name Drop" tool.

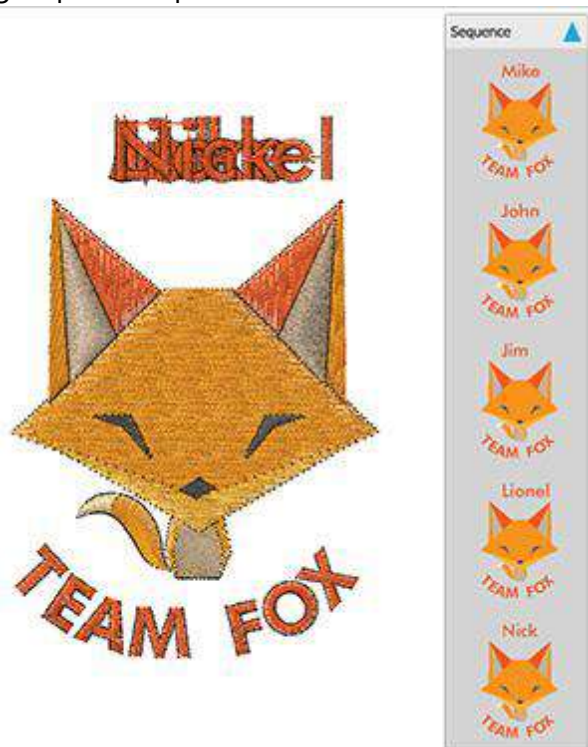


3. Select the entire design(including the Text), right click with the mouse and select the "Name drop" function. The "Name drop" dialog box will appear.
4. Add names in the "Names" list or load from a file other names you have previously used.

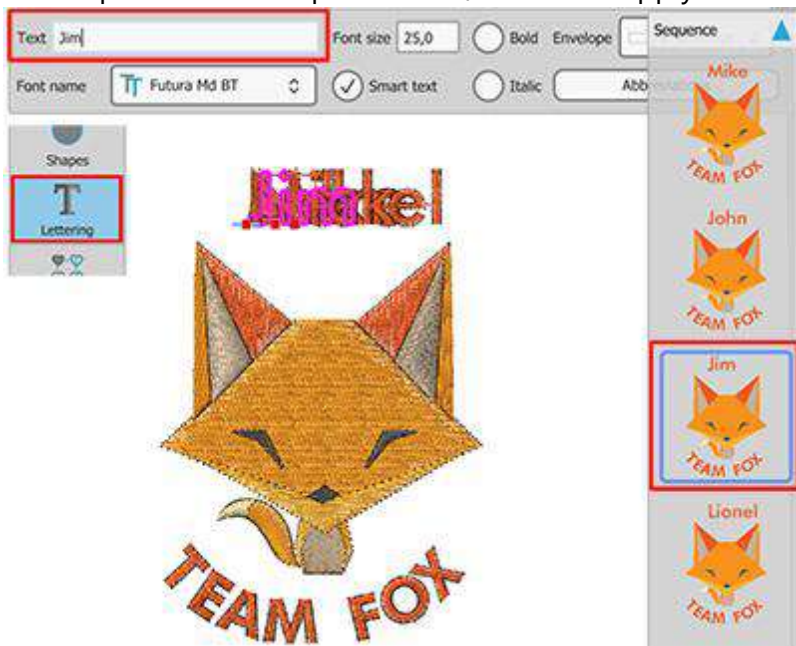


5. Click the "Ok" button to create the name drops. The name drops will appear on a stack. As you can see on the image below, the sequence manager shows the stack with the name drop designs. The designs are

grouped and placed one over the other.



6. To edit the text of each group, you have to select the "name drop" you want to edit from the "Sequence manager" and then click on the "Text"  tool from the "Tools" bar. Change the Text in the "Text" field of "Tool options" bar and press "Enter/Return" to apply the change.



7. To preview how the name drop will be embroidered click on the "Slow Redraw"  tool on the "Tools" toolbar.

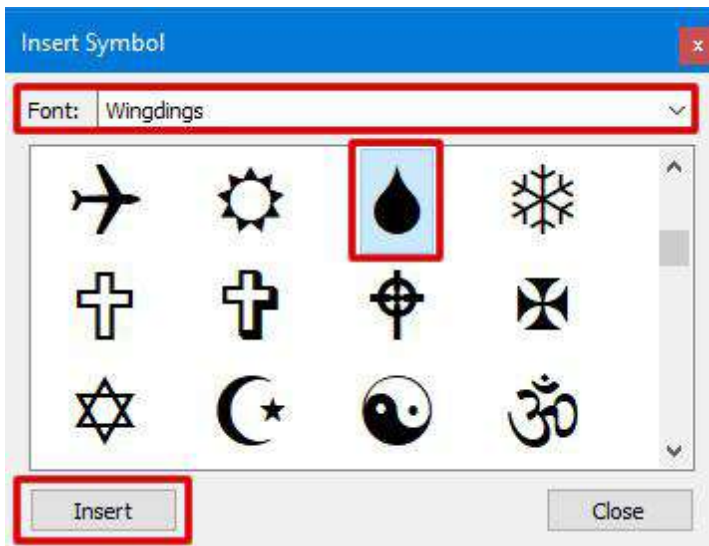


The designs will be saved all in one file and sewed out one after the other, in the order shown on the sequence manager. The machine will stop automatically at the end of each name drop design, waiting from you to change the fabric in order to continue with the next name drop design.

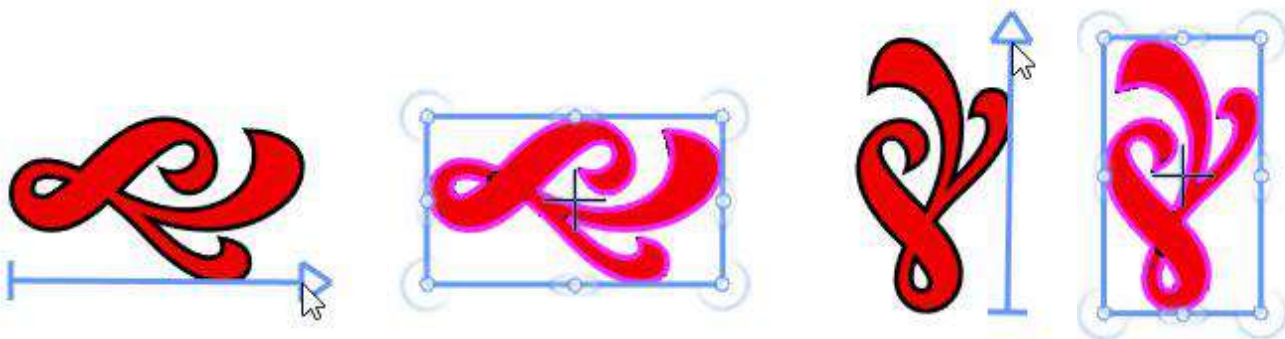
8. The design is ready to be saved and be loaded to the machine.

Insert symbol

Every font that is installed on our computer may include symbols that are based on the artwork of the Font. Those symbols maybe a very good source of artwork. The "Insert symbol" option provides a way to inspect them and use them if you like. You can easily insert a symbol by activating the "Insert symbol" option from "Tools" menu. The Insert symbol dialog will appear where all symbols of a specific font will be listed. Select any font, using the dropdown list, to view the available symbols. You may need to scroll down to see all available symbols.



Once you have found the symbol you want to use you have to select it and click the Insert button. You can also double click on any icon. The dialog disappears to make space on the design area. The cursor turns into a cross waiting to specify the position of the symbol, click and drag with the mouse specifying the width of the symbol and the angle you want to have. After releasing the mouse, the symbol appears on the working area with the default fill and outline colors and the Insert symbol dialog turns back on. You can insert as many symbols you want by following the same steps.

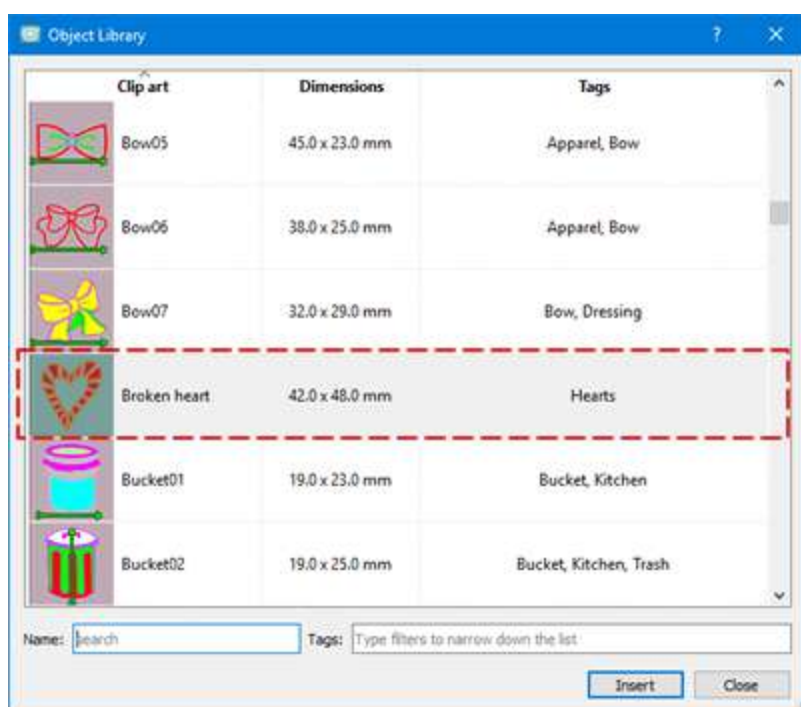


You can also start "Insert symbol" by pressing "Ctrl+F11" keys (Cmd +F11 for Mac OS) . If you hold the "Shift" key pressed while dragging, the cursor will snap on every 22.5o degrees allowing you to insert the symbol on a specific angle. Using "Alt" key the inserted symbol is mirrored horizontally.

Clipart Library

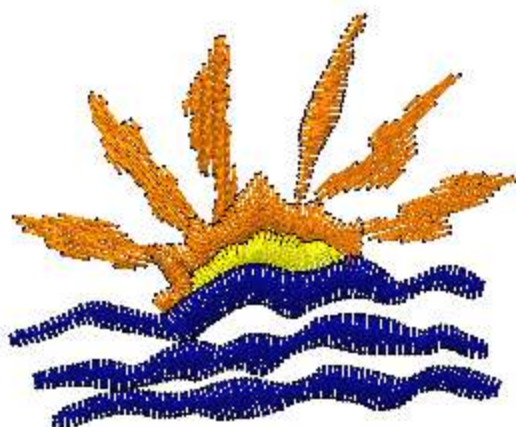
The software includes a collection of ready-made designs or design fragments, called clip-art library. Additionally, there is a mechanism in order to add and manage you own design elements to the clip-art library. Clip-art library may help you speed up the creation process of new designs by re-use of existing designs. You can easily organize the items in the clipart library by adding keywords. Summary information such as width and height is automatically recorded and displayed. Sort and search functionality is provided to filter your list according to name, keywords.

You can start the "Clipart library" using the "Clipart library - Insert item" option of "Tools" menu or using Ctrl+I keys (for MacOS users Cmd +I).



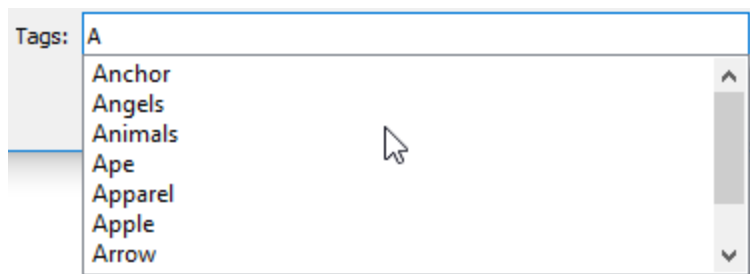
When the library starts you can see a list" of all the available items. If you click on an item, the insert button activated. Now if you press "Insert" you are ready to place the selected clipart. The cursor turns into a Cross waiting to specify the position. Click and drag to define the size and orientation, while dragging you can see a scaled and rotated preview which follows the movement of the mouse. Once you release the mouse the item is finalized.

Left click while placing a clipart to place it with its original dimensions and orientation.



Filter visible items

It is very easy to place any of the clipart items into a design, but what about locating items. First of all, you can search for a clipart by its name, for example type "heart" and all designs named heart will come up. While typing the list is automatically updated to show the item that its name is a closest match to the text that has been typed. In the same way you filter visible items by typing on "Tags" area. Only the items that have this tag are now visible on the list.



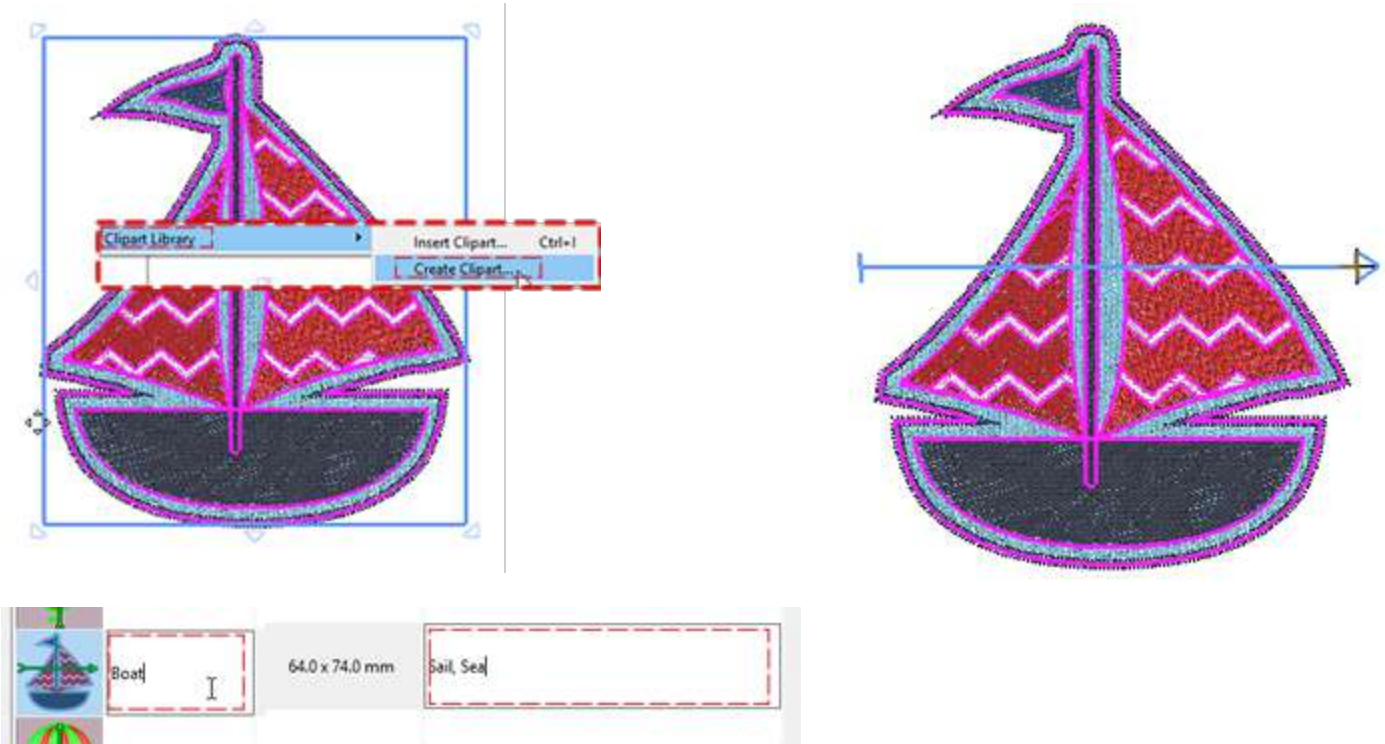
You can also rename clipart items with names that are more familiar to you in order to help in locating items. Right click on any item and use "rename" option to change the name of the clipart item. Edit the name and press Enter key to apply. In the same way as above you can also change the available tags of any clip. Use a comma, to add more than one tags.



You should always have in mind that when you rename or add "tags" to any of the built in clip-art items, the original remains unchanged and a copy is created with the changes you have applied. The built in items always remain as is but you can also create your own items.

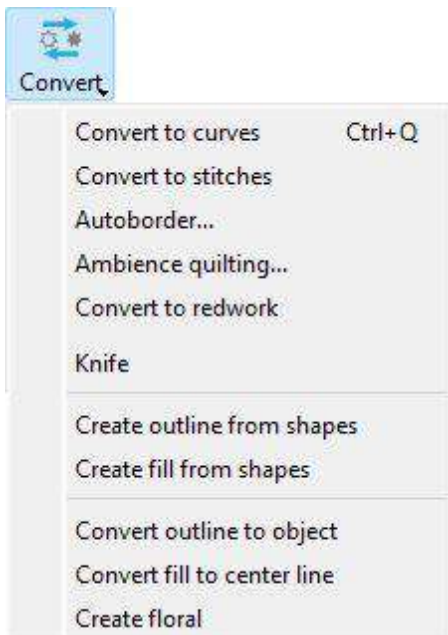
Adding items to clip-art library

The power of the clip art library is that you can always create our own clip-art items. Add any design elements that you like into the library and you can have a powerful set of element for reuse in any design. It is easy to add any design part into the clip-art library. Select the objects that you wish to add to the library and go to menu "Tools" - "Clip-art library" and use the option "Create clip-art". The cursor turns into a "cross" and you need to create a reference line on top of the selected objects. Click and drag to create the reference line and once you release the mouse, the "Clip-art library" appears and the selection of object has been added. Click on the "name" area to specify a name and in "Tags" area to add keyword tags.



Convert

The "Convert"  button contains a collection of tools which allow you to convert, edit or add embellishments to your designs. The tools are dynamic and appear only if they can be applied on the selected object(s). Therefore, if you cannot find a specific tool under the Convert button, it means that such tool cannot be applied on the specific object(s).



Each of the available tools is explained extensively in separate sections dedicated to each one of them.

1. **Convert to curves:** Most shape objects that you draw (rectangles, ellipses etc.), along with the Text - Monogram objects, have special type of nodes when you edit them in the Edit nodes mode. To turn such an object into a curve object, you need to select it, right click on it and from the right click menu select the "Convert to curves" option. The object will then be converted into a curve object, the nodes and segments of which you can further edit as with any normal object.
2. **Convert to Stitches:** The ability to convert vector-based objects into raw stitches allows for more precise editing, when for example the stitches of a design are adjusted to match the tension of the fabric, therefore producing better results on the finished product.
3. **Autoborder:** The "autoborder" tool is very useful for creating automatic borders. With this tool you can add a "Running", "Satin serial", "Paint ZigZag", "Paint Line", "Cut" or "Stencil" border to one or more objects. The respective "Techniques" should be enabled so that paint, cut and stencil types of "autoborder" become available. To use the "autoborder" tool, you need to first select one or more objects upon which you want to apply an autoborder.
4. **Ambience Quilting:** The software provides an easy way to create a quilting block using any design.
5. **Convert to redwork:** With the "Convert to Redwork" option you can convert any design to redwork. Redwork designs are created with red running stitches on white fabric. The color is not limited to red stitches however. After creating the initial Redwork design, it is possible to edit the color by changing the outline color of the design.

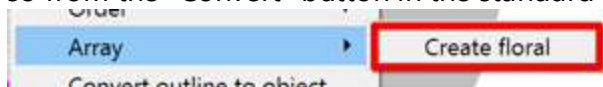
6. Knife: The knife tool can be used to physically divide objects. To apply the knife tool you need to select a fill object and then an outline object, right click and from the appearing menu choose the "Knife" option. The fill object will be split at the points that meet the outline object. You may further choose to use the Knife tool to create intriguing shapes using portions of another object.
7. Array: The "Array" is a type that uses a "base object" to create an "area fill" or an "outline fill" using the base object. When applying "Array" on fill, a pattern grid is created and copies of the base object are placed on the grid in a patterned way.
 - Create outline from shapes: This option is available if you select an object to be filled and Use "Ctrl" key (for Mac Cmd) in order to add one or more objects to the selection. The base object must be smaller than the object to be filled. The outline of the larger object is automatically filled with the smaller object.
 - Create fill from shapes: This option is available if you select an object to be filled and Use "Ctrl" key (for Mac Cmd) in order to add one or more objects to the selection. The base object must be smaller than the object to be filled. The larger object is automatically filled with the smaller object placed in a patterned way.
8. Create floral The "Create Floral" option allows you to create beautiful floral designs automatically. You can select from a list of available leaves and flowers and produce hundreds of floral combinations.
9. Convert outline to Object: This is a very special ability that the software offers, as you may convert an outline to an object, therefore create a new closed object with the outline's shape. You may further apply a fill type or any special effect to that new object.
10. Convert fill to center line This function is useful when you need to create a line object with the shape of another fill object.

Create floral

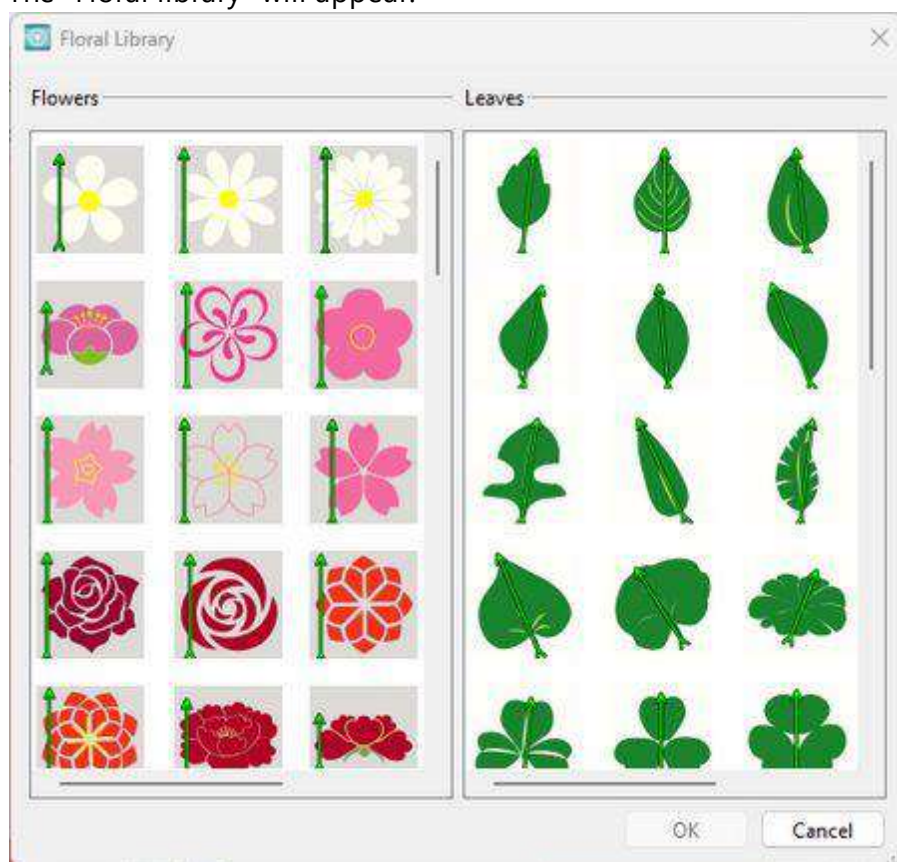
The "Create Floral" option allows you to create beautiful floral designs automatically. You can select from a list of available leaves and flowers and produce hundreds of floral combinations.

To create a floral design, you first need to:

1. Create the shape upon which the floral design will be applied and color it with the color you want the floral vine to have.
2. Select the shape and from the right click menu, expand the "Array" option and select "Create floral" (or do so from the "Convert" button in the standard toolbar).



3. The "Floral library" will appear.



NOTE: The leaf selection is optional. If no leaf is selected the default one will be used.

4. Select the flower you want from the "Flowers" list and the leaf you want from the "Leaves" list. Click "OK" to apply the floral design on the shape.
5. The shape will be filled with a floral design that has the flower and the leaf you selected. Note that you may need to adjust the size of the shape in order to fit the entire design inside. You can edit the design settings from the "Properties" toolbar. The floral design collection is part of the Array fill type. You can view how to further customize floral designs in the Floral vine section.

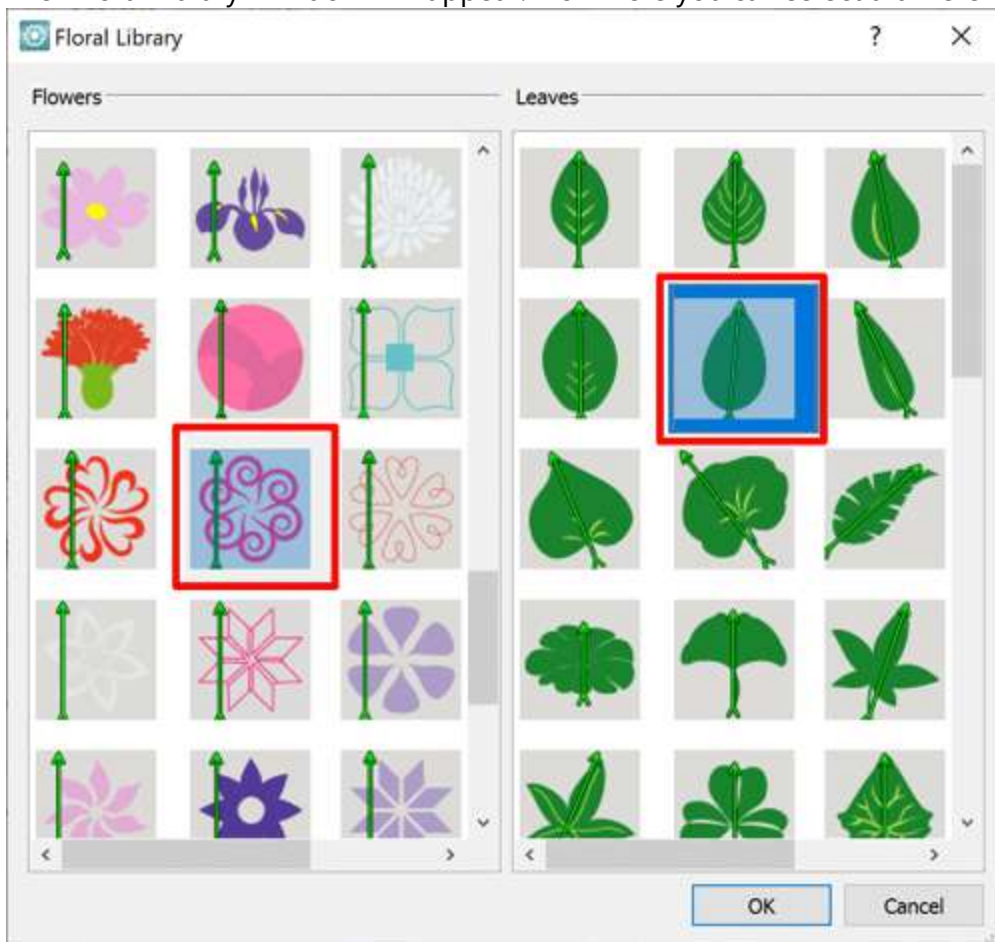
Edit floral

To edit your floral design you need to:

1. Select it.
2. Right click on it and expand the "Array" option or click on the "Convert" button from the standard toolbar, and select the "Edit floral" option.



3. The "Floral library" window will appear. From here you can select a different flower and leaf.



4. Click "OK" to apply your selection or "Cancel" to keep the existing floral design.

Add shapes as flower

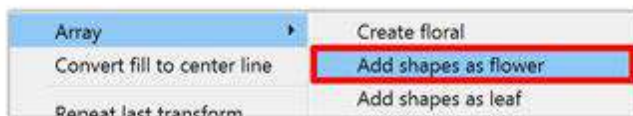
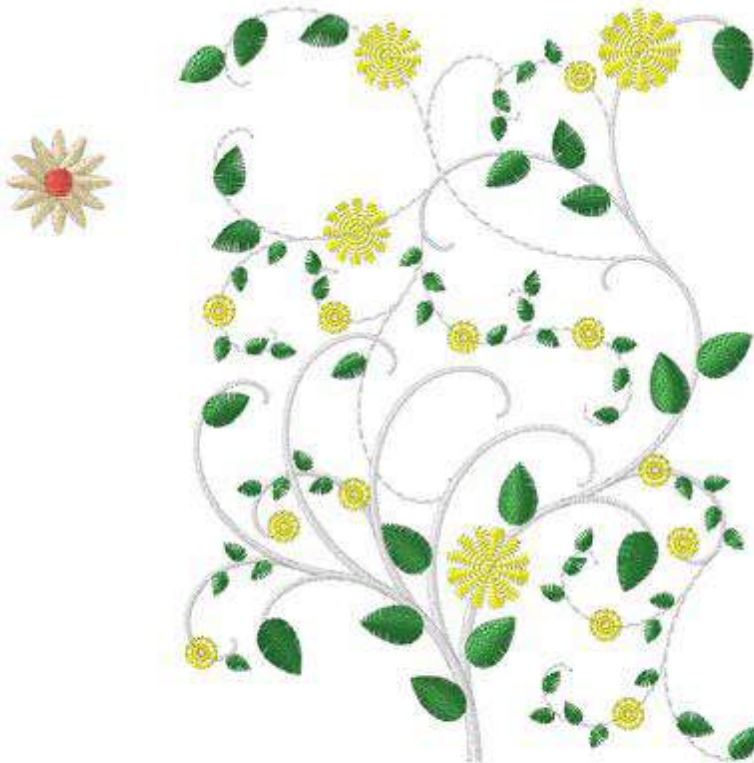
You can replace the flower of a floral design with a design you created by using the "Add shapes as flower" option.

To do this you need to:

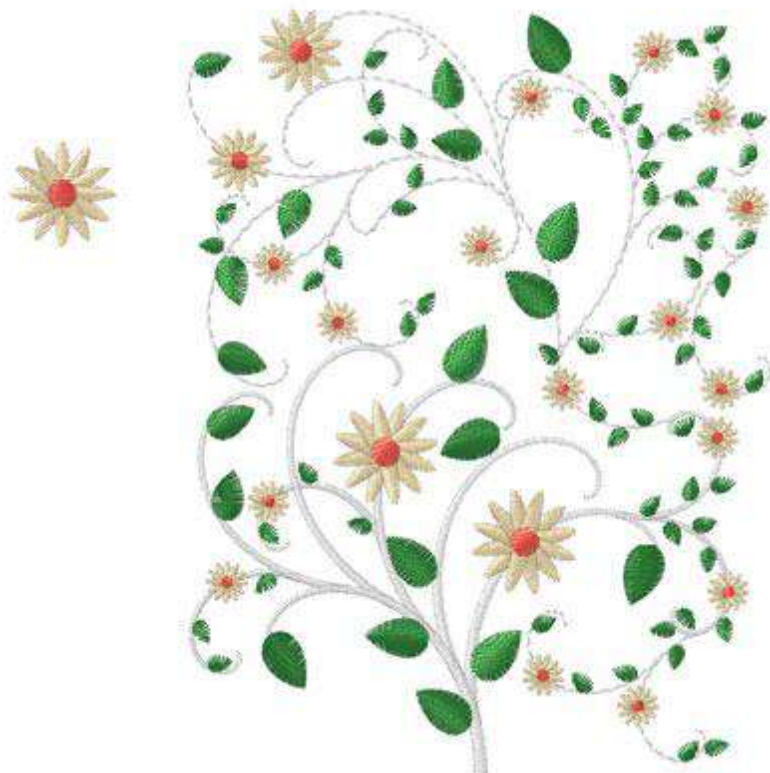
1. Create the design that you want to use next to the existing floral design



2. Select both the floral design and the design that you want to use as a flower.
3. Right click on them, expand the "Array" option and select the "Add shapes as flower" option.



4. Your design will replace the flower of the floral design and the software shall automatically make the necessary adjustments to fit the new flower properly.



Add shapes as leaf

You can replace the leaf of a floral design with a design you created by using the "Add shapes as leaf" option.

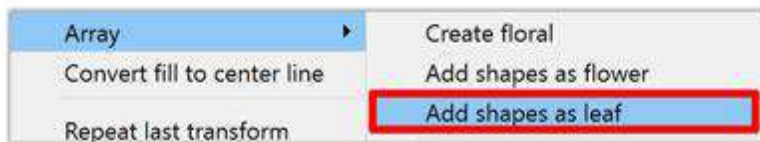
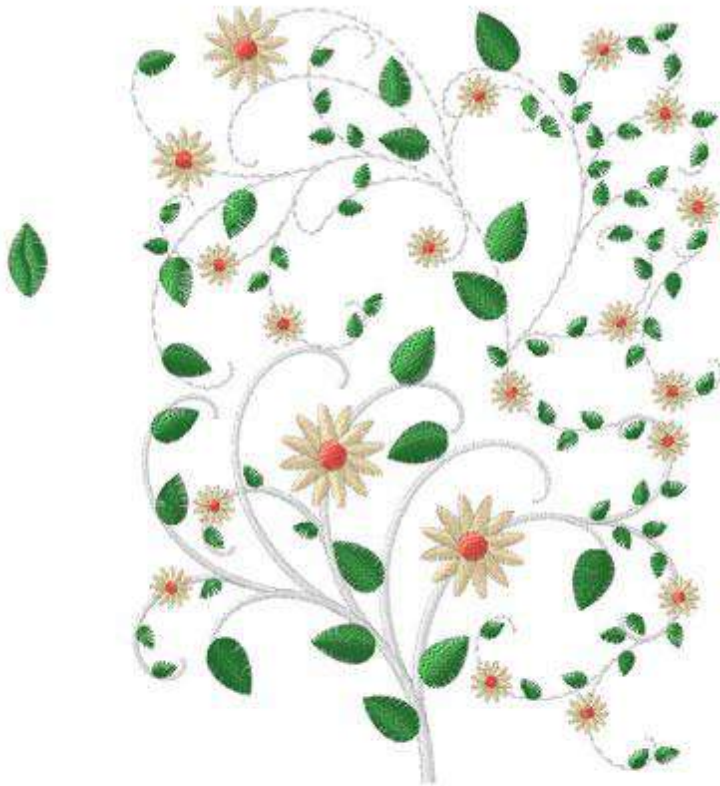
To do this you need to:

1. Create the design that you want to use next to the existing floral design.

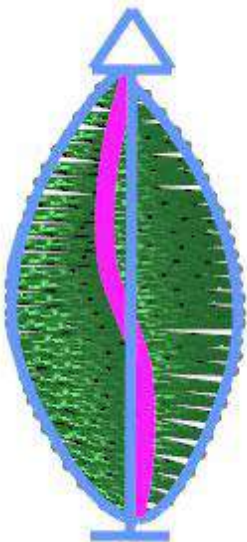


2. Select both the floral design and the design that you want to use as a leaf

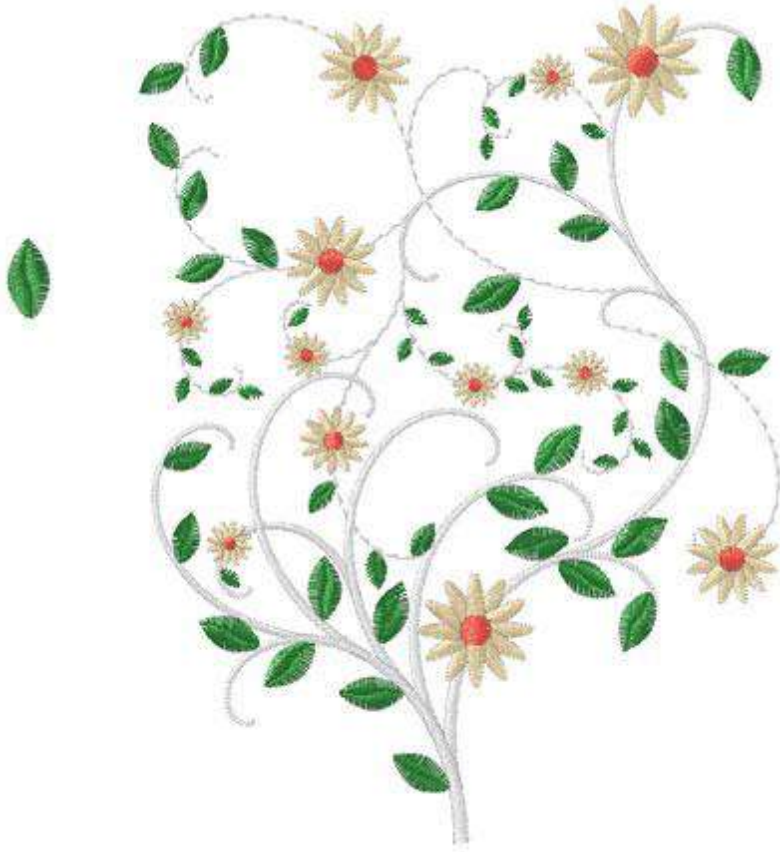
3. Right click on them, expand the "Array" option and select the "Add shapes as leaf" option.



4. The cursor will change to a cross waiting from you to set the leaf's start and end points which are important for placing the leaf properly on the vine. Click and drag from the start point of the leaf to the end point and once you release, your leaf will be added to the floral design.

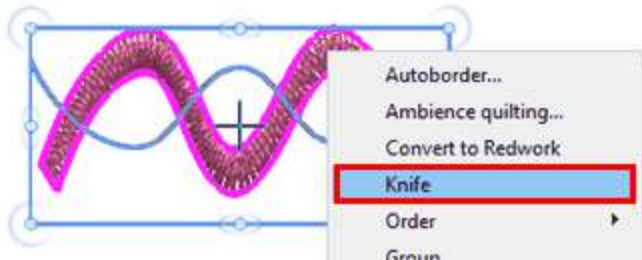


5. The leaf design will replace the leaves of the floral design and make the needed adjustments to fit it properly within the shape.



Knife

The knife tool can be used to physically divide objects and easily create bizarre shapes using portions of any object. In order to apply the knife tool you need to select a fill object and then an open outline object that is on top of the fill object, right click and from the appearing menu use "Knife" option. The fill object will be split on the points that meet the outline object.



The "Knife" option is only available when you have selected a "Fill" object and an open "Outline" object that is on top of the "Fill" object and is used as split line.

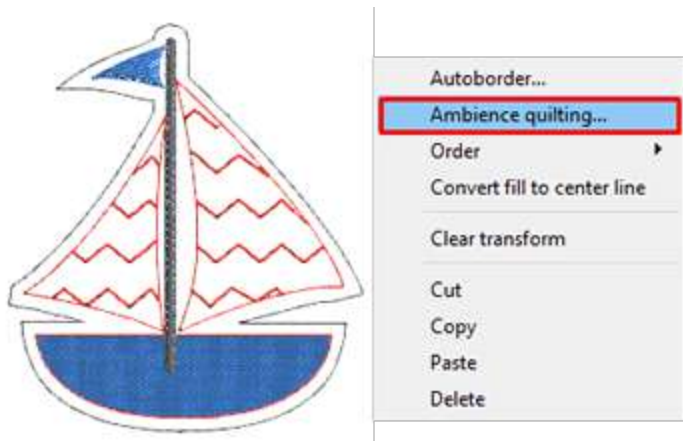


In the same way you can split any object using any line object you have manually digitized.

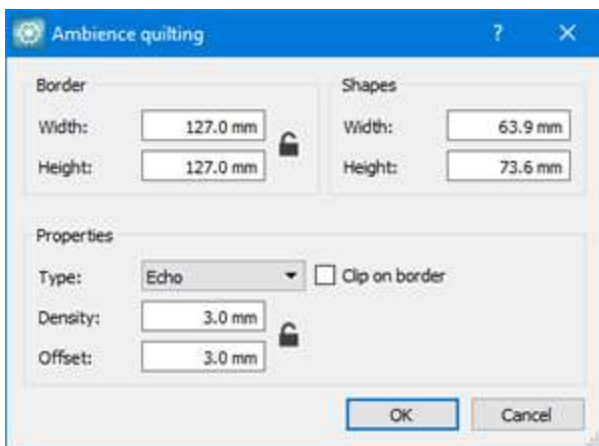


Ambience Quilting

The software provides an easy way to create a quilting block using any design. Select the object, (either an entire design or part of it) which you would like to include in the quilting block. Take for example, the following image of a yacht. When this is selected, by right clicking, the "Ambience quilting" option will appear in a drop down menu. You can also select "Ambience quilting" from the Convert icon in the horizontal toolbar.



By clicking "Ambience quilting...", the following dialog will appear for you to adjust the settings of the quilt block.



In the "Border" area you define the size of the complete quilt block. Press the lock icon to enable Proportional Sizing, which means that if you change one of the dimensions, the other is automatically updated to keep the same proportions.

In the "Shapes" area you can see the size of the selected design part. This is just a reference to help you define the block size; in other words, you cannot resize the object from this dialog.

In the "Properties" area you can define the fill type of the block and relative parameters. There are 3 types of fill for the quilt block: Echo, Scroll and Stippling. Using the "Offset" value you can set the distance between the object and the first quilting line. Additionally, using the "Density" value you can define the distance between the quilting lines. If you wish to have the same "Offset" and "Density" values, you can click the lock icon to lock the values together and then any "Density" value you set shall be set as "Offset" distance as well.

Echo

Using the "Echo" type, autoborder lines following the shape of the object are created in order to fill the quilt block. When you enable the "Clip on border" option, the autoborder lines keep repeating until they are clipped by the size of the quilt block. If you don't use "Clip on border", the software actually creates autoborder lines of the object as well as autoborder lines of the quilt block and these are blended together.



Without Clip on border



Clip on border

Scroll

The "Scroll" type creates a similar effect to "Echo" without Clip on border. The difference though, lies in the way of stitching, as the software produces continuous stitch lines which makes production much easier.



Stippling

When using the "Stippling" type, the quilt block is filled with stippling fill around the object, starting from the defined offset.



Redwork

With the "Convert to Redwork" option you can convert any design to redwork. Redwork designs are created with red running stitches on white fabric. The color is not limited to red stitches however. After creating the initial Redwork design, it is possible to edit the color by changing the outline color of the design.

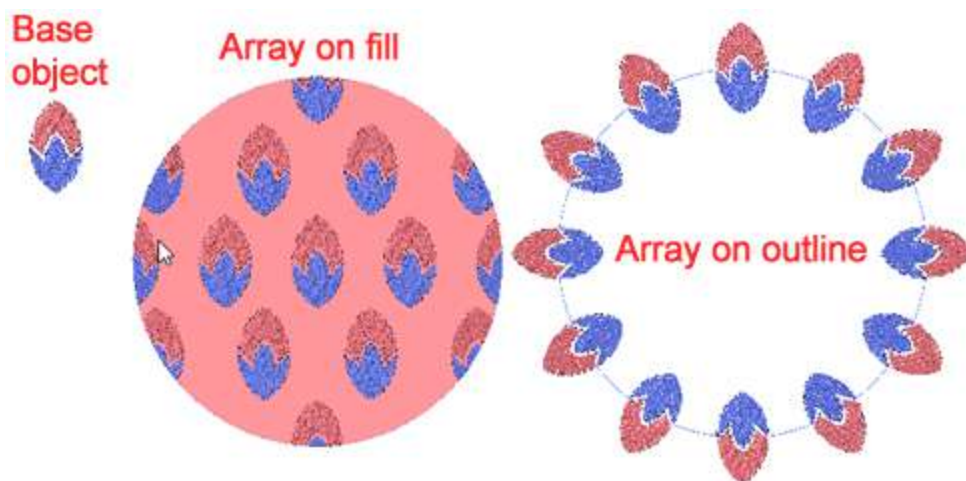
To apply this tool, you just need to select the design you want to convert and right click on it. From the right click menu, select the "Convert to Redwork" option and it will be converted automatically.



You can also apply this tool from the Convert icon  in the horizontal toolbar after selecting the design. It is important to know that every part of the redwork design shall be stitched with the same number of passes.

Array

The "Array" is a type that uses a "base object" or a "clipart item" to create an "area fill" or an "outline fill" using the base object or the "clipart item". When applying "Array" on fill, a pattern grid is created and copies of the base object are placed on the grid in a patterned way. Using Array (Fill or Outline) you can create amazing effects. In the following sections we will present how to apply Array on Fill or Outline and the customizations that can be applied. For example the shape on the left part of the following figure is used as a base object. Using the base object we have applied Array on the fill area of the circle (middle part of the figure), and array on the outline of the same circle (Right part of the figure).

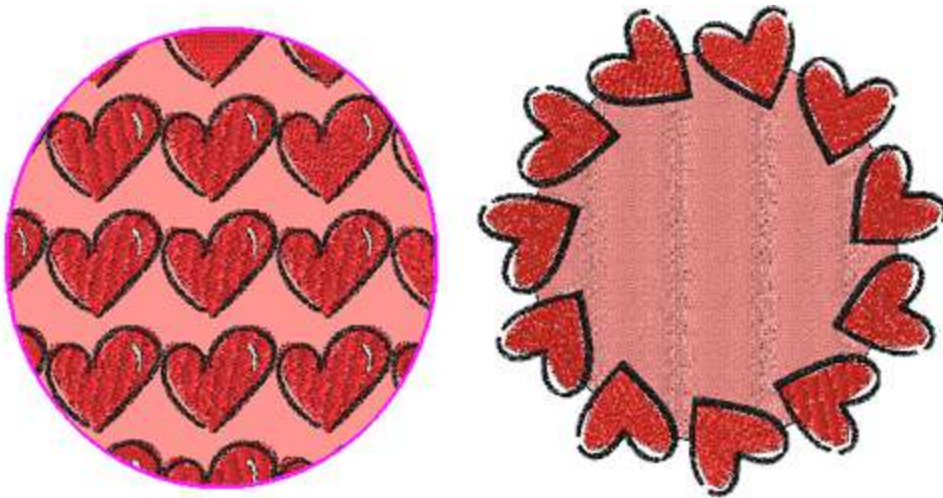


There are 2 ways to apply "Array" on fill or outline.

- Use any "clipart" item as a base object
- Use any design part as base object

Method 1. Use any item from clipart library

1. Select any object that you want to apply "Array".
2. Click on "Array" type on Properties. The array type exist both for "Fill" and "Outline" types. If you want to apply array of fill, press the "Array" type of fill tab and when you want to apply on outline, press the "Array" on outline type.
3. The clipart library dialog will appear to select any of the available items. Once you select a clipart item, press "Insert".
4. The cursor turns into a cross and you need to click and drag to specify the size and orientation of the inserted clipart. While dragging you can see a scaled and rotated preview which follows the movement of the mouse. Once you release the mouse the item is finalized.
5. By releasing the mouse the selected clipart item will be applied as array. It is not added on the design area, it is added on the selected object's fill, if you used "Array" type on fill tab or it is added on the outline if you used the "Array" type on outline tab.

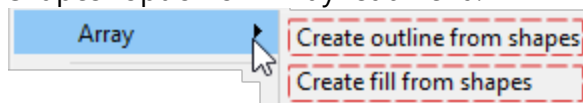


You can always select the object with the applied array and by pressing Array  again, the "Clipart library" dialog will appear to select another clipart item.

Method 2. Use any part of the design

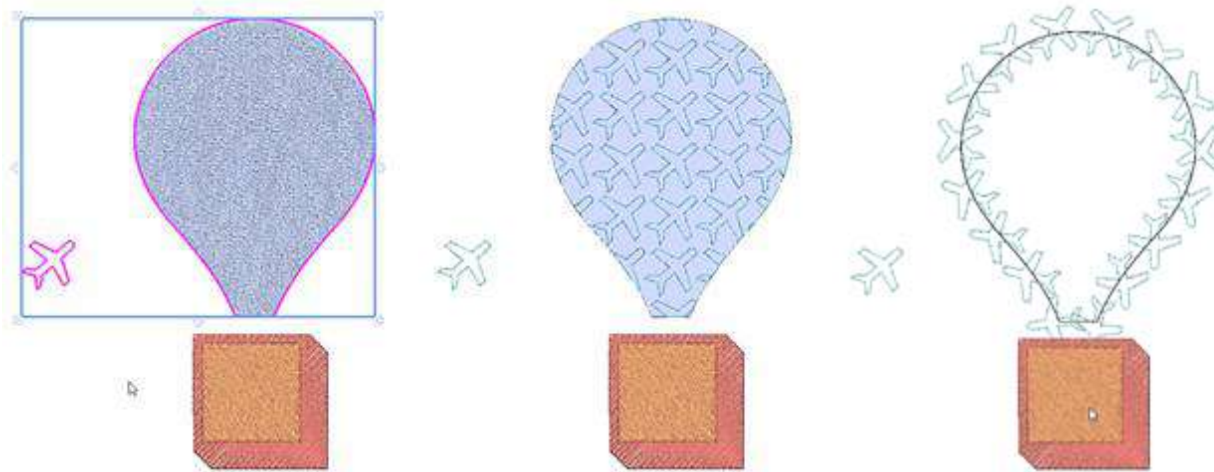
In this method we are not using a Clipart item as fill object, but we are using a part of the design.

1. Select an object to be filled and Use "Ctrl" key (for Mac Cmd) in order to add one or more objects to the selection.
2. The base object must be smaller than the object to be filled.
3. Press Array  icon or right click on the selection and from appearing menu use "Create Fill from Shapes" option of "Array" submenu.



4. The larger object is automatically filled with the smaller object placed in a patterned way.

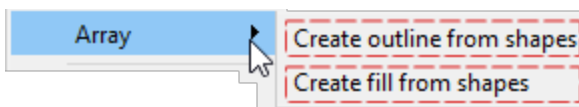
In the same way you can "Create outline from shapes".



When an Array fill is applied you can change the fill object at any time in various ways.

1. Press Array icon  to select an alternative clipart item.
2. Select a design object together with the already filled object and click on array icon to change the existing fill and use the newly selected object.

Any of the above ways to replace can be also performed by using a right click on the filled object and then using Create fill from shapes option.



There are various options that you can adjust in order to customize the way that the array is applied and edit the applied array. These options will be presented in the following section.

Array on fill

As already mentioned, when the array is apply on the fill of an object, then a base object is placed on the fill of the object in a patterned way. The "array" object has various "properties" that you can adjust but the most important is the pattern fill. This is where you select the way that the copies will be placed. There are 6 fill patterns and each one can be customized in a different way and each one will be presented into a separate topic. At this point we will present the common properties of all "Fill" patterns. The available fill patterns are as shown in the following figure and in the following topics we will present how to edit the fill pattern using the available "properties" and by using the "Edit nodes" option.

- Rectangle
- Circular
- Contour
- Single Line
- Shape Fit
- Line Fit
- Floral Vine
- Space Fill
- Floral fill



Offset

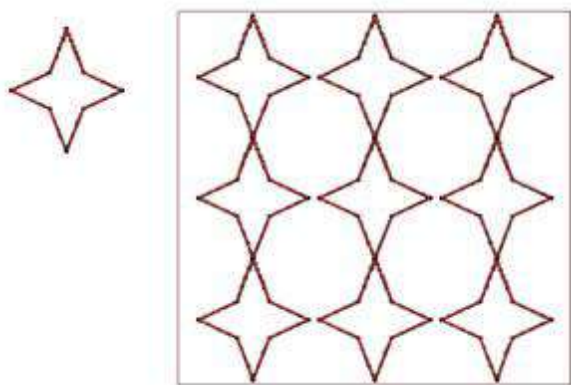
Offset

The Offset parameter specifies the distance between the outline and the cut edge of the repeated object.

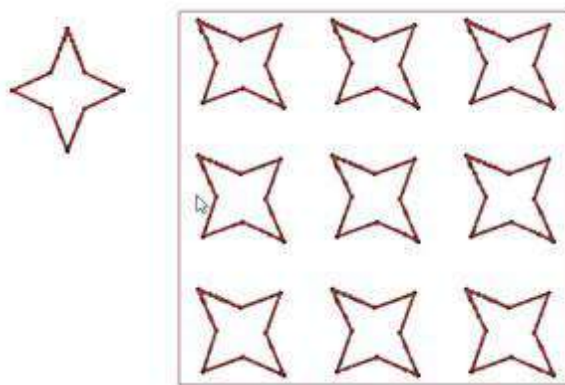
Item rotation

Item rotation

This parameter rotates the base object. Specify the rotation of the object in degrees and all the copies of the array are rotated like if the initial object was rotated in these degrees.



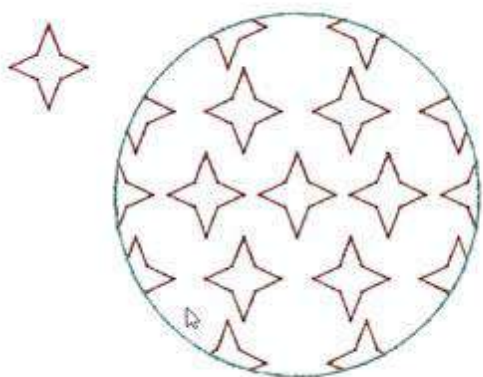
Item rotation 0



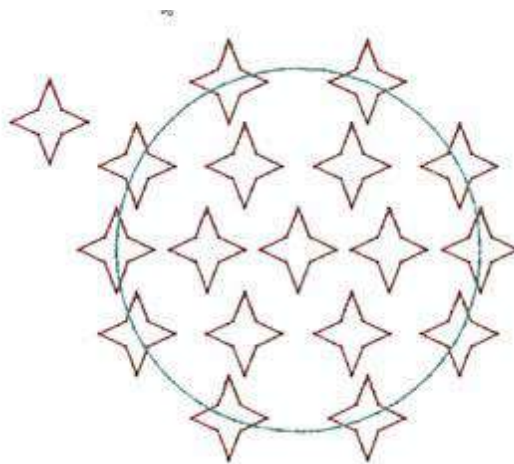
Item rotation 45

Trim Shapes

With trim shapes parameter you can specify whether the repeated objects will be cut according to the outline of the object in which they are repeated or if the software will nevertheless repeat the objects on the edge.



With trim shapes



Without trim shapes

Separate to objects

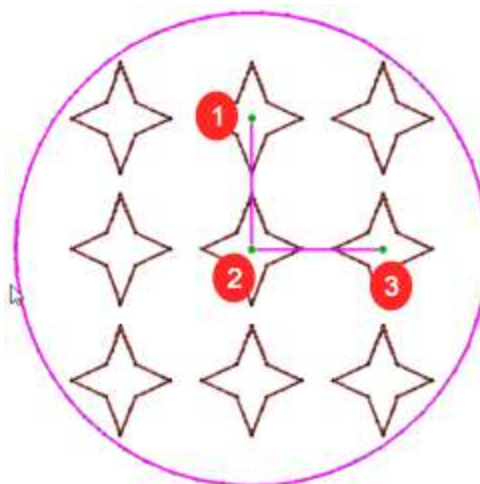
By using the Separate to Objects button you can convert the repeats of the array into individual objects. This means that you are able to delete, move or manually add/copy objects. This option is mainly used to avoid overlaps and to refine certain designs.

Edit array

In general we must mention that the fill pattern can be edited in 2 ways. First by using the "Properties" of each fill pattern and second using "Edit nodes" there are special handles that can be used to adjust the fill pattern. For example when using "Rectangle" fill, you can edit the fill pattern using the "properties" as in the left part of the following figure, but you can also use the control handles that are available if you "Edit nodes" for the array object as on the right part of the figure.

H. Spacing:	0,0 mm
V. Spacing:	0,0 mm
Start angle:	0,0 °
Slant angle:	90,0 °

Properties of "Rectangle" fill

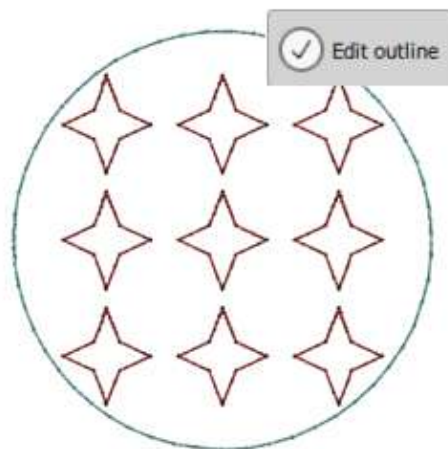


Fill pattern handles while using "Edit nodes".

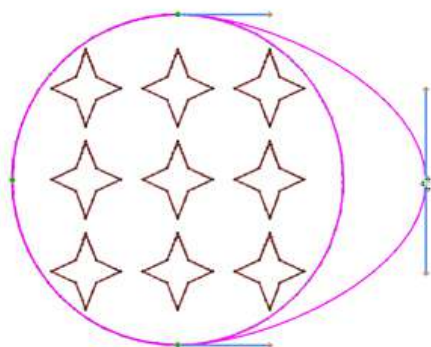
Edit outline

For normal objects when using "Edit nodes" you can edit their outline. For objects that have array on fill applied when you "Edit nodes" you can adjust the fill pattern as described previously. But in case you really

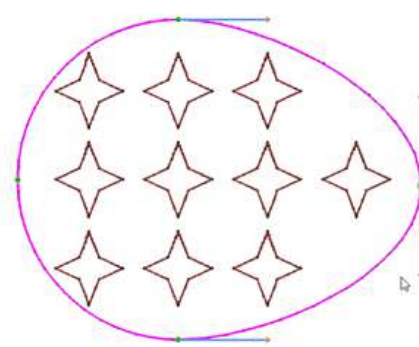
want to edit the outline of these objects you need to enable "Edit outline" option on "Tools options" bar. After enabling "Edit outline" option we can Edit the outline of the object as any normal other object.



Edit outline enabled



Move any node



The shape of the object has changed

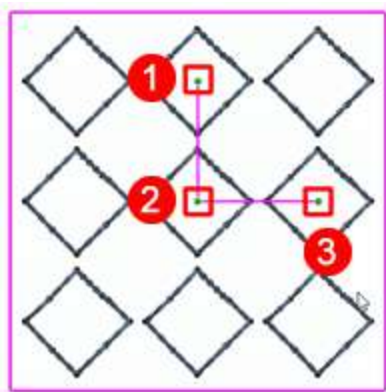
Rectangle

When applying Array using Rectangle fill, a rectangular grid is created and copies of the fill object are placed on the grid. You can edit the look of the array in 2 ways. First by using the Properties to control the Horizontal - Vertical distance and Start - Slant angle.

- Horizontal Spacing
- Vertical Spacing
- Start angle
- Slant angle

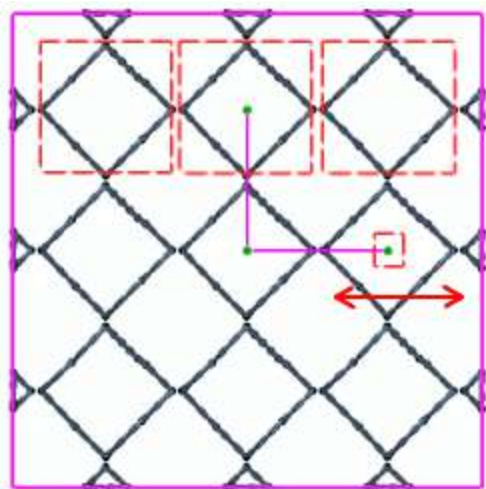
H. Spacing:	0,0 mm
V. Spacing:	0,0 mm
Start angle:	0,0 °
Slant angle:	90,0 °

You can also edit the look of the array using the controls that appear on node editing mode. As you can see on the following figure a corner pattern handle appears in node editing mode. Using control handle 1 you can adjust both "Vertical distance" and "Slant angle". Using control handle 2 you can change the center of the array. This is the first object of the array the whole rectangular grid is based on this object. All the other objects will be placed based on the position of the first, following the parameters of the array fill type. Using control handle 3 you can adjust the "Horizontal distance" and the "Start angle".

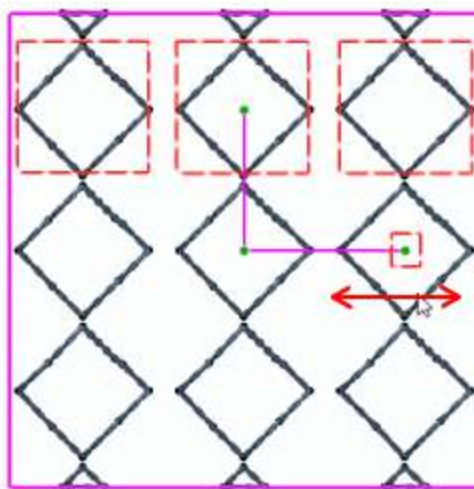


Horizontal Spacing

This numeric value defines the horizontal distance between the copies of the same horizontal line. You can type any numeric value and press "Enter" to apply. You can also adjust the spacing between horizontal copies, in node editing mode, using the control handle that is indicated on the following figure. Click and drag to change the length of the line that ends on the handle, the horizontal distance changes according to the movement of the control handle. At this point we must mention that you can hold "Ctrl" key (MacOS Cmd key) so that the movement will snap on the horizontal axis. Using the same handle you can also adjust the "Start angle" that the rectangular grid is based on.



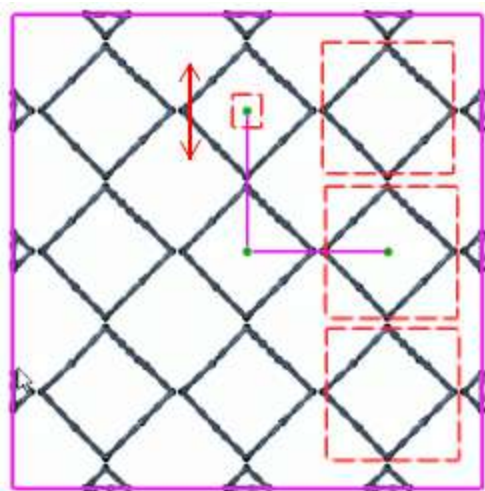
Horizontal Spacing 0



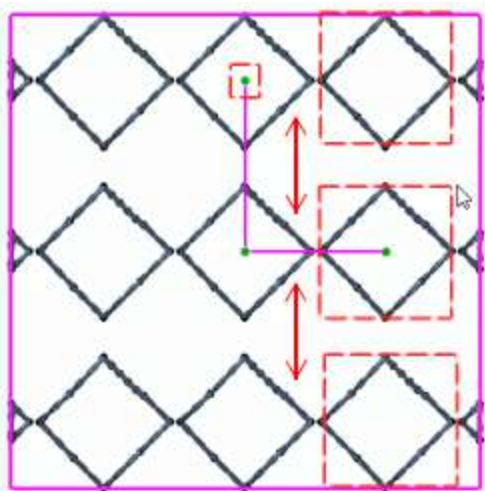
Horizontal Spacing 1,5

Vertical Spacing

This numeric value defines the vertical distance between the lines. You can type any numeric value and press "Enter" to apply. You can also adjust the spacing between the lines, in node editing mode, using the control handle that is indicated on the following figure. Click and drag to change the length of the line that ends on the handle, the vertical distance changes according to the movement of the control handle. At this point we must mention that you can hold "Ctrl" key (MacOS Cmd key) so that the movement will snap on the horizontal axis. Using the same handle you can also adjust the "Slant angle" that the rectangular grid is based on.



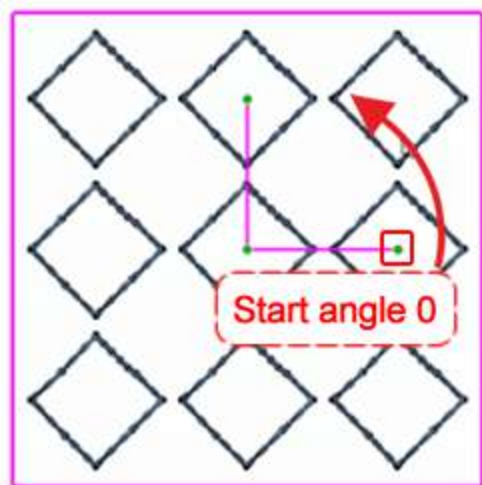
Vertical distance 0



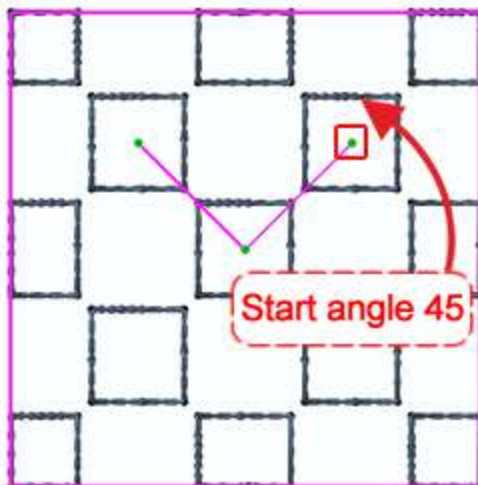
Vertical distance 2mm

Start angle

This numeric value defines the degrees that the pattern fill will start from. You can also move the node as indicated in the following figures in order to change the start angle. In reality the placement pattern changes angle at once. The pattern handle is moving as is. The angle between the lines of the handle remains the same when editing the handle that adjusts the start angle.



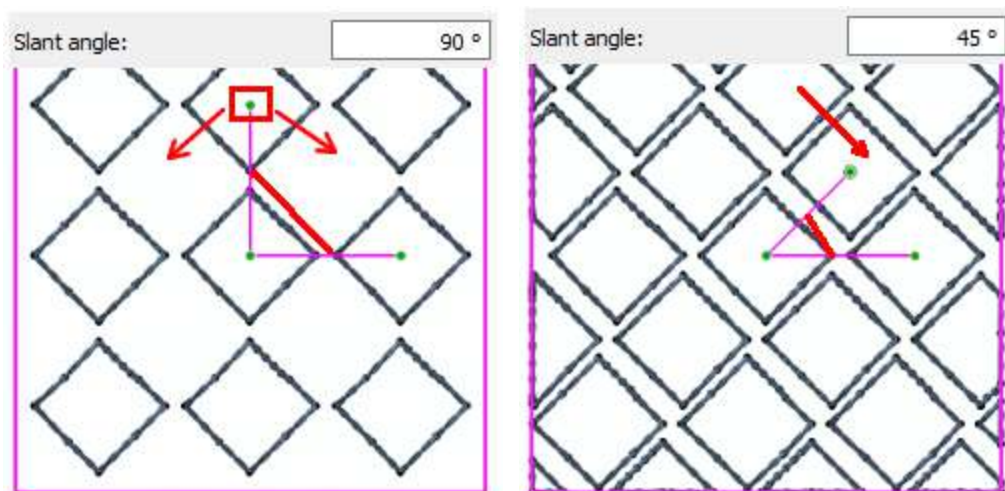
Move this node to change the start angle



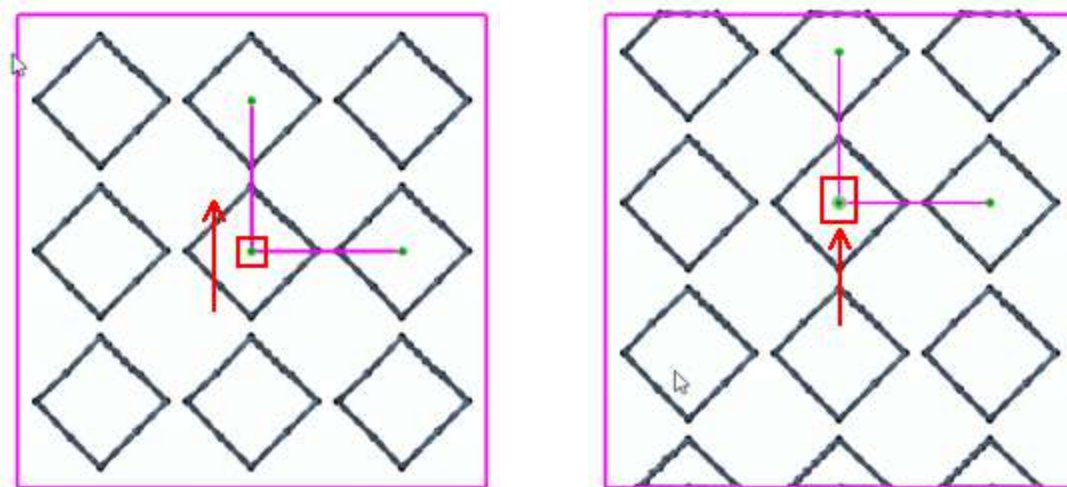
The start angle has changed and the whole place of the pattern.

Slant angle

The slant angle defines the pattern placement. This numeric value defines the degrees of the pattern handle corner. As we can see on the following figure Slant angle is 90 degrees. You edit the numeric value on Properties toolbar but we can also move this node as shown on the following figure in order to change the Slant angle. The slant angle has changed and you can see that the fill pattern is a lot different. All other option remain unchanged and in many cases you may have this overlapping of copies and you must change Horizontal - Vertical distance in order to improve array appearance.



Finally we must mention that we can move the center of Array fill (Control point 1) in order to change how copies the copies are placed. By default the center of the array is placed on the center of the object. As we can see the center of the first copy starts from the center but all the copies on the bottom- top of are not whole. We do not like the placement of the copies at the edges of the object as we can see the left part of the figure. Move the center of the array as indicated in the right part of the figure below and see how all copies fit inside the shape.

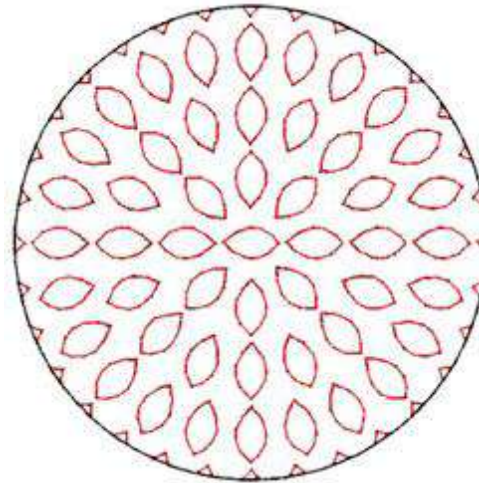


Circular

When applying Array using Circular fill, a Circular grid is created and copies of the fill object are placed on the circle. Detailed information about all the properties of Array fill can be located in the respective section of Embroidery transformations chapter. At this point we will only present the properties that affect the array fill pattern.

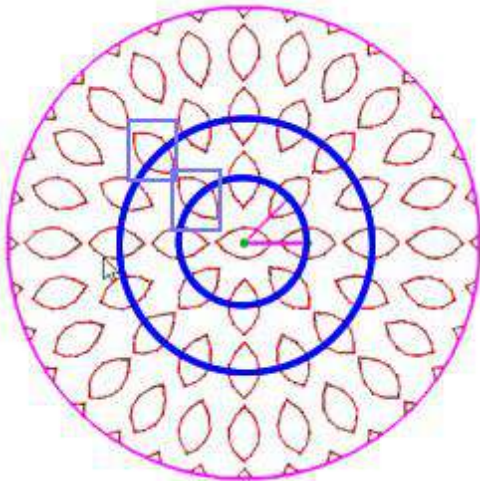
- Horizontal Spacing
- Start angle
- Steps

H. Spacing:	0.0	↑ ↓
Start angle:	0	↑ ↓
Steps:	6	↑ ↓

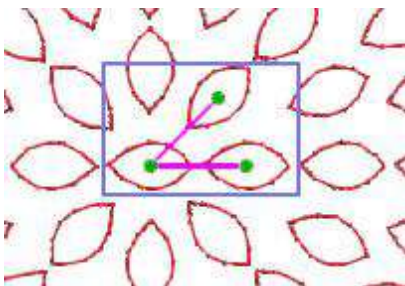


Horizontal Spacing

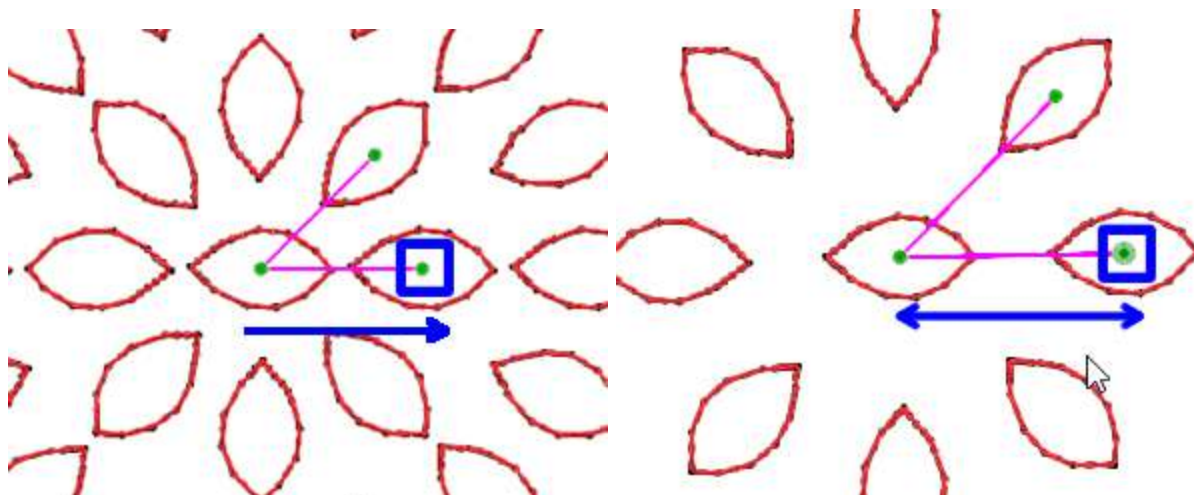
When applying Array fill using Circular appliance option, the program creates copies of a base object and places the copies on a Circular grid. The circular grid has inner circles. Using this option you can define the distance between the circles. In reality the Spacing parameter specifies the distance between the rectangles which include any of the copies.



In node editing mode a pattern handle appears. Using the nodes of this pattern handle we can adjust Horizontal spacing.

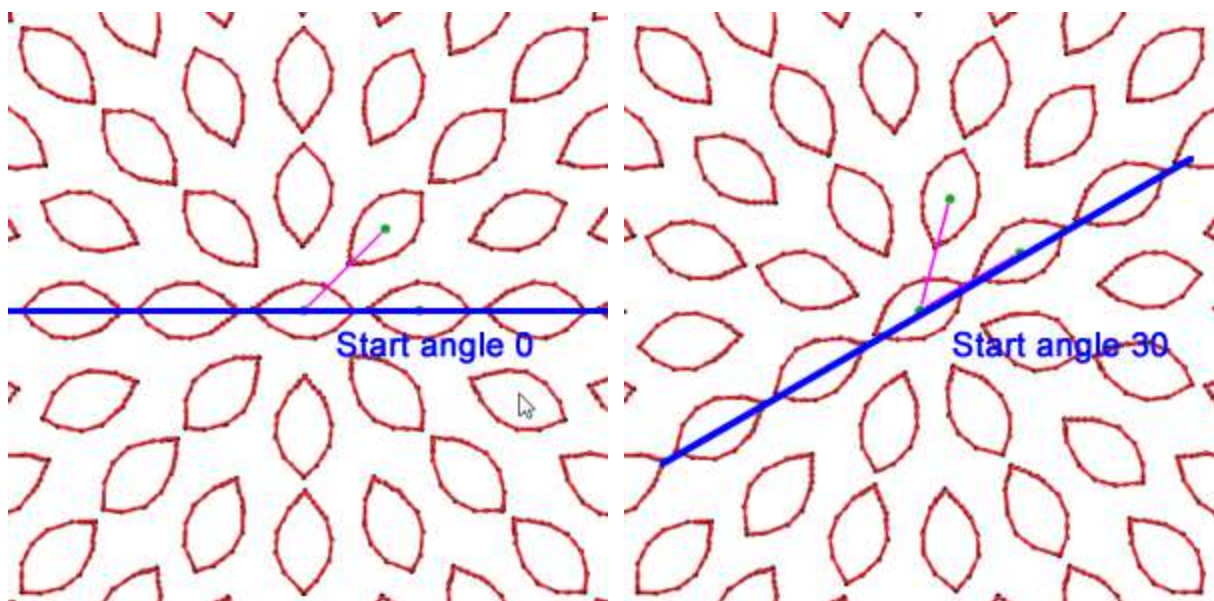


Click and Drag to move this node, in the direction that is shown by the arrow in order to increase the Horizontal spacing or to the opposite direction in order to decrease the Horizontal Spacing. While Dragging you can see the handles enlarging, release the mouse to apply the operation.



Start angle

In circular placement there is always a line that the copies are placed on a straight line and the rest of the copies follow the placement of this start angle line. The whole pattern changes to follow the start angle, the copies of each circle are placed according to the start angle line.



Steps

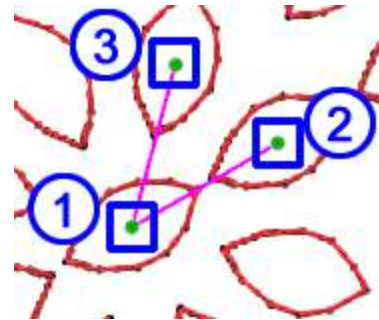
The Steps parameter, defines the increase Step of added copies on inner circles of Circular placement, starting from the center of the Array. First a copy is added to the center of the circle. Then in first circle the number of copies is the number that is defined by Steps property, in our case we have 8 copies. The next

circle increases the number of included copies by the Step number, so the second circle has 16 copies. The third circle will have 24 copy objects etc. The object of the same circle are distributed evenly.

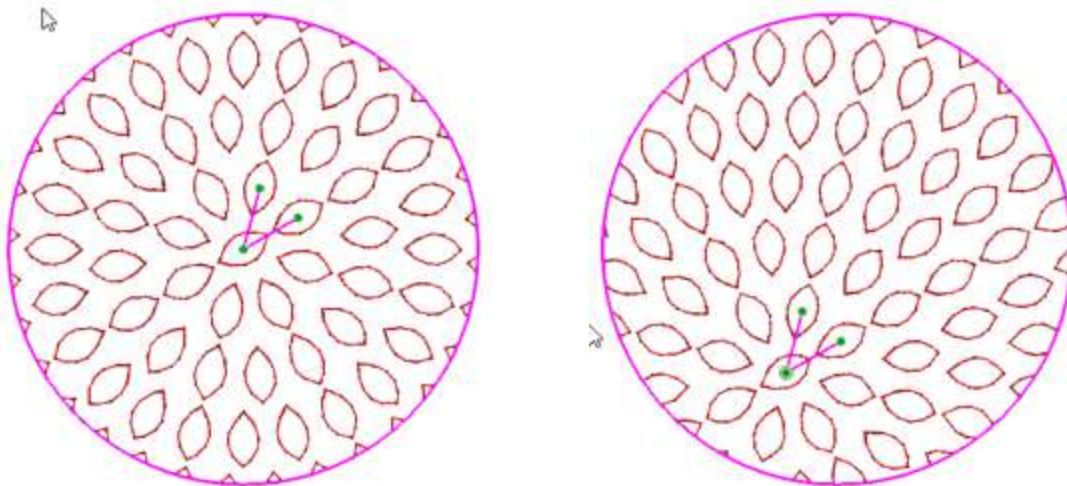
Steps:

When editing Circular array fill using node editor there are three control points:

- ❖ Control point 1 specifies the position of the first object that will be repeated. All the other objects will be placed based on the first one, following the parameters of the Circular array. We can move this control point and change the center of the circle.
- ❖ The distance between control points 1 and 2 specifies the Spacing parameter. In reality the numeric value defines the distance between the rectangles that include any of the copies and not the length from node1 to node2.
- ❖ Using the Control node 2 you can specify the Start angle.
- ❖ Using the control node 3, you can adjust number of Steps property.

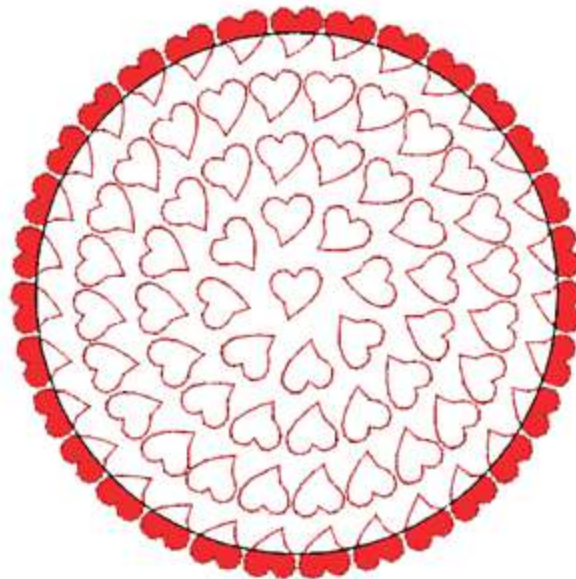


As we have mentioned before we can move control point 1 (The center of the circle) in order to create design like the above. Starting from the design on the left with the standard circular pattern we can easily change into the design on the right with the modified center of the circle.

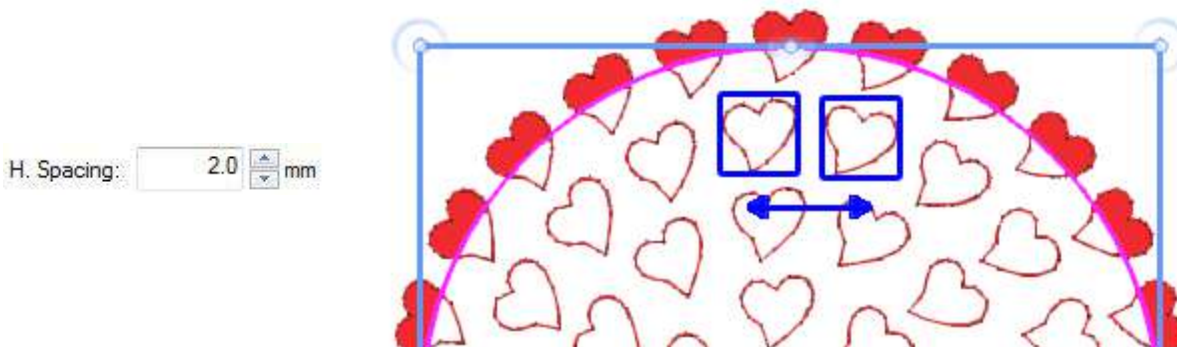


Contour

Contour array has the following parameters:

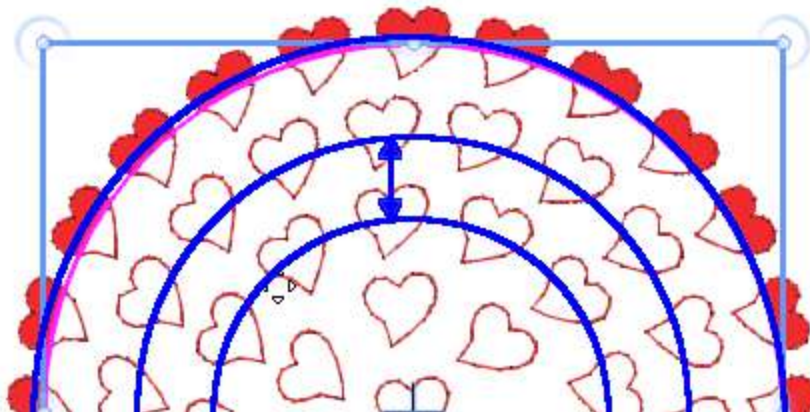
**H. Spacing**

The Horizontal spacing parameter specifies the distance between the rectangles that include each repeated object of the same contour. The Spacing in this case may not be precise, since the objects of the same contour should be distributed evenly.

**V. Spacing**

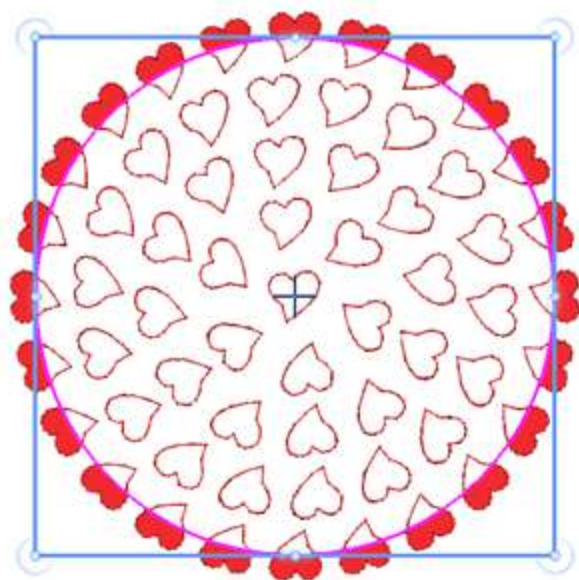
The Vertical spacing parameter specifies the distance between the rectangles that include each repeated object, of different (adjacent) contours. The Spacing in this case may not be precise, since the contours should be placed in a way that does not leave big gaps in the middle of the object.

V. spacing: mm



Follow angle

With the Follow angle parameter you can specify if the repeated object will be rotated, to follow the direction of the outline or if it will keep the angle of the original object.



With "Follow angle"



Without "Follow angle"

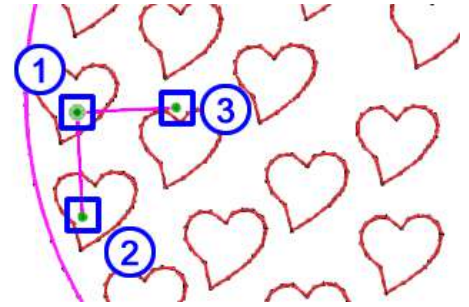
Node editing of Contour array

When selecting an object which is filled with Contour array and clicking on the Node Editor icon, you can edit the control points of the objects placement. There are three control points

- Control point 1 specifies the offset of the parameter, where the first contour will be placed.
- The distance between control points 1 and 2 specifies the Spacing parameter.
- The distance between control points 1 and 3 specifies the Vertical Spacing parameter.

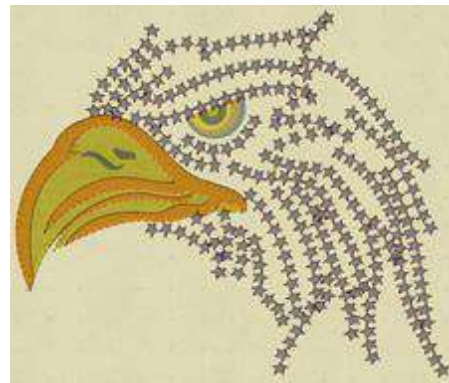
You cannot change the angle of 1-2 and 1-3 lines since there is no meaning in changing the starting or slant angle in contour fill type.

If you wish to edit the outlines of the object you have to enable the parameter "Edit outline" from the "Tool options" toolbar



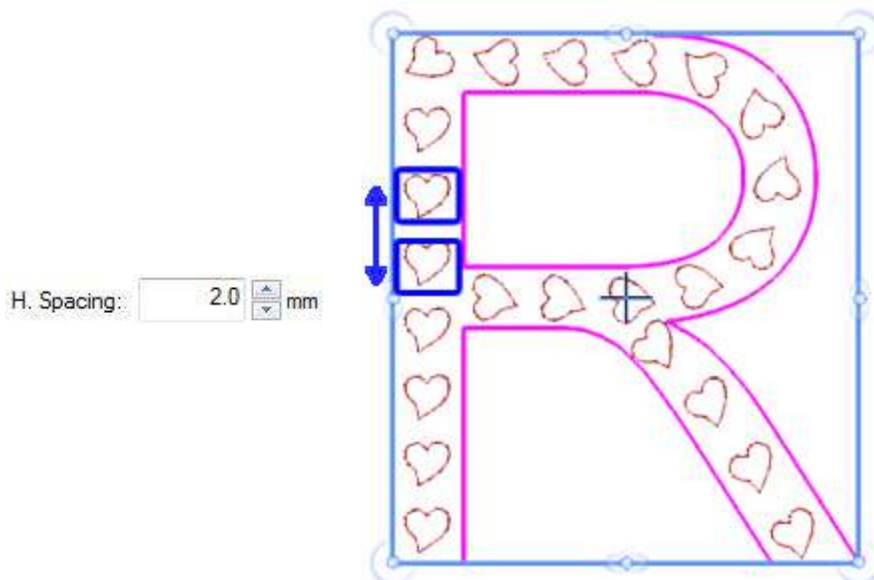
Single Line

Single line array has only the following parameter:



Spacing

The Spacing parameter specifies the distance between the rectangles that include each repeated object. The Spacing in this case may not be precise, since the array of the same letter should be evenly distributed.



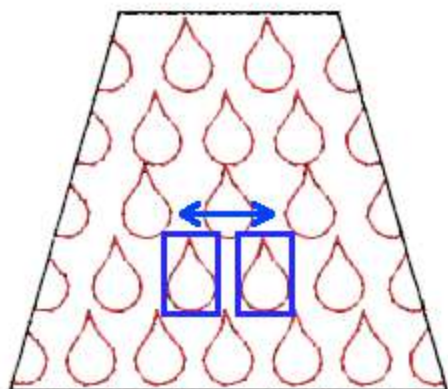
Shape Fit

Shape fit array has the following parameters:

**H. Spacing**

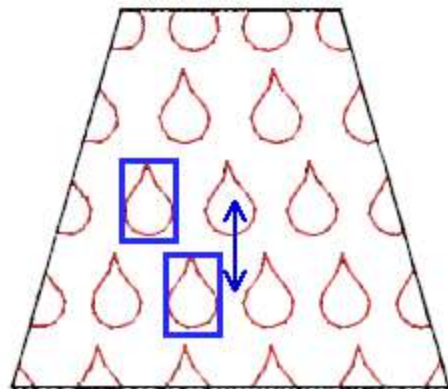
The H. Spacing parameter specifies the distance between the rectangles that include each repeated object. The Spacing in this case may not be precise, since the objects of the same letter should be evenly distributed.

H. Spacing: mm

**V. Spacing**

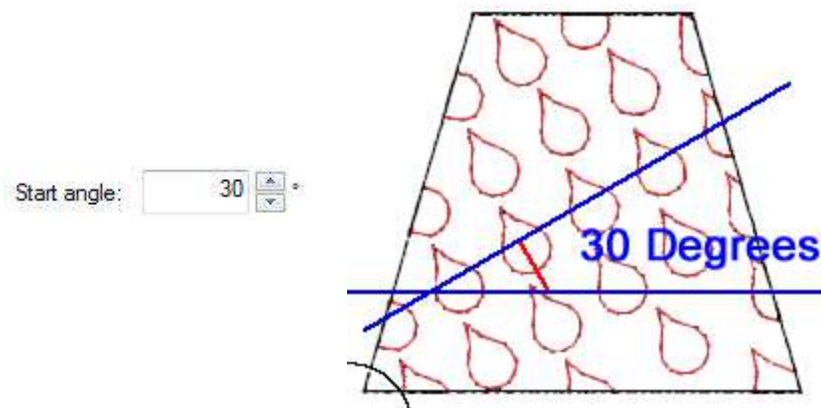
The Spacing parameter specifies the distance between the rectangles which can include each repeated object.

V. spacing: mm



Start angle

The Starting angle parameter specifies the angle of the horizontal lines of repeated objects, which will fill the area you specified. When the starting angle is set to 0 degrees, the lines will be horizontal.



Node editing of Shape fit array

When editing an object which is filled with Shape fit array in Node editing mode, you can edit the control points of the array placement.

There are three control points:

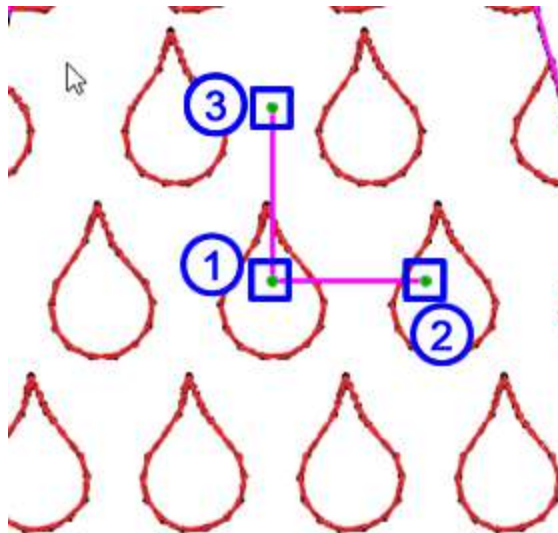
Control point 1 specifies the Vertical position of the first object of the array. All the other objects will be placed based on the first one following the parameters of the array fill type.

The distance between control points 1 and 2 specifies the Spacing parameter.

- The angle of 1-2 line, specifies the Starting angle.
- The distance between control points 1 and 3 specifies the Vertical Spacing parameter.

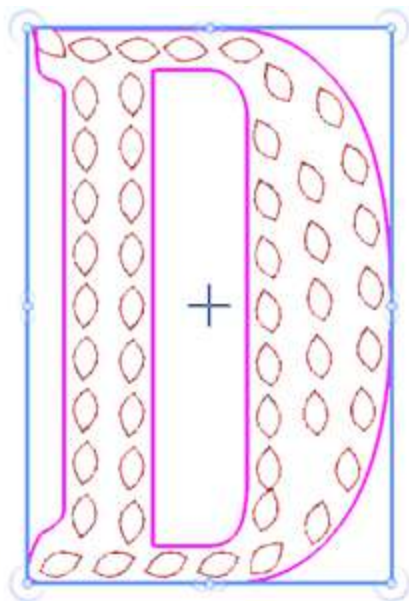
The angle of 1-3 line cannot be changed since it has no meaning for the Shape fit array.

If you wish to edit the outlines of the object, you need to enable the parameter "Edit outline" from the "Tool options" toolbar.



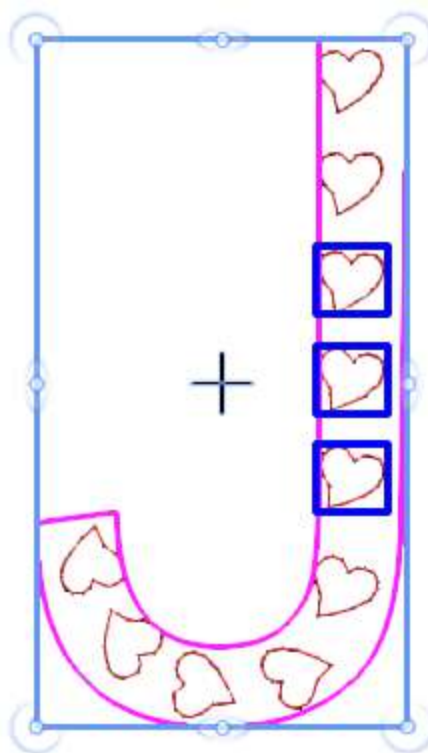
Line Fit

Line fit array has the following parameter:

**H. Spacing**

The Spacing parameter specifies the distance between the rectangles that include each repeated object.

The Spacing in this case may not be precise, since the copies of the same letter should be evenly distributed.



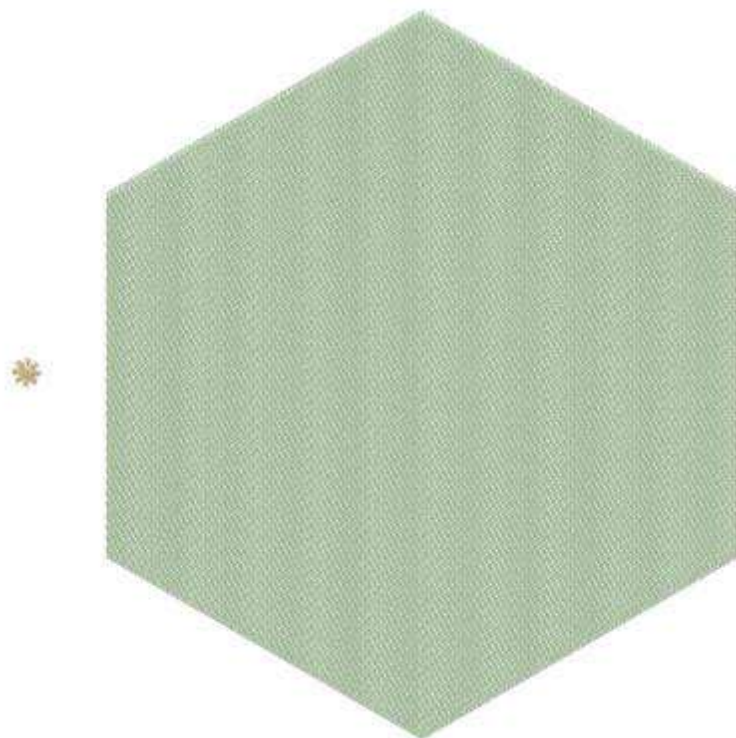
Line fit fill array does not have control points in node editor.

Floral vine

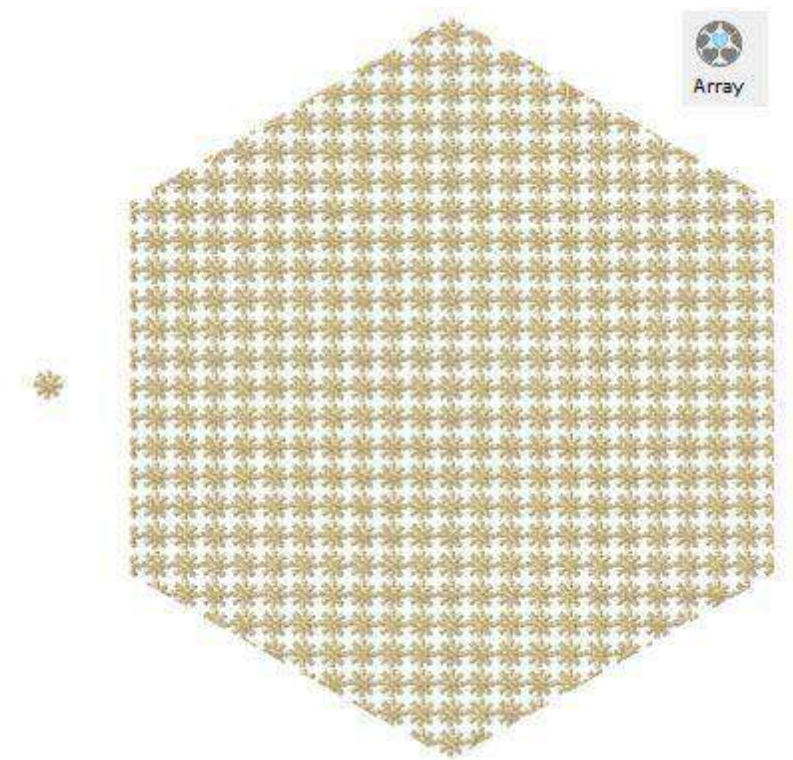
"Floral vine" is a special Array fill type which automatically creates beautiful floral designs.

To create a floral object you first need to:

1. Create the shape upon which floral shall be applied, as well as the kind of flower and leaf (the leaf is optional) you wish to use



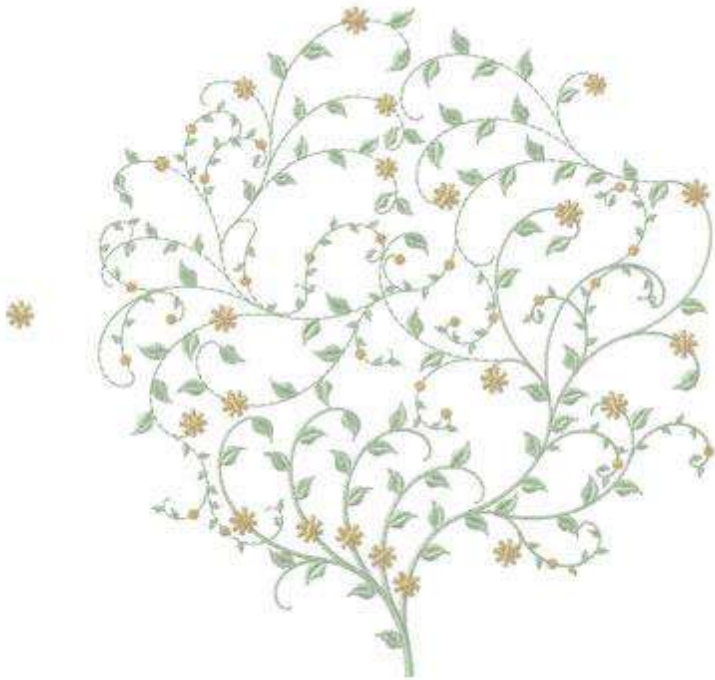
2. Select both objects and click on "Array" tool from "Properties" toolbar



3. Select the "Array" object and from the properties bar select the "Floral vine" option from the "Fill" drop down menu.



4. The floral design will fill the area of your selected shape and produce the following result which you can further edit if you like.

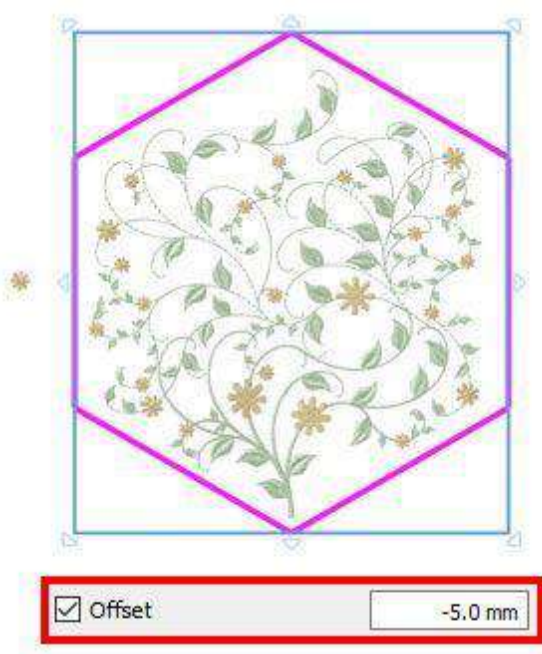
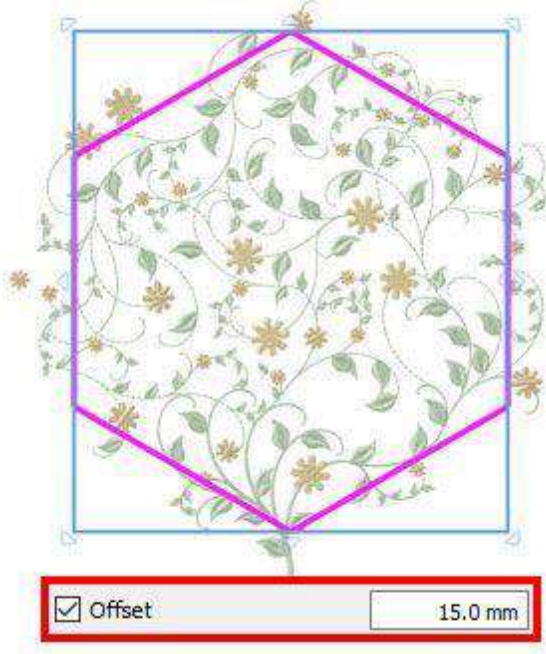


The parameters of "Floral vine" are shown on the "Properties" roll up.

Offset

Offset

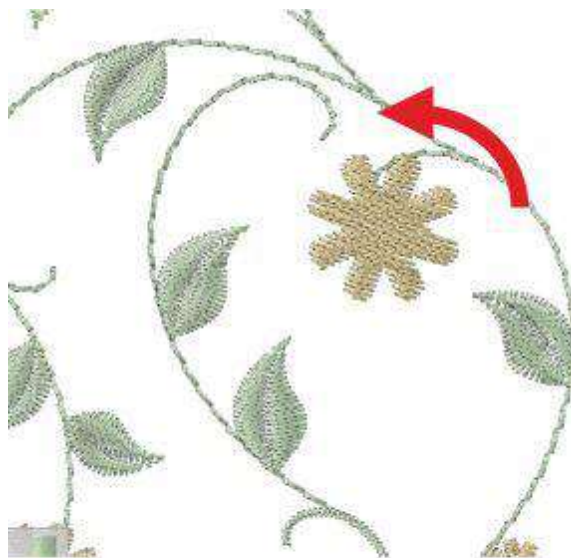
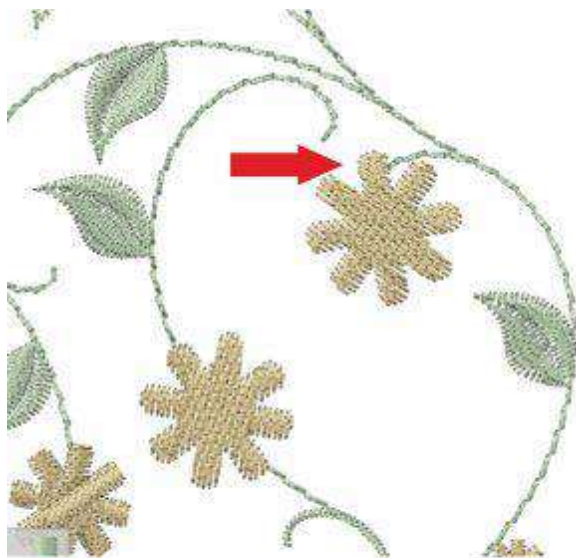
The Offset parameter specifies the distance between the outline of the shape and the ending of the floral.



Item rotation

Item rotation

This parameter rotates the base object. Specify the rotation of the object in degrees and all the copies of the array are rotated as if the initial object was rotated according to the set degrees. In floral vine such rotations can trigger a recalculation of the whole design, therefore leading to different floral results.



Starting width

Starting width

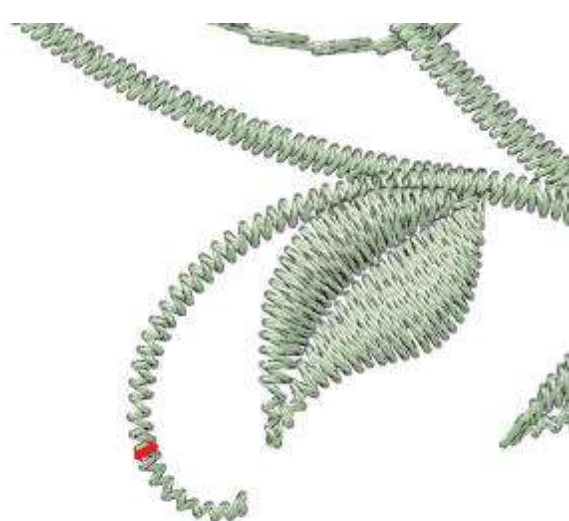
With this value you can specify the Starting width of the stem. The default value is 20.



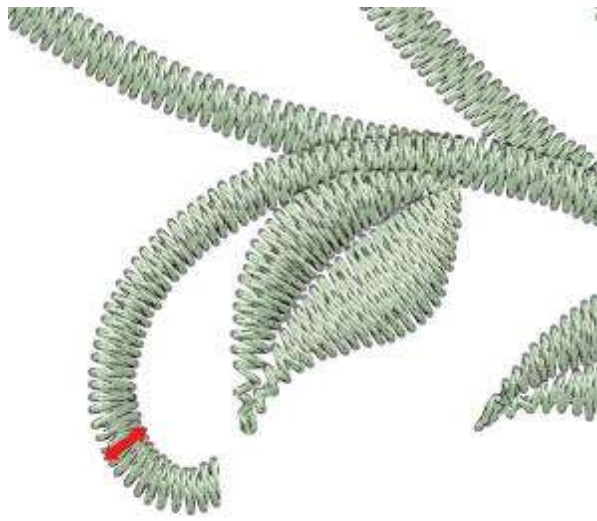
Ending width

Ending width

With this value you can specify the Ending width of the stem. The default value is 5.



Ending width



Ending width

Flip vine

☐ Flip vine

With this checkbox you can specify whether you want to Flip (mirror-like option) the vine of the design or not.



☐ Flip vine



☒ Flip vine

Levels

Levels

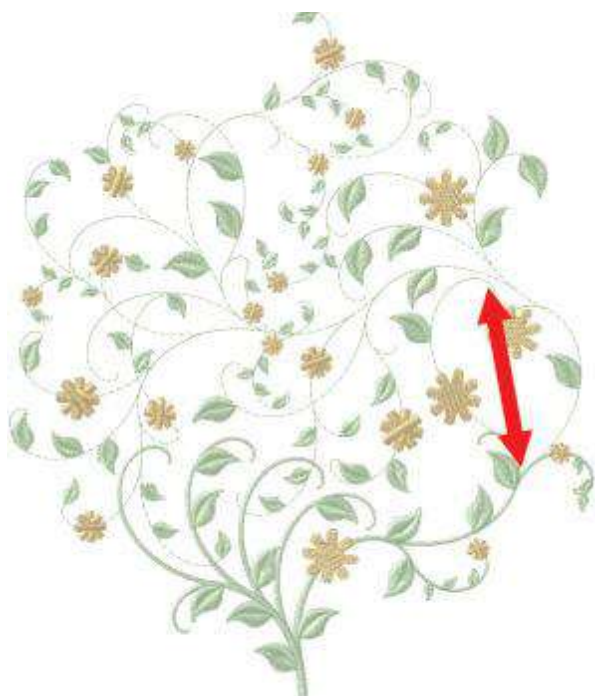
With this value you can specify the complexity of the floral branches. The default value is 4 which is also the highest value.



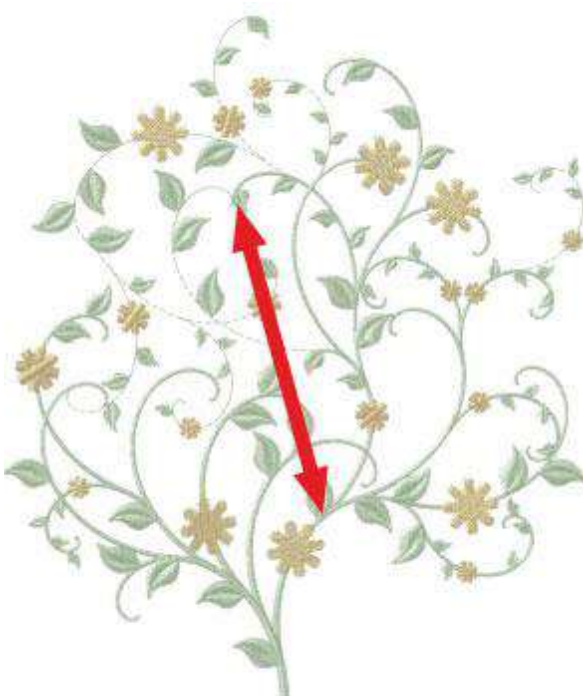
Length

Length

With this value you can specify the Length of the branches. Higher values decrease the complexity and the vice versa. The default value is 5.



Length



Length

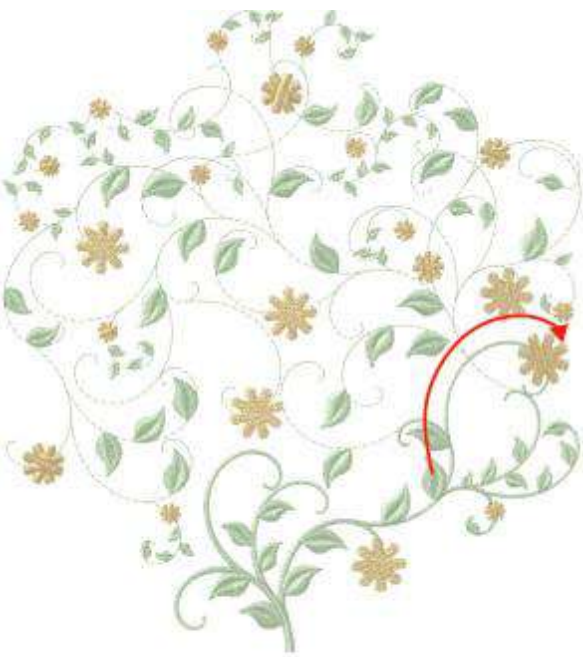
Curvature

Curvature

With this value you can specify the Curvature of the branches. Higher values increase the curvature of the branches and vice versa. The default value is 6.



Curvature



Curvature

Complexity

Complexity

With this value you can specify the Complexity of the branches. Higher values increase the complexity and vice versa. The default value is 3.



Complexity

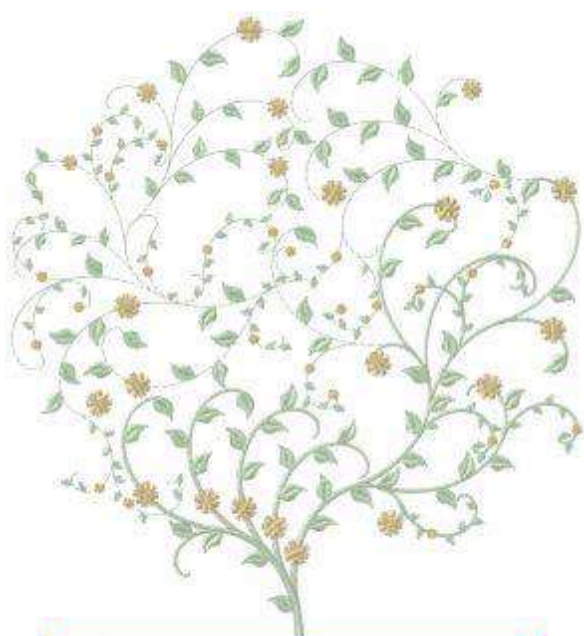


Complexity

Scale

Scale

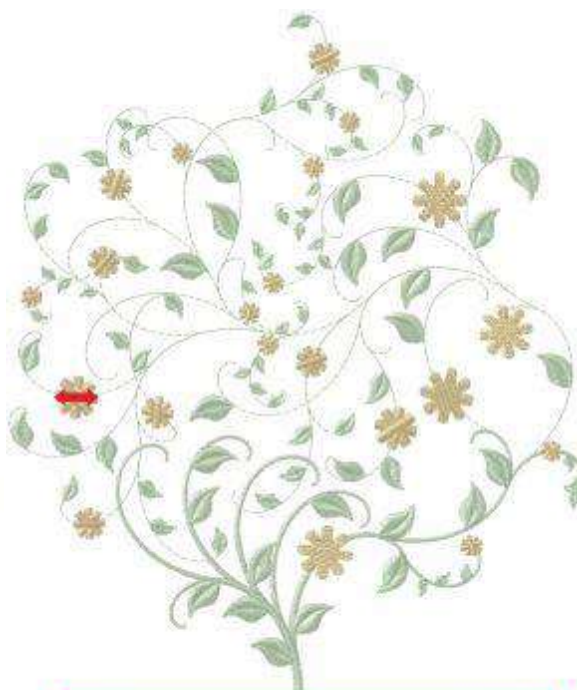
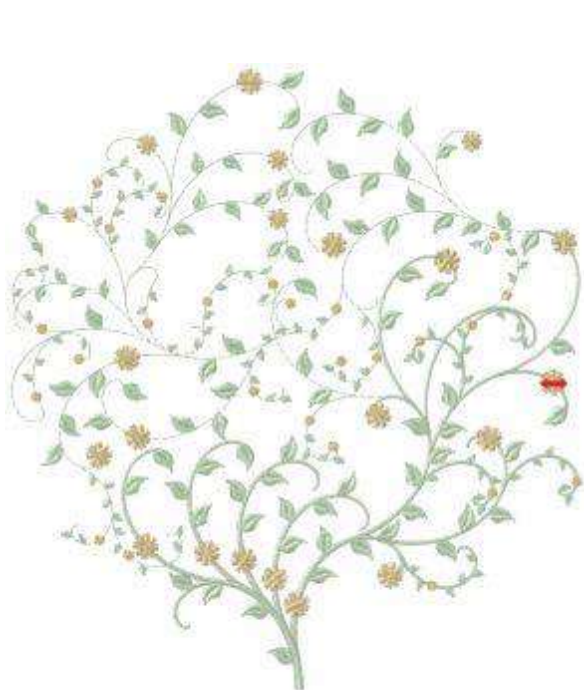
With this value you can scale the floral vine design inside the Array shape. The higher the percentage value the bigger the branches of the floral vine and the vice versa.



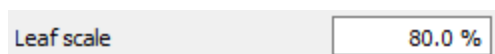
Flower scale

Flower scale 100.0 %

With this value you can scale the flowers of the floral vine design inside the Array shape. The higher the percentage the bigger the size of the flowers and vice versa.

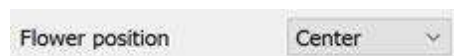


Leaf scale

A control element for the 'Leaf scale' parameter. It consists of a light gray rectangular box with the text 'Leaf scale' on the left and a white input field on the right containing the text '80.0 %'.

With this value you can scale the leaves of the floral vine design inside the Array shape. The higher the percentage, the bigger the size of the leaves and vice versa.

Flower position

A control element for the 'Flower position' parameter. It consists of a light gray rectangular box with the text 'Flower position' on the left and a white dropdown menu on the right showing 'Center' with a small downward arrow.

With this drop down menu you can specify whether you want to position the flowers "Above", "Below" or at the "Center" on the branches of the floral design.

Reset to default values

A button with a light gray background and rounded corners, containing the text 'Reset to default values' in a small, dark font.

With this option you can reset all the floral vine options to the default ones.

The majority of these parameters is related, so when a parameter is modified by the user, the software internally changes the rest of the related parameters accordingly.

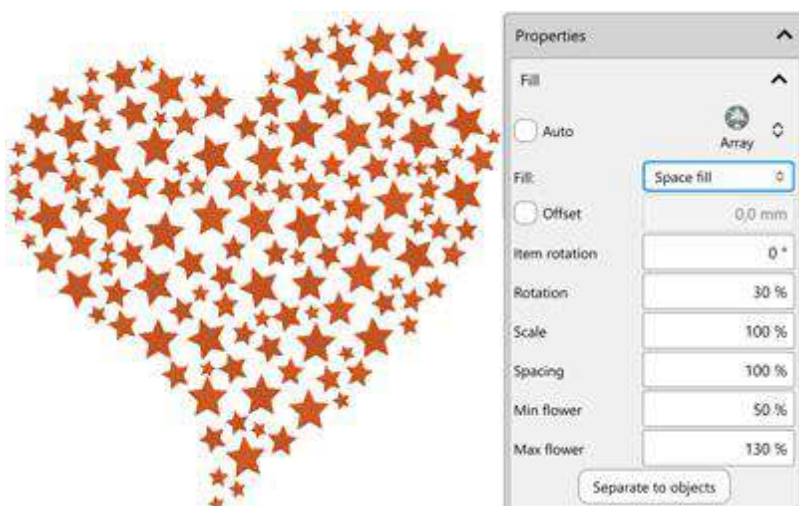
Floral vine start point

Another important parameter of the Floral vine type is the point from which it will start. This can be set from the "Stitch flow" tool. By clicking on the "Stitch flow" tool you can click and drag the mouse, to specify the direction and the length of the stem. On the left icon, the stem begins from the bottom, whereas on the right the stem begins from the right top corner.

Space Fill

Our innovative "Space Fill" type utilizes copies of the internal shape to create a unique, organic look for the outer shape area. The copies are scaled and rotated randomly to add dimension and texture to your design. This fill type could be used in a variety of ways- try it on larger shapes for added visual interest. With Space Fill, your designs will have never looked so dynamic.

The sample show a shape filled with "Space fill" array fill together with its parameters:

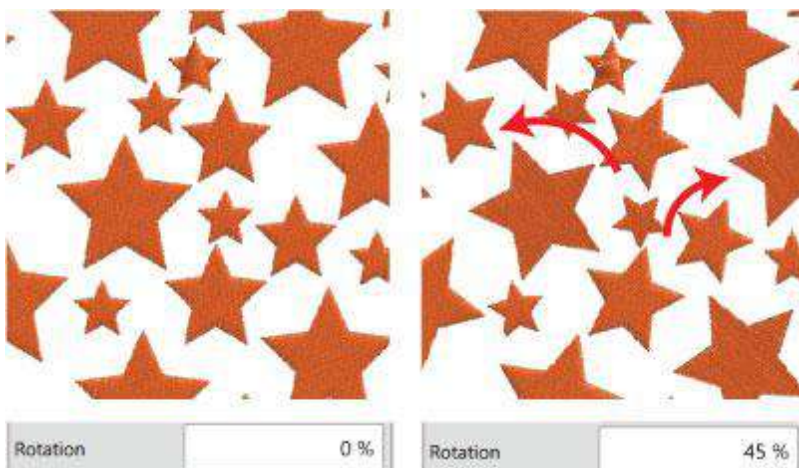


The parameters that you can adjust and get the desired result are many. The parameters "Offset", "Item rotation" and "Separate to objects" are described in the Array on fill topic. The rest are listed below:

Most values of the parameters that you can adjust are in percentages. Which means that the value is a percentage of the initial object size that was used to create the Array fill. For example, If the "Spacing" value is set to 40%, the spacing between the objects will be 40% of the object's initial size. Therefore, if the initial size is 1cm(radius of a circle covering the object), the 40% spacing will be 0,4cm distance between the objects' centers.

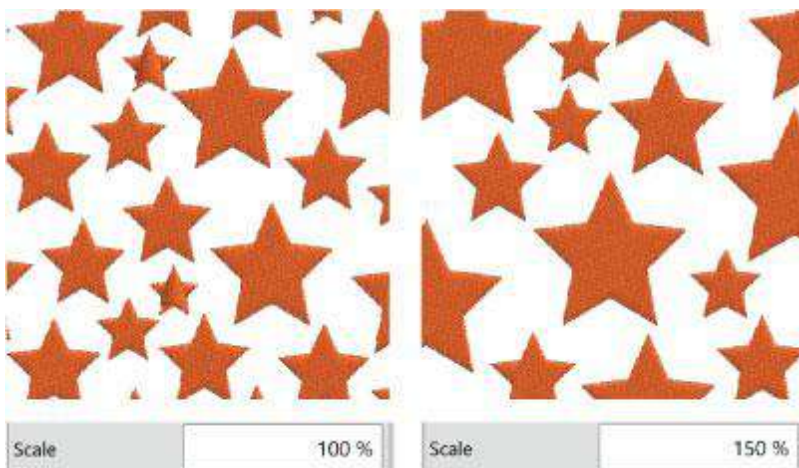
Rotation

This parameter rotates the repeats of the initial object clockwise or counter clockwise randomly. Specify the rotation of the repeats in degrees and all the repeats will be rotated in these degrees.



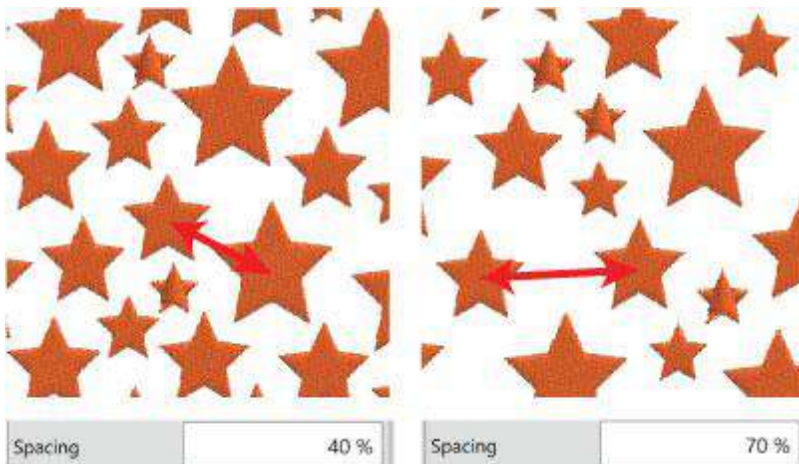
Scale

This parameter will scale the initial size of the array object together with all its repeats. If you decrease the "Scale" percentage value the array objects will be scaled down and the repeats will be increased. On the other hand if you increase the "Scale" percentage value, the array objects will be scaled up and the repeats will be decreased.



Spacing

The "Spacing" parameter specifies the distance between the repeated objects in the array. The Spacing may not be precise, since the objects have different sizes and they have to fit in a specific outer shape.



Min size

This parameter specifies the Minimum size of the repeated objects. The software will use this value to set the smaller size of space fill array objects and begin repeating them until it reaches the maximum size.

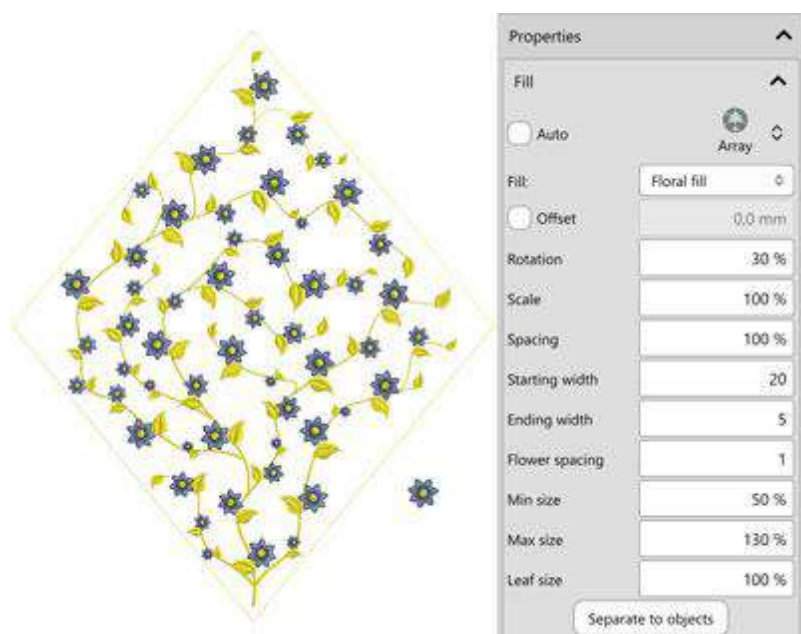


Max size

This parameter specifies the Maximum size of the repeated objects. The software will get this value and set it as the maximum size for the space fill array objects and it will not allow larger objects to be created.

Floral fill

With the new "Floral fill" type, you can now effortlessly create stunning embroidery designs using your own flowers. Simply select the shape that will be filled, then select the flower and then the "Floral fill" option and let the machine do the rest. The array will be filled with a visually pleasing and unique pattern using your flower choices. This fill type is perfect for creating clothing accents, home decor items, and more.



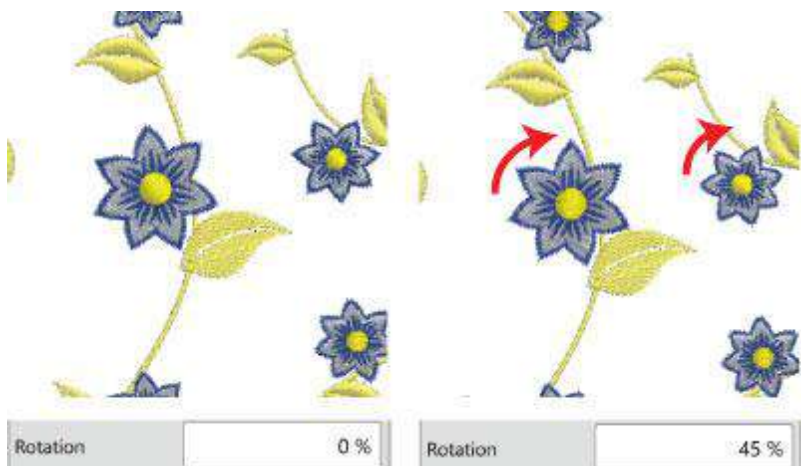
The sample show a shape filled with "Floral fill" array fill together with its parameters:

The parameters that you can adjust and get the desired result are many. The parameters "Offset" and "Separate to objects" are described in the Array on fill topic. The rest are listed below:

Most values of the parameters that you can adjust are in percentages. Which means that the value is a percentage of the initial object size that was used to create the Array fill. For example, If the "Spacing" value is set to 40%, the spacing between the objects will be 40% of the object's initial size. Therefore, if the initial size is 1cm(radius of a circle covering the object), the 40% spacing will be 0,4cm distance between the objects' centers on average.

Rotation

This parameter rotates the flower used to fill the array clockwise or counter clockwise. You can specify the rotation of the repeats in percentage from 0 to 100 and all the repeats will be rotated in 15 degrees radius, with 0% being the initial position and 100% being 15 degrees rotation from the initial position.



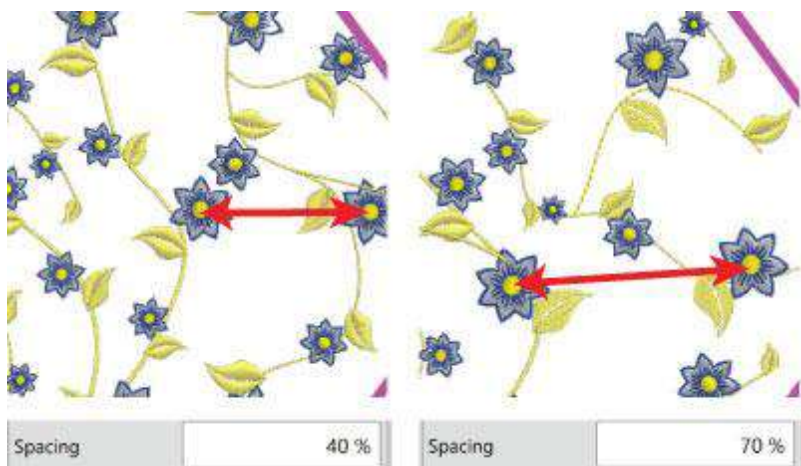
Scale

This parameter will scale the initial size of the floral object together with all its repeats. If you decrease the "Scale" percentage value, the floral objects will be scaled down and the repeats will be increased. On the other hand if you increase the "Scale" percentage value, the array objects will be scaled up and the repeats will be decreased.



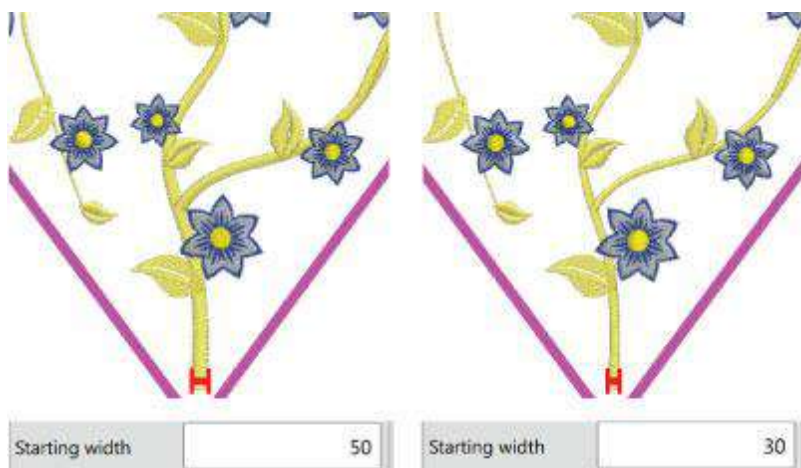
Spacing

The "Spacing" parameter specifies the distance between the repeated objects in the array. The Spacing may not be precise, since the objects have different sizes and they have to be in specific positions of the stem.



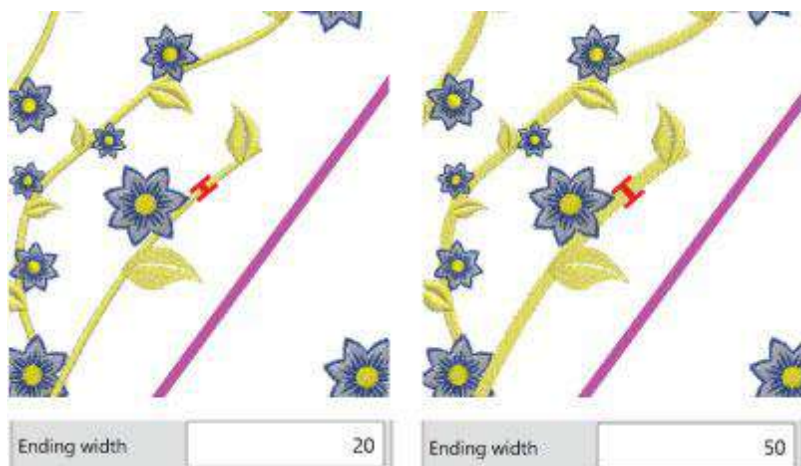
Starting width

With this value you can specify the Starting width of the stem. The default value is 20.



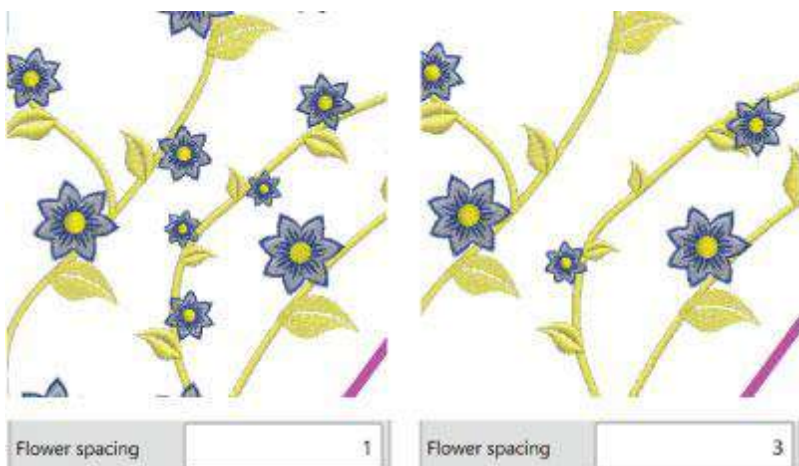
Ending width

With this value you can specify the Ending width of the stem. The default value is 5.



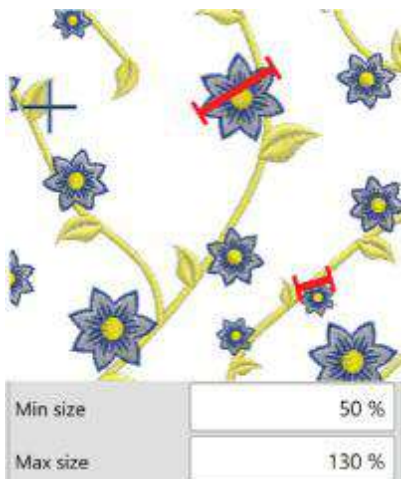
Flower spacing

This parameter specifies the the distance between the flowers in the array in a scale from 1 to 10, with 1 being closer and 10 being far away. The flower spacing may not be precise, since the objects have different sizes and they have to fit in a specific positions of the stem. Also the distance between the flowers affects the number of flowers in the floral array.



Min size

This parameter specifies the Minimum size of the floral objects. The software will use this value to set the smaller size of floral fill array objects and begin repeating them until it reaches the maximum size.

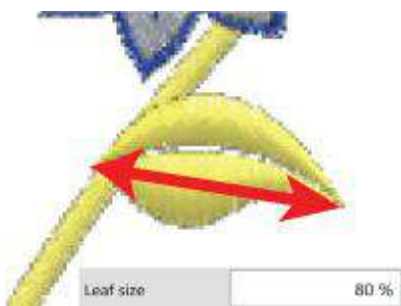


Max size

This parameter specifies the Maximum size of the floral repeated objects. The software will get this value and set it as the maximum size for the floral fill array objects and it will not allow larger objects to be created.

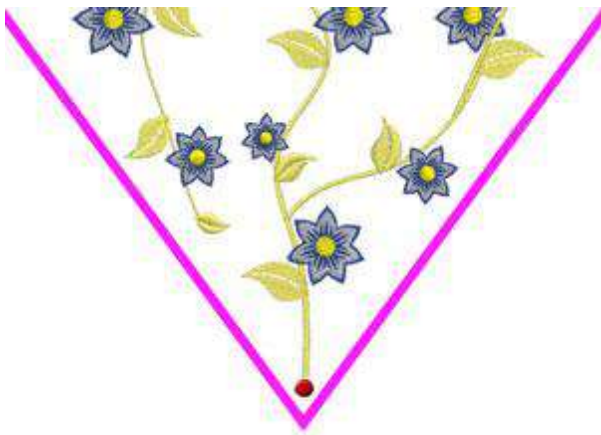
Leaf size

This parameter specifies the Leaf size of the floral array. You can increase or decrease the percentage value and the leaf size will be increased or decreased accordingly.



Floral fill start point

Another important parameter of the Floral vine type is the point from which it will start. This can be set from the "Stitch flow" tool. By clicking on the "Stitch flow" tool you can click, to specify the start position of the stem. You can add more points on locations from where you want the stem to pass through. It is a way to guide the way the floral design will be made.



Add leaves or flowers

You can change the leaves and flowers of Floral fill in the same way you change them in the Floral vine Array fill type. Find out more [here](#)

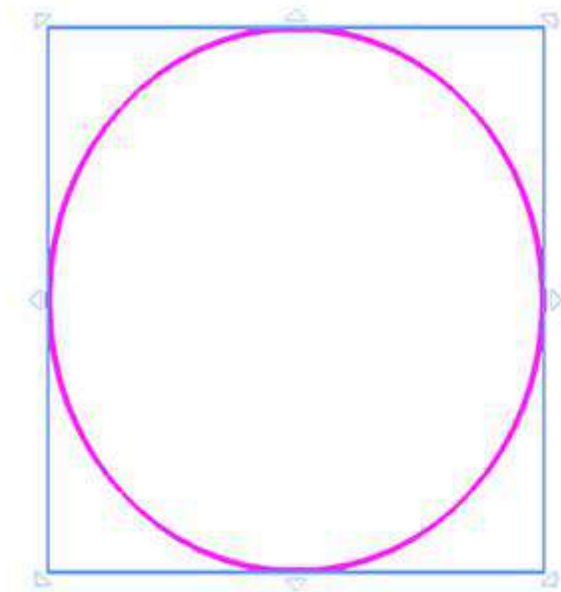
Array on Outline

In this topic we will present how to apply "Array" on the outline of any object and the "Properties" that you can customize. The array uses as a base object either a clipart item or an object from your design.

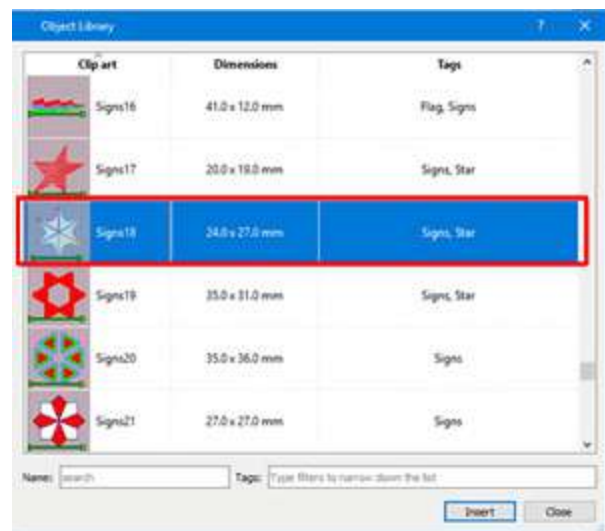
Example 1. Use any item from clipart library

Select any object that you to apply Array on.

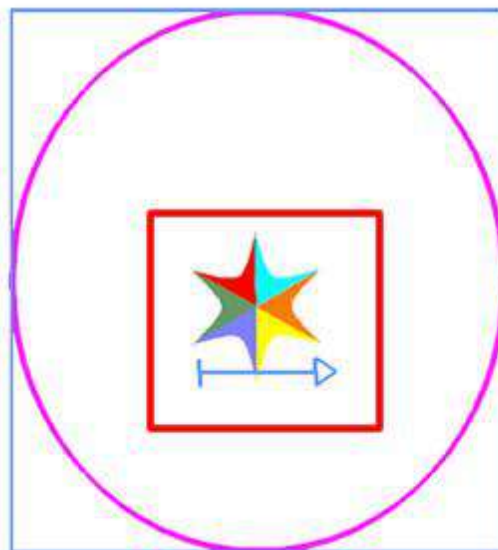
Press Array  icon.



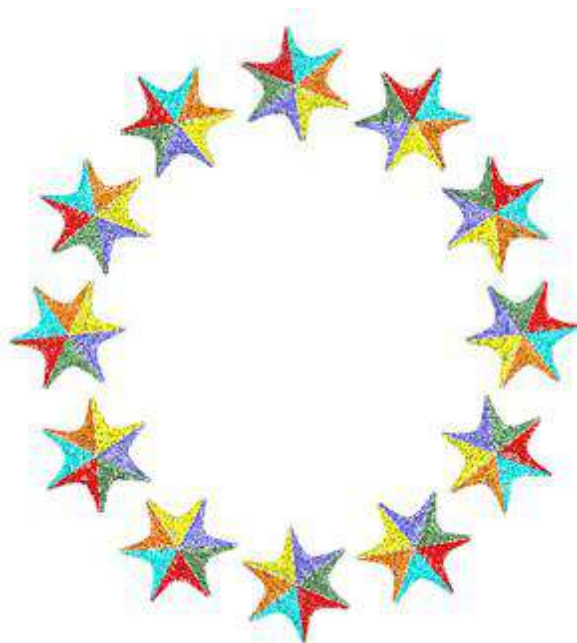
The Clipart dialog appears to select any clipart item to be placed on the outline of the selected object.



Select a Clipart item and insert it like adding a clipart.



By releasing the mouse the selected clipart item will be applied as array. It is not added on the design area only in the selected object's outline.



We can always select the object with the array outline and by pressing again Array icon , the Clipart library dialog will appear again to select another clipart item.

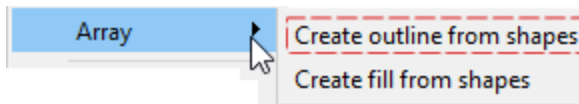
Example 2. Use a part of the design as outline item.

Select an object.

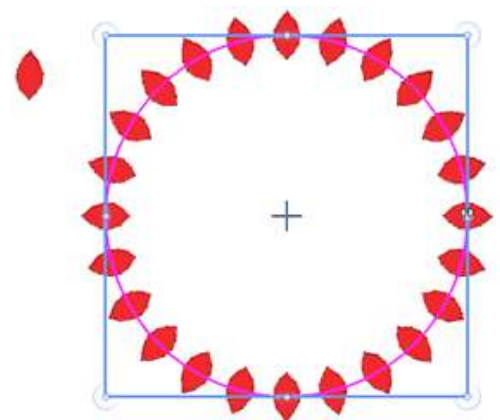
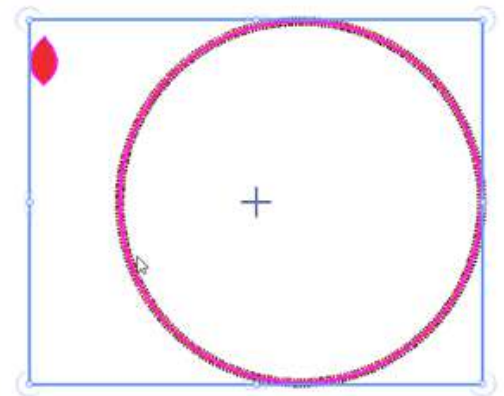
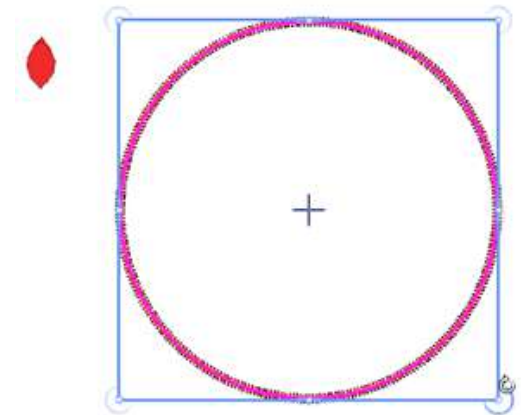
Use "Ctrl" key in order to add one or more objects to the selection. This object will be used as copy object.

The copy object must be smaller than the object that the array will be applied.

Press "Array"  icon or right click on the selection and from appearing menu use "Create Outline from Shapes" option of Array submenu.

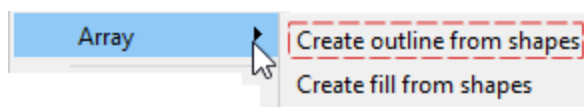


The outline of the larger object is automatically filled with the smaller object.



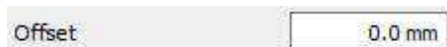
When an outline Array is applied we can replace the copy object at any time in various ways.

1. Press Array  icon to use a clipart item
2. Select a design object together with the already filled object and click on array icon to change the existing outline and use the newly selected object. You can also right click on the filled object and then use "Create outline from shapes" option.



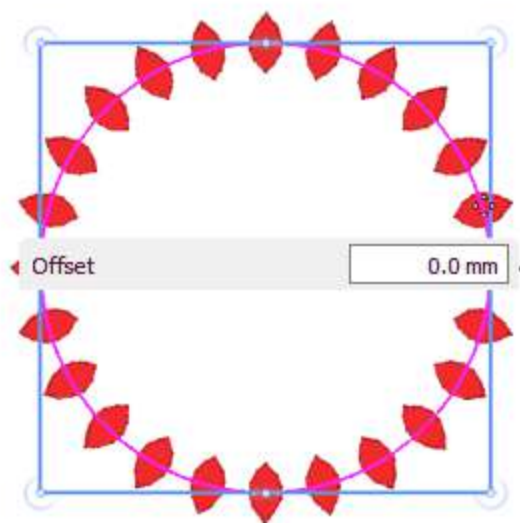
The available options that you can adjust in order to customize the way that the array is applied are "Offset", "Item rotation" and "Spacing". described into the following section. Outlines array does not have control points in node editor. We can only edit the outline (shape) of the object but this procedure will be described into a separate section.

Offset

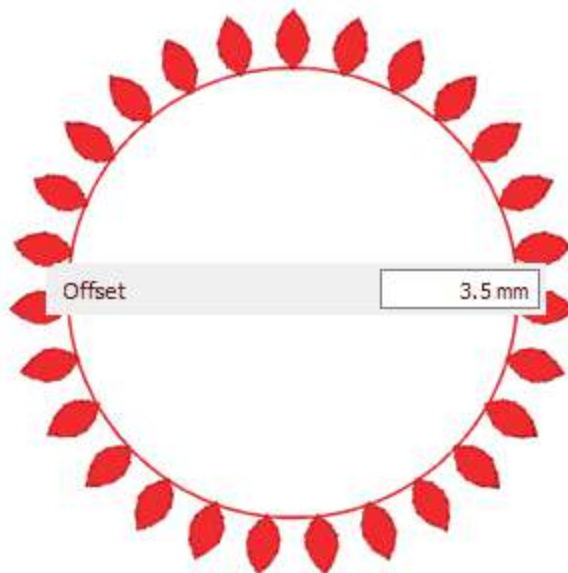


The offset parameter specifies the distance between the outline and the center of the repeated object. The offset parameter can also accept negative values from -15 to + 15 mm.

You can activate the Offset option by checking the check-box next to it. In the numeric field you can enter the value of offset you want, with lowest value of -15mm and highest value 15mm. Also, you can increase or decrease the offset value by clicking on the arrows next to the value or by clicking on the value and rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the outline to have from its initial position. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value it is previewed on the design.

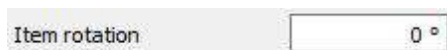


No offset

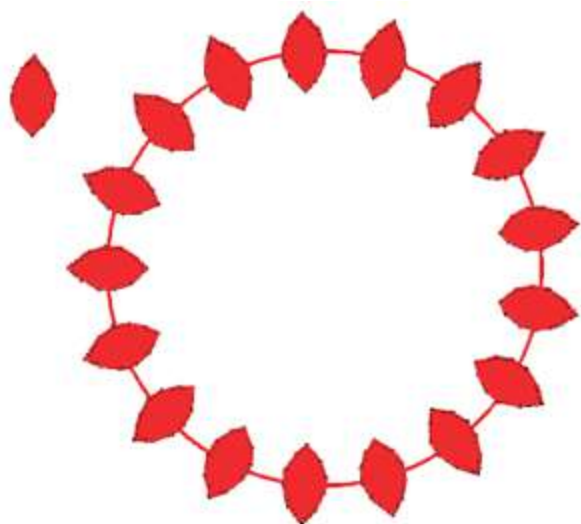


4mm offset

Item rotation



This parameter rotates the base object. Specify the rotation of the object in degrees and all the copies of the array are rotated like if the initial object was rotated in these degrees.



Item rotation 0



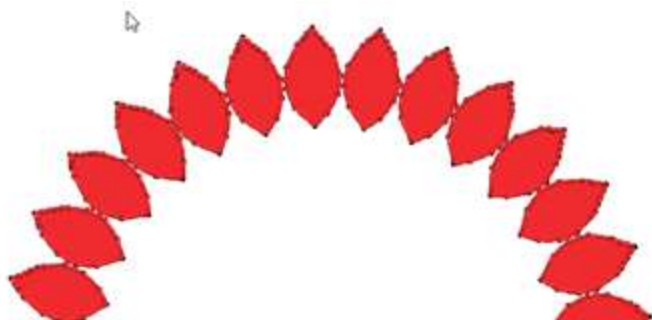
Item rotation 45

Spacing

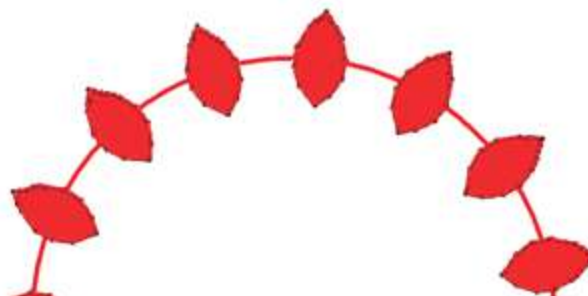
Spacing:

The Spacing parameter specifies the distance between the rectangles which can include each repeated object. The Spacing in this case may not be precise, since the copies letter should be evenly distributed and the software also places repeated objects on sharp corners (1-135 degrees). Using this option you can define the distance between the copies of the array. The distance is defined in Millimeters. In the numeric field you can type the distance in "mm". You can also adjust Spacing by clicking the arrows next to the value or by

clicking on the value and rotating the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be set by clicking outside the density field.



No spacing



2mm Spacing

Array and Cloned objects

When using tools, like Array fill, that create repetitive patterns it is very useful to change any part of the pattern and improve - change the whole pattern. Using the control handles of the array we can change the placement of the array copies but using Array together with Cloned objects can help us create amazing patterns.

We will provide 2 simple examples on how this tool combination works.

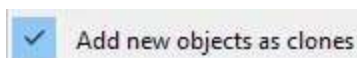
Edit Clones on Array Fill

One of the powerful combinations of Array fill is that it can be used together with Cloned objects in order to create amazing repetitive fill or Outline patterns. In this section we will provide a simple example on how combine these tools.

This is the initial object that we will use to fill a rectangular area.



Make sure that Add new objects as clones option of Edit menu is enabled.

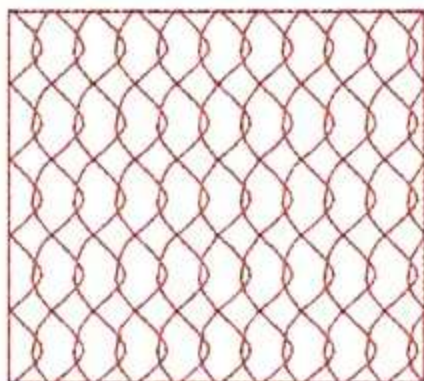
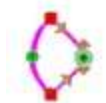


Apply Array fill on this rectangular area.

For the purpose of this example we are using Rectangle fill, the procedure is the same in any fill pattern.

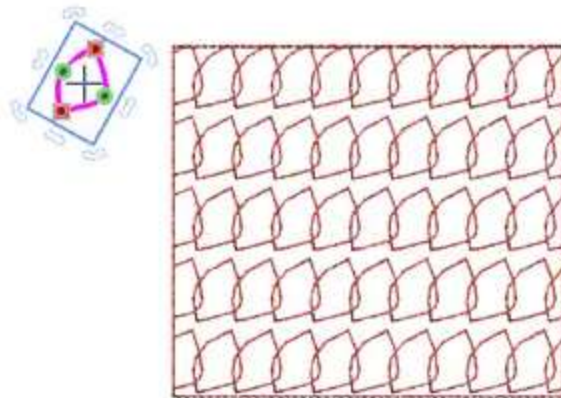


Using Node editor, edit the shape of the initial object.

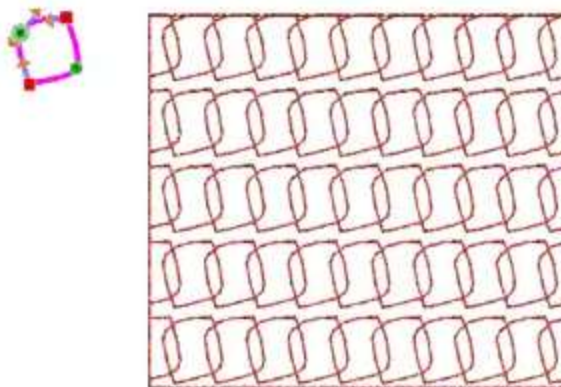


Any shape change on the initial object is automatically applied on the array fill.

Using select polyline option you can rotate the whole object and change the pattern completely.



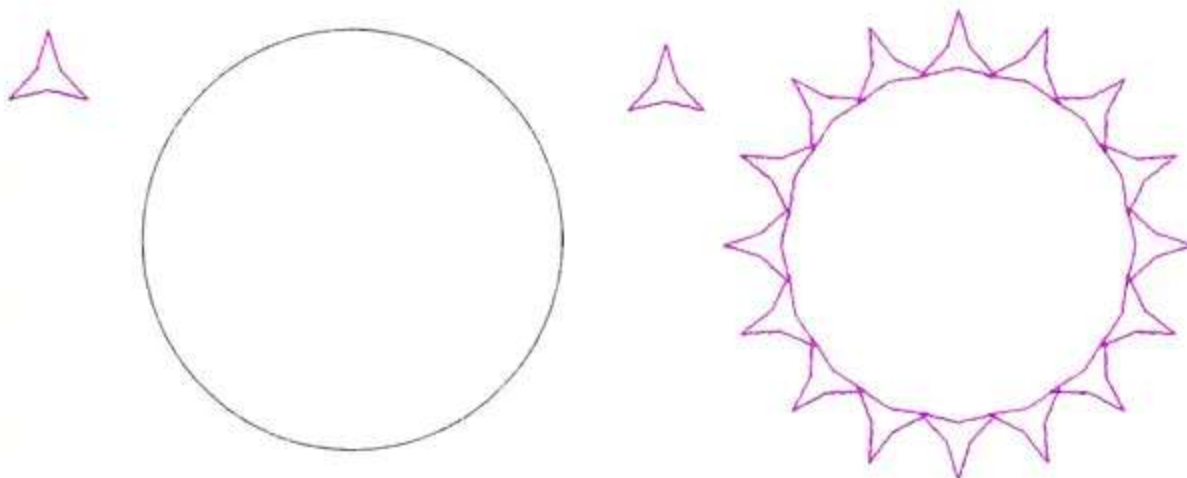
Make as many transformations you like in order to create any fill pattern you like.



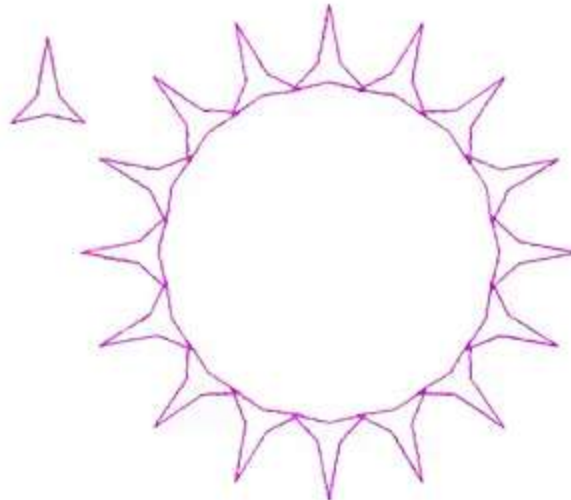
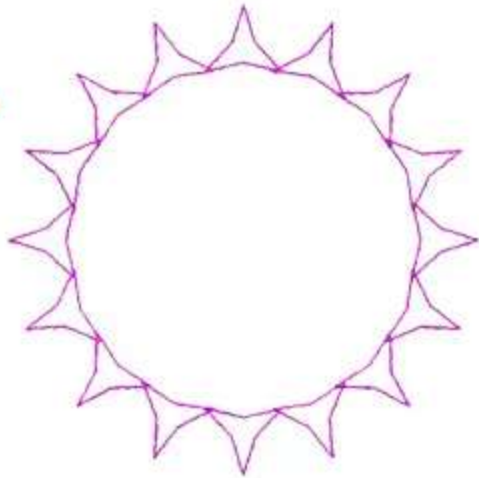
Edit clones on Array on Outline

As we presented in previous section using Add new objects as clones option together with Array fill we can create amazing fill effects - patterns. In the same way you can use Cloned object for Outline array.

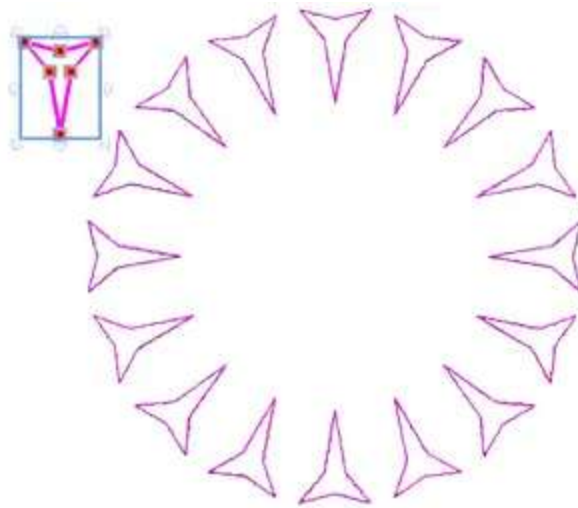
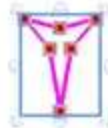
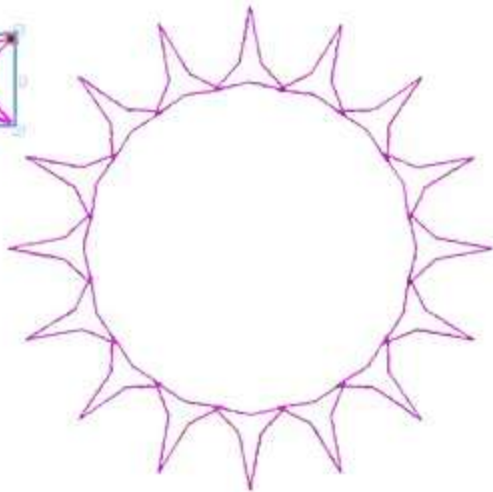
Starting with this triangle-like shape, we will place it on the outline of the circle. See how the shape is applied.



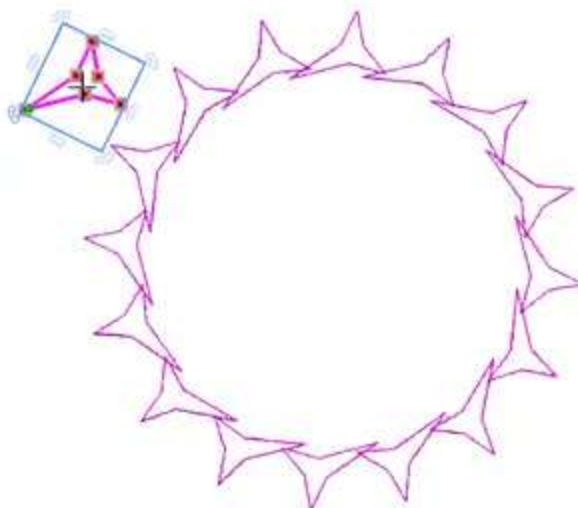
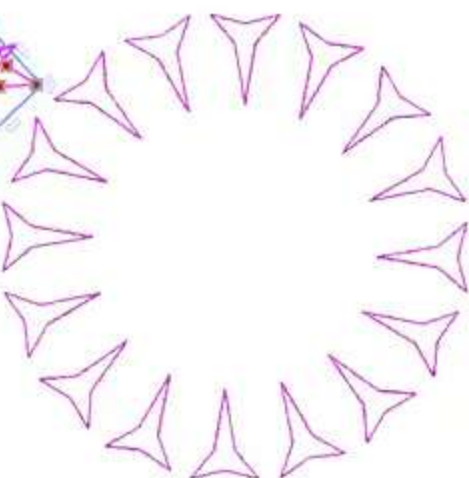
We will move this upper node of the triangle in order to change the shape. The shape outline array object is updated at once.



Using select polyline option we will rotate the whole object 180 degrees. The placement pattern changes completely.



Finally, using Select polyline once more will rotate the object again in order to create the outline pattern of the figure below.



You can see how easily we have started from this initial applied array and with a few clicks we have created a whole new outline pattern.

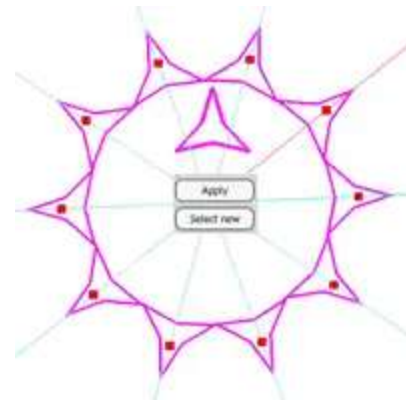
Nested array

In this section we will present a way to use Circular array tool together with Array on objects fill and Cloned objects. The combination of these 3 tools can be used in order to create amazing fill patterns. In the same way we can use Rectangular or Circular array with Array on Fill or on Outline and Clone objects in any combination between them. Any combination of them can be used in order to create different types of patterns.

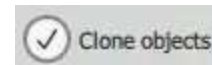
Starting from this simple shape.



Use Circular array tool and customize the array in any way you like.



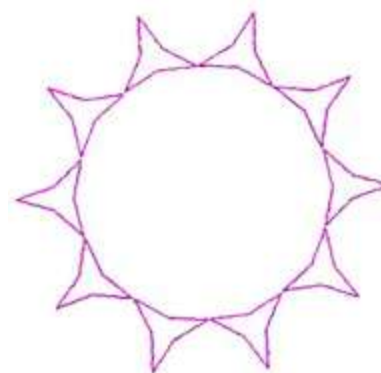
Before applying the array make sure that Clone objects option is enabled.



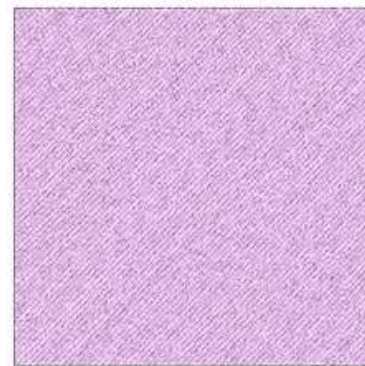
Using Circular array tool we have created this set of objects.

We will now use the created set of objects in order to fill an area using Array on Object fill.

Each of the produced objects is handled separately. We can group them in order to be able to work with them more easily.

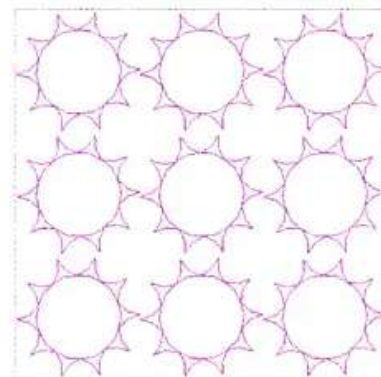
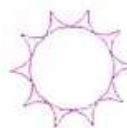


We will use this circular set of objects, in order to create a fill on the rectangular object.

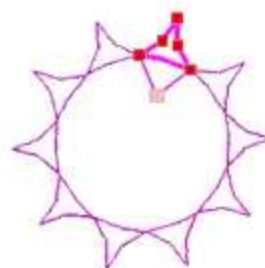


Select both objects and Click on Array icon of Fill tab of Properties toolbar.

The rectangular area is filled with the initial set of objects in a patterned way. In our case we have used rectangular fill pattern.

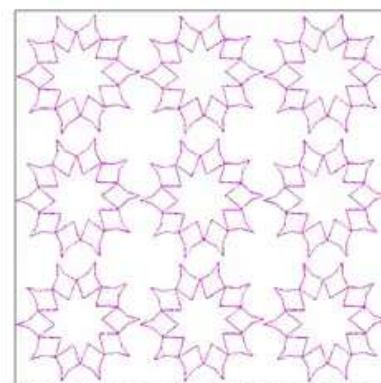
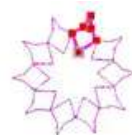


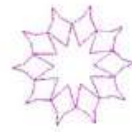
Use Node editor to edit the shape of any of the copies.



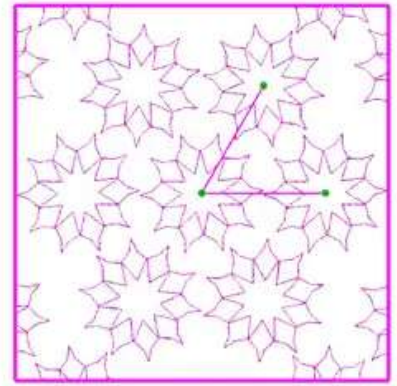
The shape of all the objects has changed to reflect the shape change.

Just like that you can see that the pattern has changed completely.

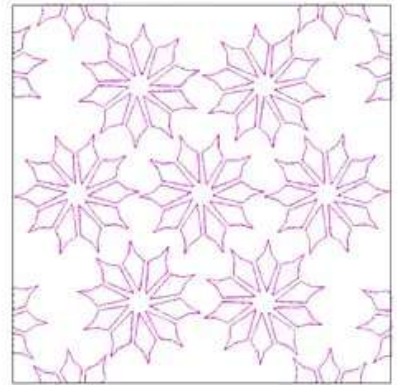




Change the pattern fill From Rectangle to Circular.



Change the shape a little more and the pattern has completely changed.



Embroidery - Creating embroidery designs

In this chapter we will describe all the stitch transformations that the software can do. You will learn about "Properties" bar functionality, how you can adjust "Design properties", how to change "Fabric" , how to add one or more "Hoops" and how to adjust the Stitch flow.

In order to be able to use the embroidery tools of the software you will have to enable the "Embroidery" Technique from the Techniques  option.

Stitch types - Embroidery types

The software includes several "Stitch types", "Embroidery types", "Special types" and Bitmap-fill types.

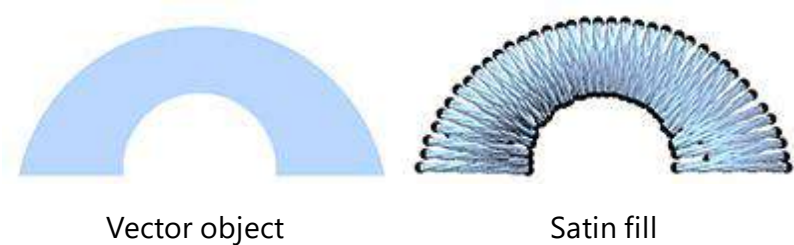
Stitch types	Embroidery types	Special types	Bitmap-fill types
Satin	Appliqué	Array	Cross-stitch
Step	Net fill	Vector	Photo-stitch
Row fill	Stippling	Cutwork	PaintStitch
Running	Cross	Button holes	Sketch
Satin Serial			
Raw			

Stitch types

The "Satin", the "Step" and the "Row fill" stitch types are used from the software to fill shapes with stitches. The "Running" and the "Satin serial" stitch types are used to fill shape outlines and line art designs.

Satin stitch type

When the Satin stitch type is applied on any object, stitches are connecting two points from one side of the object to the other. These points are formed like closely arranged zigzag stitches along the shape of the object. Satin stitch type can be laid down at any angle and with varying stitch lengths. For small and oblong objects will be filled with Satin stitches.



Step stitch type

Step stitch type (or Fill stitch type or Tatami stitch type) is a series of Running stitches commonly used to fill large areas. Different fill patterns can be created by altering the angle, length and repeat sequence of the stitches. Usually the large objects in the vector design most of the times are filled with step stitches.



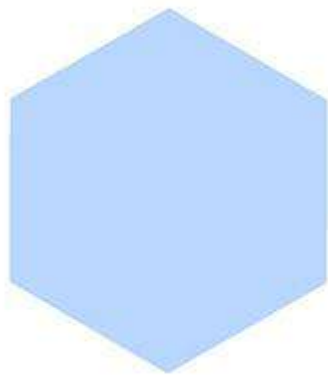
Vector object



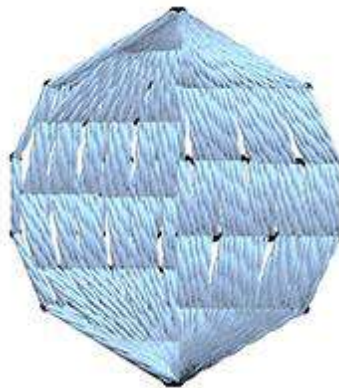
Step fill

Row fill stitch type

Row fill stitch type is a fill stitch similar with step stitch type. It is longitudinal stitches from one side to the other that are vertical to the defined direction that it is automatically defined from the software. Row fill stitch it is commonly used to fountain like shapes.



Vector object



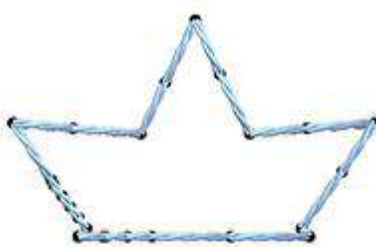
Row fill

Running stitch type

Running stitch type consists of one stitch between two points. It is used mainly for outlining, fine detail and complete designs. Also known as a walk stitch. All line art designs and thin object outlines will be filled with Running stitches.



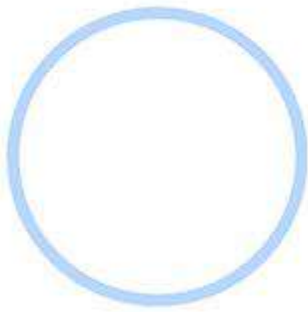
Thin outline object



Running fill

Satin Serial stitch type

Satin serial stitch type is applied on thick outline objects by forming closely placed zigzag stitches along it. It is generally used to fill borders and line art designs. All thick line art designs and object outline will be filled with Satin Serial stitch type.



Thin outline object



Satin serial fill

Embroidery types

The "Appliqué" the "Net fill" and the "Cross" embroidery types are special types of embroidery that are used from the software to fill vector shapes with Appliqué, create Nets or Crosses with stitches. Finally the "Stippling" embroidery type is appropriate for quilting and filling large areas with decorative stitches.

Appliqué

Appliqué is an embroidery type that allows you to create Appliqué on fabric easily. It is a fill embroidery type therefore you have to draw a shape similar with the appliqué fabric you want to apply on the garment and fill it with a color. Then you can apply the appliqué embroidery type that will apply the needed sequence of actions in order the design to be embroidered properly. Appliqué embroidery type is a complex type that includes "Running stitches before" to mark the appliqué position, "Running stitches after" to hold the appliqué in place and the E-stitches or Zig-Zag to decorate and hold the appliqué.



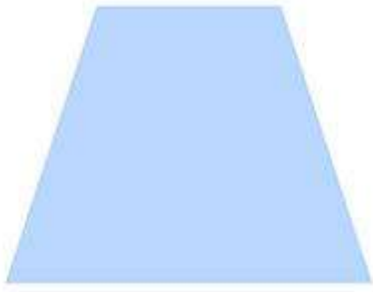
Vector object



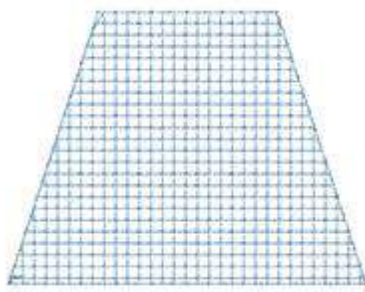
Appliqué embroidery type

Net fill type

The Net fill embroidery type is a special fill type that adds two scan lines that are crossing with parallel equidistant running stitches. These two scan lines are forming a Net that can be used to create Laces and fill areas. It is a very useful embroidery type.



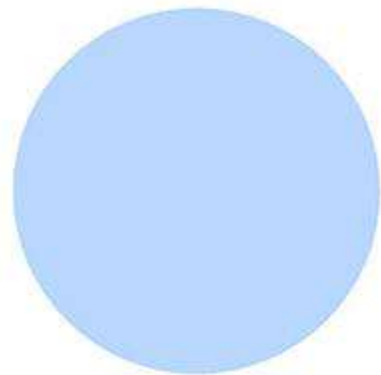
Vector object



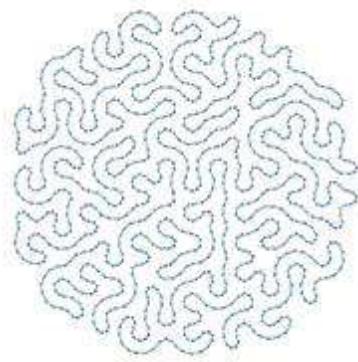
Net fill embroidery type

Stippling type

"Stippling" is a special stitch type that is mainly used for quilting projects. Select any object and by activating Stippling embroidery type, the selected object is filled with stipple fill as in the following figure.



Vector object



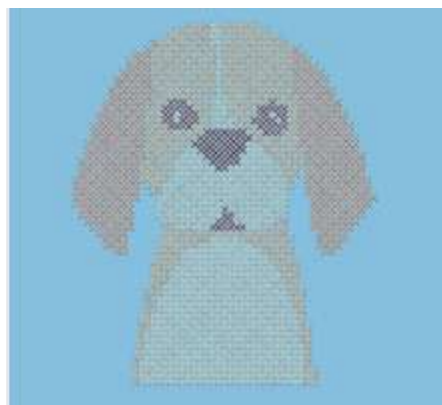
Stippling fill

Cross type:

Each cross stitch consists of two running stitches that are crossed in between creating an 'X'. Cross-stitches of different colors are shaping the image by creating a grid. After importing a vector design or creating one with the available tools you can select it and fill it with "Cross" stitches.



Vector design



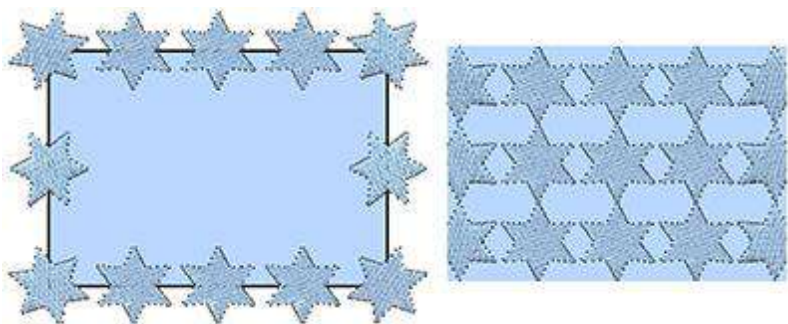
Cross fill

Special types

The "Array" is a special type that is used in order to fill vector shapes or vector outlines using Clipart item or other design items creating repetitive patterns. The "Cutwork" is a special type for adding special type cuts which require the 4 special knives. The "Button holes" allow you to create button holes for your clothes. Finally, the "Vector" outline, is a special type that it creates a satin fill effect by placing an outline shape (like a pattern) on a satin object.

Array (Fill or Outline)

Array is a special type that we can use for both Fill areas and objects outlines. As we have mentioned Array fill uses a base object in order to fill an area with the base object copied and placed in a patterned way. In the same way we can apply Array on an object's outline.



Array on outline

Array fill

Vector

Vector outline, is a special embroidery type, it creates a Satin fill effect by placing curve lines, like a pattern, on the satin fill. Any curve line or closed outline shape can be set to be a vector outline. The Vector outline must be placed on top of a Step or Satin object. The software will automatically engrave the vector outline to the object underneath.



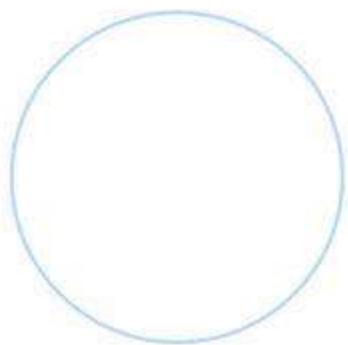
Step object

Vector fill

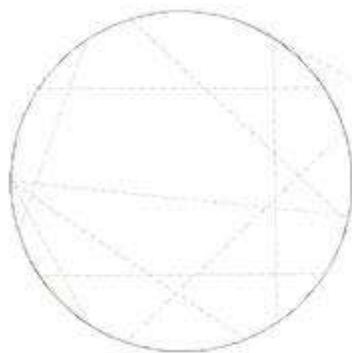
Vector fill applied

Cutwork

The "Cutwork" is a special type that is used in order to cut fabric or other soft materials. The "Cutwork" is a special type for adding special type cuts which require the 4 special knives.



Cutwork Outline



Cutwork

Button holes

Button holes is a special type that we can use for creating button holes on fabrics. It can be used in combination with digitize tool where you create a small line exactly where the button hole cut will be made and then apply the "button hole" tool on this line. The button hole will be applied around the digitized line.



hole line



button hole

Bitmap-fill types

The "Cross-stitch" and the "Photo-stitch" are used mainly to fill bitmap images.

Cross-stitch embroidery type:

Each cross-stitch stitch consists of two running stitches that are crossed in between creating an 'X'. Cross-stitches of different colors are shaping the image by creating a grid. By default every imported bitmap image can be filled with the Cross-stitch embroidery effect look.



Bitmap image



Cross-stitch fill

Photo-stitch embroidery type

Photo-stitch is an embroidery type that automatically recognizes the graduation of colors of any backdrop image and sets fill stitches on it. The fill stitches are satin bars that cover the backdrop image area.



Actual Photo



Monochrome Photo stitch



Photo stitch

PaintStitch

With PaintStitch you will get photo-realistic embroidery results with the use of the advanced algorithms that were implemented for this purpose. The conversion is automatic, but you can customize the PaintStitch results from the options that you will find in the Properties toolbar when the design is selected. Additionally, the Stitch Flow tool allows you to select the subject area of the image. The color reduction algorithm will try to choose colors that will render the subject area more accurately than the image outside the subject area. To do this, click and drag on the design. The overall design will be recalculated based on your Stitch Flow guide. You can increase or decrease the size of the guide by clicking and dragging the handles of the circle and delete the guide by clicking on the X that appears at its center.



Sketch

When you import an image and use Open as Sketch option the imported image is converted into a charcoal Sketch like embroidery design. The big advantage of SketchStitch is that it is designed to work on a white fabric and cover close to 20% of its area with stitching. This way, the design can be embroidered on delicate and stretchy fabrics, like t-shirts, keeping the embroidered fabric flexible. This gives us an artistic interpretation of an image, with few colors, few stitches and very flexible embroidery so that it can be done by anyone, with minimal resources and minimum time. Sketchstitch will need Black thread and some shades of Gray thread.



The same stitch types are used with the same or different names from the embroiderers around the world. To understand to which stitch types we refer with the names Satin, Step etc. we will analyze them for you.

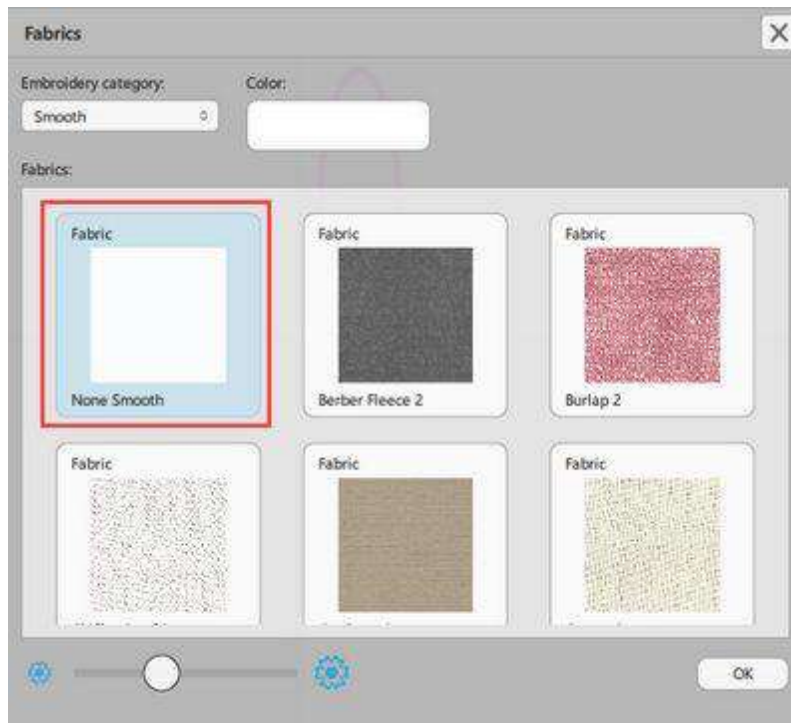
Select Fabric

Fabric selection dialog is not just for previewing the design on the fabric. The software automatically adjusts, according to the selected fabric, various embroidery parameters. Embroidery quality depends on some of these parameters. Important quality factor is also how the fabric is stabilized on the frame of the embroider machine. The software suggests the appropriate backing materials for every fabric, in the printout of each design. In case that you don't want to preview the design on any fabric you can select the "None" option that exists in any of the fabric categories. In this case, only the color that is select in "Fabric dialog" will appear in the background of the created design.

The fabrics are categorized in groups of embroidery types with different preset parameters:

- "Embroidery smooth", is starting with Density 55 for normal thread No 40, with lighter underlay
- "Embroidery normal", is starting with Density 40 for normal thread No 40
- "Embroidery normal light", is starting with Density 40 for normal thread No 40, with lighter underlay
- "Embroidery light", is starting with Density 55 for thick thread No 30.
- "Embroidery Ultra light", is starting with Density 85 for thick thread such as wool
- "Embroidery Heavy", is starting with Density 35 for thin thread such as metallic.

All the designs can be previewed on different fabrics. There are various colors and types of fabrics. When you decide to save your design, in order to embroider it on a garment, you must be sure that the fabric you have chosen is similar with the one that will be embroidered. Otherwise the results may not be the expected ones. There are 50 fabric types in any color spread to different categories, from which you can select the appropriate one.



Select fabric dialog

This option can be accessed from menu "Tools > Fabric...", from the shortcut key Ctrl+F or from the standard toolbar by clicking the select fabric  icon. From the Fabrics dialog you can choose the "Embroidery category" and "Color" by clicking on them. The "Embroidery category" drop down menu has the six categories that are available.

These are "Smooth", "Ultra Light", "Light", "Normal Light", "Normal" and "Heavy".

- "Smooth": In this category you can choose between any of the fabrics that are listed. The embroidery that will be placed on these fabrics will be light and smooth. That is why the embroidery on the 3D preview will appear with low density. All the fabrics have specific internal embroidering parameters that needed for high quality embroidering. The embroidering parameters are adjusted to each fabric in order the embroidery that will be placed on to have smooth feel and keep the fabric soft.
- "Ultra Light": In this category you can choose between "Bridal Tulle", "Waffle knit", "Wool" and "Standard Ultra Light". The embroidery that will be placed on these fabrics will be Ultra light. That is why the embroidery on the 3D preview will appear with low density. The first three fabrics have specific internal embroidering parameters that needed for high quality embroidering. The "Standard Ultra Light" fabric is not a specific fabric but can be used as an alternative for embroidering Ultra light on any fabric you want. The embroidery results of the "Standard Ultra light" settings will depend on the fabric.
- "Light": In this category you can choose a fabric between "Lycra lame", "Sweat shirt knit", "T-shirt knit2", "Vinyl2", "Wool Crepe" and "Standard Light". The embroidery that will be placed on these fabrics will be Light. That is why the embroidery on the 3D preview will appear with low density. Each of these fabrics has specific settings in order to produce the best possible results if you embroider the design on the respective fabric. Be sure you have chosen the correct fabric from the fabric list. If you want to embroider a design with light settings in a fabric that is not included in the list, choose the "Standard Light" fabric that contains those settings. The embroidery results depend on the fabric that is used.

- "Normal Light": In this category you can choose a fabric between "Crepe Polyester", "Denim1", "Light weight bridal satin", "Linen1", "Panne velvet", "Rayon", "Rayon Sand washed", "Sweater knit", "T-shirt knit1", "Towling", "Vinyl1" and "Standard Normal Light". The embroidery that will be placed on these fabrics will be Normal with a tension to Light. That is why the embroidery on the 3D preview will appear with normal density. Each of these fabrics has specific settings in order to produce the best possible results if you embroider the design on the respective fabric. Be sure you have chosen the correct fabric from the fabric list. If you want to embroider a design with Normal Light settings in a fabric that is not included in the list, choose the "Standard Normal Light" fabric that contains those settings. The embroidery result depend on the fabric that is used.
- Embroidery Normal: In this category you can choose a fabric between "Berber fleece", "Chiffon scarf", "Cordoury", "Cotton", "Craft Fleece", "Denim2", "Denim3", "Faille1", "Flannel", "Fleece", "Heavy weight Bridal satin", "Knit flannel1", "knit flannel2", "Linen3", "MicroFiber", "Nylon flag", "Quilted cotton", "T-shirt knit3" and "Standard Normal". The embroidery that will be placed on these fabrics will be Normal. That is why the embroidery on the 3D preview will appear with normal density. Each of these fabrics has specific settings in order to produce the best possible results, if you embroider the design on the respective fabric. Be sure you have chosen the correct fabric from the fabric list. If you want to embroider a design with Normal settings in a fabric that is not included in the list, choose the "Standard Normal" fabric that contains those settings. The embroidery result depends on the fabric that is used.
- "Heavy": In this category you can choose a fabric between "Burlap", "Chenille", "Cross-stitch cloth", "Faille2", "Fake fur", "Linen2", "Lycra bathing suit", "Lycra workout clothes" and "Standard heavy". The embroidery that will be placed on these fabrics will be Heavy. That is why the embroidery on the 3D preview will appear with high density. Each of these fabrics has specific settings in order to produce the best possible results, if you embroider the design on the respective fabric. Be sure that you have chosen the correct fabric from the fabric list. If you want to embroider a design with Heavy settings in a fabric that is not included in the list, choose the "Standard Heavy" fabric that contains those settings but the embroidery result depend on the fabric that is used.

You can change the color of the fabric by clicking on the color button and selecting a different one from the color wheel. If the fabric has two colors you can change also the second one by following the same steps.

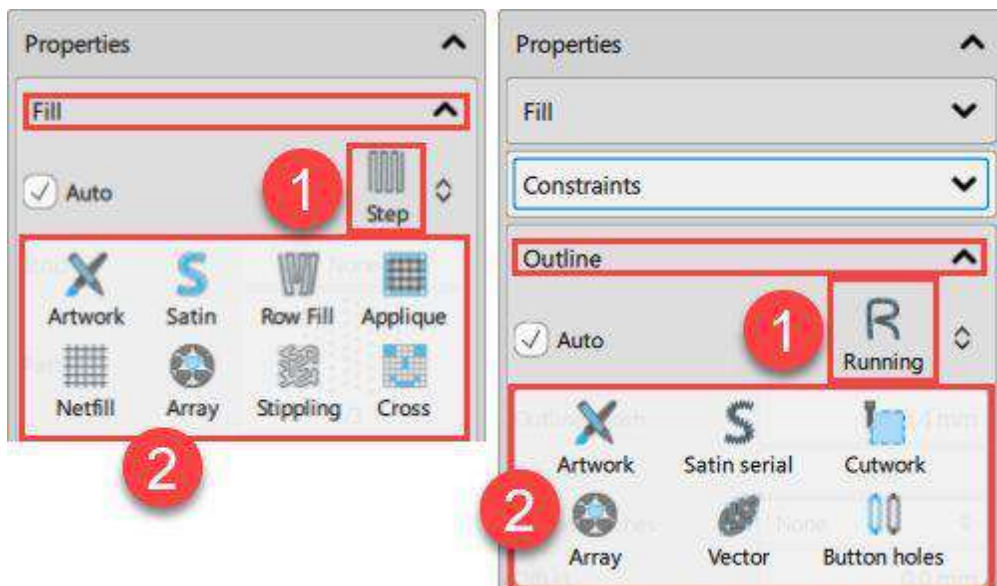
Click "OK" on the dialog to apply the changes on the currently active design.

Properties

On the "Properties" bar you can see all the Fill and Outline types that can be applied on the design parts. You can also adjust the parameters of each type according the needs of the design. Its contents are changing dynamically based on the currently selected object. If nothing is selected the "Properties" bar is minimized on the top right area of the design area. Once you have something selected you can see the currently applied Fill or Outline types and edit the properties or select any other type for the selected object.

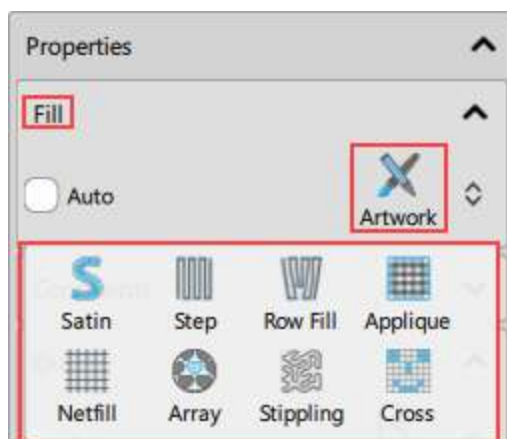
Notice: if the selected design part has none color for its Fill or Outline then the section with the none color is hidden. For example if the design part has none outline the Outline section on properties bar is hidden. In this case id you wish to a outline to the design part, you must first set a color for its outline.

In order to change the "Fill" or "Outline" of the select you go to the respective section on Properties toolbar and click on the icon of the currently selected type to expand the list with the available types and then click on the icon of the type you like.



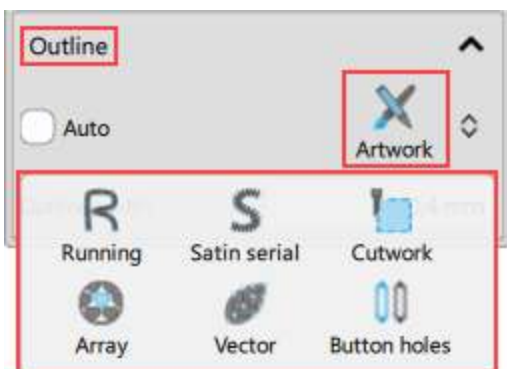
Fill types

Satin
Step
Row fill
Appliqué
Net fill
Array
Stippling
Cross
Raw



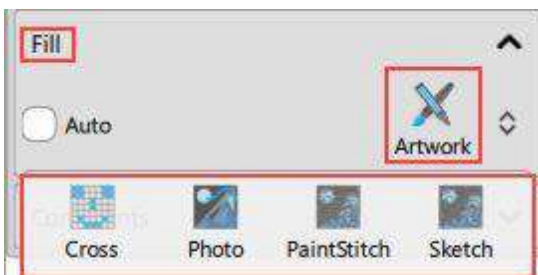
Outline types

Running
Satin Serial
Array
Vector
Cutwork
Button holes



Bitmap-fill types

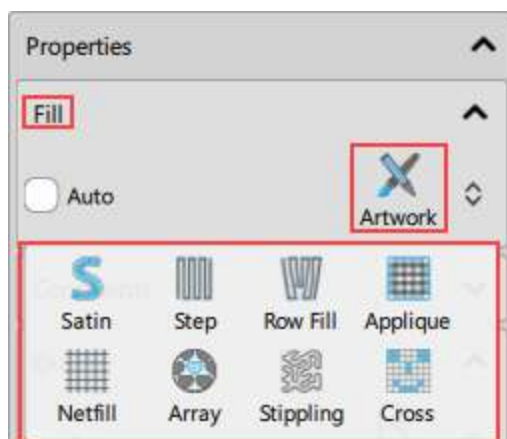
Cross-stitch
Photo-stitch
PaintStitch
Sketch

**Fill Properties**

The "Fill" section contains every type that can be applied to the Fill of a design part. The available types are not visible until you select one or more objects. By default, when a design is created, the software automatically selects the applied fill types. This is why the "Auto" check-box, next to the selected fill type, is checked. When another fill type is selected the "Auto" becomes unchecked. If you check it again, you can restore the automatically selected type. This is very useful when you have made many changes to a design and you want to cancel all the changes you made by using the tool of "Properties" bar and start again from the beginning.

The available fill types are:

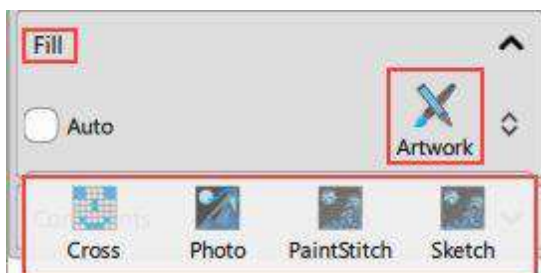
Satin
Step
Row fill
Appliqué
Net fill
Array
Stippling
Cross
Raw



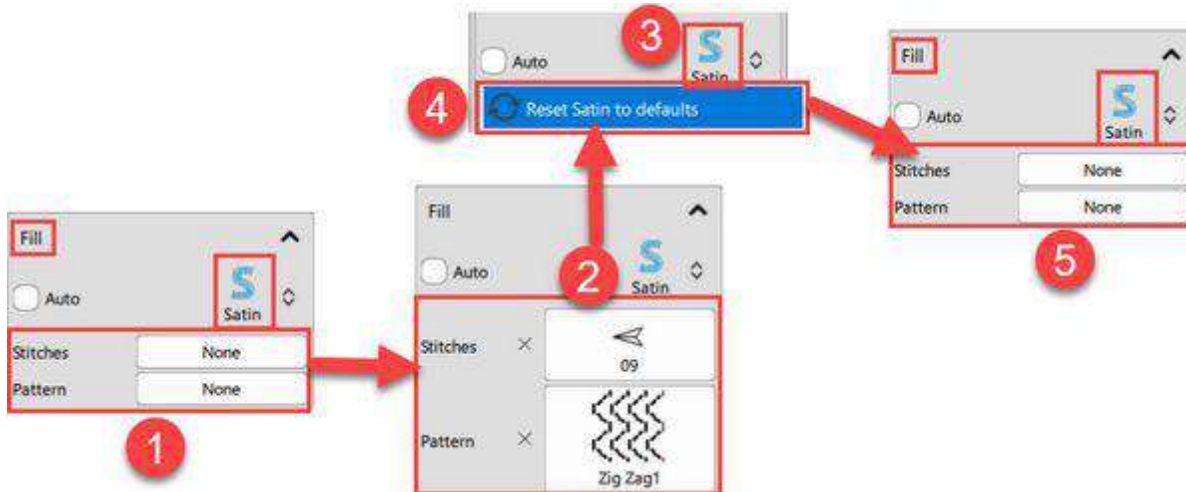
Whenever an image is imported and converted in and Cross stitch, Photo-stitch, PaintStitch or Sketch you can also see the bitmap fill-types on Fill section when selecting the image.

Bitmap-fill types

Cross-stitch
Photo-stitch
PaintStitch
Sketch



For any type selected you can also see the available parameters on Fill section under the its icon. You can adjust the available parameter to edit the fill. In you wish to reset the parameters to their default values you can right click on the desired stitch type and use the "Reset type to defaults" option.



Artwork

When this option  is applied, sets the fill area to be artwork (vector design). All the fill stitches are removed from the design. Whenever you don't want to embroider a specific fill area you can set its' fill to Artwork and have the stitches instantly removed.

Satin

When selecting Satin fill type, the stitches are going from one side of the object to the other. It is like connecting two points from one side of the object to the other. These points are formed like closely arranged zigzag stitches along the shape of the object. Satin stitch type can be laid down at any angle and with varying stitch lengths. For small and oblong objects will be filled with Satin stitches.

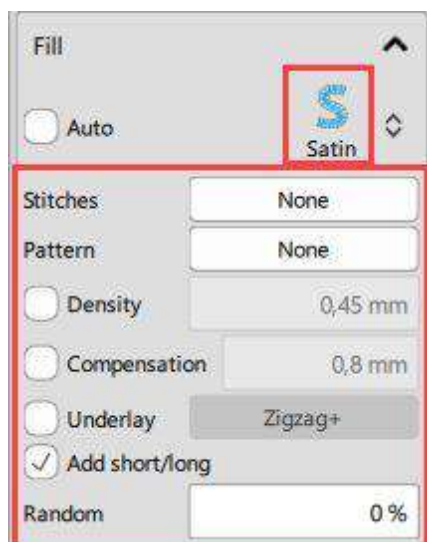


Vector object

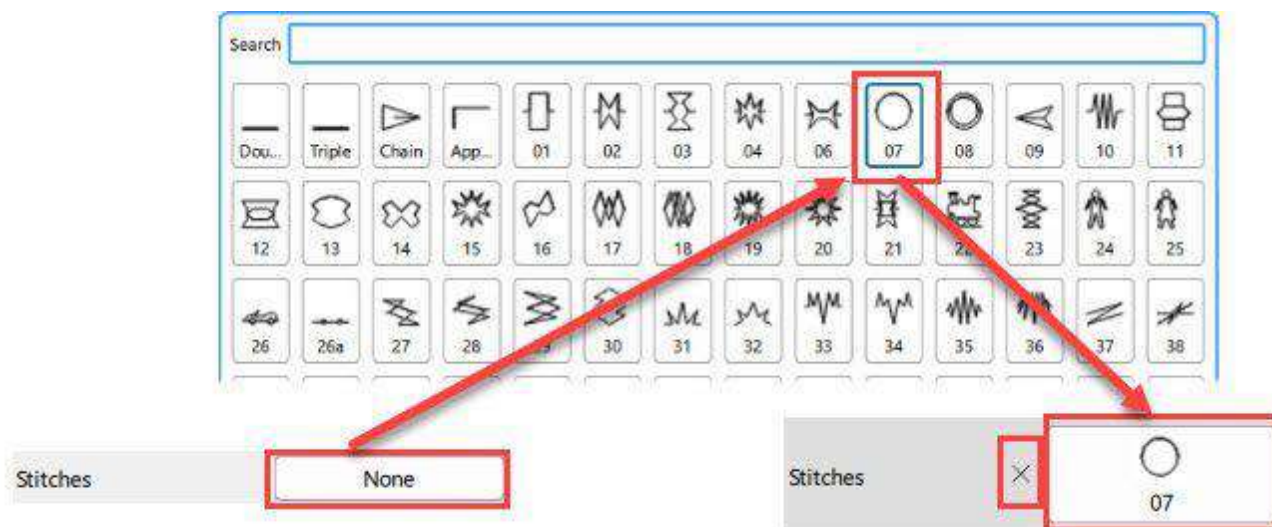


Satin fill

When a Satin object is selected you can see its parameters on the Properties bar and you can adjust the Satin fill using these options. You can change the feel of Satin by selecting a "Stitches" style and/or a "Pattern". There are many different "Stitches" and "Patterns" that you can apply on any stitch design. Additionally, you can adjust the "Density", the "Compensation", the "Underlay", enable - disable the use of Short/long and Add random stitches. The available properties are described below:

Stitches**Pattern****Density****Compensation****Underlay****Add Short/long****Random****Stitches**

The Stitches button contains all the stitch styles that can be applied on the design. "Stitches" is a way of movement from one point to another, which normally can be done by one stitch. Some stitches when applied may not look good on the design. This happens because "Stitches" cannot fit correctly in all possible shapes.



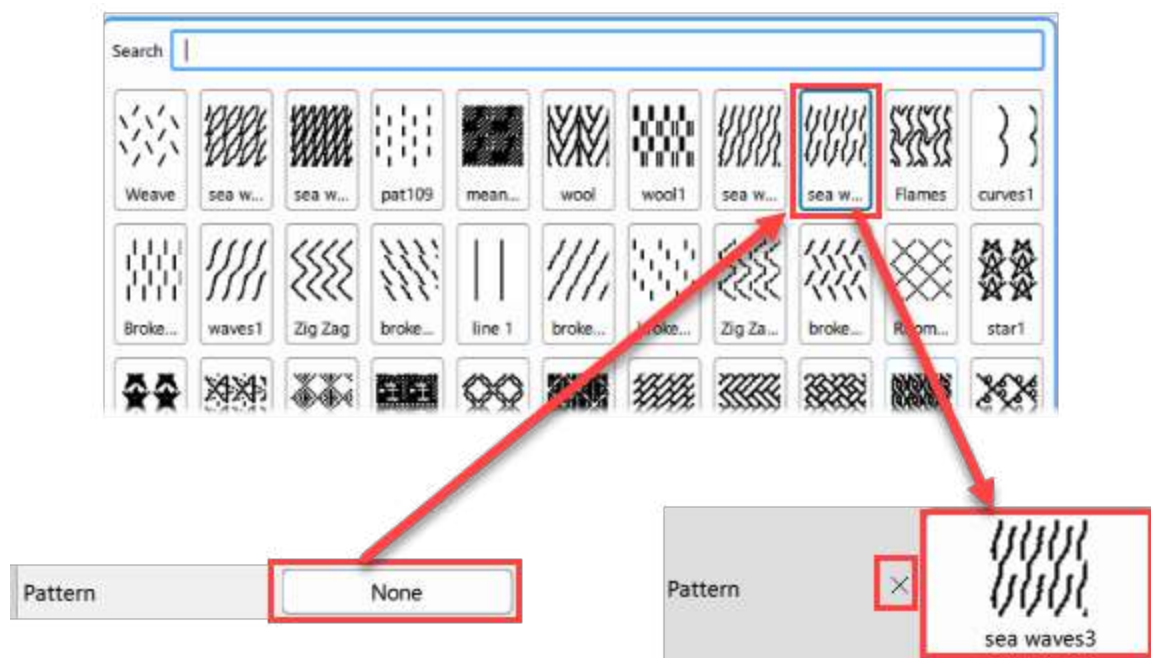
Select the "Stitches" you prefer by clicking on it and viewing it in your design. Your selections are instantly displayed in the design area letting you experiment with your design. There are more than 400 "Stitches" that

you can use to produce unique designs. The styles that are in film icon (for example: ) are a series of different "stitches" in one. If you need to restore the default Satin look, just click on the X button, next to the icon of the selected stitches style.

Pattern

The patterns area contains all the patterns that can be applied on the design. Patterns are shapes, created from stitches. You can make combinations between Stitches and Patterns and produce your own designs.

Some combinations when applied may not look good on the design. This happens because combinations do not always produce correct stitch results.



Select the pattern you prefer by clicking on it. You can remove the applied pattern by clicking on the X button, next to the icon of the selected Pattern. Your selections are instantly displayed in the design area letting you experiment with it. There are 195 different patterns to apply to your design. If you want to view only the pattern you have selected and not a combination with "Stitches", you must be sure that "Stitches" option is set to "None". Otherwise you will view a pattern with "Stitches" in it.

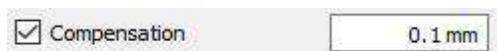
There are three more options that can help you adjust the embroidery parameters of the design. As we have already mentioned in the Select fabric section previously in this chapter, each fabric has different presets that affect the way the embroidery design will be placed on it and some of them are visible at the bottom of the "Properties" toolbar. For Satin stitch type they are "Underlay", "Density" and "Compensation". These options can help you make useful adjustments on the design and produce the embroidery results you prefer.

Density:



You can activate the "Density" option by checking the check-box next to it. In the numeric field, you can specify the density of the satin stitches that you are adding. You can also adjust density by clicking on the value and rotating the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be set by clicking outside the density field or by pressing "Enter/Return" from the keyboard.

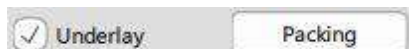
Compensation:



You can activate the "Compensation" option by checking the check-box next to it. In the numeric field you can enter the value of compensation you want with lower bounder 0mm and upper bounder 2.0mm. Also you can adjust density by clicking on the value and rotating the mouse wheel if there is one.

The entered value changes the width of satin stitch that will be embroidered. The default compensation value depends on the fabric you are using. If you change fabric the compensation will adjust automatically. Changes are instantly previewed on the design area and can be set by clicking outside the "Compensation" field or by pressing "Enter/Return" from the keyboard.

Underlay:



You can activate the "Underlay" option by checking the checkbox next to it. Click on the "Underlay" you want, and it will be immediately applied on the selected object. If you don't select an underlay manually, the software will automatically select the appropriate one for you. The underlay stitches are placed on the fabric in order to create the base for the cover stitches that will follow. The "Underlay" is important for the quality of the embroidery designs.

For Satin stitch type, the following underlay patterns are available:

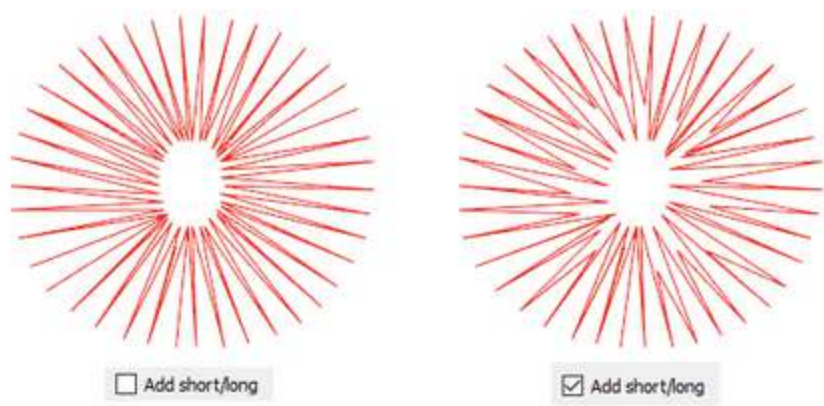
	Tacking – If tacking is selected, there will be no underlay and the software will make running stitches in order to go from one position to another and cover the area with cover stitches.
	Single - If single is selected, the software will make a single line with running stitches near the middle of the shape of the object and then cover this with cover stitches.
	Double - If double is selected, the software will make running stitches following the shape of the object and position Double underlay near the edge of the outline.
	ZigZag - If zigzag is selected, the software will create a sophisticated ZigZag pattern which automatically changes directions (according to the direction of the cover stitches) and then fill the shape with cover stitches.
	Cross - If cross is selected, the software will create a thicker sophisticated ZigZag pattern which automatically changes directions (according to the direction of the cover stitches) and then fill the shape with cover stitches.
	ZigZag+ - Is a combination of Zig-Zag and Double underlay.
	Cross+ - Is a combination of Cross and Double underlay
	Netting - If netting is selected, the software will cover the area of the object with a thicker sophisticated ZigZag pattern, which automatically changes directions

	(according to the direction of the cover stitches) two times and then fills the shape with cover stitches.
	Netting+ - Is a combination of Netting and Double underlay.
	Double ZigZag - If Double Zig-Zag is selected a Zig-Zag underlay is applied in both directions.
	Double ZigZag+ - Is a combination of Double Zig-Zag and Double underlay.
	3D-1 - First level of 3D look Satin stitches
	3D-2 - Second level of 3D look Satin stitches (Recommended in most cases)
	3D-3 - Third level of 3D look Satin stitches
	3D-4 - fourth level of 3D look Satin stitches
	3D-5 - Fifth level of 3D look Satin stitches

To apply 3D look on the Satin objects you have to select on of the 5 different 3D Underlays available. all of them will give a 3D look to the shapes that you will apply them. The recommended 3D underlays are "3D-2" and "3D-3", which will give you great embroidery results.

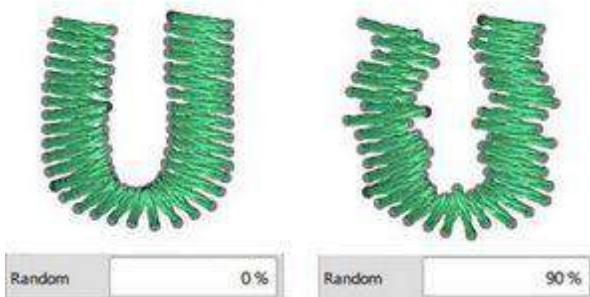
Add Short/long:

You can activate the "Add short/long" option by checking the check-box next to it. The "Add Short/Long" stitches applies short and long stitches in the design. When "Add short/long" is selected, the total number of stitches will not change significantly because some long stitches that applied when "Add short/long" was OFF, are simply replaced by short stitches.



Random

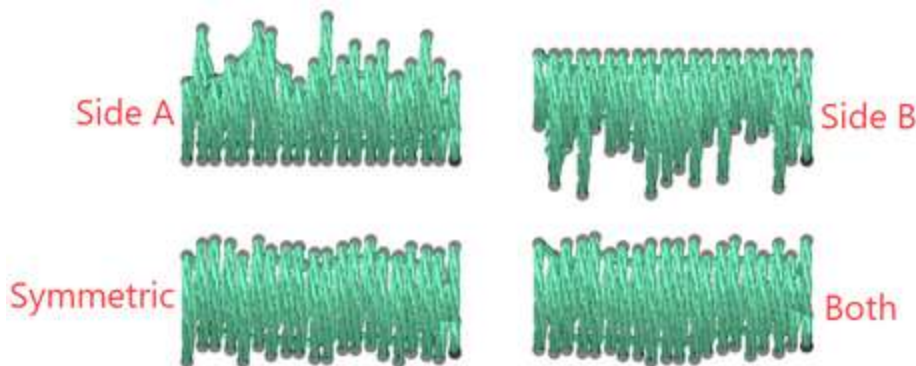
Using this option you can create a random stitches effect. Define a percentage of random stitches, this percentage value defines the difference between the random stitches and the original outline. This option may take values from 0 to 90%. When defining a percentage value there is an extra option "Random side". Using this option you can select the sides that the random stitches will appear.



Random side

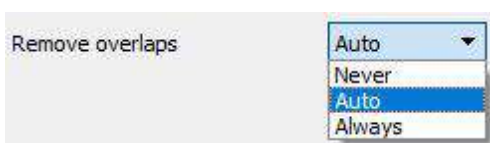
Using this drop-down menu, you can select the sides that the random stitches appear. With these three options you can specify whether the random stitches will be from both sides or which side they will be from. The choices that you have for random are:

- Side A: The random stitches will go towards one side of the object.
- Side B: The random stitches will go towards the other side of the object.
- Symmetric: The random stitch go to both sides of the object. The stitch length is always the same, but the stitch is shifted randomly to both sides.
- Both: The random stitches go to both sides, the stitch length and the direction of movement is random.



There are also two more options that are very useful in customizing the way that the software will be embroidered. Those are the "Remove overlaps" option and the "Sequence" option.

Remove overlaps:



This is an automatic filter which removes all overlaps between objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, "Auto", "Never" and "Always". The "Auto" is the default option and the one that the software uses to create the best possible results on the design. When the "Never" option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is "Always". When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying "Trim" tool which permanently removes the stitches underneath. You must always use it with care or after setting "Remove overlaps" option to Never.

Sequence:



With this tool it is possible to change the embroidering sequence of the design while it is set to "Auto" . Specific objects of the design can be set to be embroidered at the start or at the end of the embroidering process. This gives you the ability to sew the designs in the order you prefer. More specifically, the "Sequence" drop down menu has three options "Auto", "To start" and "To end". The "Auto" is the default option and the one that creates the best possible embroidering sequence results. In order to change the embroidering sequence manually, use the other two options. The "To start" option sets the selected object to be embroidered first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the "To end" option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered. By using the "To start" and "To end" options, is the only way you can change the embroidering sequence while

the sequence option it is set to "Auto" . This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

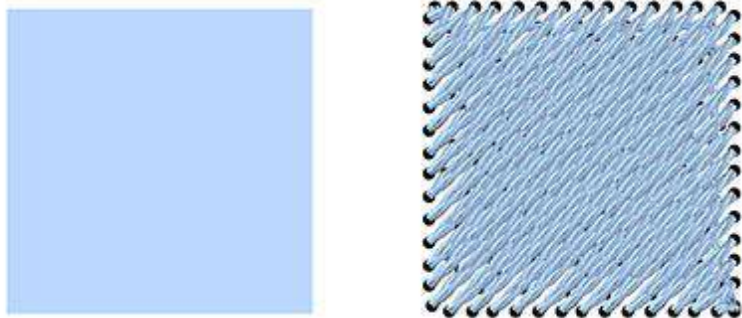
If you have set more than one object to be embroidered "To start" and more than one "To end", the software will automatically decide which one of those will be the first and which one will be last to be embroidered.

For example if you have a design with 20 objects and you have set 5 to be embroidered "To start" and 5 "To end", the software will embroider those that was set "To start" first, automatically deciding their embroidering sequence, then those (10) set to "Auto" and finally those set "To end", once again automatically deciding the order of the last 5.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Step

Step stitch type (or Fill stitch type or Tatami stitch type) is a series of Running stitches commonly used to fill large areas. So when selecting Step fill type, the software automatically creates a series of parallels running lines that run in an angle in order to fill any shape. Different fill patterns can be created by altering the angle, length and repeat sequence of the stitches. Usually the large objects in the vector design most of the times are filled with step stitches.



When a Step object is selected you can see its parameters on the Properties bar and you can adjust the Step fill using these options. You can change the Step look by changing its "Stitches" and "Pattern" options. There are many different "Stitches" and "Patterns" that you can apply on any stitch design. Additionally, you can adjust the "Density", the "Length", the "Compensation", the "Underlay" and Gradient. The available properties are described below:

Stitches

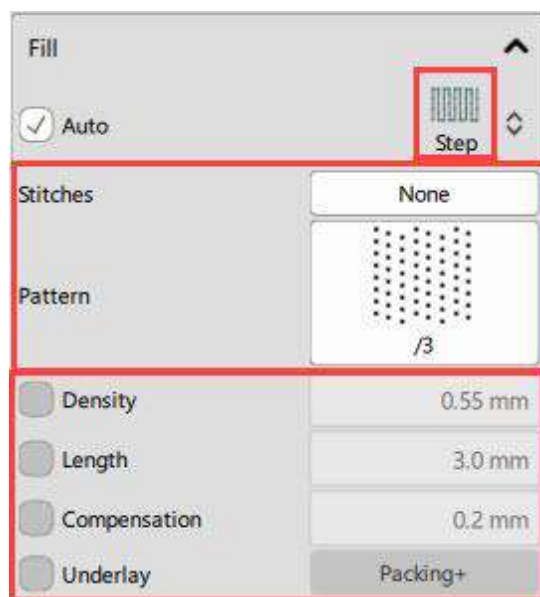
Pattern

Density

Length

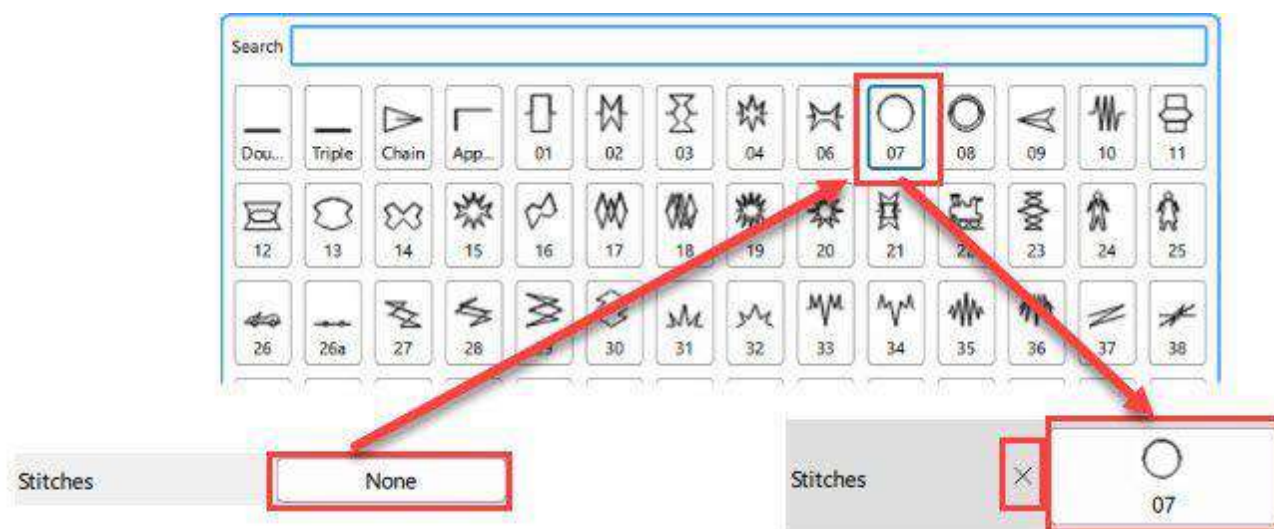
Compensation

Underlay



Stitches

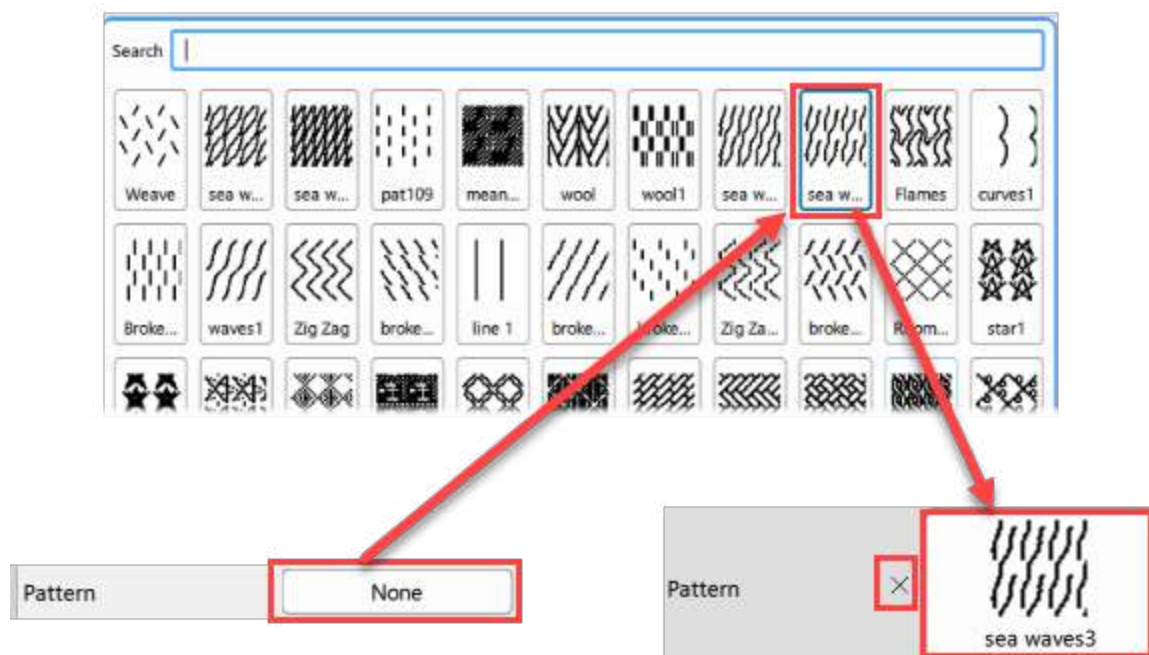
The Stitches button contains all the stitch styles that can be applied on the design. "Stitches" is a way of movement from one point to another, which normally can be done by one stitch. Some stitches when applied may not look good on the design. This happens because "stitches" cannot fit correctly in all possible shapes.



Select the "Stitches" you prefer by clicking on it and viewing it in your design. Your selections are instantly displayed in the design area letting you experiment with your design. There are more than 400 "Stitches" that you can use to produce unique designs. The styles that are in film icon (for example: ) are a series of different "stitches" in one. If you need to remove the applied stitches style, just click on the X button, next to the icon of the selected stitches style.

Pattern

The patterns area contains all the patterns that can be applied on the design. Patterns are shapes, created from stitches. You can make combinations between "Stitches" and "Patterns" and produce your own designs. Some combinations when applied may not look good on the design. This happens because combinations do not always produce correct embroidery results.



Select the pattern you prefer by clicking on it. The none selection will restore the default satin type. Your selections are instantly displayed in the design area letting you experiment with it. There are 195 different

patterns to apply to your design. If you want to view only the pattern you have selected and not a combination with "Stitches", you must be sure that "Stitches" option is set to "None". Otherwise you will view a pattern with "Stitches" in it.

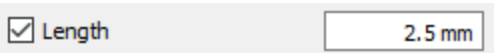
There following options can help you adjust the embroidery parameters of the design. As we have already mentioned in the Select fabric section previously in this chapter, each fabric has different presets that affect the way the embroidery design will be placed on it and some of them are visible at the bottom of the "Properties" toolbar. For Step stitch type they are, "Density", "Length", "Compensation" and "Underlay". These options can help you make useful adjustments on the design and produce the embroidery results you prefer.

Density:



You can activate the "Density" option by checking the check-box next to it. In the numeric field, you can specify the density of the satin stitches that you are adding. You can also adjust density by clicking on the value and rotating the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be set by clicking outside the density field or by pressing "Enter/Return" from the keyboard.

Length:



You can activate the Length option by checking the check-box next to it. In the numeric field you can specify the length of each stitch in the step.

Compensation:

Underlay:



You can activate the underlay option by checking the check-box next to it. Click on the Underlay you want, and your change will be calculated and stored in the saved design. If you don't select an underlay manually, the software will automatically select the appropriate one for you. Underlay is important for quality embroidery designs.

For Step stitch type, the following underlay patterns are available:

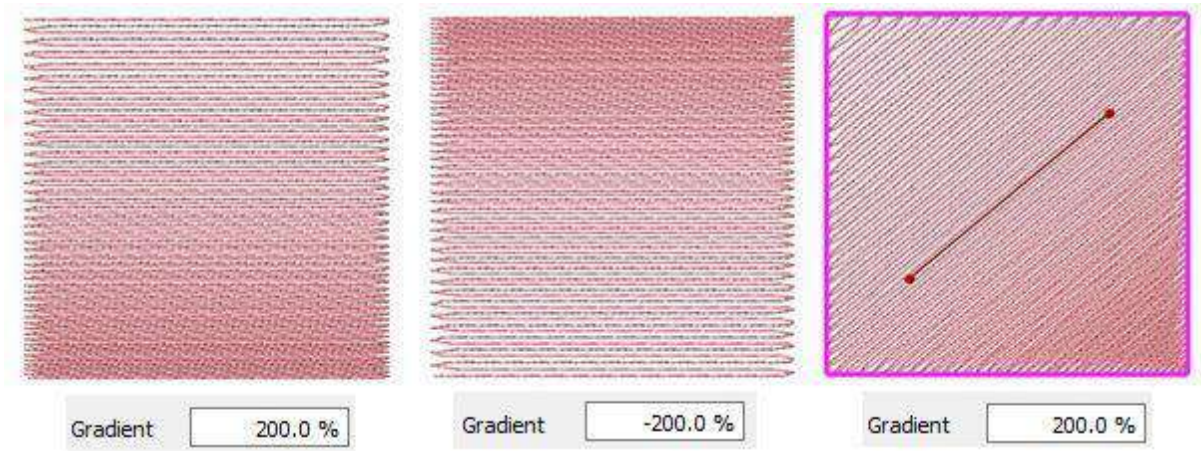
 Tacking	Tacking – If tacking is selected, there will be no underlay and the software will make running stitches in order to go from one position to another and cover the area with cover stitches.

 Edging	Edging - If edging is selected, the software will make running stitches following the shape of the object and position Edging underlay near the edge of the outline.
 Packing	Packing - If packing is selected, the software will cover the area of the object with vertical running stitches (according to the direction of cover stitches) as the icon shows.
 Netting	Netting - If netting is selected, the software will cover the area of the object with running stitches at 45o and -45o (according to the direction of the cover stitches) and then fill the shape with cover stitches.
 Packing+	Packing + - Is a combination of Packing and Edging underlay.
 Netting+	Netting + - Is a combination of Netting and Edging underlay

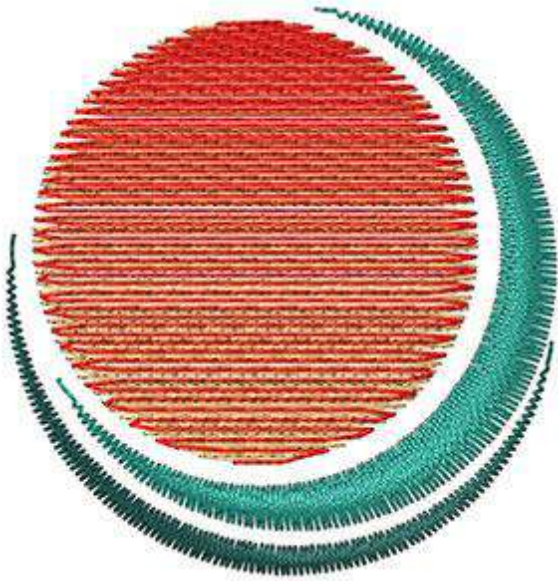
There are also two more options that are very useful in customizing the way that the software will be embroidered. Those are the "Remove overlaps" option and the "Sequence" option.

Gradient fill

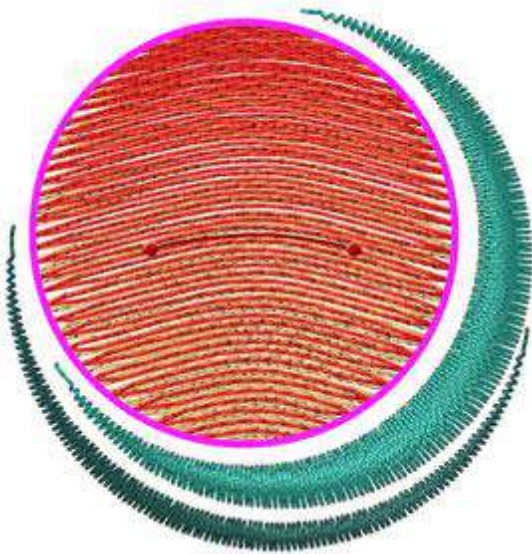
With Gradient parameter you can adjust the ending density of an object compared to the starting density. The Gradient is a percentage value with range from -500% up to 500%. The negative values reverse the direction



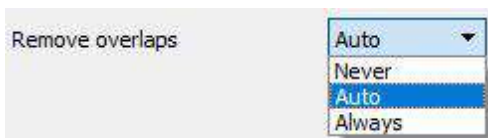
Gradient can also accept negative numbers, which reverses the direction of the gradient. By copying the same object (one on top of the other) and setting negative gradient on the second object, you can do blending.



The results are more impressive, if you use curve directions.



Remove overlaps:

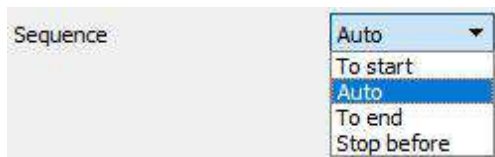


This is an automatic filter which removes all overlaps between objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, "Auto", "Never" and "Always". The "Auto" is the default option and the one that the software uses to create the best possible results on the design. When the "Never" option is applied on an object, the specific object will never

trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is "Always". When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying "Trim" tool which permanently removes the stitches underneath. You must always use it with care or after setting "Remove overlaps" option to Never.

Sequence:



With this tool it is possible to change the embroidering sequence of the design while it is set to "Auto" . Specific objects of the design can be set to be embroidered at the start or at the end of the embroidering process. This gives you the ability to sew the designs in the order you prefer. More specifically, the "Sequence" drop down menu has three options "Auto", "To start" and "To end". The "Auto" is the default option and the one that creates the best possible embroidering sequence results. In order to change the embroidering sequence manually, use the other two options. The "To start" option sets the selected object to be embroidered first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the "To end" option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered. By using the "To start" and "To end" options, is the only way you can change the embroidering sequence while the sequence option it is set to "Auto" . This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

If you have set more than one object to be embroidered "To start" and more than one "To end", the software will decide automatically which one of those will be the first and which one will be last to be embroidered.

For example if you have a design with 20 objects and you have set 5 to be embroidered "To start" and 5 "To end", the software will embroider those that was set "To start" first, deciding automatically their embroidering sequence, then those (10) set to "Auto" and finally those set "To end", deciding automatically the order of the last 5.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

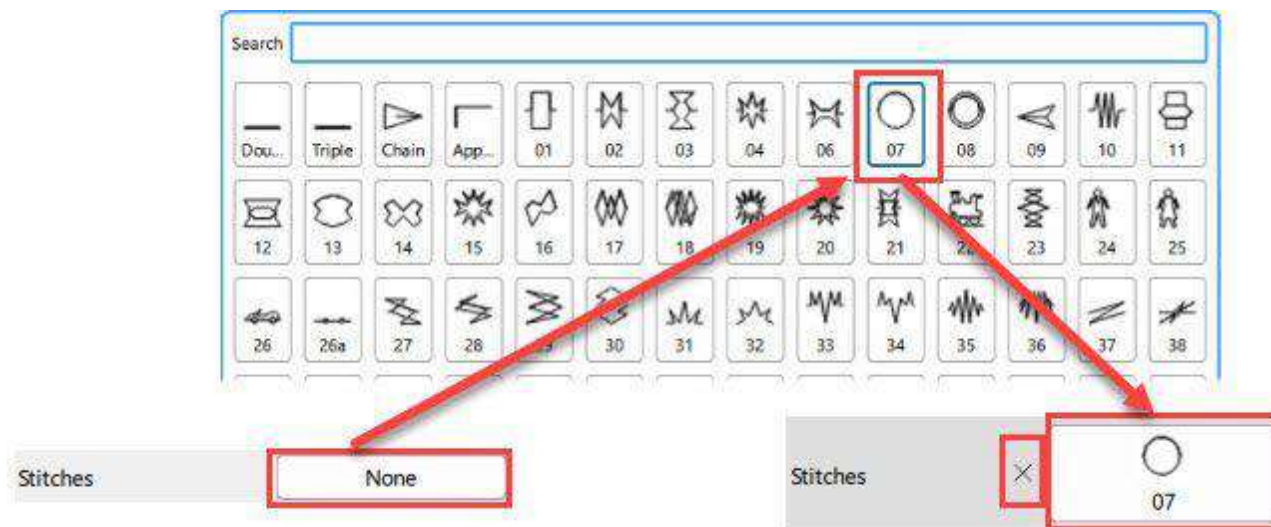
Row fill

Row fill  This option, when applied, sets the fill area to be Row fill. All the fill stitches are changed to Row fill, which is automatically calculated and produced from the program. The Row fill type that was placed is the default. You can change Row fill's feel by adding "Stitches" and "Patterns". There are many different styles

and patterns that you can apply on any stitch design. Also, you have the ability to change the stitch "Density", the "Length" and "Add short/long" stitches.

Stitches

The Stitches button contains all the stitch styles that can be applied on the design. "Stitches" is a way of movement from one point to another, which normally can be done by one stitch. Some stitches when applied may not look good on the design. This happens because "Stitches" cannot fit correctly in all possible shapes.

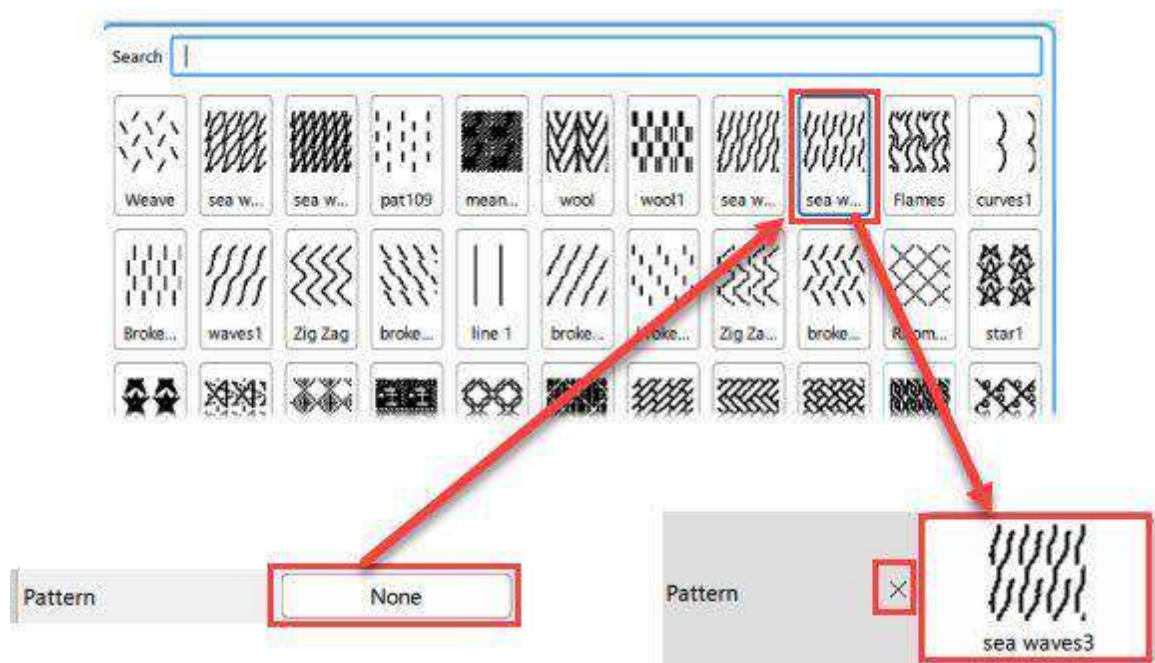


Select the "Stitches" you prefer by clicking on it and viewing it in your design. Your selections are instantly displayed in the design area letting you experiment with your design. There are more than 400 "Stitches" that

you can use to produce unique designs. The styles that are in film icon (for example: ) are a series of different "stitches" in one. If you need to remove the applied stitches style, just click on the X button, next to the icon of the selected stitches style.

Patterns

The patterns area contains all the patterns that can be applied on the design. Patterns are shapes, created from stitches. You can make combinations between Stitches and Patterns and produce your own designs. Some combinations when applied may not look good on the design. This happens because combinations do not always produce correct stitch results.



Select the pattern you prefer by clicking on it. You can remove the applied pattern by clicking on the X button, next to the icon of the selected Pattern. Your selections are instantly displayed in the design area letting you experiment with it. There are 195 different patterns to apply to your design. If you want to view only the pattern you have selected and not a combination with "Stitches", you must be sure that "Stitches" option is set to "None". Otherwise you will view a pattern with "Stitches" in it.

There are also two more options that are very useful in customizing the way that the software will be embroidered. Those are the "Remove overlaps" option and the "Sequence" option.

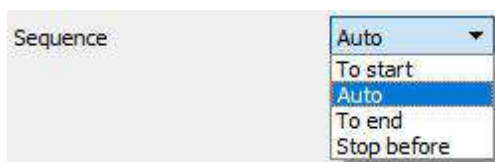
Remove overlaps:



This is an automatic filter which removes all overlaps between objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, "Auto", "Never" and "Always". The "Auto" is the default option and the one that the software uses to create the best possible results on the design. When the "Never" option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is "Always". When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying "Trim" tool which permanently removes the stitches underneath. You must always use it with care or after setting "Remove overlaps" option to Never.

Sequence:



With this tool it is possible to change the embroidering sequence of the design while it is set to "Auto" . Specific objects of the design can be set to be embroidered at the start or at the end of the embroidering process. This gives you the ability to sew the designs in the order you prefer. More specifically, the "Sequence" drop down menu has three options "Auto", "To start" and "To end". The "Auto" is the default option and the one that creates the best possible embroidering sequence results. In order to change the embroidering sequence manually, use the other two options. The "To start" option sets the selected object to be embroidered first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the "To end" option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered. By using the "To start" and "To end" options,  is the only way you can change the embroidering sequence while the sequence option it is set to "Auto" . This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

If you have set more than one object to be embroidered "To start" and more than one "To end", the software will automatically decide which one of those will be the first and which one will be last to be embroidered.

For example if you have a design with 20 objects and you have set 5 to be embroidered "To start" and 5 "To end", the software will embroider those that was set "To start" first, deciding automatically their embroidering sequence, then those (10) set to "Auto" and finally those set "To end", once again automatically deciding the order of the last 5.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Also, there are three more options that can help you adjust the embroidery parameters of the design. As we have already mentioned in the Select fabric section previously in this chapter, each fabric has different presets that affect the way the embroidery design will be placed on it and some of them are visible at the bottom of the "Properties" toolbar. For Row fill stitch type they are "length", "Density" and "Add short/long". These options can help you make useful adjustments on the design and produce the embroidery results you prefer.

Density:



You can activate the "Density" option by checking the check-box next to it. In the numeric field you can specify the distance between the stitches of the fill lines. The number of this field shows the distance between one line of stitches and the line after its next. Also you can adjust density by clicking on the value and rotating

the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be set by clicking outside the density field.

Length:

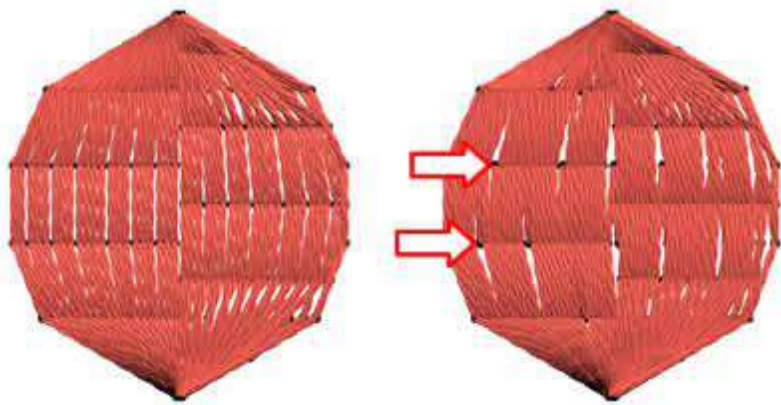
☒ Length

You can activate the "Length" option by checking the check-box next to it. In the numeric field you can specify the length of every stitch in Row fill.

Add Short/long:

☒ Add short/long

You can activate the "Add short/long" option by checking the check-box next to it. The "Add Short/Long" stitches applies short and long stitches in the design. When "Add short/long" is selected, the total number of stitches will not change significantly because some long stitches that applied when "Add short/long" was OFF, are simply replaced by short stitches.



Without short/long

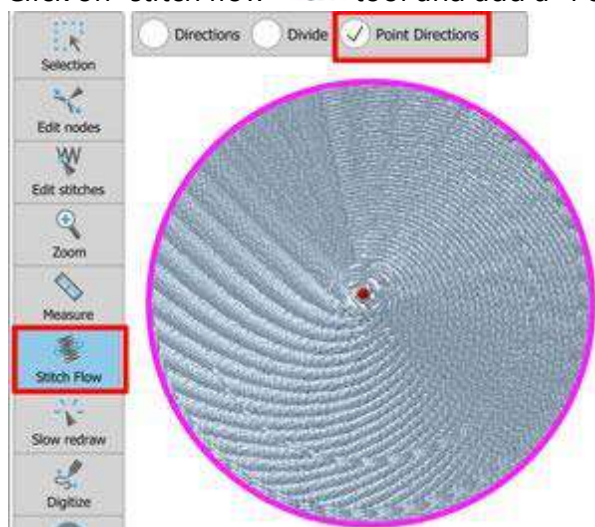
With short/long

Spiral

To create a Spiral inside a closed shape you have to do the flowing:

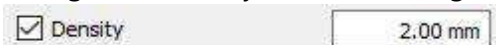
1. Create or select a closed shape
2. Apply "Row fill" stitch type to it

- Click on "stitch flow"  tool and add a "Point direction" at the center of the shape



If your shape has already a hole in it you can skip this step

- Change the Density to 2mm (change this value according to the spiral density you want to have)



- The spiral shape is ready.



Shot/long parameter is helping to keep the same density in all areas.

Applique

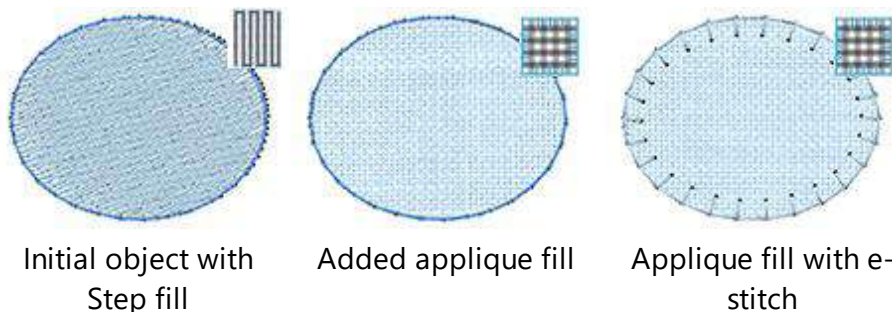
When setting the "Applique" fill type, the fill area of the object will be covered with a fabric. The fabric will be previewed with the selected fill color. The border will stay as it was surrounding the applique area. If the

design does not have an outline/pen, the program will sew around the applique an E-stitch () in order to hold the applique on the fabric. If the object has an outline, you can set a running style or satin serial stitches that will hold the applique on the fabric.

New zig-zag styles are added in the running stitch type that can be used for holding single or double laser cut applique.

For example:

Consider that we have an ellipse (like on the left part of the figure below). As we can see, it has a Red fill color and a Blue outline. If we set the fill type to be applique then the ellipse will look like in the middle part of the figure (Applique with running outline). if we remove the outline color then the program will automatically add "E-stitch" outline as shown in the right part of the figure.



Applique usage

In order to actually produce designs with applique, there is a standard procedure that must be followed. This production procedure needs interaction from the user during the embroidery process. In order to understand the production procedure, we will analyze how an embroidery machine will react when instructed to embroider an applique object.

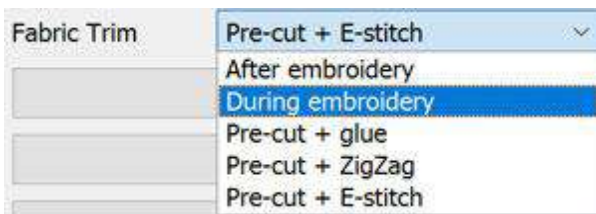
When it is time to produce the applique object:

1. A "running" line will be added to reveal the position that the applique must be placed.
2. A "jump stitch" will be made and the machine will stop in order to manually place the applique fabric.
3. Then "running" stitches will be added to create the shape of the applique.
4. Another "jump stitch" will be made and the machine will stop (again) in order to cut the applique according to the shape.
5. Finally the outline/pen of the applique will be added ("E-stitch", "Satin serial" or "Running") as it was selected.

Then the machine will continue embroidering the rest objects.

Using "Slow redraw"  you can also view/simulate the way that the design will be embroidered.

Fabric Trim:



You can select the way that the fabric will be trimmed using the Fabric Trim drop down menu. There are three options available: After embroidery, During embroidery and Pre-cut(+ glue, +ZigZag, or + E-stitch). In order to understand what exactly each option does, we will analyze how an embroidery machine will react on each one.

If After embroidery is selected, the software will perform the following steps: First will make the shape of the applique with Running showing the area where the applique must be placed. After that a jump stitch on top will be made and the machine will stop in order for the applique to be placed on the fabric. Then the software will make the outline of the applique ("Default fixing": E-stitch, Zig Zag) or Satin Serial, running) as it was selected. Finally you will have to take the embroidery out of the machine and cut the applique accordingly.

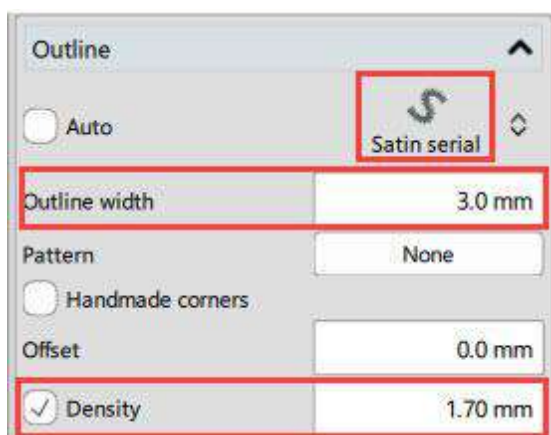
If During embroidery is selected, the software will perform the following steps: First it will make the shape of the applique with running showing the area where the applique must be placed. After that a jump stitch on top will be made and the machine will stop in order the applique to be placed on the fabric. Then the software starts to sew a running stitch creating the shape of the applique. A jump stitch on top will be made and the machine will stop (again) in order to cut the applique according to the shape. At the end the software will make the border of the applique ("Default fixing": E-stitch, Zig Zag) as it was selected.

Finally, if Pre-cut is selected, the software will perform the following steps: First it will make the shape of the applique with Running showing the area where the applique must be placed. After that a jump stitch on top will be made and the machine will stop in order for the applique to be placed on the fabric. Since the applique has been cut on the shape of the object, the software will start to sew the border of the applique. If the selection is "Pre-cut + ZigZag", the software will add ZigZag holding stitches. If the selection is "Pre-cut + E-stitch", the software will add E-stitch holding stitches. If the selection is "Pre-cut + glue" it will add the holding stitches that you have set, otherwise it will not add any.

Notice: Do not use simple running stitch type as border because the applique will not be sewed correctly with the fabric.

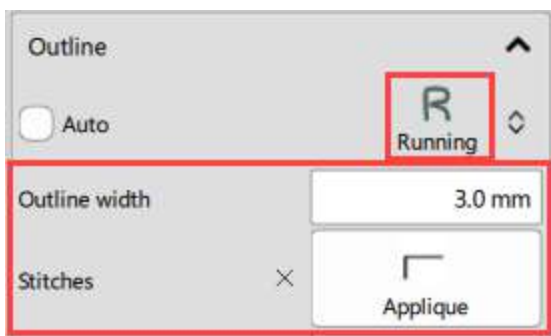
Fix Zig Zag

When using this "Fixing" option then the program automatically adds "Satin serial" outline to the applique object and automatically adds "Density 1,70mm" as well. The Satin serial stitches with density greater than "1,20mm" are in reality "Zigzag" stitches. The Zig Zag outline (has the same color with the fill area) will sew the applique on the fabric. If you want to change the way that the fixing stitches are placed then you can use the options of Satin serial outline type.



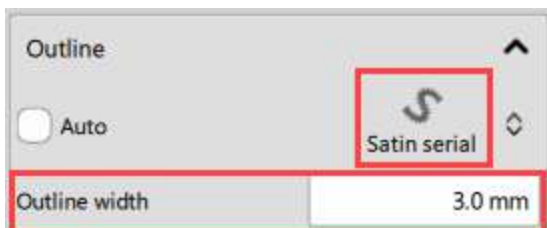
Fix e-stitch

Using this preset button you are setting that the outline of the applique will be e-stitch. In reality if you switch to outline tab you will see that Running outline has been applied with a style called Applique. By choosing this option the applique will be sewed on the fabric with e-stitches that will have the same color as the fill area and they will look like the on the following figure. You also select any of the available styles of Running type in order to use as fixing stitches. We must mention that there are some zig-zag styles that can be used for holding single or double pre-cut applique.

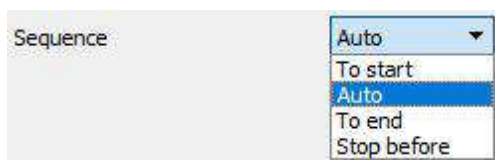


Fix satin

When using this "Fixing" option then the program automatically adds "Satin serial" outline to the applique object. The Satin serial outline will sew the applique on the fabric. If you want to change the way that the fixing stitches are placed then you can use the options of Satin serial outline type.



Sequence



Applique type does not have any customizable options, the only available option is sequence option. Using sequence option we can customize the way that the design will be embroidered. Specific objects of the design can be set to be embroidered at the start or at the end of the embroidery process. This gives you the ability to embroider a design in the order you prefer. More specifically, the Sequence drop down menu has three options "Auto", "To start" and "To end".

The program by default uses Auto option and the sequence is automatically generated by the intelligent mechanisms of the software. In order to change the embroidery sequence manually, use the other two options. Use To start option to set the selected object to be embroidered first. This means that if it was to be embroidered fifth, now will be embroidered first in the row. The To end option is the exact opposite, when it is applied on an object, this will immediately become the last object to be embroidered. This tool is really useful for producing hats, or on delicate fabrics that need special care regarding the way that the objects will be placed on the fabric.

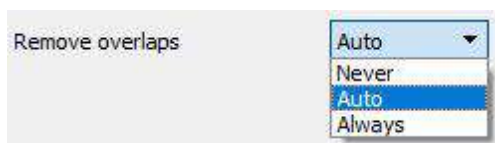
If you have set more than one object to be embroidered "To start" and more than one "To end", the software will decide automatically, which one from those set "To start" will be the first to be embroidered and which one from those that you have set "To back" will be the last to be embroidered.

For example, if you have a design with 20 objects and you have set 5 to be embroidered "To start" and 5 other "To end", the software will embroider those that are set To start first, deciding automatically their embroidering sequence, then those (10) that remained set "To auto" and finally those that are set "To end", deciding automatically the order of those last 5.

This is very useful because you can specify when the applique objects will be inserted on the fabric. Therefore you do not have to wait over the embroidery machine until it reaches the point where the applique has to be placed. You can order it to be embroidered at the start or at the end of the embroidering process. This will save you time and effort.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Remove overlaps:



This is an automatic filter which removes all overlaps between the objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, Auto, Never and Always. The Auto is the default option and the one that the software uses to create the best possible

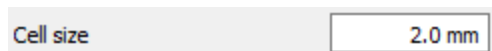
results on the design. When the Never option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is Always. When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

the software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying trim tool in the Create mode of the software. You must always use it with care or after the setting Remove overlaps option to Never.

Net Fill

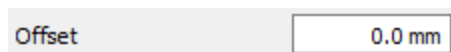
When this option is applied it sets the fill area to Net Fill. The Net fill embroidery type is a special fill type that adds two scan lines that are crossing with parallel equidistant running stitches. These two scan lines are forming a Net that can be used to create Laces. It is a very useful embroidery type that can produce great embroidery results. The Net Fill includes some more options that allow us to customize the way that will be applied on the selected object. These options are the following:

Cell size:

A screenshot of a software interface showing a label 'Cell size' followed by a text input field containing the value '2.0 mm'.

With this option you can specify the size of each square side that the Net fill consists of. For example by setting the Cell size to be 2.0 mm all squares of the net will have 2.0 mm side size. The maximum value that the Cell size can have is 9.9mm and the minimum is 0.5mm. To change the value of the Cell size option you have to either click on the up and down arrows next to the field to increase or decrease its value or type the exact value you want and then press the Enter key from the keyboard. Another way to increase or decrease the value is by clicking inside the Cell size field and then by using the mouse wheel to change its value. The changes that you will make will be immediately applied on the design. By changing this value you can create a net with large squares or small squares according your preferences.

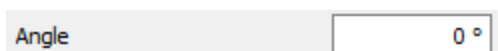
Offset:

A screenshot of a software interface showing a label 'Offset' followed by a text input field containing the value '0.0 mm'.

With this option you can specify the distance, inner or outer, you want the Net fill to be moved. For example: if you set the Offset value to 3mm the Net fill will increase its size by 3mm to all directions outside its original outline. On the other hand if you set the value to -3mm the Net fill will decrease its size by 3mm to all direction inside its original outline.

The maximum value that the Offset can have is 15.0mm and the minimum is -15.0mm. To change the Offset value you have to either click on the up and down arrows next to the field to increase or decrease its value or type the exact value you want and then press the Enter key from the keyboard. Another way to increase or decrease the value is by clicking inside the Offset field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design. By changing this value you can make adjustments on the Net fill size, which is really useful when you want to cover a hole and making sure that the net will be embroidered on the fabric and not inside the hole. This option is very important for creating proper Net fills.

Angle:



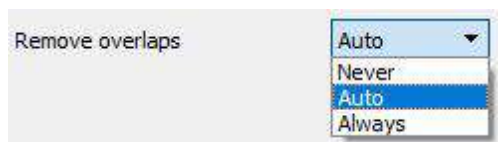
With this option you can change the Angle that the Net fill will be applied. For example: When the angle is set to 0o degrees the Net fill will be aligned on the X and Y axes creating right angles. If you change the Angle value to 30o degrees the Net fill will be rotated 30o degrees anticlockwise and change completely its direction.

The Angle values that you can set are between 0o and 360o degrees. To change the Angle value you have to either click on the up and down arrows next to the field to increase or decrease its value or type the exact value you want and then press the Enter key from the keyboard. Another way to increase or decrease the value is by clicking inside the Angle field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design.

By changing the Angle of the Net fill you can orientate it based on the shape that it is applied on. This ability allows you to produce better and more beautiful embroidery results.

There are also two more options that are very useful in customizing the way that the design will be embroidered. Those are the Remove overlaps option and the Sequence option.

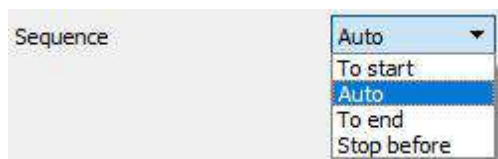
Remove overlaps:



This is an automatic filter which removes all overlaps between the objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, Auto, Never and Always. The Auto is the default option and the one that the software uses to create the best possible results on the design. When the Never option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is Always. When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying trim tool. You must always use it with care or after the setting Remove overlaps option to Never.

Sequence:



With this tool it is possible to change the embroidering sequence of the design. Specific objects of the design can be set to be embroidered at the start or at the end of the embroidering process. This gives you the ability to embroider the designs in the order you prefer. More specifically, the Sequence drop down menu has three options Auto, To start and To end. The Auto is the default option and the one that the software uses to create the best possible embroidering sequence results. In order to change the embroidering sequence manually, use the other two options. The To start option sets the selected object to be embroidered first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the To end option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered. By using the To start and To end options, you can change the embroidering sequence and embroider the design you have created the way you prefer. This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

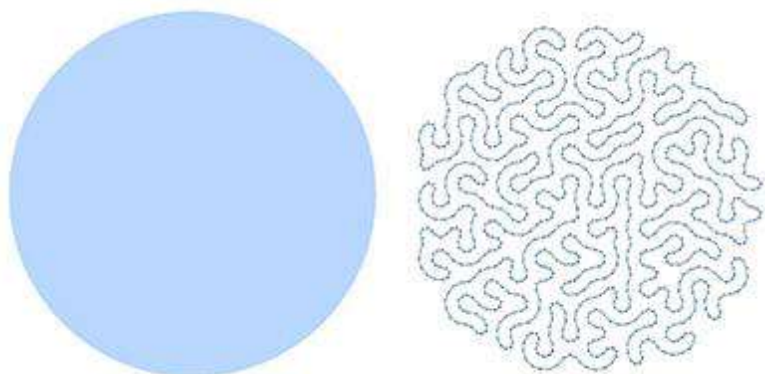
If you have set more than one object to be embroidered To start and more than one To end, the software will decide automatically which one of those will be the first and which one will be last to be embroidered.

For example if you have a design with 20 objects and you have set 5 to be embroidered To start and 5 other To end, the software will embroider those set To start first, deciding automatically their embroidering sequence, then those (10) set To auto and finally those set To end, deciding automatically the order of the last 5.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

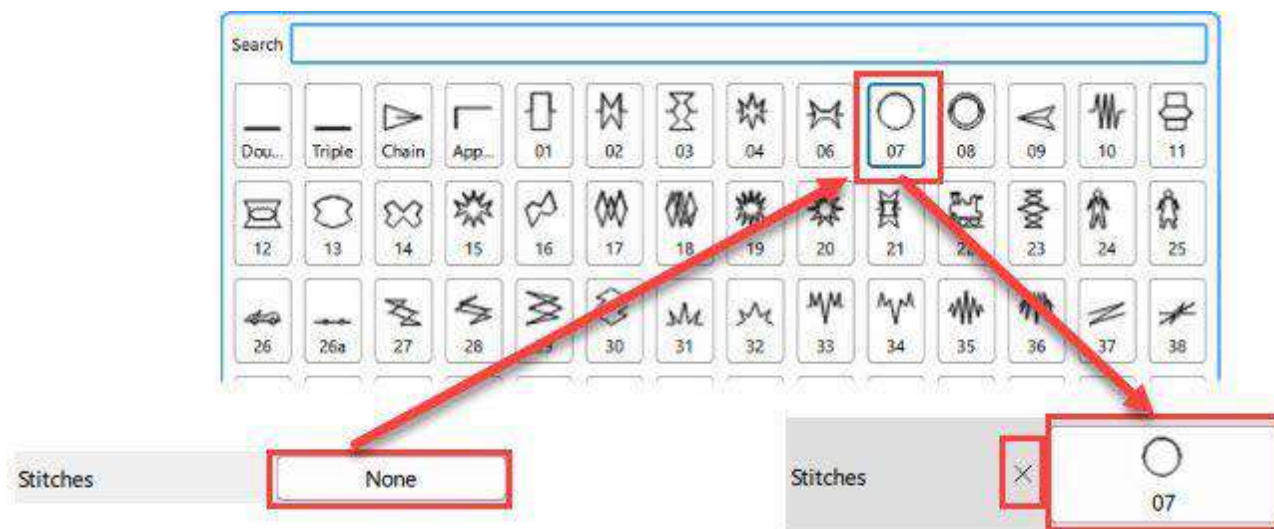
Stippling

Stippling is a special stitch type that is mainly used for quilting projects. Select any object and by activating Stippling embroidery type, the selected object is filled with stipple fill as in the following figure. You can use stippling for a variety of things, create stippling blocks with any shape or size you like or fill area with an irregular line placed randomly into the shape.



Stitches

The "Stitches" area contains all the stitch styles that can be applied on this object. "Stitches" in the software is a way of movement from one point to another, which normally can be done by one stitch. Some "Stitches" when applied may not look good on the stippling objects, the irregular movement of the stipple pattern may not look good on many "Stitches". This happens because styles cannot fit correctly in all possible shapes.



Select the "Stitches" you prefer by clicking on it and viewing it in your design. The none selection will restore the default stippling type. Your selections are instantly displayed in the design area letting you experiment with your design. The "Stitches" that are in film icon (for example: ) are a series of different styles in one.

Offset:

Offset

With this option you can specify the distance, inner or outer, you want the Stipple pattern to be moved. For example: if you set the Offset value to 3mm the Stippling will increase its size by 3mm to all directions outside its original outline. On the other hand if you set the value to -3mm the stippling will decrease its size by 3mm to all direction inside its original outline.

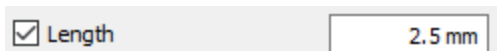
The maximum value that the Offset can have is 15.0mm and the minimum is -15.0mm. To change the Offset value you have to either click on the up and down arrows next to the field to increase or decrease its value or type the exact value you want and then press the Enter key from the keyboard. Another way to increase or decrease the value is by clicking inside the Offset field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design. By changing this value you can make adjustments on the Stippling size, which is really useful when you want to cover a hole and making sure that the net will be embroidered on the fabric and not inside the hole.

Density:



You can activate the Density option by checking the check-box next to it. In the numeric field you can specify the distance between the lines of the stipple pattern. Also you can adjust density by clicking the arrows next to the value or by clicking on the value and rotating the mouse wheel if there is one. Changes are instantly previewed on the design area and can be set by clicking outside of the density field.

Length:



You can activate the Length option by checking the check-box next to it. In the numeric field you can specify the length of each stitch that will be used for the stipple pattern. Adjust thread tension according to stitch length as necessary.

Break apart

Finally, there is an option to "Break apart" the stippling fill into separate stipple parts."

Remove overlaps:



This is an automatic filter which removes all overlaps between the objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, Auto, Never and Always. The Auto is the default option and the one that the software uses to create the best possible results on the design. When the Never option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is Always. When it is

applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying trim tool. You must always use it with care or after the setting Remove overlaps option to Never.

Sequence:



With this tool it is possible to change the embroidering sequence of the design. Specific objects of the design can be set to be embroidered at the start or at the end of the embroidering process. This gives you the ability to embroider the designs in the order you prefer. More specifically, the Sequence drop down menu has three options Auto, To start and To end. The Auto is the default option and the one that the software uses to create the best possible embroidering sequence results. In order to change the embroidering sequence manually, use the other two options. The To start option sets the selected object to be embroidered first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the To end option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered. By using the To start and To end options, you can change the embroidering sequence and embroider the design you have created the way you prefer. This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

If you have set more than one object to be embroidered To start and more than one To end, the software will decide automatically which one of those will be the first and which one will be last to be embroidered.

For example if you have a design with 20 objects and you have set 5 to be embroidered To start and 5 other To end, the software will embroider those set To start first, deciding automatically their embroidering sequence, then those (10) set To auto and finally those set To end, deciding automatically the order of the last 5.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Cross

Each cross stitch consists of two running stitches that are crossed in between creating an 'X'. Cross-stitches of the same color, fill the selected shape in a grid formation. After importing a vector design or creating one with the available tools you can select it and fill it with "Cross"  stitches.

In the design filled with crosses, it is possible to change the number of cross "Repeats" and the "Cell size" of the cross.

Repeats:

Repeats

By changing the value of this "cross" option you can change the number of times that each cross stitch will be embroidered. The bigger the number, the thicker the cross. The default value is 2 and it is the most suitable in most of the cases. There is an upper limit of 10 and a lower limit of 1. Therefore, the number of repeats must be between those two limits.

Cell size:

Cell size

By changing this value you can change the size of the cross container. The value represents the side size of the cross container square. The default value of Cell size is 0,20cm or 0,079".

Cross-stitch

The Cross stitch type is an auto generated type that automatically adds decorative stitches on top of any imported image. After you select an image to import and Open as Cross stitch, the software automatically analyzes the image and add cross stitch on top of the image using multiple colors. For the Cross stitch type you can adjust some options.

Palette

First, you can select a thread palette, to see the actual thread colors in preview.

Palette

Number of colors

You can also define the number of colors. The software analyzes the imported image and sets the number of colors accordingly but you may change that number at will; that is, you may choose to merge certain colors or have other "missing" ones, appear.

Number of colors

Repeats:

Repeats

By changing the value of this cross-stitch option you can change the number of times that each cross-stitch will be embroidered. The bigger the number, the thicker the cross-stitch. The default value is 3 and it is the most suitable in most of the cases. There is an upper limit of 10 and a lower limit of 1. Therefore, the number of repeats must be between those two limits.

Cell size:

Cell size

By changing this value you can change the size of the cross container. The value represents the side size of the cross container square. Each point represents one 10th of mm, therefore, if you insert the value 20 in the field, this will mean that the side of the cross square will be 0,20cm or 0,082". The default value of Cell size is 20.

Blending



With this option you can set the level at which the colors will blend. You can select from the following levels:

- None: No blending will be made between the design's colors. The edges between different colors/shapes will not overlap.
- Low: A small amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be minimal.
- Standard: This is the default setting. A medium amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be a medium level.
- High: A large amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be a high level.
- Full: The maximum possible amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be the Full level.

Photo-stitch

The Photo stitch type is an auto generated type that automatically adds decorative stitches on top of any imported image. After you select an image to import and Open as Photo stitch, the software automatically analyzes the image, follows the graduation of the image colors and creates layers of satin bars. In this way is easily converted into a photo stitch design. Photo-stitch is another alternative you have when it comes to filling bitmap images with stitches.

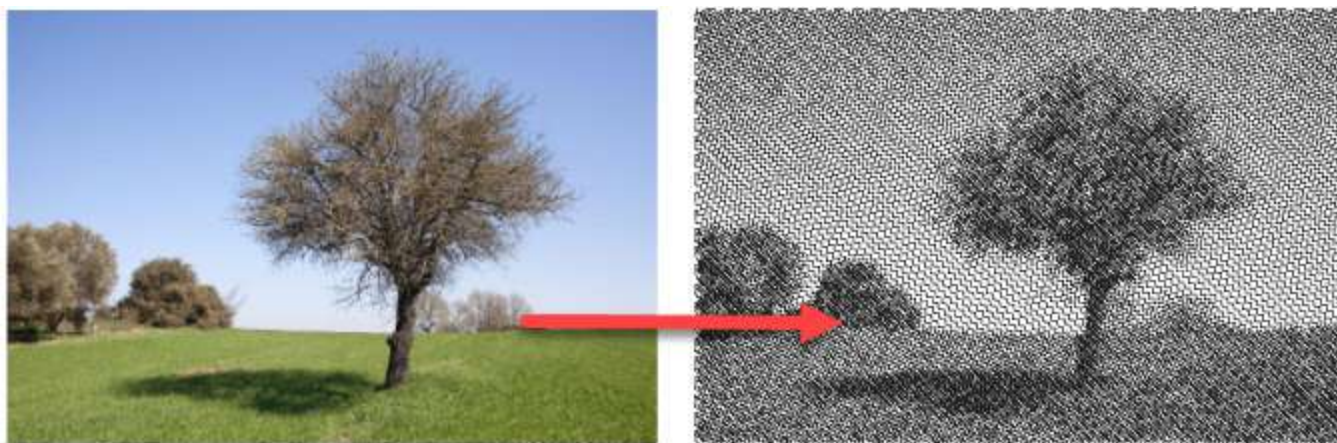
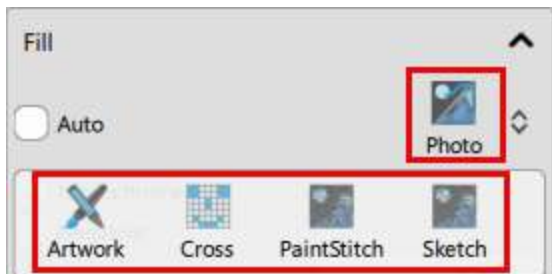


Photo stitch is a Bitmap fill-type (Cross, Photo, PaintStitch, Sketch), all the bitmap fill-types add decorative stitches on top of an image and you can easily switch from each type to an alternative simply by selecting another of these types from the fill section of properties toolbar. Click on the Photo icon or the double arrow icon on Fill section of Properties toolbar and from appearing options select an alternative bitmap fill-type.

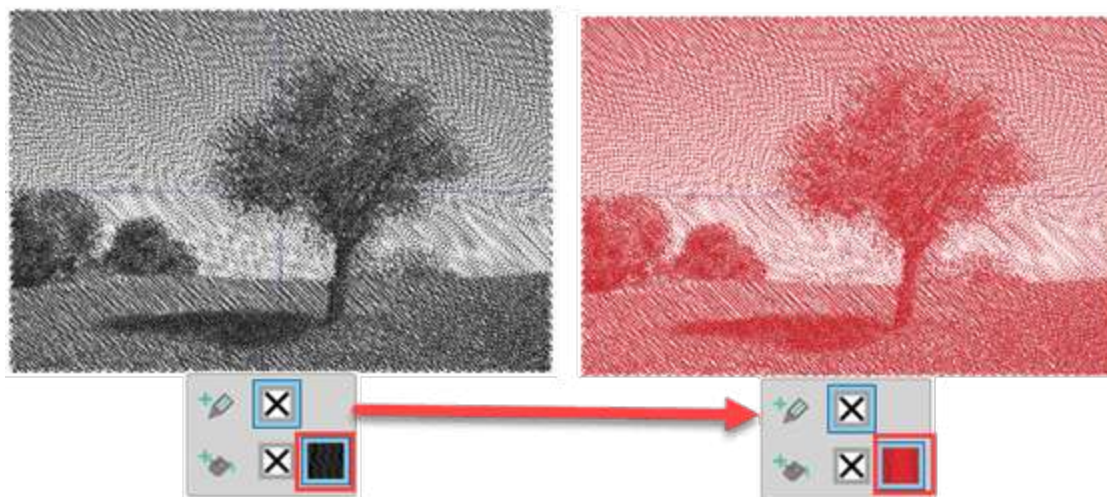
If the selected fabric is dark the photostitch will be filled with white color automatically and the opposite, if the fabric has a light color. This feature is applied on monochrome PhotoStitch designs during the import/open procedure.



You can adjust the Photo stitch using the available options on Properties toolbar.

Monochrome

By default the Photo stitch is created monochrome. All satin bar are black by default. If you edit the color on used colors bar you can make Photo stitch any color you like.

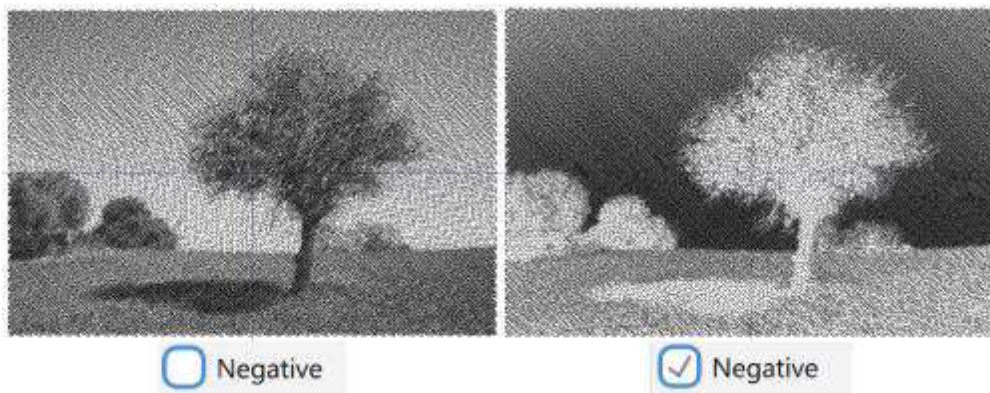


If you uncheck monochrome option you can create CMYK (Cyan, Magenta, Yellow, Black) Photo-stitch designs.



Negative

This parameter appears only if the Monochrome check-box is checked and it reverses the color tone. A negative image is a total inversion, in which light areas appear dark and vice versa.



Width - Starting density

The photo-stitch object gives you the ability to adjust the satin bars' Width and the Starting Density of each satin bar for more accurate results. With the Width value you can set the distance that two satin bars will have between them, and with the Density value you can set the density that each satin bar will have when it passes over dark areas. By adjusting those two values you can get more detailed photo-stitch results. Adjust the density of the satin bars that cover the backdrop image.

Gamma correction

Using Gamma correction option you can correct the Gamma of the image, meaning its overall brightness. Images which are not properly corrected can look either bleached out, or too dark. By adjusting this value you can improve the quality of the Photo stitch.

PaintStitch

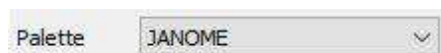
The PaintStitch type is an auto generated type that automatically adds decorative stitches on top of any imported image. After you select an image to import and Open as PaintStitch, the software automatically analyzes the image and creates a photorealistic Paintstitch design. With PaintStitch™ you can have photo-realistic embroidery results with the use of advanced algorithms that were implemented for this purpose.



You can further customize the PaintStitch results from the options that you will find in the Properties toolbar. Paint stitch is a Bitmap fill-type (Cross, Photo, PaintStitch, Sketch), all the bitmap fill-types add decorative stitches on top of an image and you can easily switch from each type to an alternative simply by selecting another of these types from the fill section of properties toolbar. Click on the PaintStitch icon or the double arrow icon on Fill section of Properties toolbar and from appearing options select an alternative bitmap fill-type.

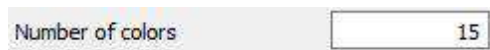


Palette



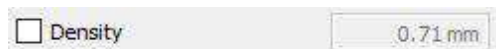
From this drop-down menu you can select the Thread palette that you will use to embroider your PaintStitch design. Select any palette from the list and it will be immediately applied to the design.

Number of colors



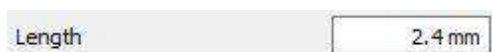
With this value you can specify the number of colors you want the PaintStitch design to be made with. Every change you make to this value is immediately applied to the design. The maximum number of colors that you can set is 99.

Density



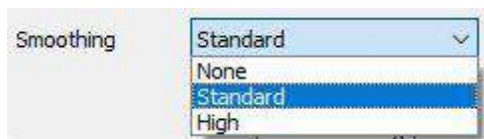
With this value you can adjust the density of the PaintStitch design. Higher values will reduce the number of stitches and the detail of the design and lower values will do the opposite. The default density setting is 0.71 mm which is not affected by the selected fabric. The minimum density setting possible is 0.40 mm.

Length

A control interface for the 'Length' setting. It consists of a label 'Length' on the left and a text input field on the right containing the value '2.4 mm'.

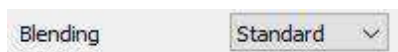
With this value you can set the length of PaintStitch stitches. Higher values produce more artistic and fuzzier results. Lower values produce more detailed results. The default value is 2.4 mm and the minimum possible setting is 1.5 mm.

Smoothing

A control interface for the 'Smoothing' setting. It features a label 'Smoothing' on the left and a dropdown menu on the right. The dropdown menu is open, showing four options: 'Standard' (selected), 'None', 'Standard', and 'High'.

With this option you can set the randomness of the stitches and make the stitches become smoother. The software decides automatically which parts will be smoothed out.

Blending

A control interface for the 'Blending' setting. It consists of a label 'Blending' on the left and a dropdown menu on the right showing the option 'Standard'.

With this option you can set the level at which the colors will blend. You can select from the following levels:

- None: No blending will be made between the design's colors. The edges between different colors/shapes will not overlap.
- Low: A small amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be minimal.
- Standard: This is the default setting. A medium amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be a medium level.
- High: A large amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be a high level.
- Full: The maximum possible amount of blending will be made between the design's colors. The overlapping between different colors/shapes will be the Full level.

Brightness

A control interface for the 'Brightness' setting. It consists of a label 'Brightness' on the left and a text input field on the right containing the value '0'.

With this value you can increase or decrease the brightness of the PaintStitch. This can be set from minus 240 up to 240.

Contrast

A control interface for the 'Contrast' setting. It consists of a label 'Contrast' on the left and a text input field on the right containing the value '0'.

With this value you can increase or decrease the Contrast of the PaintStitch. This can be set from minus 240 up to 240. This function is similar to the contrast option that most photo editing software have.

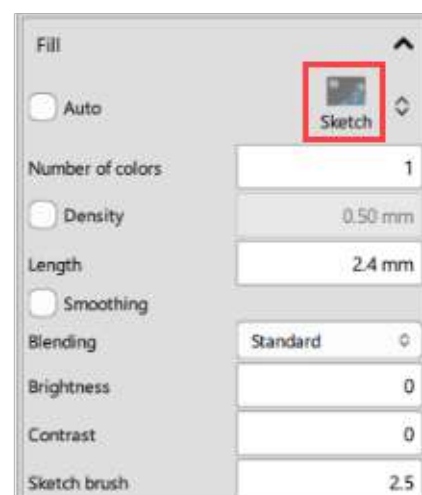
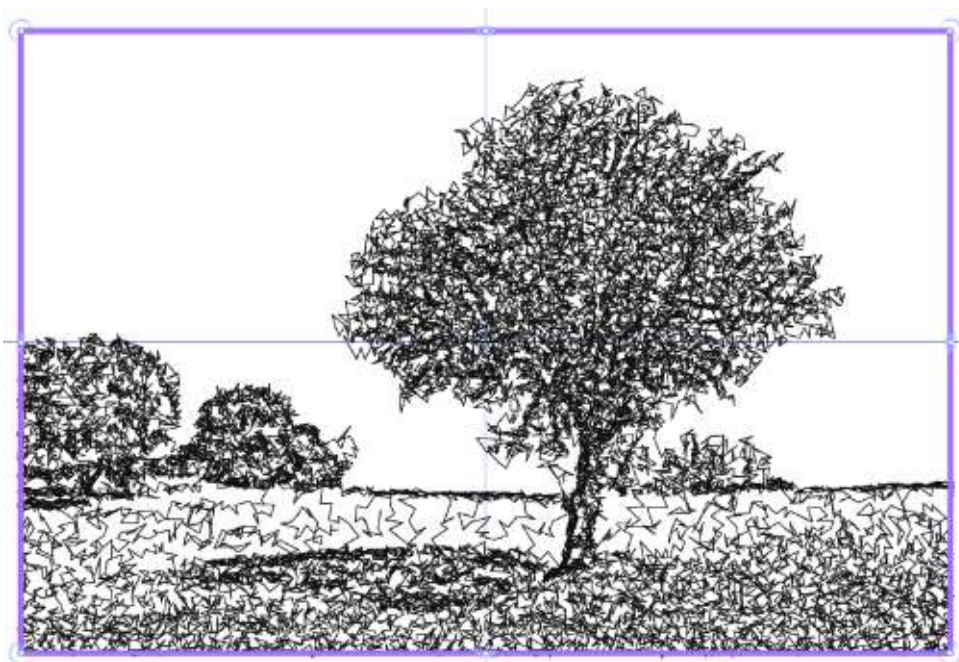
Stitch flow on PaintStitch

The stitch flow tool allows you to select the subject area of the image. The color reduction algorithm will try to choose colors that will render the subject area more accurately than the image outside the subject area. To do this, click and drag on the design. The overall design will be recalculated based on your Stitch Flow guide. You can increase or decrease the size of the guide by clicking and dragging the handles of the circle and delete the guide by clicking on the X that appears at its center.



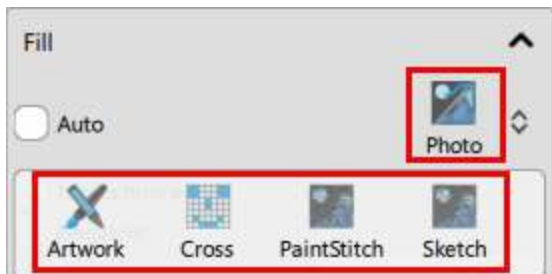
Sketch

When you import an image and use Open as Sketch option the imported image is converted into a charcoal Sketch like embroidery design. The big advantage of SketchStitch is that it is designed to work on a white fabric and cover close to 20% of its area with stitching. This way, the design can be embroidered on delicate and stretchy fabrics, like t-shirts, keeping the embroidered fabric flexible. This gives us an artistic interpretation of an image, with few colors, few stitches and very flexible embroidery so that it can be done by anyone, with minimal resources and minimum time. Sketchstitch will need Black thread and some shades of Gray thread.



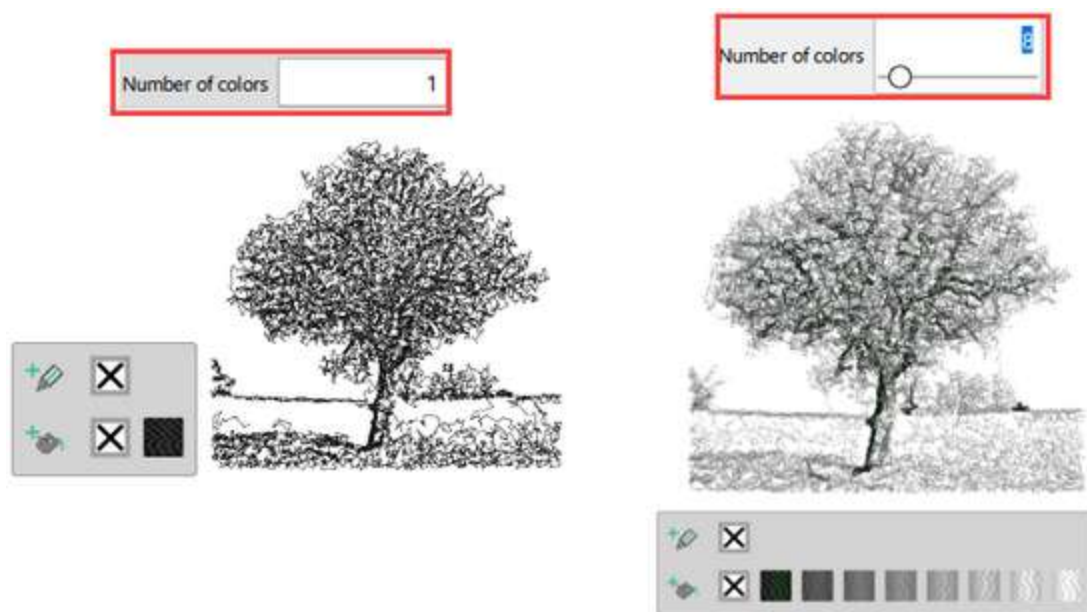
You can further customize the Sketch results from the options that you will find in the Properties toolbar. Sketch stitch is a Bitmap fill-type (Cross, Photo, PaintStitch, Sketch), all the bitmap fill-types add decorative

stitches on top of an image and you can easily switch from each type to an alternative simply by selecting another of these types from the fill section of properties toolbar. Click on the Sketch icon or the double arrow icon on Fill section of Properties toolbar and from appearing options select an alternative bitmap fill-type.



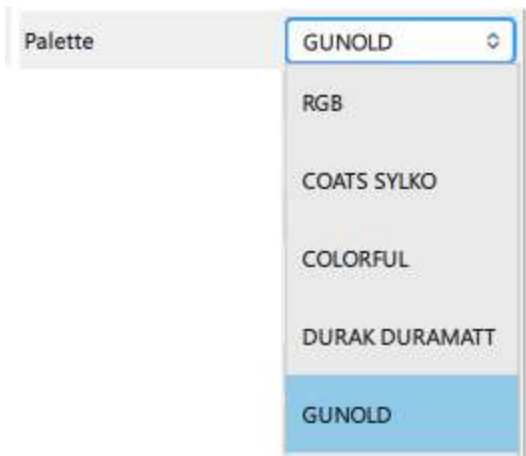
Number of colors

First of all you can change the number of colors. By default the sketch is done with one color, so that the embroidery is light, less layers of stitches, easier to produce. If you increase the number of colors the result will be more realistic, but you will have more color changes and number of stitches.



Palette

If you select a thread manufacturer palette the sketch preview will change. This happens because the available grey colors of the palette will be used. Some palettes may have more gray colors, while others may have less, so a sketch may look better in one palette than on another.



Density

You can also adjust the distance between the sketch lines using density.

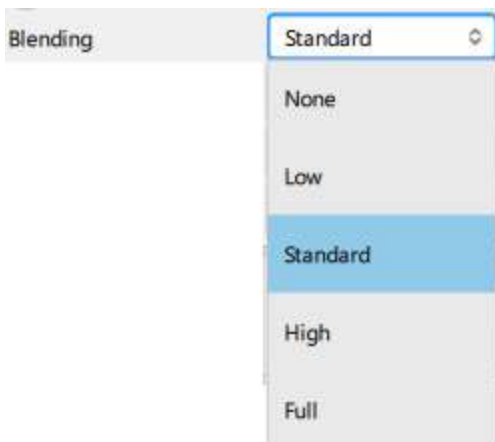


Smoothing

By enabling the smoothing option, the sketch lines become smoother. The software decides automatically which parts will be smoothed out.

Blending

Using Blending you can control how much the colors will blend. By default a medium amount of blending will be applied on the design's colors.



- if you select None, No blending will be made between the design's colors. IN that case, the edges between different the colors and shapes will not overlap.
- using low blending, A small amount of blending will be applied on the design's colors, leading to minimal overlapping between different the colors and shapes.
- Using High blending, a large amount of blending will be applied between the design's colors, thus leading to high overlapping between the different colors and shapes.

- Finally, using full, the maximum possible amount of blending will be applied between the design's colors.

Brightness

With Brightness you can actually adjust the brightness of the image and since sketch stitch automatically detects image parts, the brightness increase or decrease may improve the result. This can be set from minus -48 up to 47.



Contrast

The same goes for Contrast, any change of contrast may also improve the sketch design. With Contrast you can actually adjust the contrast of the image and since sketch stitch automatically detects image parts, the contrast increase or decrease may improve the result. This can be set from minus -230 up to 230.



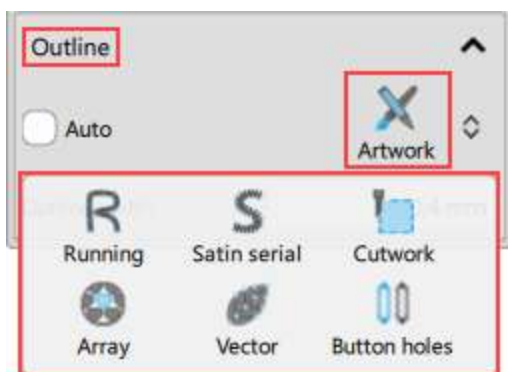
Sketch brush

Finally using the Brush width you can adjust the width of the sketch lines. Caution when decreasing the width, this may result in more stitches.



Outline properties

The Outline section of Properties toolbar contains the types that can be applied to the outline of any design part and their functions. The outline section is not visible until you select an object that has outline color applied. When a design is initially created or imported the software automatically selects and applies outline types on the design. That is why the Auto checkbox, next to the applied outline type, is checked. When you select another outline type, Auto becomes unchecked. You can check it again and restore the initial auto selected outline type selection.



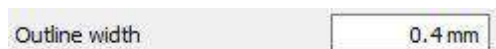
Artwork

This option , when applied, sets the outline to be empty. All the outline stitches are removed from the design and only the fill remains, if one exists. Whenever you don't need to embroider a specific outline part you can set its outline to Artwork and have the stitches instantly removed.

Running

This option, when applied, sets the border outline of a design or a line design to Running. All the border and line stitches are changed to Running, which is automatically calculated and produced from the program. The Running type that was placed is the default. You can change Running's feel by changing its Thickness and Style. There are different thicknesses and Styles that you can apply on any stitch design. Also, you have the ability to change the stitch "Offset" and "Length".

Outline width



By changing this value you can add an outline on the selected object or change the width of an existing outline. By changing the value to any value greater than 0, an outline will be added to the object with the specified width. You can change the value of the Outline thickness by highlighting the current value and then typing the new one. The old value will disappear and the new one will take its place once you press "Enter/Return" key from the keyboard or click outside the field. The value change affects the outline of the selected object.

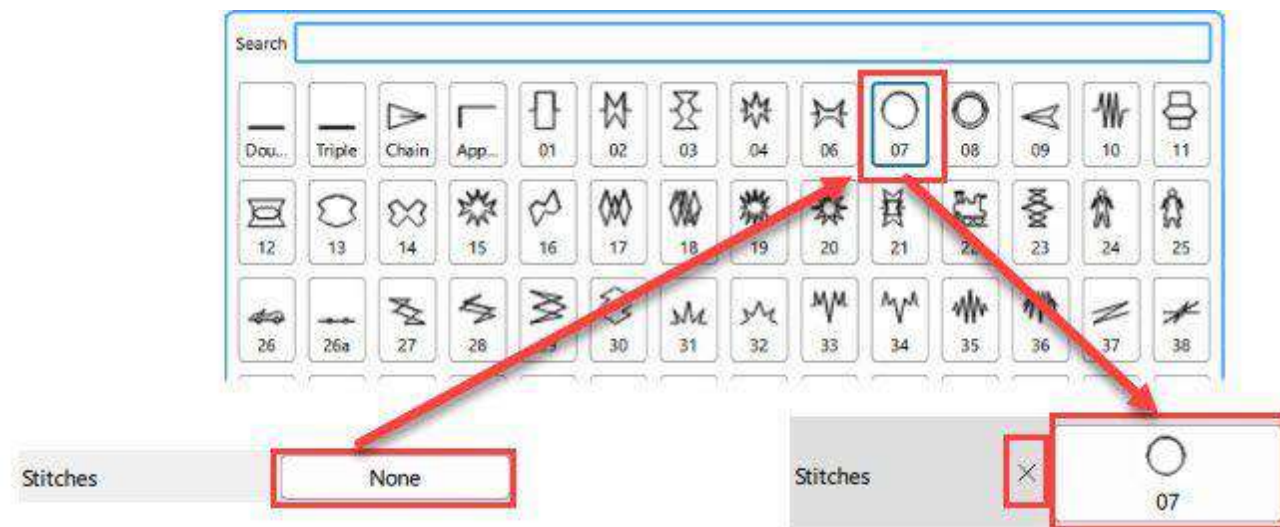
For Running stitch type the "Outline width" affects the way that will be stitched out. The following automatic changes are applied if the "Auto" properties check-box is checked.

- Outline width 0.1 - 0.4: Running with 1 pass.

- Outline width 0.5 - 0.8: Running with "Double" "stitches" applied (2 passes).
- Outline width 0.9 - 1.9: Running with "Triple" "stitches" applied (3 passes).
- Outline width >1.9: Running will change to "Satin serial"

Stitches

The Stitches area contains all the stitch Stitches that can be applied on the design. "Style" is a way of movement from one point to another, which normally can be done by one stitch. Stitches, when applied, are placed on the border one after another. Applying different Stitches you can create unique embroidery designs.



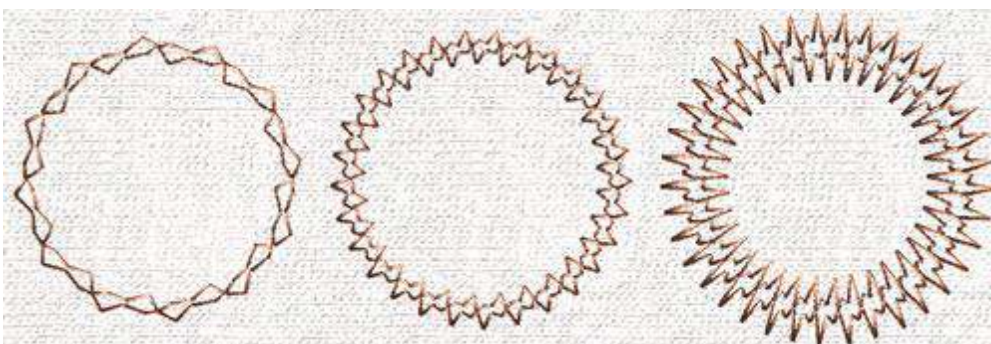
Select the style you prefer by clicking on it and viewing it on your design. Your selections are instantly displayed in the design area letting you experiment with your embroidery design.

There are 325 styles that you can use to produce unique designs. The styles that are in film icon (for example:



) are a serial of different styles in one.

You can also stretch the styles applied on running stitches by adjusting the length (from Properties toolbar) and the Outline width (from Tool options toolbar). The moment you set a length manually, you start stretching the styles on the running border. If you want proportional scale, you can leave the length at auto (leave Length value unchecked) and adjust the Outline width, or set both of them to the same number.



Length: 6.0mm - Outline:2.0mm	Length: 2.5mm - Outline:0.4mm	Length: 1.0mm - Outline: 5.0mm

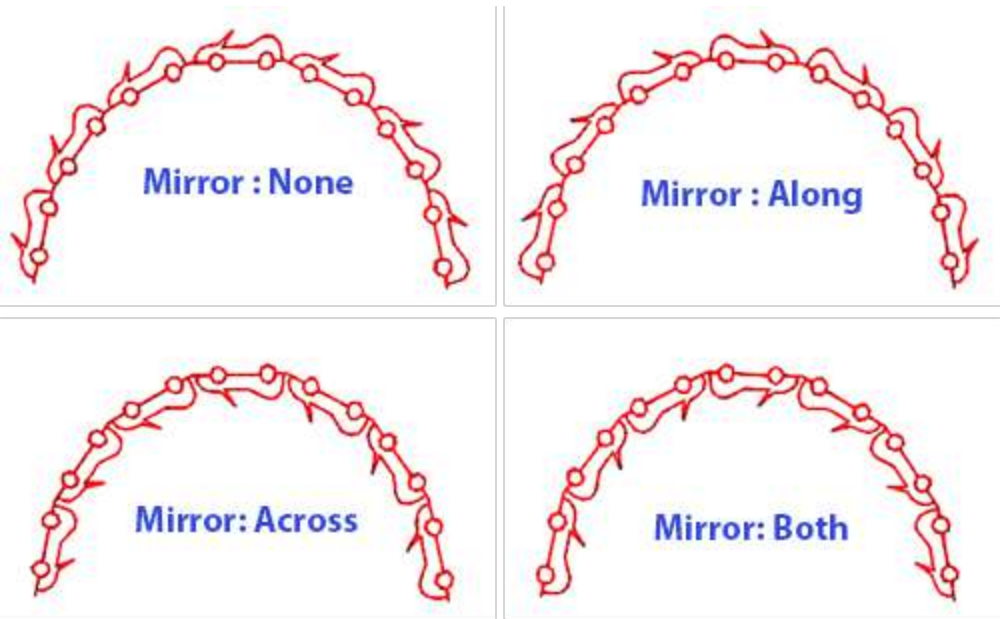
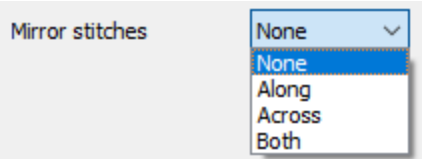
The length value has by default a suggested value that is based on the selected style. You can increase or decrease the length value according your preferences and you will view the change applied immediately on the running object.

By increasing the Outline value and decreasing the Length value you can make the style thinner. By doing the opposite, decrease the Outline and increase the Length you can make the style wider.

Keep in mind though that the styles have an internal minimum length that you cannot lower further. Every Length decrease below the minimum value will not affect the style size that you can check by using the Slow redraw tool.

Mirror stitches

Using this option we can mirror any applied style.

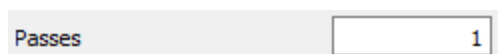


Offset:



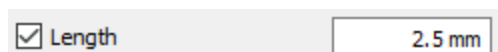
In the numeric field you can enter the value of offset you want, with lowest value of -15mm and highest value 15mm. Also, you can increase or decrease the offset value by clicking on the arrows next to the value or by clicking on the value and rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the running outline to have from its initial position. If the value is negative, running object will make an inner offset and vice versa, if it is positive. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value it is previewed on the design.

Passes

A control interface for the 'Passes' setting. It consists of a label 'Passes' on the left and a numeric input field on the right containing the value '1'.

Define the number of passes that running will make to create a line or border design. In this way we can create thickness in running stitch. The minimum value is 1 (Single pass) and the maximum is 9 (9 passes). Any change in running thickness is not viewable in the 3D preview area but it is stored when the design is saved. When the design is embroidered, the option you have selected will be applied. You can also see the multiple passes using slow redraw.

Length:

A control interface for the 'Length' setting. It features a checked checkbox labeled 'Length' on the left and a numeric input field on the right containing the value '2.5 mm'.

You can activate the Length option by checking the check-box next to it. In the numeric field you can specify the length of stitches for the punching object that you are adding. Also you can adjust length using the track-bar that appears when you click on the length value or by clicking on the value and rotating the mouse wheel



if there is one. Changes are instantly previewed on the design area and can be set by clicking outside of the length field.

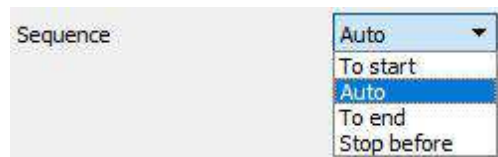
Remove overlaps:

A control interface for the 'Remove overlaps' setting. It has a label 'Remove overlaps' on the left and a dropdown menu on the right. The dropdown menu is open, showing four options: 'Auto', 'Never', 'Auto', and 'Always'. The second 'Auto' option is currently selected and highlighted in blue.

This is an automatic filter which removes all overlaps between objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, "Auto", "Never" and "Always". The "Auto" is the default option and the one that the software uses to create the best possible results on the design. When the "Never" option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is "Always". When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying "Trim" tool which permanently removes the stitches underneath. You must always use it with care or after setting "Remove overlaps" option to Never.

Sequence:

A control interface for the 'Sequence' setting. It features a label 'Sequence' on the left and a dropdown menu on the right. The dropdown menu is open, showing five options: 'Auto', 'To start', 'Auto', 'To end', and 'Stop before'. The second 'Auto' option is currently selected and highlighted in blue.



With this tool it is possible to change the embroidering sequence of the design while it is set to "Auto". Specific objects of the design can be set to be embroidered at the start or at the end of the embroidering process. This gives you the ability to sew the designs in the order you prefer. More specifically, the "Sequence" drop down menu has three options "Auto", "To start" and "To end". The "Auto" is the default option and the one that creates the best possible embroidering sequence results. In order to change the embroidering sequence manually, use the other two options. The "To start" option sets the selected object to be embroidered first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the "To end" option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered. By using the "To start" and "To end" options, is the only way you can change the embroidering sequence while the sequence option it is set to "Auto".  This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

If you have set more than one object to be embroidered "To start" and more than one "To end", the software will decide automatically which one of those will be the first and which one will be last to be embroidered.

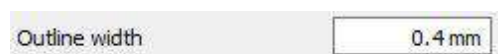
For example if you have a design with 20 objects and you have set 5 to be embroidered "To start" and 5 "To end", the software will embroider those that was set "To start" first, deciding automatically their embroidering sequence, then those (10) set to "Auto" and finally those set "To end", deciding automatically the order of the last 5.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Satin Serial

This option, when applied, sets the border outline of a design or a line design to be Satin serial. All the border and line stitches are changing to Satin serial, which is automatically calculated and produced from the program. The Satin serial type that was placed was selected from the program and is the default. You can change Satin Serial's feel by changing its Pattern. As you can see in the figure below, there are different Patterns that you can apply on any stitch design. Also, you have the ability to change "Underlay", "offset", stitch "Density" and "Compensation".

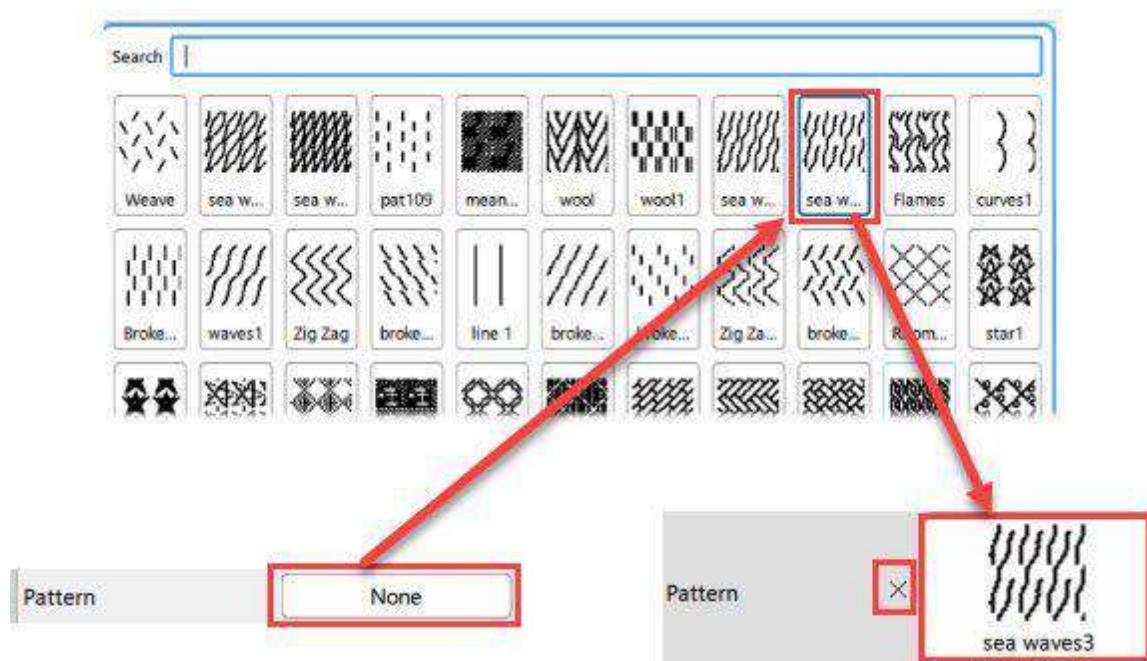
Outline width



By changing this value you can edit the outline width of the selected object. You can change the value of the outline thickness by highlighting the current value and then typing the new one. The old value will disappear and the new one will take its place once you press "Enter/Return" key from the keyboard or click outside the field. The value change affects the outline of the selected object.

Pattern

The patterns area contains all the patterns that can be applied on the design. Patterns are shapes, created from stitches. You can apply patterns only in wide lines or border outlines. If you have a thin border, any change in patterns will not take effect.

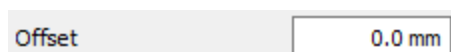


Select the pattern you prefer by clicking on it and viewing it in your design. If you do not want any select none. None will restore the default satin serial type. Your selections are instantly displayed in the design area letting you experiment with your embroidery design. There are 195 different patterns to apply in your design.

Handmade corners

By enabling this option all satin serial corners change and they look more like they are handmade.

Offset



In the numeric field you can enter the value of offset you want, with lowest value of -8mm and highest value 8mm. Also you can increase or decrease the offset value by rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the satin serial outline to have from its initial position. If the value is negative, satin serial object will make an inner offset and vice versa, if it is positive. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value it is previewed on the design.

Also, there are some options that can help you adjust the embroidery parameters of the design. For Satin serial stitch type they are Density, Compensation and Underlay,. Below we will describe how its option affects the embroidery design.

Density:



You can activate the "Density" option by checking the check-box next to it. In the numeric field, you can specify the density of the satin stitches that you are adding. You can also adjust density by clicking on the

value and rotating the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be set by clicking outside the density field or by pressing "Enter/Return" from the keyboard.

Compensation:

Underlay:



You can activate the underlay option by checking the check-box next to it. Click on the Underlay you want, and your change will be calculated and stored in the saved design. If you don't select an underlay manually, the software will automatically select the appropriate one for you. Underlay is important for quality embroidery designs.

For Satin Serial stitch type, the following underlay patterns are available:

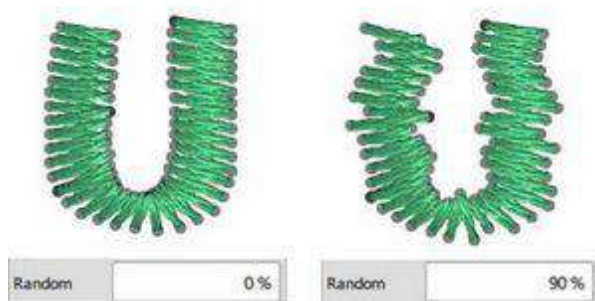
	Tacking – If tacking is selected, there will be no underlay and the software will make running stitches in order to go from one position to another and cover the area with cover stitches.
	Single - If single is selected, the software will make a single line with running stitches near the middle of the shape of the object and then cover this with cover stitches.
	Double - If double is selected, the software will make running stitches following the shape of the object and position Double underlay near the edge of the outline.
	ZigZag - If zigzag is selected, the software will create a sophisticated ZigZag pattern which automatically changes directions (according to the direction of the cover stitches) and then fill the shape with cover stitches.
	Cross - If cross is selected, the software will create a thicker sophisticated ZigZag pattern which automatically changes directions (according to the direction of the cover stitches) and then fill the shape with cover stitches.
	ZigZag+ - Is a combination of Zig-Zag and Double underlay.
	Cross+ - Is a combination of Cross and Double underlay
	Netting - If netting is selected, the software will cover the area of the object with a thicker sophisticated ZigZag pattern, which automatically changes directions (according to the direction of the cover stitches) two times and then fills the shape with cover stitches.
	Netting+ - Is a combination of Netting and Double underlay.

	Double ZigZag - If Double Zig-Zag is selected a Zig-Zag underlay is applied in both directions.
	Double ZigZag+ - Is a combination of Double Zig-Zag and Double underlay.
	3D-1 - First level of 3D look Satin stitches
	3D-2 - Second level of 3D look Satin stitches (Recommended in most cases)
	3D-3 - Third level of 3D look Satin stitches
	3D-4 - fourth level of 3D look Satin stitches
	3D-5 - Fifth level of 3D look Satin stitches

To apply 3D look on the Satin objects you have to select one of the 5 different 3D Underlays available. All of them will give a 3D look to the shapes that you will apply them. The recommended 3D underlays are "3D-2" and "3D-3", which will give you great embroidery results.

Random

Using this option you can create a random stitches effect. Define a percentage of random stitches, this percentage value defines the difference between the random stitches and the original outline. This option may take values from 0 to 90%. When defining a percentage value there is an extra option "Random side". Using this option you can select the sides that the random stitches will appear.

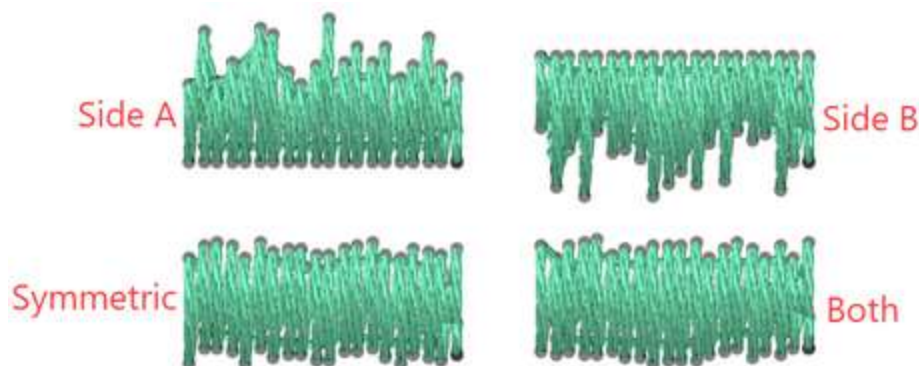


Random side

Using this drop-down menu, you can select the sides that the random stitches appear. With these three options you can specify whether the random stitches will be from both sides or which side they will be from. The choices that you have for random are:

- Side A: The random stitches will go towards one side of the object.
- Side B: The random stitches will go towards the other side of the object.

- Symmetric: The random stitch go to both sides of the object. The stitch length is always the same, but the stitch is shifted randomly to both sides.
- Both: The random stitches go to both sides, the stitch length and the direction of movement is random.



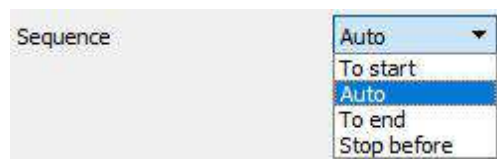
Remove overlaps:



This is an automatic filter which removes all overlaps between objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, "Auto", "Never" and "Always". The "Auto" is the default option and the one that the software uses to create the best possible results on the design. When the "Never" option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is "Always". When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying "Trim" tool which permanently removes the stitches underneath. You must always use it with care or after setting "Remove overlaps" option to Never.

Sequence:



With this tool it is possible to change the embroidering sequence of the design while it is set to "Auto". Specific objects of the design can be set to be embroidered at the start or at the end of the embroidering process. This gives you the ability to sew the designs in the order you prefer. More specifically, the "Sequence" drop down menu has three options "Auto", "To start" and "To end". The "Auto" is the default



option and the one that creates the best possible embroidering sequence results. In order to change the embroidering sequence manually, use the other two options. The "To start" option sets the selected object to be embroidered first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the "To end" option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered. By using the "To start" and "To end" options, is the only way you can change the embroidering sequence while

the sequence option it is set to "Auto" . This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

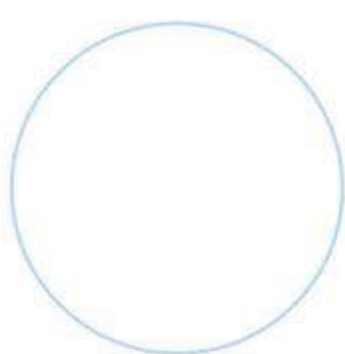
If you have set more than one object to be embroidered "To start" and more than one "To end", the software will decide automatically which one of those will be the first and which one will be last to be embroidered.

For example if you have a design with 20 objects and you have set 5 to be embroidered "To start" and 5 "To end", the software will embroider those that was set "To start" first, deciding automatically their embroidering sequence, then those (10) set to "Auto" and finally those set "To end", deciding automatically the order of the last 5.

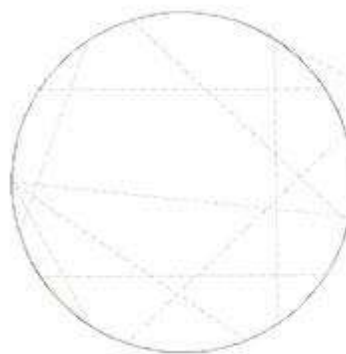
The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Cutwork

The "Cutwork"  is a special type that is used in order to cut fabric or other soft materials. The "Cutwork" is a special type for adding special type cuts which require the 4 special knives.



Cutwork Outline



Cutwork

The cutting needles allows every cut, namely every incision to be made directly on the embroidery machine. The installation of four needles on a machine permits every kind of cut. The system consists of 4 cutting needles, which replace the regular embroidery needles. They are installed at an angle of 45° to each other (0° - 45° - 90° - 135°). Simple forms such as rectangles, squares, etc. requires only two needles for cutting. However, with all four needles, every kind of complex forms can be archived. The use of these does not require any change in the machine. The only need is to switch off the "thread break" sensor.

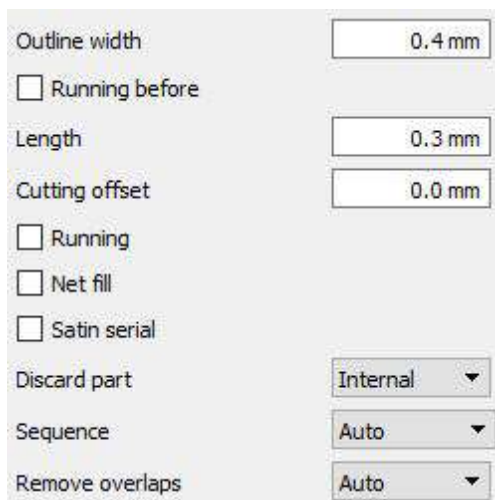
To achieve this function you have to digitize a curve or a closed shape without shape, that will be assigned to "Cutwork" option that you will find in the "Outline" tab of "Properties" bar. Its length should not exceed 1mm.

The cutting needle has width of 1,2mm. The cutting can be programmed independently, either before or after the embroidery.

Create a Cutwork

To create a Cutwork design, you can simply use the designing tools to create the outline shape that the cut will have and then click on the "Cutwork"  icon on the "Properties > Outline" tab.

After assigning the "Cutwork" option to the outline shape you can adjust the way you want the cut to be made from the available options of Properties bar.



Outline width: 0.4 mm

☐ Running before

Length: 0.3 mm

Cutting offset: 0.0 mm

☐ Running

☐ Net fill

☐ Satin serial

Discard part: Internal

Sequence: Auto

Remove overlaps: Auto

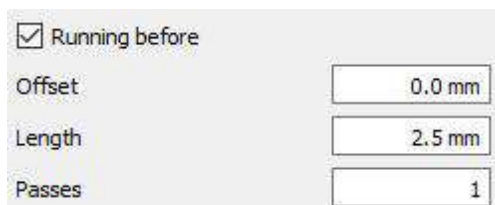
Outline width:

With this option you can specify the outline width of the Cutwork design you have created. The value that you will set it does not affect the cutwork but the design. Type value you want in the field and press "Enter/Return" to apply the change.

Length:

With this option you can specify the length of the Knife's movement while cutting. The maximum length is 2mm but it is advisable to keep it lower than 1mm. To change the "Length", type the new value and press "Enter/Return" to apply the change.

Running before



☒ Running before

Offset: 0.0 mm

Length: 2.5 mm

Passes: 1

With this option you can specify how many running stitches you want to be made on the fabric before applying the cutwork. We do that to stabilize the fabric and make the cutwork look better and not loose. Usually 3-5 running passes with different offsets before applying the cutwork will do. The options you have for creating this running stitches are listed below.

- **Offset:**

In the "Offset" numeric field you can enter the value of offset you want, with lowest value of -15mm and highest value 15mm. Also, you can increase or decrease the offset value by clicking on the value and rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the running before outline to have from its initial position. If the value is negative, the running object will make an inner offset and vice versa, if it is positive. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value they are automatically previewed on the design.

The "offset" is mainly used to move the "Running before" from the position where the cutwork will be made and avoid cutting it. Also, the "Running before" will hold the fabric in place and protect it from unraveling when the cutwork will be applied.

- **Length:**

In the "Length" numeric field you can specify the length of running stitches for the "Running before". Also, you can adjust length by clicking on the value and rotating the mouse wheel if there is one. Changes are instantly previewed on the design area and can be set by clicking outside of the length field.

The minimum stitch length that you can set is 0.8 millimeter and the maximum 99.9 millimeter.

- **Passes:**

With this option we can set the number of passes that "Running before" will make to stabilize the fabric. The maximum number of passes that you can set is 9 and the minimum 1.

To change the "Passes" value you can type the exact value you want and then press the "Enter/Return" key from the keyboard. Another way to increase or decrease the value is by clicking inside the Passes field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design. Every running pass that will be made will not penetrate the fabric in the same position the previous one did, securing the fabric tricot even more.

Any change in the "Passes" value is becoming visible only if you simulate the design with the "Slow redraw" functionality from the tools toolbar. Otherwise the changes are not visible.

Cutting offset

With this option you can specify the distance, inner or outer, you want the cutwork to be moved. For example: if you set the "Cutting offset" value to 3mm the cutwork will move its outline by 3mm to all directions outside its starting position. On the other hand if you set the value to -3mm the cutwork will move its outline by 3mm to all direction inside its starting position.

In the "Cutting Offset" numeric field you can enter the value of offset you want (cutwork offset), with lowest value of -9mm and highest value 9mm. Also, you can increase or decrease the offset value by clicking on the value and rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the running before outline to have from its initial position. If the value is negative, running object will make an inner offset and vice versa, if it is positive. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value they are automatically previewed on the design.

Running

☒ Running
 Offset: 0.0 mm
 Length: 2.5 mm
 Passes: 1
 Stitches: None

With this option you can specify how many running stitches you want to be made on the fabric after applying the cutwork. We do that to either stabilize the fabric (some people prefer to stabilize the fabric after and the cutwork and not before) and prepare it for Net fill or decorate the cutwork you have created. For stabilizing the fabric usually 2-5 running passes with offset after applying the cutwork will hold the fabric properly. The options you have for creating these running stitches are listed below.

- Offset:

In the "Offset" numeric field you can enter the value of offset you want, with lowest value of -9mm and highest value 9mm. Also, you can increase or decrease the offset value by clicking on the value and rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the Running outline to have from its initial position. If the value is negative, the running object will make an inner offset and vice versa, if it is positive. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value they are automatically previewed on the design. The "offset" is mainly used to move the "Running" from the position where the cutwork was made and avoid placing stitches in the cut area. Also, the "Running" will hold the fabric in place and protect it from unraveling, if no other running stitches have been applied before the cutwork.

- Length:

In the "Length" numeric field you can specify the length of running stitches for the "Running". Also, you can adjust length by clicking on the value and rotating the mouse wheel if there is one. Changes are instantly previewed on the design area and can be set by clicking outside of the length field. The minimum stitch length that you can set is 0.8 millimeter and the maximum 99.9 millimeter.

The "Length" value is important for applying "Stitches" on the "Running" object and decorate the cutwork. By changing the length you are changing also the size of the "stitches". It is important though not to decrease the "Length" value that it took when you applied the "stitches", further because it will end up making zero length stitches that will cause unexpected thread trims to the final embroidery result. You can increase the length without any problem.

- Passes:

With this option we can set the number of passes that "Running" will make to stabilize or decorate the fabric. The maximum number of passes that you can set is 9 and the minimum 1.

To change the "Passes" value you have to either click on the up and down arrows next to the field to increase or decrease its value or type the exact value you want and then press the Enter key from the keyboard. Another way to increase or decrease the value is by clicking inside the "Passes" field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the

design. Every running pass that will be made will not penetrate the fabric in the same position the previous one did, securing the fabric tricot even more.

Any change in the Passes value is becoming visible only if you simulate the design with the "Slow redraw" functionality from the tools toolbar. Otherwise the changes are not visible.

- Stitches:

The "Stitches" area contains all the stitch stitches that can be applied on the "Running" option. The "Stitches" is a way of movement from one point to another, which normally can be done by one stitch. Stitches, when applied, are placed one after another. By applying different stitches you can create great decoration stitches for your cutwork.

Select the "stitches" you prefer by clicking on it. Your selection is instantly displayed in the design area letting you experiment with your embroidery design.

By clicking on the "None" "stitches", no "stitches" will be applied on the "Running".

There are 325 stitches that you can use to produce unique designs. The stitches that are in film icon (for

example: ) are a series of different stitches in one.

Net fill

☒ Net fill	
Cell size	2.0 mm
Offset	0.0 mm
Angle	0 °

This option when applied fills the cut area with "Net Fill". The "Net fill" is a special fill type that adds two scan lines that are crossing, with parallel equidistant running stitches. These two scan lines are forming a Net that is used to fill the cutwork and create beautiful designs.

The Net fill includes some more options that allow us to customize the way that will be applied on the selected object. These options are the following:

- Cell size:

With this option you can specify the size of each square side that the Net fill consists of. For example by setting the "Cell size" to be 2.0 mm all squares of the net will have 2.0 mm side size. The maximum value that the "Cell size" can have is 9.9mm and the minimum is 0.5mm. To change the value of the Cell size option you can type the exact value you want and then press the "Enter/Return" key from the keyboard. Another way to increase or decrease the value is by clicking inside the Cell size field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design. By changing this value you can create a net with large squares or small squares according your preferences.

- Offset:

With this option you can specify the distance, inner or outer, you want the Net fill to be moved. For example: if you set the "Offset" value to 3mm the Net fill will increase its size by 3mm to all directions outside its original outline. On the other hand if you set the value to -3mm the Net fill will decrease its size by 3mm to all direction inside its original outline.

The maximum value that the "Offset" can have is 9.0mm and the minimum is -9.0mm. To change the "Offset" value you can type the exact value you want and then press the Enter key from the keyboard.

Another way to increase or decrease the value is by clicking inside the "Offset" field and use the mouse

wheel to change its value. The changes that you will make will be immediately applied on the design. By changing this value you can make adjustments on the "Net fill" size, which is really useful when you want to cover the cutwork and making sure that the net will be embroidered on the fabric and not inside the hole. This option is very important for creating proper Net fills.

- Angle:

With this option you can change the Angle that the "Net fill" will be applied. For example: When the angle is set to 0o degrees the "Net fill" will be aligned on the X and Y axes creating right angles. If you change the Angle value to 30o degrees the "Net fill" will be rotated 30o degrees anticlockwise and change completely its direction.

The "Angle" values that you can set are between 0o and 360o degrees. To change the "Angle" value you can type the exact value you want and then press the Enter key from the keyboard. Another way to increase or decrease the value is by clicking inside the "Angle" field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design.

By changing the "Angle" of the "Net fill" you can orientate it based on the shape that it is applied on. This ability allows you to produce better and more beautiful embroidery results.

Satin Serial

With this option you can apply "Satin Serial" on the cutwork and cover the edges of the cut fabric. It can be used also to hold the Net fill in place and secure the fabric from unraveling. The applied Satin serial has the same width with the "Outline" value that is set on the "Tool options" toolbar. Also, the software give you the ability to change some Satin serial parameters according your preferences. These parameters are the following:

- Offset:

Inside the Offset numeric field you can enter the offset value you want, with lowest value of -8mm and highest value 8mm. Also you can increase or decrease the offset value by clicking on the value and rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the satin serial outline to have from its initial position. If the value is negative, the satin serial object will make an inner offset and vice versa, if it is positive. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value it is previewed on the design.

- Density:

Inside the Density numeric field you can specify the density of satin serial stitches that you are adding. Also, you can adjust density by clicking on the value and rotating the mouse wheel if there is one. Changes are instantly previewed on the design area and can be set by clicking outside the density field.

Discard part



The Discard part drop down menu gives you the ability to specify which part of the fabric will be discarded after the cutwork.

- Auto: If the "Auto" value is set means that the software will automatically decide which part of the fabric must be discarded. The software decides between "External", "Internal" and "Both", which are the available "Discard part" options and they are explained below. The decisions are made automatically and you can change them according your needs.
- External: If the "External" option is selected, the part of the design will be kept, after applying the cutwork, will be the fabric inside the cutwork outline. The rest must be thrown away (Discard part).
- Internal: By default the "Internal" option is selected. This means that the part of the design that will be kept after applying the cutwork will be the fabric outside the cutwork's outline. The rest must be thrown away (Discard part).
- Both: If the "Both" option is selected the fabric will be cut along the path but no fabric/stitches will be thrown away. This option is set when you apply cutwork embroidery type on open shapes or when there is embroidery inside or outside of the defined cutwork area.

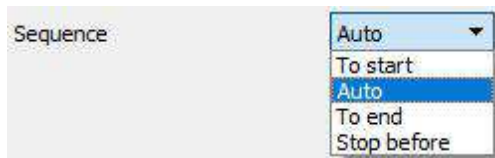
Remove overlaps:



This is an automatic filter which removes all overlaps between objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of stitches that will be placed on the fabric. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, "Auto", "Never" and "Always". The "Auto" is the default option and the one that the software uses to create the best possible results on the design. When the "Never" option is applied on an object, the specific object will never trim the objects that overlaps. This means that all the objects/shapes that are under the selected objects will be embroidered normally, placing all their stitches on the fabric. The opposite option is "Always". When it is applied to a specific object it trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be embroidered.

The software uses this tool to embroider your design more efficiently and effectively. But in order for this function to work well, avoid applying "Trim" tool which permanently removes the stitches underneath. You must always use it with care or after setting "Remove overlaps" option to Never.

Sequence:



With this tool it is possible to change the embroidering sequence of the design while it is set to "Auto" . Specific objects of the design can be set to be embroidered/cut at the start or at the end of the embroidering process. This gives you the ability to sew the designs in the order you prefer. More specifically, the "Sequence" drop down menu has three options "Auto", "To start" and "To end". The "Auto" is the default option and the one that creates the best possible embroidering sequence results. In order to change the

embroidering sequence manually, use the other two options. The "To start" option sets the selected object to be embroidered/cut first. This means that if it was to be embroidered fifth in the embroidering sequence, now will be embroidered first in the row. Exactly the opposite for the "To end" option. When this is applied on an object of the embroidery design, it will be immediately become the last object that will be embroidered/cut. By using the "To start" and "To end" options, is the only way you can change the

embroidering sequence while the sequence option it is set to "Auto" . This tool is really useful for embroidering hats and on delicate fabrics that need special care regarding the placement of objects on the fabric.

If you have set more than one object to be embroidered "To start" and more than one "To end", the software will decide automatically which one of those will be the first and which one will be last to be embroidered.

For example if you have a design with 20 objects and you have set 5 to be embroidered "To start" and 5 "To end", the software will embroider those that was set "To start" first, deciding automatically their embroidering sequence, then those (10) set to "Auto" and finally those set "To end", deciding automatically the order of the last 5.

The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Printout with Cutwork

The printout of a Cutwork design is important to the embroidery process. In the printout, except of the standard information you can find also, information about, which "Knife" must be placed in which needle carrier(or every time the machine will stop) in order the "Cutwork" function to work properly. Depending on when you want the cuts to be made (before or after the embroidery) you can change the cutting order by changing the sequence of embroidering process.

For avoiding mistakes while placing the "Knives" follow the guidelines.

- Knife — = Place 0o knife in the specified needle carrier
- Knife / = Place 45o knife in the specified needle carrier
- Knife | = Place 90o knife in the specified needle carrier
- Knife \ = Place 135o knife in the specified needle carrier

Vector

"Vector"  outline, is a special embroidery type, it creates a satin fill effect by placing an outline shape, like a pattern, onto the satin fill. Any outline shape can be set to be "vector" outline. The "Vector" outline must be placed on top of a "Step" or "Satin" object and then a drawing, made from stitches is created on top of the "Step/Satin" object. It's main usage is to create satin look and feel on large fill areas that normal satin can not be applied. See the following figure, except of the stitches on the edge, the only stitches, of the current object, are on the outline of the vector outline.



step object



vector fill



vector fill applied

Any object, shape, character or freehand shape can be directly set to be a "Vector" outline and if placed on top of any Satin or Step object then it creates an artistic effect, a satin look and feel, with the pattern of the vector outline.

By default when applying vector, except the stitches on the edge, the only stitches, of the current object, will be on the outline of the vector fill.

if you enable form fill then the object is filled with stitches normally, except from the part that is inside the vector fill, this part becomes satin.

Button holes

Button holes  is a special type that we can use for creating button holes on fabrics. It can be used in combination with digitize tool where you create a small line exactly where the button hole cut will be made and then apply the "button hole" tool on this line. The button hole will be applied around the digitized line.



hole line



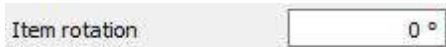
button hole

To apply more button holes that are aligned and have specific distance between them you can digitize a line with length the distance between the button holes. If you want to add many button holes you can either add

them separately or digitize a long line and apply the "Button holes" option on the line. The software will fit "Button holes" on the line based on the default "Properties" parameters.

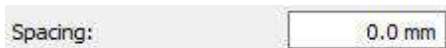
You can customize the "Button holes" tool from the "Properties" parameters.

Item rotation

A control for item rotation. It consists of a label "Item rotation" followed by a text input field containing "0 °".

With this option you can rotate the "Button holes". You can set values from 0 to 360 degrees. Type the degrees you want in the field and press "Enter/Return" to apply it. The "Button hole" will rotate counter clockwise.

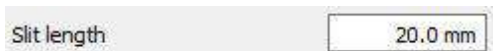
Spacing

A control for spacing. It consists of a label "Spacing:" followed by a text input field containing "0.0 mm".

With this option you can specify the minimum distance between the "Button holes" you have applied on a line. It works only if you have more than one "Button holes".

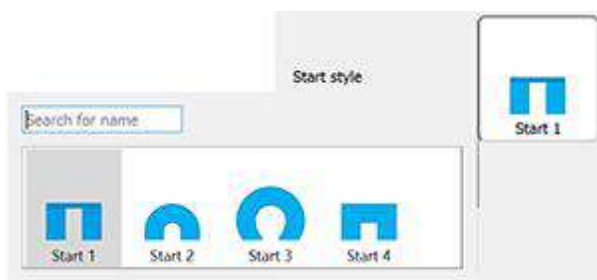
After applying the "Button holes" on the line you have digitized, the software tries to fit as many "Button holes" objects as possible. It will place one at the beginning, one at the end and as many they fit in between. The software will make sure that they will have equal distances between them, but this distance will not be lower than the "spacing" distance that you have defined. If the distance between the "Button holes" is longer than the distance you want, you can fix that by changing the size of the line.

Slit Length

A control for slit length. It consists of a label "Slit length" followed by a text input field containing "20.0 mm".

With this option you can specify how long will be the "slit" of the "Button hole". The software will adjust the size of the "Button hole" automatically.

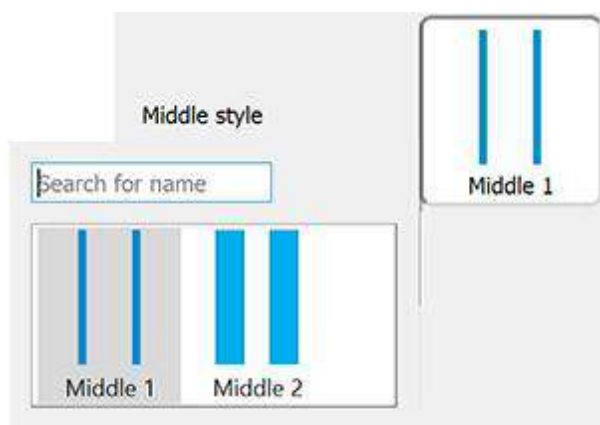
Start Style

A selection interface for start styles. It features a "Start style" label above a search field labeled "Search for name". Below the search field is a row of four icons labeled "Start 1", "Start 2", "Start 3", and "Start 4". To the right of this row is a larger preview area showing the selected "Start 1" style, which is a blue U-shaped icon.

With this option you can specify the "Start style" of the button. With "Start style" we mean the top part of the "Button hole". To change it you have to click on the "Start style" button and then select any from the available options.

Also, you can type the name of the "Start style" in the "Search" field and find it this way.

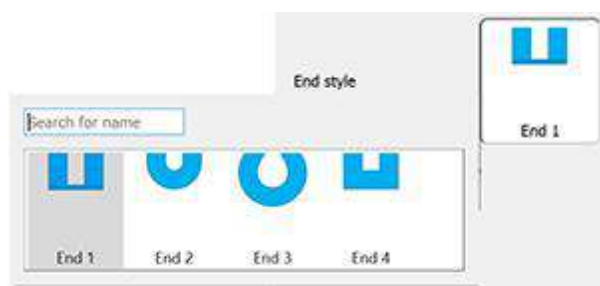
Middle Style



With this option you can specify the "Middle style" of the button. With "Middle style" we mean the middle part of the "Button hole". To change it you have to click on the "Middle style" button and then select any from the available options.

Also, you can type the name of the "Middle style" in the "Search" field and find it this way.

End Style



With this option you can specify the "End style" of the button. With "End style" we mean the bottom part of the "Button hole". To change it you have to click on the "End style" button and then select any from the available options.

Also, you can type the name of the "End style" in the "Search" field and find it this way.

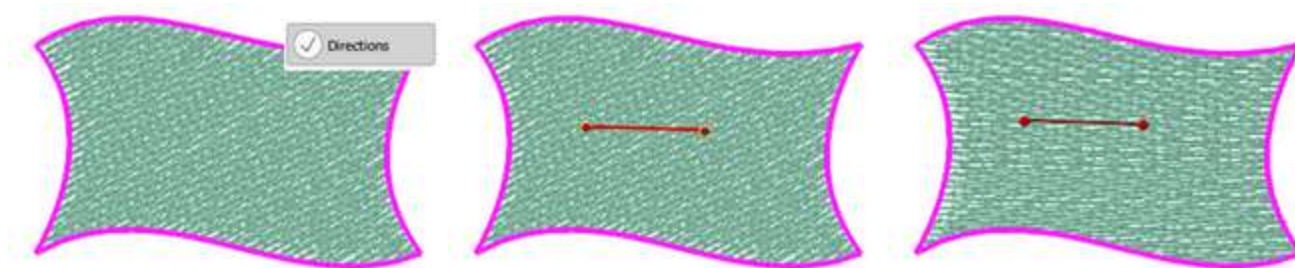
Stitch flow

Stitch flow is a special operating mode that provides tools to adjust the directions of stitches and divide objects into sections. Using the available stitch flow tools, you can improve embroidery quality and the look of your designs. When you start Stitch flow you can only work with directions and divides. For any object that you click, on the top part of the design area you see the available stitch flow options. For example, if you click on a Satin or Row fill object you see the following functions available: Directions, Divide and Point directions.

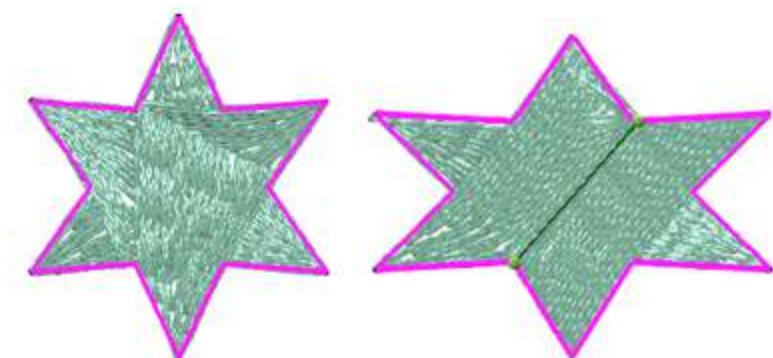


If you click on a Step object you only see the "Directions" option. For example, if you start Stitch flow and click on a Step object like the following image, you only have the Directions option and you need to click and

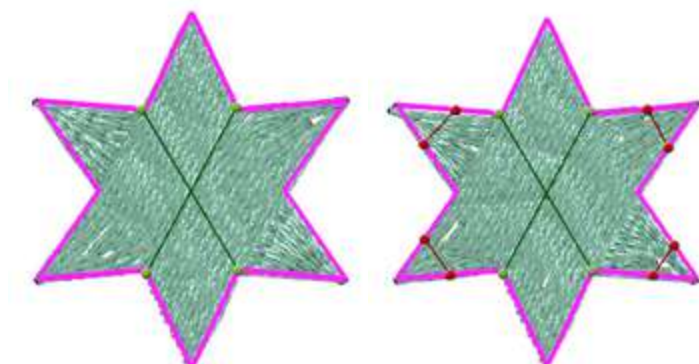
drag to draw a line that will define the direction of stitches. Once you release the mouse the direction is automatically applied.



Likewise, if you click on a Row fill shape like the following image, you have all Stitch flow options available. Click to select which one you want to use. Let's use "Divide".

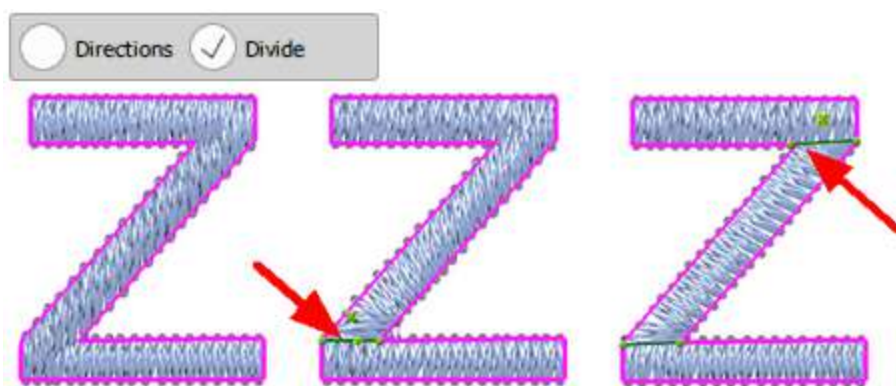


Now you can continue adding divide lines or switch to any other tool. Likewise, if you start the Directions tool, you can add one or more direction lines before you move to another tool.

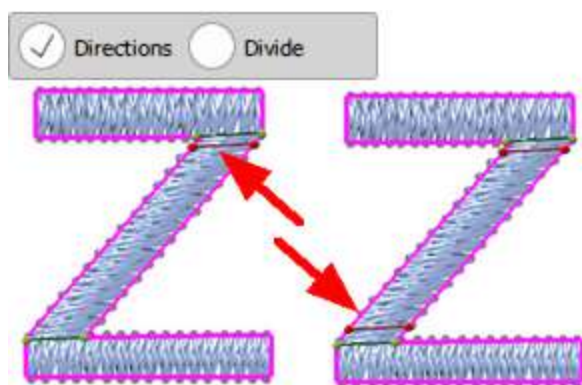


For Satin objects, it is possible to add multiple "Divide" and Direction lines and manage the way in which the outlines are split into satin bars. Using Stitch flow you can customize the way "Satin" objects will be embroidered and create exactly the design you want.

So if you click on a Satin object like in the following image, select Divide option, can click and drag from one side of the object to the other, you can one or more divide lines.



Likewise, if you switch to Direction tool you can add one or more Direction lines.



In order to delete the divide line you have created, just click on the 'X' icon in the middle of the line. You can change any existing divide line by clicking and dragging the points of the line. The "Divide" line has green color in order to distinguish them from the directions lines that are red.

It is very useful also when you want to create Text art designs and embroider the design with a specific way. You can divide the satin characters and define exactly the way you want to be embroidered.

With the combination of "Divide" and "Directions" tools you can create unique designs that can have many sub-objects as brunches and specific direction of stitches for each sub-object.

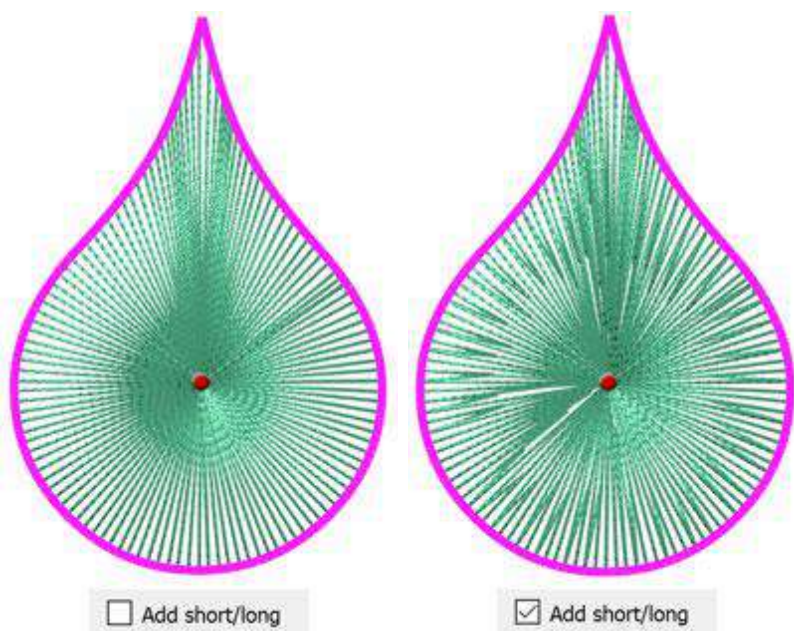
The Point directions tool

This is the third option from the Stitch flow  tool and appears only on "Satin" and "Row fill" stitch types (also on "Paint zig-zag", and "Paint Row fill").

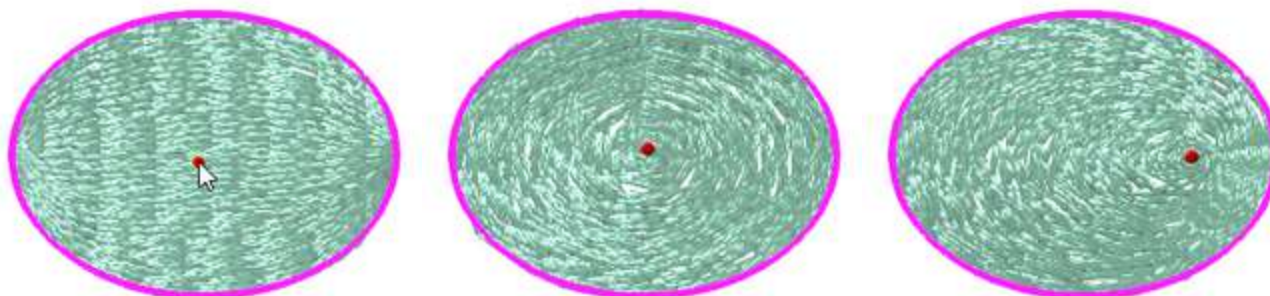


Using this mode, you can specify a point on an object and that object will be filled with stitches starting from its outer edge towards the selected point.

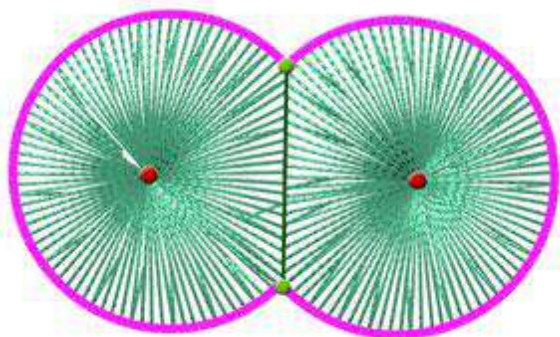
By using the "Add short/long" parameter users can choose whether all the stitches starting from the edge will end to the point set or not. When "Add short/long" is selected, the total number of stitches will not change significantly because some long stitches that applied when "Add short/long" was OFF, are simply replaced by short stitches.



Point direction on Row fill stitches



You can also apply more than one-point directions on an object but only if you have divided the object into two or more sections.



Curve direction

You can apply Curve direction only on objects that are filled with Step stitch type.

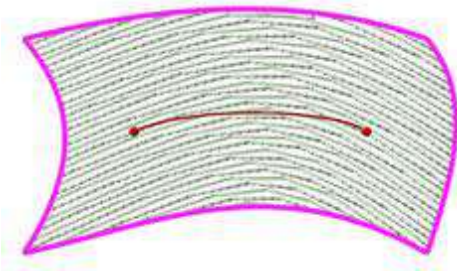
To do so :

1. Select the Step object and click on the Stitch flow  tool

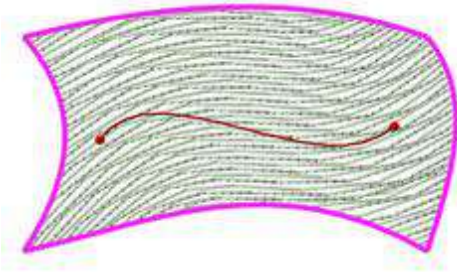
2. Draw a direction on the Step object by clicking and dragging a line on it. Release the mouse click to set it.



3. Click and drag from the center of the direction and you will see that the step starts bending, becoming like a curve.



4. You can also create wave-like curves for wavy stitches, by dragging the line to opposite directions.



5. The object is ready and filled with curved direction stitches.

For better results, avoid creating big curves on a direction, as smaller curves produce better results.

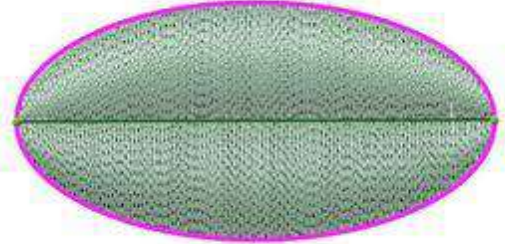
Curved divide

You can apply curved divide only on objects that are filled with Satin or Row fill stitch type.

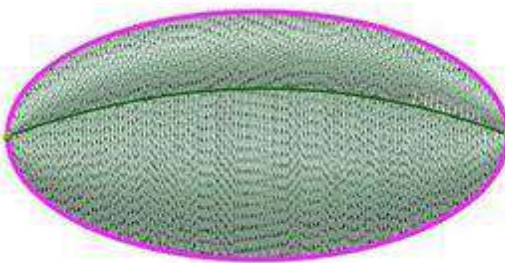
To do that :

1. Select the Satin object and click on the Stitch flow  tool

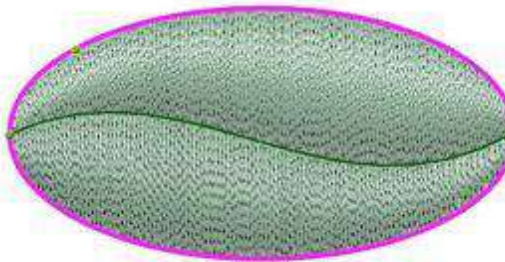
2. Draw a divide on the Satin object by clicking and dragging a line on it. Release the mouse click to set it.



3. Click and drag from the center of the divide and you will see that the divide starts bending, becoming like a curve.



4. You can also create wave like divides for wavy stitch penetration points, by dragging the line to opposite directions.



5. The object is ready and filled with curved direction stitches.

For better results, avoid creating big curves on a direction, as smaller curves produce better results.

Notice: While working with Stitch flow tool, you can switch between the available Stitch flow options by pressing "D" key. If you are using Directions and press "D" key you switch to Divide, if you press "D" once more you go to the next available option of Stitch flow. If you have a Row fill object selected, you go to "Point directions" tool, or to Directions tool if you have a Satin object selected. It is like a toggle key to switch between the available Stitch flow tools.

You can start the "Directions" tool using Ctrl+Shift+D keyboard shortcut (Mac OS Cmd+Shift+D).

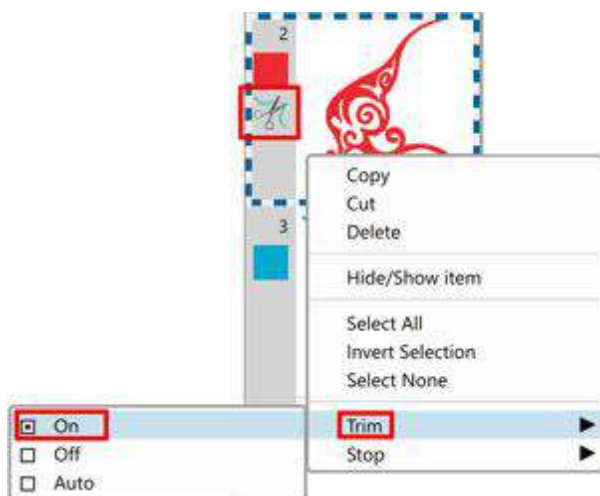
You can start the "Divide" mode using Shift+D keyboard shortcut (Mac OS Shift+D).

Special functions

A "Special function" is a special command that will instruct the embroidery machine to perform a special action. Inside the software there are two available "Special functions", "Trim" and "Stop" and they are available only when the Sequence is "Manual" mode.

Thread trim

This special function instructs the embroidery machine to make a pause, cut the thread and then start embroidering again. To add a "Trim" special function you have to select the object that will become also selected in the Sequence manager. Then you have to right click on it in the Sequence manager and expand the "Trim" option. By default it is set to "Auto". To enable the "Trim" special function you have to set it to "On".

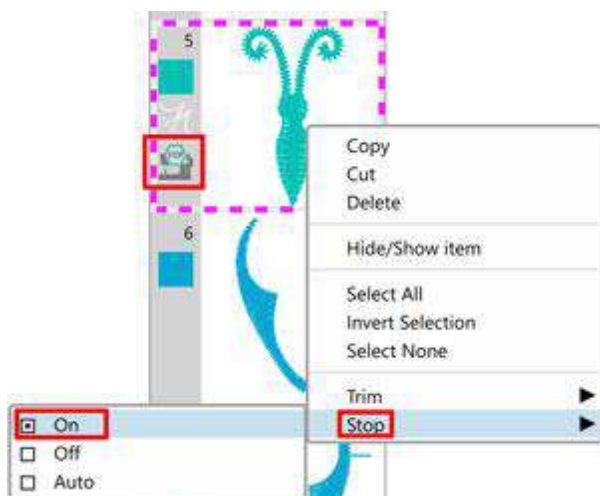


If an object has a "Trim" Special function applied, the relative  icon will appear next to the object on the Sequence manager.

If you set the "Trim" Special function to "Auto", then the software will decide if it will add a thread trim or not, based on the settings of the "Optimizer options" dialog. If the software decide to add a thread trim on an object you will see the "Auto"  icon next to the object, so you will know that the embroidery machine will make a thread trim before sewing out the object. If you do not want the Auto thread trim to happen you can either change the settings in the "Optimizer options..." or set manually the "Trim" to "Off". If you set it to "Off" the following  icon will appear next to the object.

Stop

This special function instructs the embroidery machine to Stop, there are things that can't be done automatically by the embroidery machine, the machine makes a stop and waits until you press start. To add a "Stop" special function you have to select the object that will become also selected in the Sequence manager. Then you have to right click on it in the Sequence manager and expand the "Stop" option. By default it is set to "Auto". To enable the "Stop" special function you have to set it to "On".

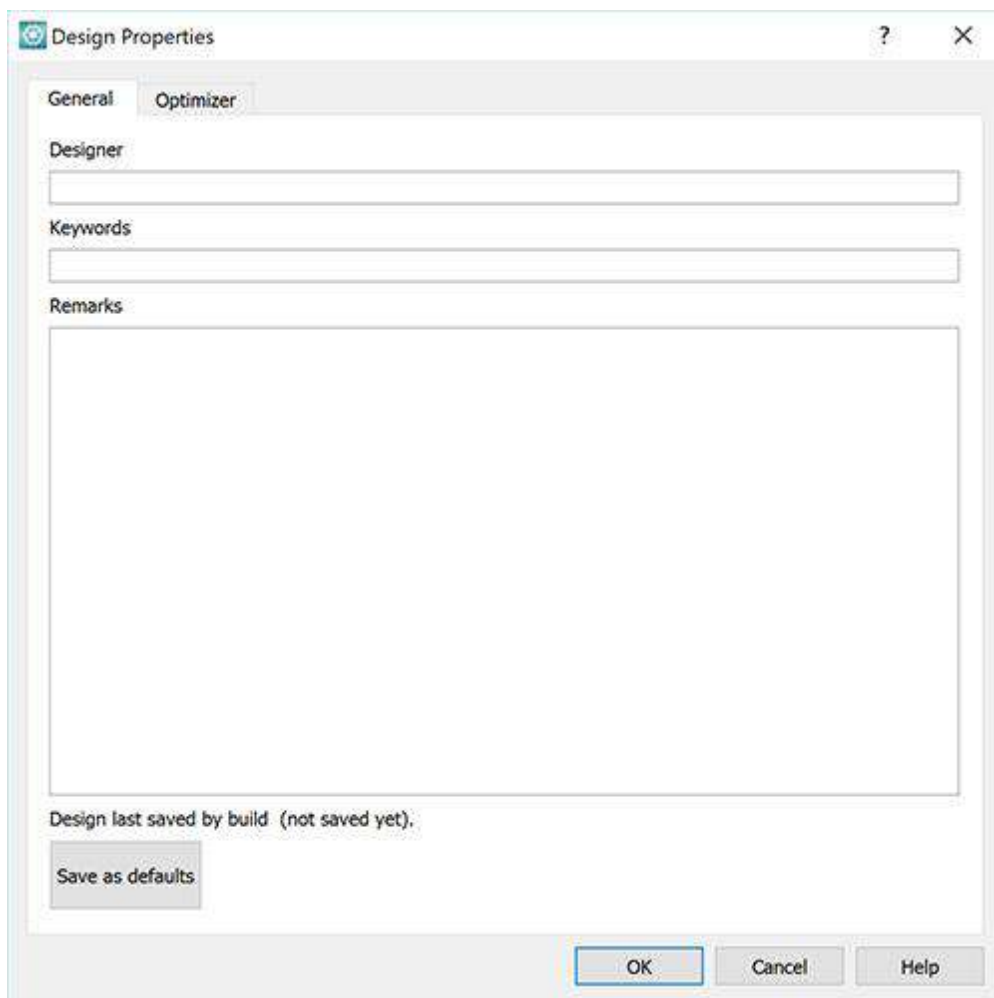


If an object has a "Stop" Special function applied, the relative  icon will appear next to the object on the Sequence manager.

If you set the "Stop" Special function to "Auto", then the software will decide if it will instruct the machine to stop or not, based on the settings of specific stitch types(Appliques). If you do not want the stop to happen you can set manually the "Stop" to "Off". If you set it to "Off" the following  icon will appear next to the object.

Design Properties

Apart from the stitch changes that you can make in your embroidery designs, you can also adjust the properties of its design. You can add general information about the design and optimize the way it will be embroidered. You can access Design properties from menu "File > Design properties". In the dialog box that will appear, you can adjust the properties in the General and Optimizer tab.

GeneralThe image shows a screenshot of a software window titled "Design Properties". It has two tabs: "General" (selected) and "Optimizer". The "General" tab contains three input fields: "Designer" (a single-line text box), "Keywords" (a single-line text box), and "Remarks" (a multi-line text area). Below these fields is a status line that reads "Design last saved by build (not saved yet)." and a button labeled "Save as defaults". At the bottom of the window are three buttons: "OK", "Cancel", and "Help".

In the general tab you can add information about the "Designer's name", design "Keywords" and any "Remarks" about the design. The search mechanism of the design browser can locate a design by its name or by keywords that you can define.

- Designer

In the "Designer" text field you can add information about the designer (Name, company, etc.). These fields are useful for record keeping.

- Keywords

In the "Keywords" field you can add words that describe the current design. The keywords can be used only if you save your designs in ".NGS" or ".DRAW" format.

The ".NGS" file format can be opened from WINGS SYSTEMS Ltd digitizing programs, eXPerience® and Wings' modular®. Those software include a browser where keywords can be used as a filter in search option. If you are dealing with hundreds of designs it can be a vital function for quickly searching your database. Many people find it easier to write down a fixed list of options or keywords to allow multiple users to enter data in the same style into a common design database.

- Remarks

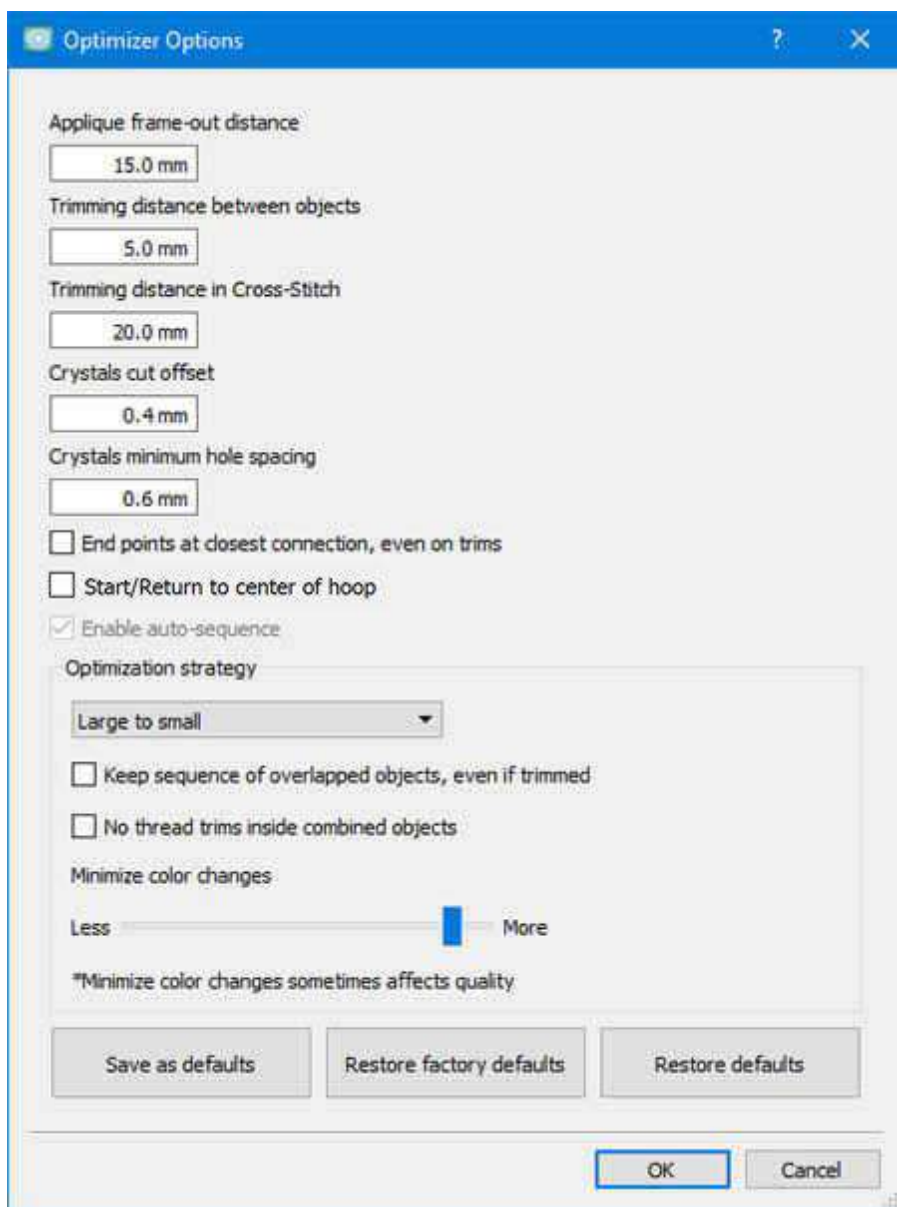
In this text area you can add any remarks for your design. Any information about stitch type, color palette, fabric type and number of threads that was used in the design creation are useful for quick reference for anyone that might use it. Also you can add instructions relating to embroidery production.

Any changes in the General tab can be saved as default, by clicking on the "Save as default" button, which means that every time you create a new design the already saved settings will be displayed.

Optimizer

The "Optimizer" is very important for adjusting the way of the final embroidery will be produced. It includes also options for adjusting the Crystals/Rhinestones way of placement.

All options that you will find inside the Optimizer, refer to embroidery production process and are important for quality stitch output. The optimizer tab can be accessed, also, from Optimizer options of Tools menu or by pressing Ctrl+Shift+J shortcut keys together from the keyboard.



The Optimizer options that you can adjust are listed below:

Appliqué frame out distance

This setting is important for designs that include appliqué. In production of embroidery designs with appliqué, there is a phase where the machine will stop, bring the frame out and ask you to add the appliqué in the predefined area. In that phase, the frame movement that the embroidery machine makes, is defined as Appliqué frame out distance. By changing the value of this field, you are setting the frame out movement from the position where it stopped.

Trimming distance between objects

This tool is applied only to embroidery objects (the Embroidery Technique should be active). With thread trims between the objects of the embroidery design you get high quality of embroidery in longer time because every time the machine cuts a thread, it takes some time to start embroidering again.

On the other hand, without trims between the objects, you get high quality of embroidery in less production time. The jump-stitches are there to connect the object without cutting the thread. You can either cut the jump-stitches manually afterwards or keep them on the design. In cases where the objects are too close, jump-stitches are not a problem for most embroiderers but it is the best way of embroidering. It is also matter of embroidering style.

This setting is important for thread trimming in the embroidery production process. With the "Trimming distance between objects" option you are setting the distance that the software will use to check each jump-stitch between objects. If the software find a longer stitch it will cut it.

Therefore, if you want to make sure that thread trims will be added to the entire design you have to set the value to 0.5mm.

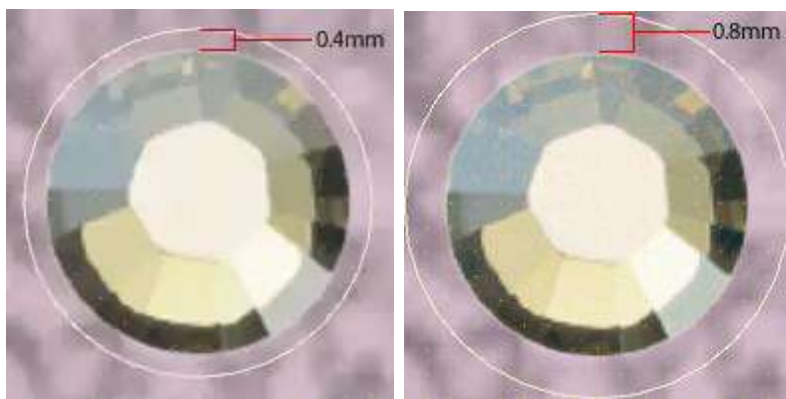
Trimming distance in Cross-stitch

This tool is applied only to embroidery objects (the Embroidery Technique should be active).

This option handles the trimming distance between cross-stitch objects. In the software the cross-stitch designs are treated as one object. In the cross-stitch designs we can treat the thread colors that are filling the design as objects. Cross-stitch designs in most of cases have scattered crosses with the same color that makes the trimming calculations difficult. The Trimming distance in Cross-Stitch option gives you the ability to define the distance that you want a thread trim to occur between the color objects of the design. The trimming needs are different in different designs therefore you must be careful with the inserted value in this option.

Crystal cut offset

This option handles the crystal cut offset. The crystal cut offset is the distance between the crystal and the cutting edge of the circle that the cutting knife creates. This gap between the two gives us enough place to position our crystals in the holes easily.

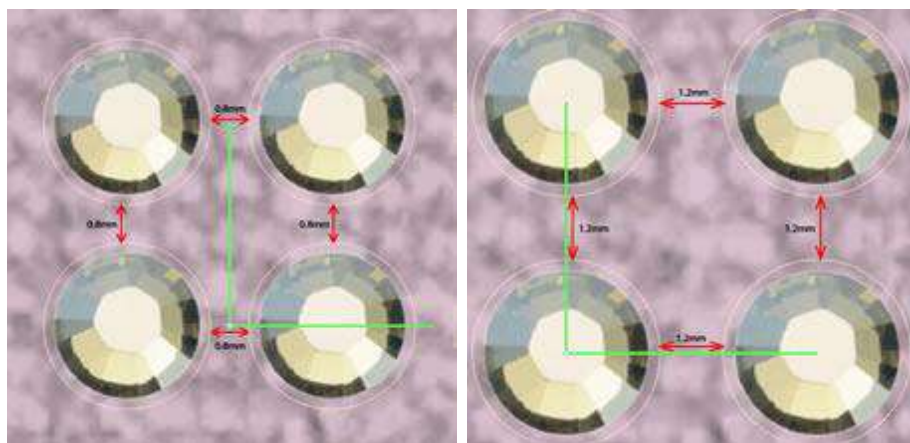


Therefore you can change the crystal cut offset based on the size of the crystal that you are using and your actual preference. The default value is 0.6 mm which is considered enough for the standard sized crystals.

The Crystal cut offset value is automatically added in the Spacing and V.spacing values that are shown in the Properties bar, whenever you create a Crystal fill object.

Crystal minimum hole spacing

This option handles the crystal minimum hole spacing. The crystal minimum hole spacing is the default distance between two crystal after the crystal cut offset inside a Crystal fill/outline fill object. The crystal cut offset is the distance between the crystal and the cutting edge of the circle that the cutting knife creates, and it is not measured in the crystal minimum hole spacing.



Therefore you can change the crystal minimum hole spacing based on the crystal pattern you want to create and your actual preference. The default value is 0.4 mm which is considered adequate for most crystal cutting material.

The crystal minimum hole spacing value is automatically added in the Spacing and V.spacing values that are shown in the Properties bar, whenever you create a Crystal fill object.

Important: Some Crystal fill patterns might not keep this distance constant in order to produce the pattern. For example: Shape fit pattern fill

End points at closest connection, even on trims

This option is important for the way that the design will be embroidered. When the check-box is checked, the software filters the entire design and finds the closest connection points between the objects, even if a trim is

made. This option gives better rooting between objects and better flow to the embroidery. In addition, it gives fewer thread trims because the objects of the same color are connected from their closest point.

Start/Return to center of hoop

This option is important for the way that the design will be embroidered. When the check-box is checked, the software will force the embroidery machine to return to the center of hoop after the end of the embroidering process. Also will force the machine to start from the center of hoop.

Enable Auto-sequence

This option shows if the "Auto"  sequence is enabled or not(it acts as an indicator). If it is checked the "Optimization Strategy" section will be available. If you set the Sequence  button to "Manual" the "Enable Auto-sequence" will be unchecked.

Optimization strategy

This tool is available only if the "Auto-sequence"  option is enabled (the Embroidery Technique should be active).

With this tool you can define the way that the objects of the embroidery design will be embroidered. It is like an automatic embroidering sequence creator. With this tool you can define the way/sequence in which the objects of the embroidery designs will be placed on the fabric. This tool is really important for embroidering hats which need to be embroidered from the center to right and left. Also, it is useful for delicate fabrics that need special care regarding the way that the objects will be placed on them. The embroidering options for defining the sequence of the objects are the following:

- **Top to bottom:**
When this option is applied the objects of the design will be embroidered from top to bottom. This means that the software will change the embroidering sequence and will begin embroidering the objects/shapes that are at the upper most position in the design and will continue with direction to those that are at the lower position in the design.
- **Bottom to top:**
This is the opposite of Top to bottom option. Therefore when it is applied on an embroidery design the software will change the embroidering sequence and will begin embroidering the objects/shapes from those that are located at the bottom until it reaches the top objects.
- **Left to right:**
When this option is applied the objects of the design will be embroidered from left to right. This means that the software will change the embroidering sequence and will begin embroidering the objects/shapes that are at the left most position in the design and will continue with direction to those that are at the right most position in the design.
- **Right to Left:**
This is the opposite of the Left to right option. Therefore when it is applied on an embroidery design the software will change the embroidering sequence and will begin embroidering the object/shapes from those that are located at the right most position in the design until it reaches the left objects.

- **Small to large:**
When this option is applied the software orders the embroidering sequence from the smaller object of the design to the largest ones.
- **Large to small:**
This is the opposite option of the Small to large option. Therefore when it is applied on a design the objects/shapes of the design will be embroidered from the larger ones to the smaller ones.
- **Inside to outside:**
When this option is applied the objects of the design will be embroidered from inside to outside. This means that the software will change the embroidering sequence and will begin embroidering the objects/shapes that are at the middle of the design and continue with those that are at the outer positions of the design. This option is often used when embroidering designs on hats.
- **Outside to inside:**
This is the opposite option of the Inside to Outside option. Therefore, when it is applied on a design the objects/shapes will be embroidered from the outer to the inner ones. the software will check the current sequence of the design and will make recalculation in order to create one you have selected.

Any changes on the Optimizer options dialog, affects, also, the "Optimization strategy" option. Therefore, always keep in mind that a combination of Optimizer's options will be applied on the embroidery design and not only the selected Optimization strategy. With proper combination of options you can get the appropriate embroidery results.

Keep sequence of overlapped objects, even if trimmed

This option is available only if the Auto-sequence option is enabled (the Embroidery Technique should be active).

This option is important for the embroidering sequence of the design. When this option is checked, all shapes of the vector design will be embroidered by keeping their overlapping order. This means that the order of the embroidery will follow the overlapping order of the vector design. By applying this option it will be possible to manage better the way that the design will be embroidered.

Changes that you make on the overlapping order of the Vector design are calculated accordingly by the software. The overlapping order will not be followed as it is because more filters are applied on the design, which affect the embroidering sequence.

No thread trims inside combined objects

This option is available only if the "Auto-sequence"  option is enabled (the Embroidery Technique should be active).

This option, when it is checked, does not allow any thread trimming between combined objects. This option applies only to objects that are combined (not grouped).

In order to use this option properly you have to select the objects you want to combine and apply the "Combine" option from the right click menu. The objects will become combined and react as one object, inheriting all the attributes of the last selected object. If you try to simulate the design, you will view the combined objects (like text art objects) to be connected with a jump-stitch between them. With the "No thread trims inside combined objects" option checked, all combined objects will be embroidered with jump-stitches between them, even if you have set Trimming distance between objects" option to shortest distance.

If you leave the value of "No thread trims inside combined objects" unchecked, all thread trims will be calculated normally.

Combined object: An object created by combining two or more objects and converting them into a single curve object. A combined object takes on the fill and outline attributes of the last selected object.

Minimize color changes

This option is available only if the Auto-sequence option is enabled (the Embroidery Technique should be active).

This option is important for limiting color changes in the embroidery production process. Color changes have to do with thread changes that the embroidery machine makes in order to embroider each stitch design object. With more color changes the embroidery design sequence is followed more accurately but the production process is longer. On the other hand with fewer color changes, the embroidery design sequence changes to fit the Minimizing color change settings but gives shorter production process. The alteration in the embroidery design sequence might produce inaccurate embroidery results, or might not. This depends on the embroidery design, embroidery machine and the fabric. You can adjust color changes through the use of the track bar.

Also, you can change the value of the track bar by pressing the Left & Right arrows of the keyboard.

Any adjustments you are making are for your current design. If you want your adjustments to be stored as

default, click on the "Save as default" button  in the Optimizer tab.

In case you have changed the default the software settings with your own and you want to restore them, you

can click on the Restore factory defaults button 

In case you have changed the settings of Optimizer and you want to return to your previous Saved as defaults

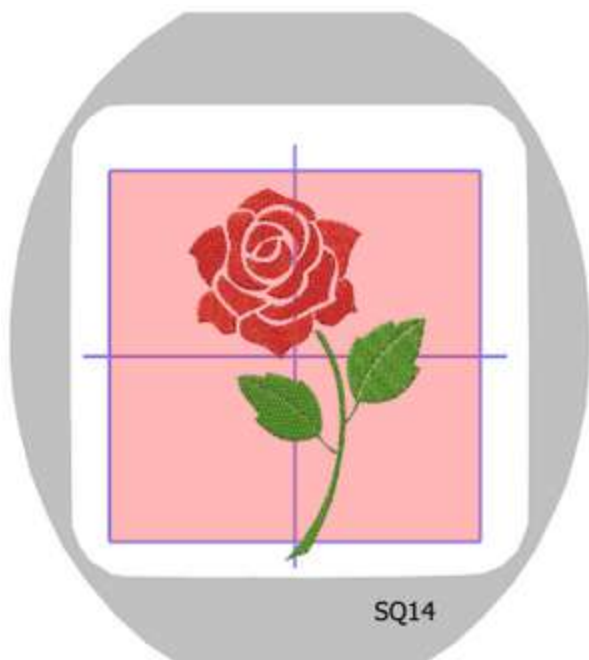
settings, you have to press the  button. This function will restore the last saved setting that you saved by clicking on the Save as defaults button.

Machine / Hoop

Machine and hoop selection is crucial upon design creation. First, it helps you have a better view of the design in the hoop and make sure that the designs indeed fits the hoop. Second, it informs the software about the machine you are working on, so that the embroidery file exported is suitable for your machine.

So, when you export the design, you only see the formats that the selected machine supports. This is necessary because many embroidery machine manufacturers require the imported file to have information about the hoop that is to be used. Otherwise, the file is not recognized by the machine. Embroidery machine manufacturers like, Janome, Elna, Brother, Pfaff, Husqvara - Viking, Babylock, Necchi, etc. use files formats that have a hoop assigned to each design. Formats like PES, PEC, PCS, PCM, VP3, JEF, JEF+ appear on the Save list only when a suitable machine and hoop are assigned to a design.

When the design does not fit in the stitch-out area of the hoop, the area turns red and you need to change the design or the hoop so that the design fits into the hoop. In this topic we will show you how to change or move the hoop and how to set a default hoop.

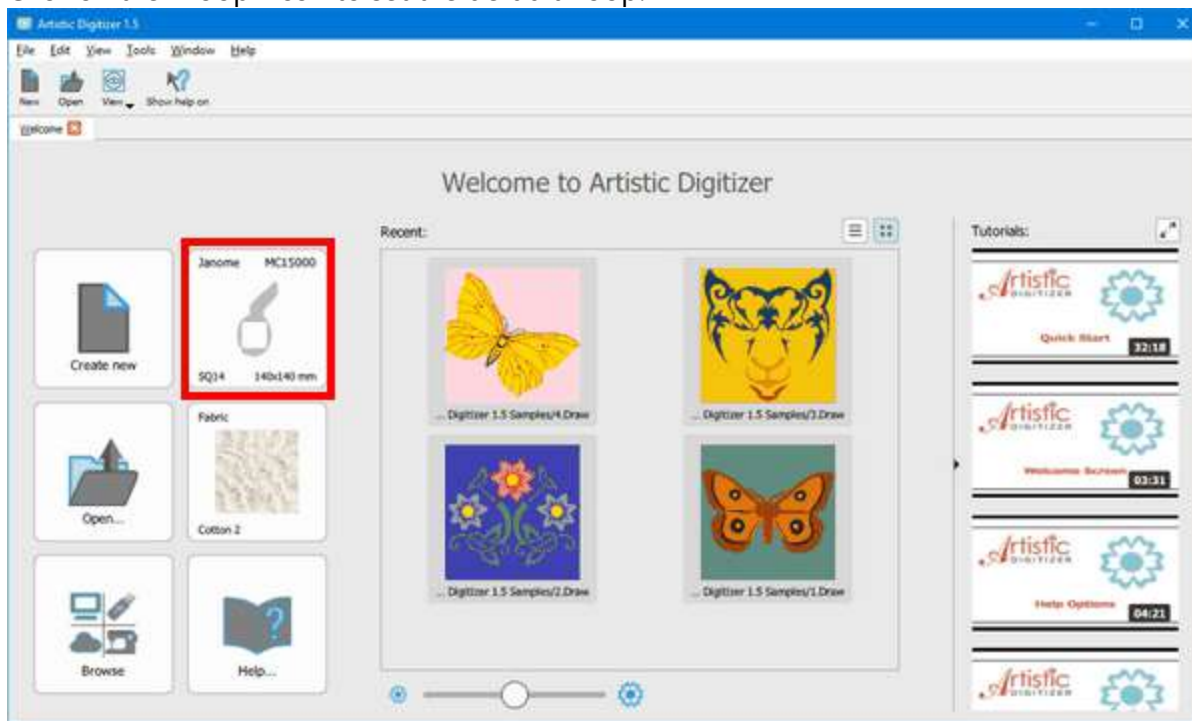


If the hoop you have selected is not visible on the working area you have to enable it by selecting the "Hoop" option from the "View" menu. If the "Hoop" option is checked and the hoop is still not visible, try to "Zoom out" with any of the available zoom tools or by using the mouse wheel while holding the Ctrl key down.

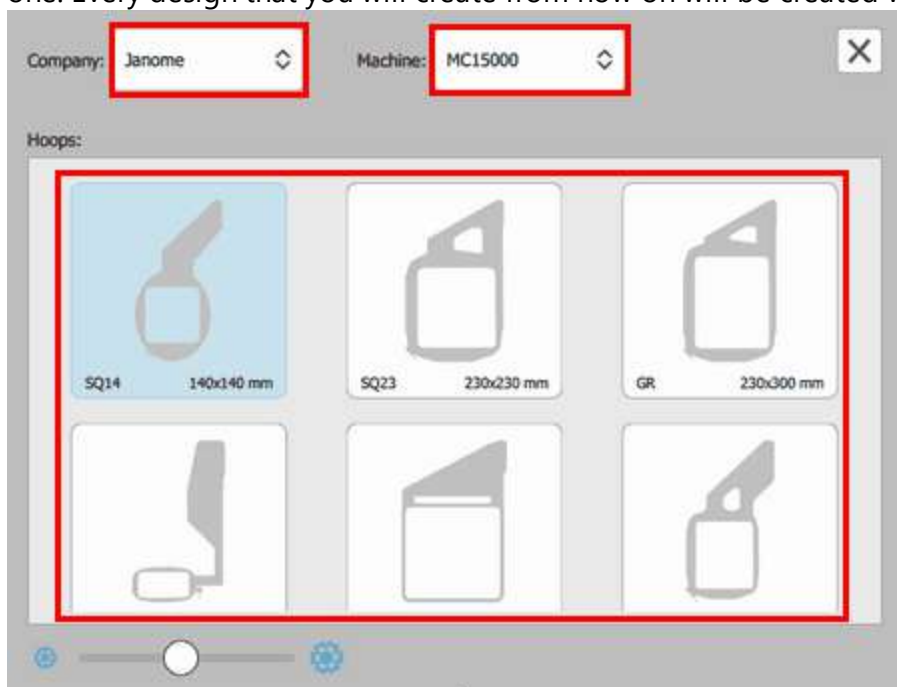
Set the default hoop

You can set the default hoop only from the "Welcome" page of the software. When you start the software you always get to see the welcome tab. On the welcome tab, there is a hoop icon which displays info about the default selected hoop.

1. Click on the "hoop" icon to set the default hoop.

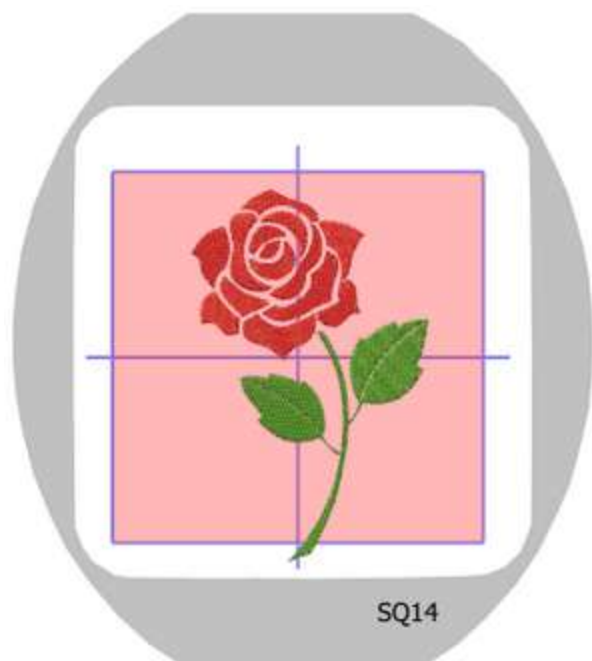


2. A pop over will appear.
3. Select the brand of your embroidery machine by clicking on the "Company" drop down menu.
4. Select the model of your embroidery machine by clicking on the "Machine" drop down menu.
5. The hoops that the selected machine supports will appear in the "Hoops" area. Select the hoop that you will use. Once you click on a hoop, the pop over will close and the selected hoop will be set as the Default one. Every design that you will create from now on will be created with this hoop.



Edit hoop

In some cases, you may need to use an alternative hoop or move the currently used one, without changing the default hoop. For example, when the design extends beyond the hoop, the area is displayed in red. If you don't want to change the size of your design, you may move the hoop to place the design inside it or select a bigger hoop. Let's see how you can edit the hoop.

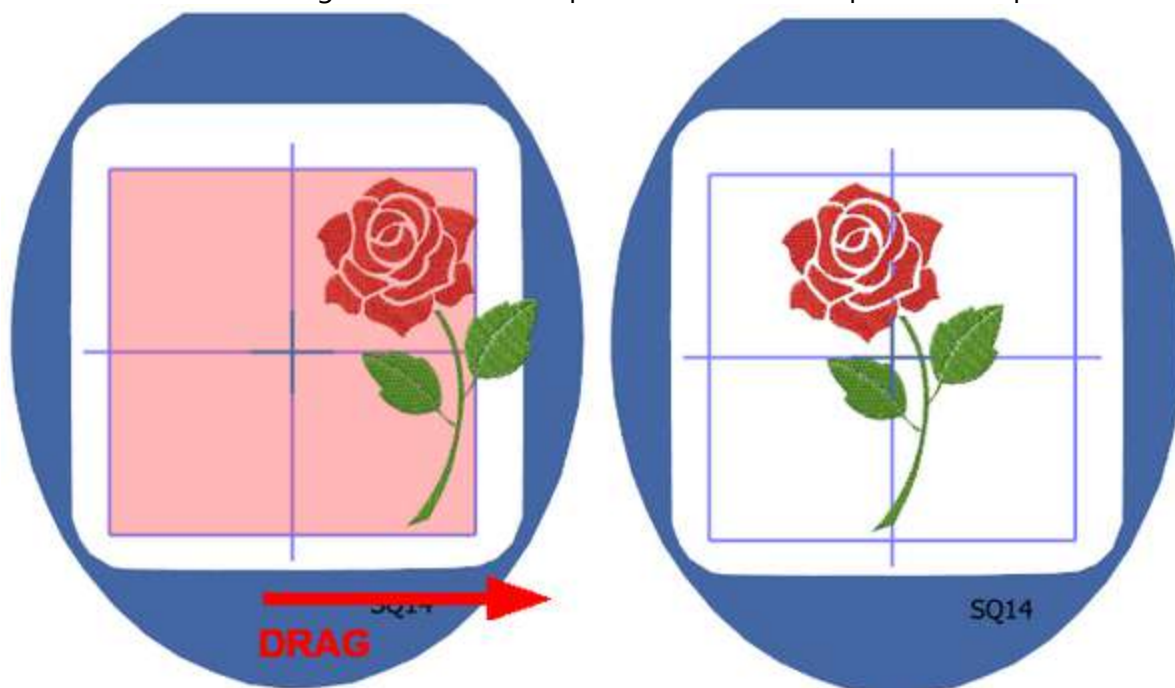


1. You can change or move the hoop using either the "Machine/Hoop" icon, which is located in the lower part of the tools toolbar, or the "Change" option that is available under the machine icon on the top toolbar.



2. When using any of these options you start a working mode through which you can only affect the hoop. If you are using "Change" option, in order to change the hoop, you need to close the "Edit hoop" dialog first.

3. Drag the hoop to place the design inside it, if possible. If the hoop is not selected, click the hoop and it will turn blue. If the design fits into the hoop, the red color on top of the hoop area is removed.

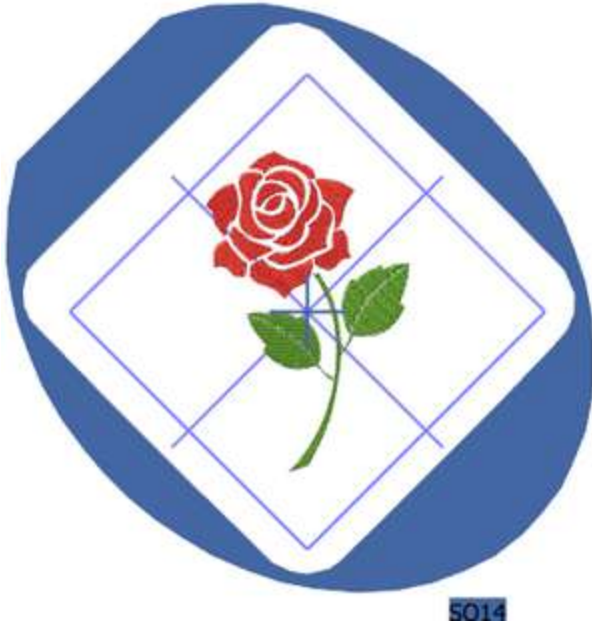


4. While moving the hoop, the center of the hoop snaps on the center of the design, to help you place your design onto the center of the hoop.
5. You can also change the position of the hoop or rotate the hoop using numeric values on the "Tool options" bar that appears on the upper right part of the design area.

X:	42,2 mm	Rotation	0 °
Y:	-57,7 mm		

6. Change the values in the "X" and "Y" fields to position the hoop accurately on the workspace. Click in the respective fields and type the values you want. Press "Enter/Return" and the software will move the hoop to the "X" and "Y" axes immediately.

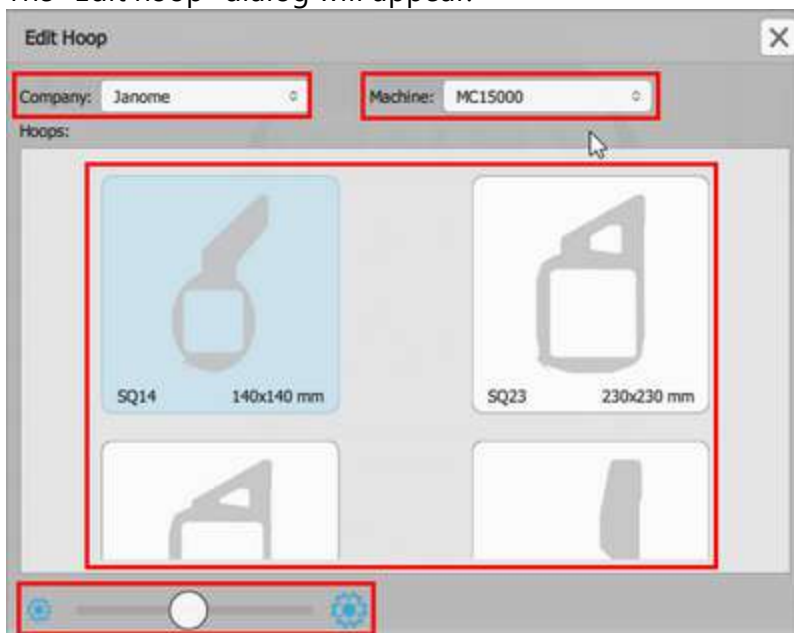
7. To rotate the hoop, you can use the "Rotation" option. Type the Rotation value you want in the field and press "Enter/Return". The hoop will rotate counter-clockwise. You may set values from 0 to 359 degrees.



8. In case you can't fit the design into the hoop, you may select a bigger hoop to accommodate the design. Double click on the hoop icon that has appeared in the upper right corner of the design area.



9. The "Edit hoop" dialog will appear.



10. Set "Company" and "Machine". Only the hoops that can be used with the specified sewing machine are displayed.
11. Click the hoop that you will use. The pop over closes and the selected hoop is placed on your design.

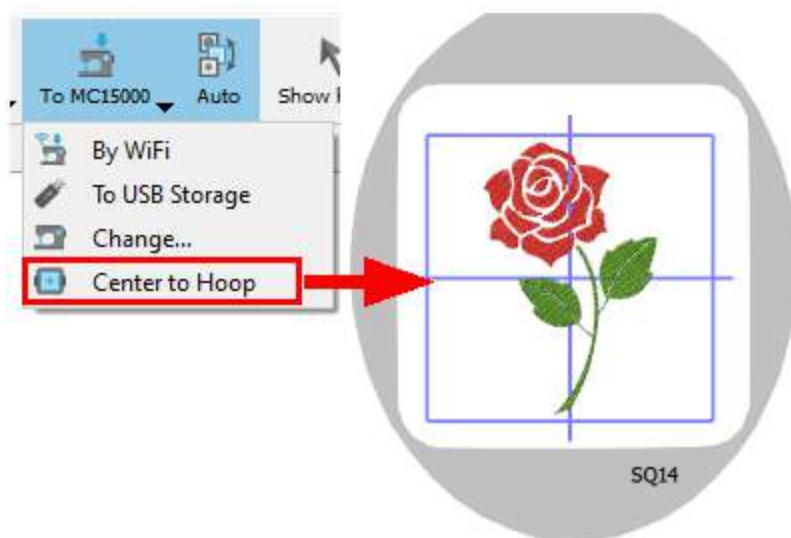
You can adjust the hoop display size by moving the track bar at the bottom of the screen to the left or right.

The software also provides multi hoop functionality, which allows you to stitch out large designs in multiple hoops. Using the "+" button you can add extra hoops and create multi-hoop designs. This is presented into the following section.



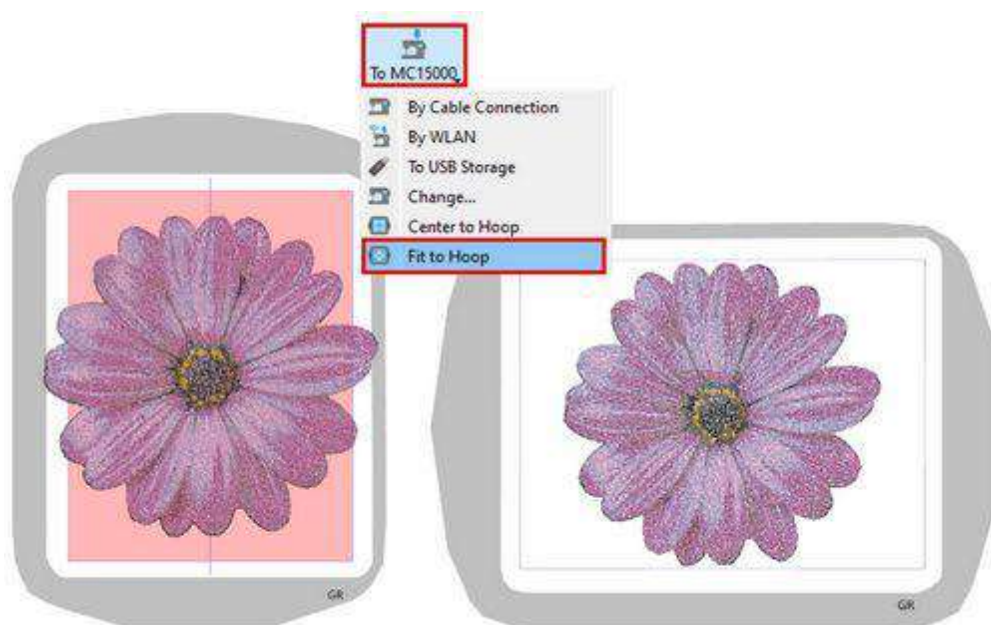
Center design to hoop

An easy way to align the hoop with the design is to click "Center to Hoop" from the "Machine" on the standard toolbar. The design will be then centered to the hoop.



Fit to hoop

With this option you can fit any design in the hoop. Simply click on the "fit to hoop" option, and the program will automatically scale the design to fit within the embroider able area of the hoop. No longer do you need to manually adjust or guess at the correct size - our software takes care of it for you.



If the design is larger than the embroider-able area of the hoop it will scale it down to make it fit. On the other hand if the design is smaller than the embroider-able area of the hoop it will scale it up to make it fit. The software always keeps a safety distance from the hoop's edge.

If the software finds that the design fits better if the hoop is in landscape mode, it will rotate the hoop and make it fit.

Add custom hoops

You can also create Custom hoops, in case a hoop you have in hand is not available in the list of Hoops for the selected machine model. Go to the menu tools and select "Options"; on the appearing dialog go to the "Custom hoops" tab. Press the "Plus" icon to add a custom hoop.

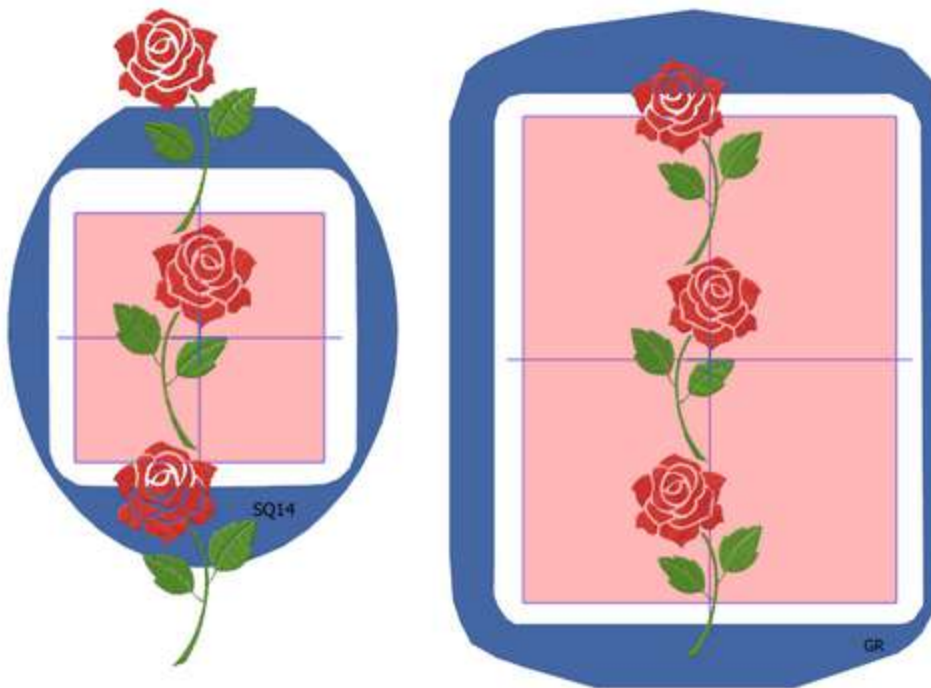
1. Type a name for that hoop.

2. Select the machine manufacturer and the model of the machine. In case the manufacturer of the machine or the machine model is not available on the lists, you may double click on the list and type the manufacturer name OR the model name yourself.
3. Select the shape of the hoop.
4. Define the useful area by typing a width and height value.
5. From now on, this hoop will also be available in the hoop list of your machine.

Embroidery machine manufacturers like, Janome, Elna, Brother, Pfaff, Husqvara - Viking, Babylock, Necchi, etc. use files formats that have a hoop assigned to each design. So when using a custom hoop you may not be able to export to formats like PES, PEC, PCS, PCM, VP3, JEF, JEF+, as those formats appear on the Save list only when a suitable machine and hoop are assigned to a design.

Add Multiple hoops

The software provides a multi-hoop function which allows you to stitch out large designs in multiple hoops. For example, the following design can't fit even in the biggest hoop this machine supports. In order to embroider it, we need to use multiple hoops.



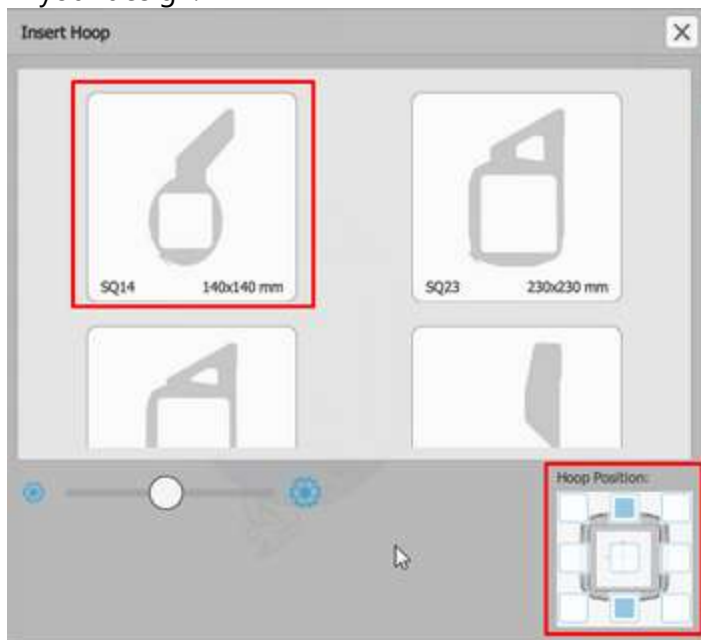
1. To edit the currently used hoop, use either the "Machine/Hoop" icon, which is located in the lower part of the tools toolbar, or the "Change" option that is available under the machine icon on the top toolbar.



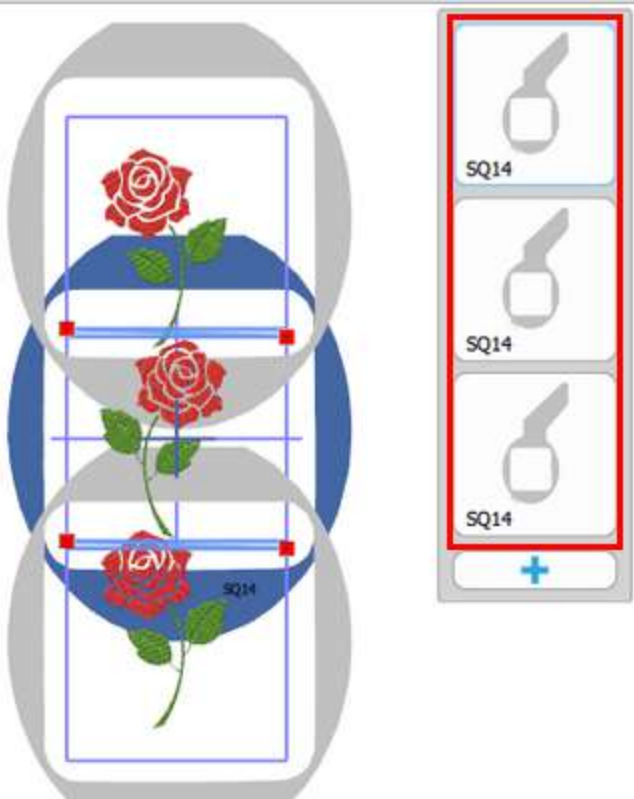
2. When using any of these options, you start a working mode through which you can only affect the hoop.
3. In order to add an additional hoop, click on the '+' button of the hoop manager.



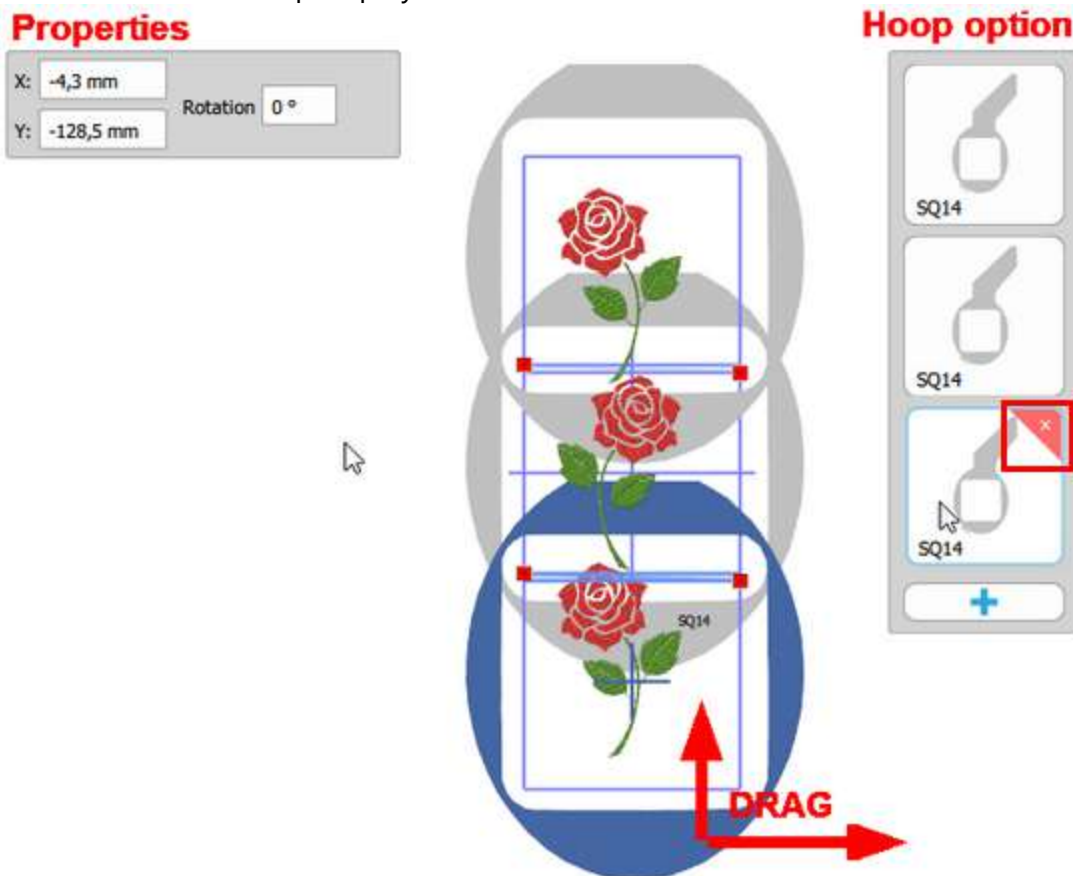
4. The "Insert hoop" dialog will appear.
5. Select the position where you want the hoop to be placed from the "Hoop Position". You can select more than one positions and insert multiple hoops at once.
6. Click on the "Hoop" that will be the additional one. The pop over closes and the selected hoop is placed in your design.



7. Multiple hoops have been added to the design as shown below. The "Hoop option" shows all the hoops you have placed.



8. When you click on one hoop, it is displayed in blue while under the "Hoop option" the hoop is marked with a blue line. A hoop displayed in blue can be moved, rotated, and deleted.



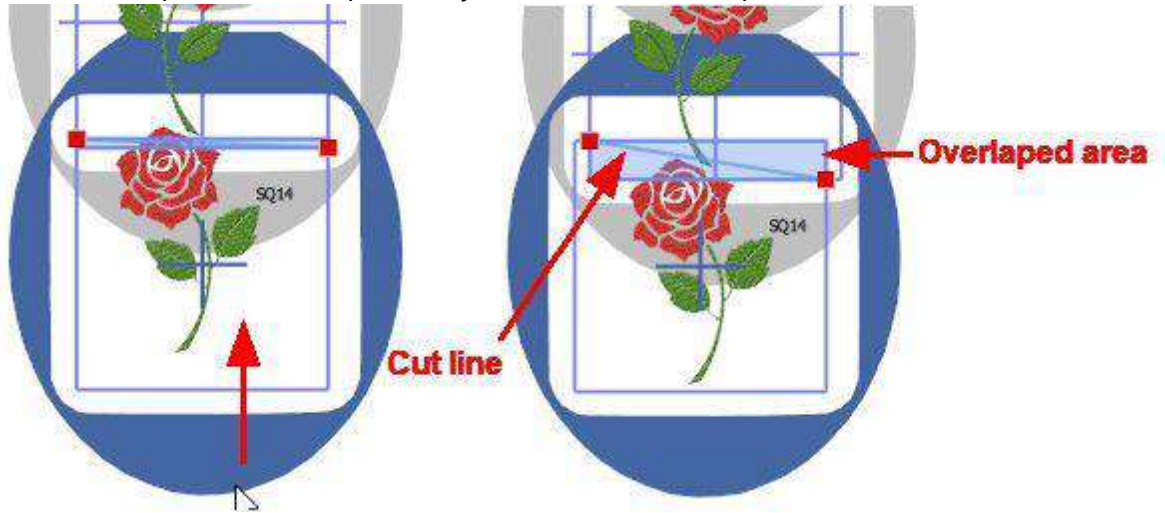
- To move the hoop, drag it or enter a value in "X", "Y" in "Properties".
- To rotate the hoop, enter a value in "Rotate" in "Properties".
- To delete the hoop, press "Delete" or hover over "Hoop option" and click the [X] that appears.
- In the "Hoop option" the hoops are arranged from top to bottom in the embroidering order. You may change the order by dragging the icons.

The software processing speed may slow down and the "Show entire hoop" function may not show the whole image depending on PC specifications.

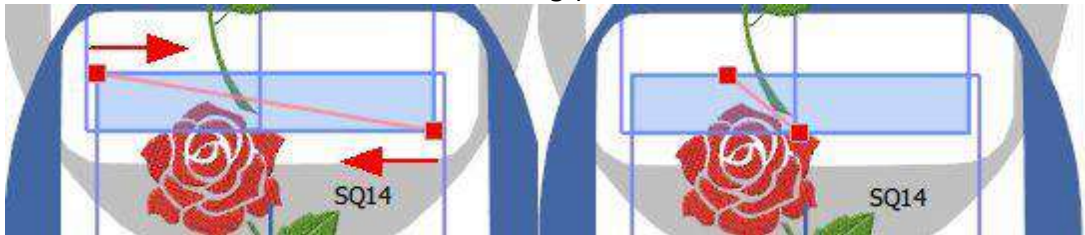
Move hoops - Customize Cut line

The areas where the hoops overlap are highlighted in blue rectangles and the diagonal line with the red handles defines how the design will be split. The parts that are under the line correspond to the lower hoop, while the parts over the line correspond to the upper hoop. Any part that is crossed by the line may be divided if necessary.

1. Move each hoop over the shapes that you want it to encompass.



2. Move or edit the Cut Line, to accommodate the design parts into the respective hoop. Move the nodes at both ends of the Cut Line to set the cutting position.

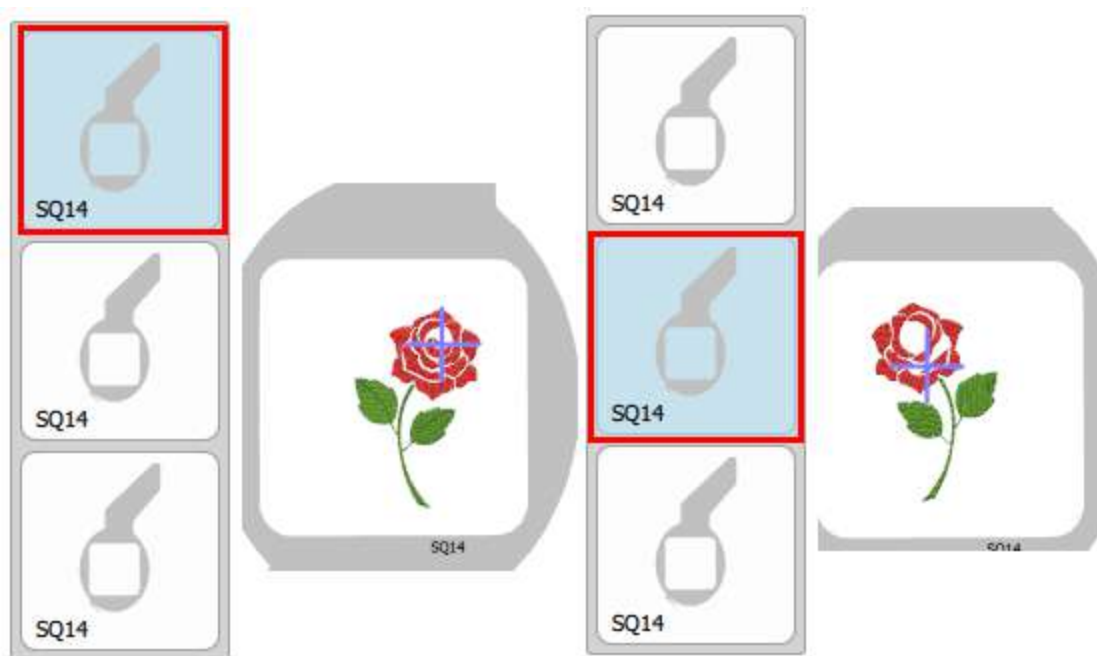


3. The Cut Line needn't always be a straight one. It can also be formed by connected lines to allow for a custom split. Place the mouse over any point on the line, double-click and a node is added. The node is displayed, and you can move it to adjust its position. You can then add and move the multiple nodes to create a series of connected lines, which allow you to easily divide the parts between the hoops. To delete a node, double-click on it or press the [Delete] key.



If creating a split line or a series of lines is not possible and the cut line is crossing design parts then some design split may occur. In general, the software tries to avoid object/shape trimming, and keep the embroidery quality high. This is not always possible. With the line you can specify where the objects will be trimmed.

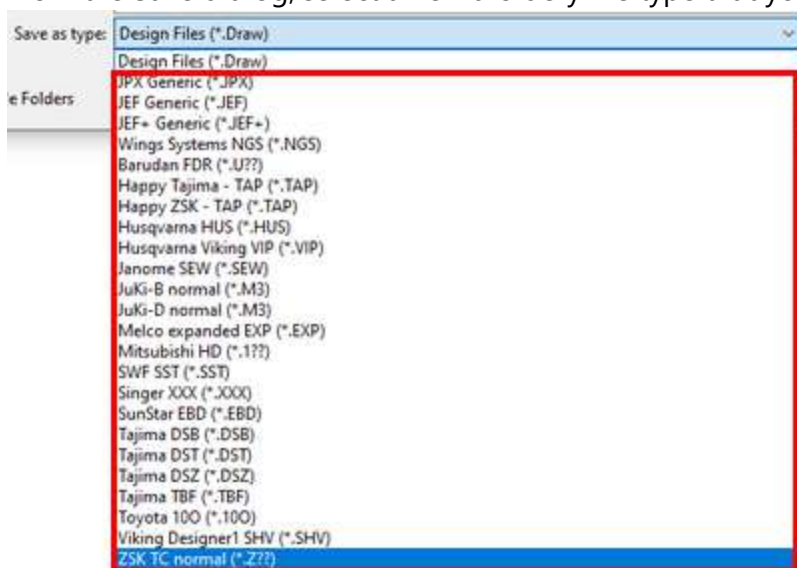
To check exactly what parts of the design go to each hoop, you can switch into slow redraw. Click on any hoop to see the exact parts of the design that are assigned to that hoop.



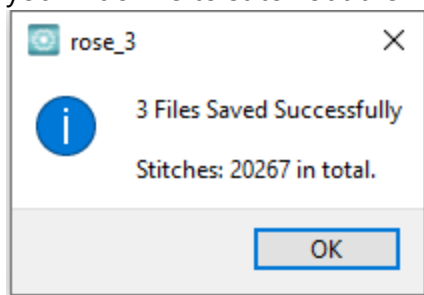
Saving Design to Embroidery File

When you are done editing your design and you have verified in Slow redraw that the design is divided as you like, you can save it as an Embroidery File to send for production. One thing you should have in mind is that when saving a design with multiple hoops into an embroidery file, a separate file will be created for each hoop.

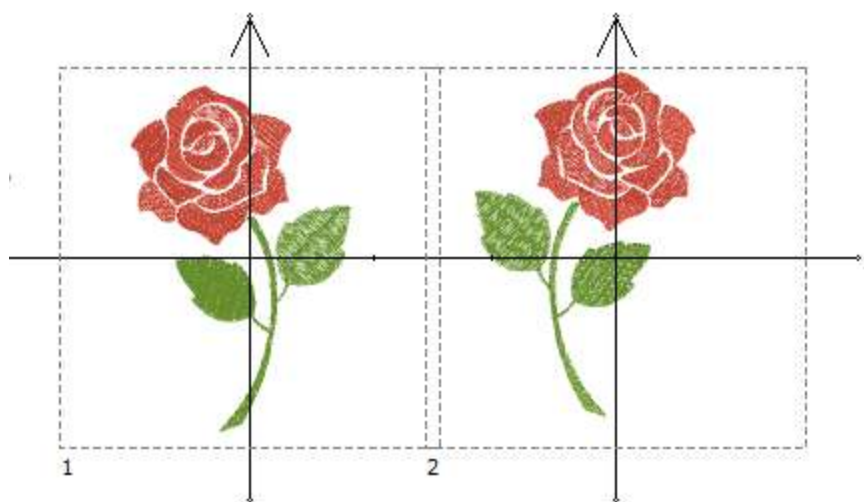
1. From the "File" menu, click on the "Save as" option.
2. From the Save dialog, select an embroidery file type that your machine supports.



3. The software will save a separate file for each hoop and you need to load them one after the other for your machine to stitch out the whole design.



4. Finally, you may make a printout where all information of how the design is to be stitched out is listed. You shall find it very helpful.



Embroidery sequence

In this section we will analyze the tools that the software includes to adjust the embroidery sequence of the designs you are creating. The software includes automatic and manual tools for producing the embroidery sequence. You can combine the different available tools and produce the embroidery results you prefer.



Automatic Embroidery sequence



Manual Embroidery sequence

Automatic Embroidery sequence

The software includes an automatic sequencing mechanism that produces great results based on the sequencing options that you have set. The tools described below, are responsible for adjusting the automatic embroidery sequence:

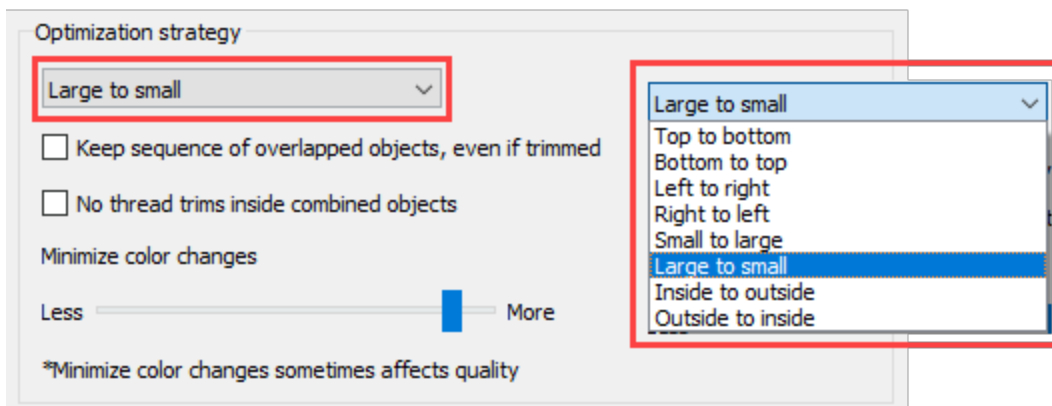
1. Auto sequence tool
2. Sequence tool

With these tools you can adjust the automatic embroidery sequence that is produced from the software.

Auto sequence

In this section we will analyze how the Auto sequence mode works and how to switch to Manual sequence to re-arrange/optimize your design manually. By default the software is working on Automatic sequence mode, this means that the software automatically decides about the sequence of all design objects according to its innate optimization strategy. So, you practically leave all control over the sequence, to the software, Which uses its intelligent mechanisms to find the optimum sewing sequence.

The software though is making its decisions, based on the optimizer options. On Optimizer options dialog on section "Optimization strategy", we can see the rules of the automatic optimization strategy. For example, the option "Large to small" means that larger objects are embroidered first. Now, if you switch to slow redraw, you will see that the largest object will be embroidered first, the second larger second and so on. If we change the optimization strategy, a different order will be followed. So, Using "small to large", the smaller object will be first sewn first and so on.



The options that you can adjust about design optimization are the following:

- **Optimization strategy:** With this option you can define the way that the objects will be embroidered. It is an automatic embroidering sequence creator. With this tool you can define how the objects of the embroidery designs will be placed on the fabric. The embroidering options for defining the sequence of the objects are the following: Large to small, Small to large, Left to right, Right to left, Top to bottom, Bottom to top, Inside to outside, Outside to inside. All these options do exactly what their names specify on the objects of the embroidery design. Therefore based on how you want your embroidery design to be embroidered you have to select the respective Optimization Strategy.
- **Keep sequence of overlapped objects even if trimmed:** This option is important for the embroidery sequence of the design. When this option is checked, all shapes of the vector design will be embroidered by keeping their overlapping order. This means that the order of the embroidery will follow the overlapping order of the vector design. This filter has effect, even if you have tiny areas overlapping between objects and even if the software decides to add thread trims between them. If this option is unchecked the software will rearrange the objects to match better the optimization strategy and the other optimization options you have selected.
- **No thread trims inside combined objects:** This option, when it is checked, does not allow any thread trimming between combined objects. This option applies only to objects that are combined (not grouped). With the No thread trims inside combined objects option checked, all combined objects will be

embroidered with jump-stitches between them, even if you have set Trimming distance between objects option to shortest distance.

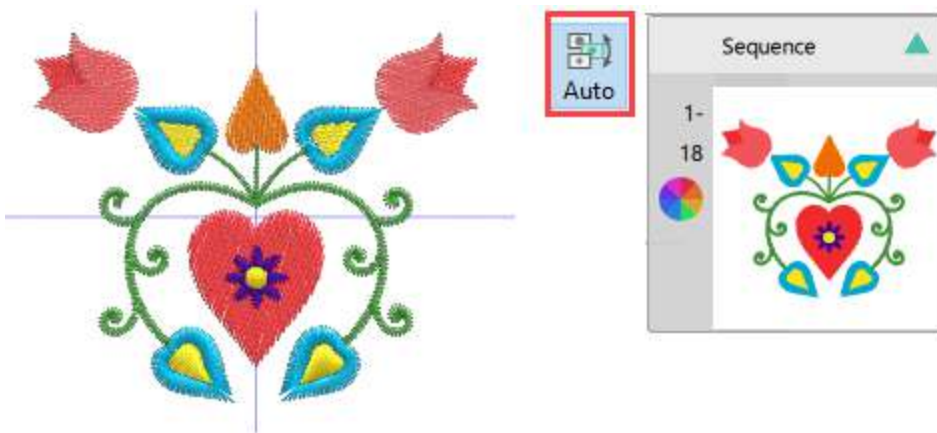
If you leave the value of "No thread trims inside combined objects" unchecked, all thread trims will be calculated normally and will re-sequence the objects based on the selected "Optimization strategy" and the other optimization option you have selected (like the Trimming distance between objects).

- **Minimize color changes:** This option is important for limiting color changes in the embroidery production process. Color changes have to do with thread color changes that the embroidery machine makes in order to embroider each embroidery object. With more color changes the embroidery design sequence is followed more accurately but the production process is longer. On the other hand with fewer color changes, the embroidery design sequence changes to fit the "Minimizing color changes" settings but gives shorter production process. This option will do its best to minimize the color changes but it cannot alter the overlapping order of the objects in order to make one color change for each color used. Also, the decisions that this option makes are related with the other optimizing settings such as the "Optimization strategy" option, "trimming distance between objects" option, the "Keep sequence of overlapped objects even if trimmed" option and the "Sequence" option from Properties toolbar.

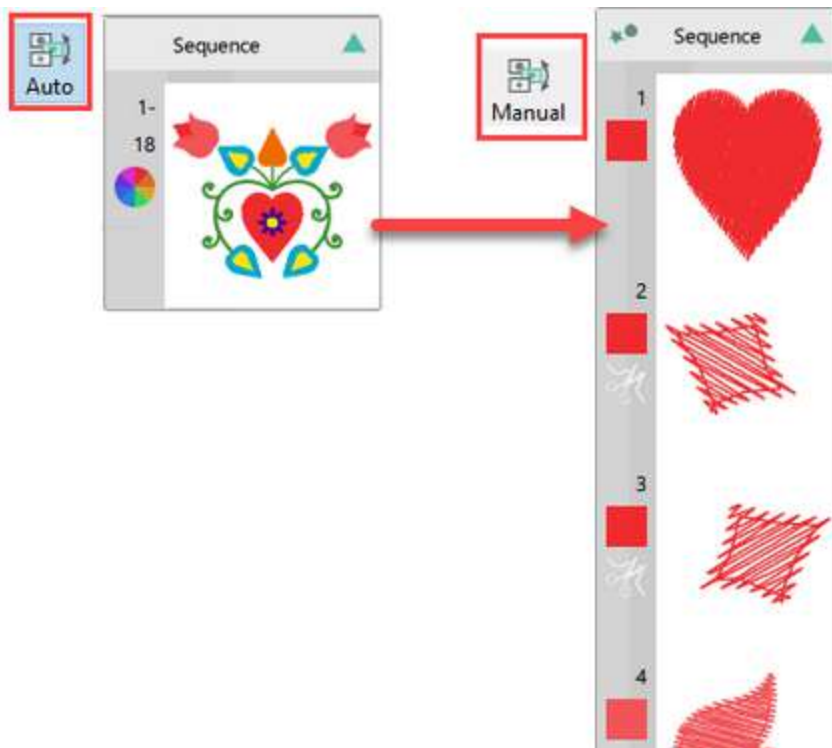
It is important to keep in mind that all optimizing options are related and the embroidery sequence is calculated based on all optimizing options and not only to a specific one. Whenever you set the optimization settings you have to consider how the changes you are making will affect the embroidery sequence by keeping in mind all the other optimizer settings. You can view the results of the changes that you are making

through the "Slow redraw"  functionality (you will find in the Tools toolbar) which is simulating the embroidering process of the design that you are creating.

The sequence window is always on top of the upper right edge of the design area. When you are in Auto sequence mode you can only see an icon that shows the whole design.



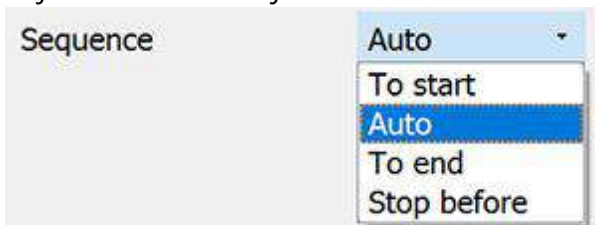
But what if you want to take control over the sequence yourself? You can simply disable the Automatic optimization by pressing the Auto button on the standard toolbar. In place of Auto button you now have one called Manual. This means that you switched into Manual Embroidery sequence and if you look now at the sequence window you can see the individual shapes of the design. By default, when you turn on the Manual mode, the software will automatically optimize the design once and separate the Fill parts from the outline parts, so that all objects are manipulated and rearranged separately for the best sequencing results. Additionally the objects are re-arranged so that the color changes are minimized and Trimming is applied when needed.



Now you can click on any icon and drag it to any position you like, to create your own sequence. The sequence manager is presented into a separate section, now we will only present how to work with manual mode in general and how automatic optimizations work in manual mode.

Sequence tool

The software also has the "Sequence" tool on the Properties toolbar that has the functionality to order specific objects or sets of objects to be embroidered at the beginning or at the end of the embroidering process. The Sequence tool appears on Constraints section of Properties toolbar whenever you select an object or a set of objects.



The Sequence option gives you four possible abilities: "To start", "To end", "Stop before" and "Auto".

By default the "Auto" option is selected that lets the software decide the embroidering sequence of the design. If you want an object to change order and be embroidered first or last in the embroidering sequence you have to use, respectively, "To start" or "To end" option. In case you have selected multiple objects and set them "To start" or "To end" a different procedure will take place. The software will change the objects that, for example, are set To start, move them to the beginning of the embroidering sequence and decide automatically the order of those "To start" objects. Therefore, the objects you have set to be embroidered "To start" will be embroidered first but with the order that the software will decide based on the other settings that you have set on the "Optimizer options" dialog. The same will happen if you set multiple objects to be embroidered "To end". The software will manipulate those objects and move them at the end of the

embroidering sequence but the order will be automatically decided. The objects that remained with the default "Auto" sequence option will be embroidered after the "To start" objects and before the "To end" objects with order automatically decided by the software.

Therefore, you can re-sequence the objects of the design by creating three groups:

- Those that will be embroidered first (To start),
- those in the middle (Auto) and
- those that will be embroidered at the end of the object.

If you do not make any change on the sequence option, the software will automatically create the best possible embroidery sequence for you based on the other settings that you have set on the "Optimizer options" dialog.

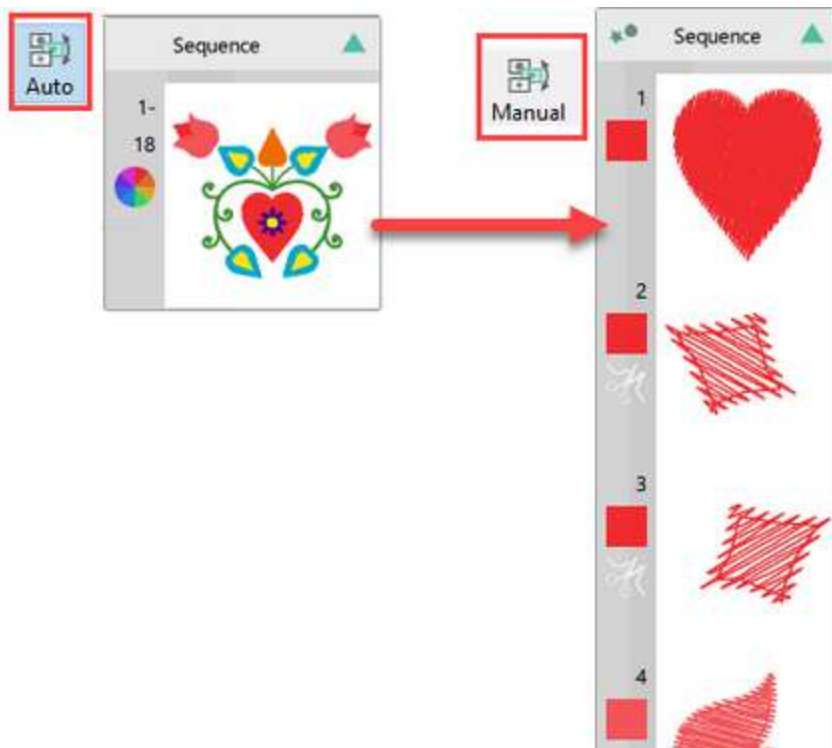
The "Stop before" option is a special sequence command that you can add to the selected design, if you want to stop the machine before sewing the object. It is useful for multi hoop designs, applique, name drop designs and every design you need control when the machine will stop to perform a specific task.

Every time you want you can simulate the embroidery sequence of the design through "Slow redraw" tool and decide if you need to make more changes on the embroidery sequence.



Manual Embroidery sequence

The software includes a manual sequencing mechanism that gives you the ability to re-sequence the design freely based on your preferences. By default the software applies the Automatic Embroidery sequence, that is very useful for inexperienced users and for those who are not familiar with embroidery sequencing. But what if you want to take control over the sequence yourself? You can simply disable the Automatic optimization by pressing the Auto button on the standard toolbar. In place of Auto button you now have one called Manual. This means that you switched into Manual Embroidery sequence and if you look now at the sequence window you can see the individual shapes of the design.



By default, when you turn on the Manual mode, the software will automatically optimize the design once, and separate the Fill parts from the outline parts, so that all objects are manipulated and rearranged separately for the best sequencing results. Additionally the objects are re-arranged so that the color changes are minimized and Trimming is applied when needed. More objects will appear on the Sequence manager that you will be able to re-sequence freely. The produced embroidery sequence on the "Sequence manager" will depend on the settings you have set in the "Auto-sequence" sub-section that you will find inside the "Tools>Optimizer options" dialog. The only thing that you must keep in mind is that more objects will be produced, this will make re-sequencing more difficult, especially on traced bitmap objects.

Now you can select one or more icons on the Sequence manager and drag them to any position you like, to create you own sequence. The result of the re-sequence will be visible directly on the working area. If you do not like the results or you think that you made a mistake, you can "Undo" (Ctrl+Z or Cmd+Z on MacOS) the last action you made and try to re-sequence the objects once more. The sequence manager is presented into a separate section, now we will only present how to work with manual mode in general and how automatic optimizations work in manual mode.

If the design is coming from a clear vector artwork the objects will be few and you will not have problem re-sequencing the design. On the other hand if the design is coming from a traced bitmap the number of objects will vary from few, up to thousands that will be difficult to manage and handle. Therefore, you must be cautious on how to use the manual sequencing tool and you must always be prepared to manage large numbers of objects. For this purpose the software has many tools that allow you to select objects "by color" (outline, fill, or both) or "by stitch type" and make re-sequencing more easily.

Despite switching the embroidery sequence to manual, all options inside "Optimizer options" dialog which are not listed under the "Auto-sequence" option, will not be applied on any of the above manual sequencing options, until you "save" the design to stitch file(.dst,.pes, etc.) or use the "slow

redraw" functionality to simulate the final embroidery result. This means that the "Appliqué frame-out distance", the "Trimming distance between objects", the "Trimming distance in Cross-stitch" and the "End points at closest connection, even on trims" options will not be calculated while enabling or disabling "Auto-sequence" functionality.

It is important to remember that while re-sequencing, some objects might change, as a result of the "Remove overlap" functionality that is applied automatically. The "Remove overlap" option that is located at the "Properties" toolbar removes unneeded parts of the design that are positioned underneath of other objects, to reduce the embroidery stitch count and thickness. It does not remove them permanently like the "Trim" tool does, but it holds the artwork information until you save the design to stitch file (.dst, .pes, etc.). Therefore, you might move a large object from the bottom of the design (that looks like a border/outline because of the "Remove overlap" functionality) and place it on top, but once you do that you will find out that it changes to a large fill object that covers all the other objects. To overcome that you have to use the "Trim" tool first from the "standard" toolbar, in order to trim the bottom object and then re-order it. All these are automatically calculated when the "Auto-sequence" functionality is enabled.

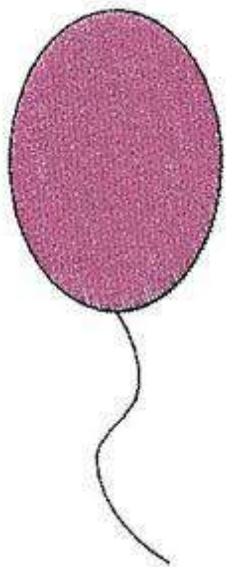
Crystals - Creating designs with Crystals

The software gives you the ability to add crystals in your designs and make them look beautiful. It includes various methods to add crystals in the designs. You can add them crystal by crystal, fill shapes with crystals, create line art designs and fill with crystals. Each method gives you a lot options that can help produce the result you want. It is easy to change an existing design into a crystal design. The main difference is that you must send the "Cutting templates" to a digital cutter and then apply the crystals anywhere you like.

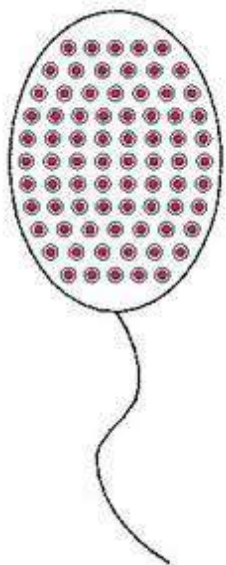
In order to be able to use the Crystals tools of the software you will have to enable the "Crystals" Technique from the Techniques  option.

Create a design with Crystal fill

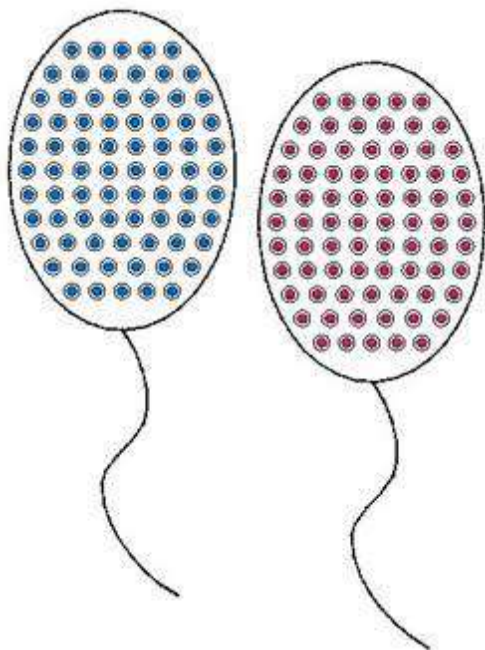
1. Select the Create ellipse  tool and draw an ellipse by clicking and dragging on the working area
2. Select the "outline shapes"  tool on "Digitize" section of "Tools bar" and draw a curve line to make it look as a string attached on a balloon.



3. Select the created ellipse and click on "Crystals"  icon, on the "Fill" section of "Properties" bar.

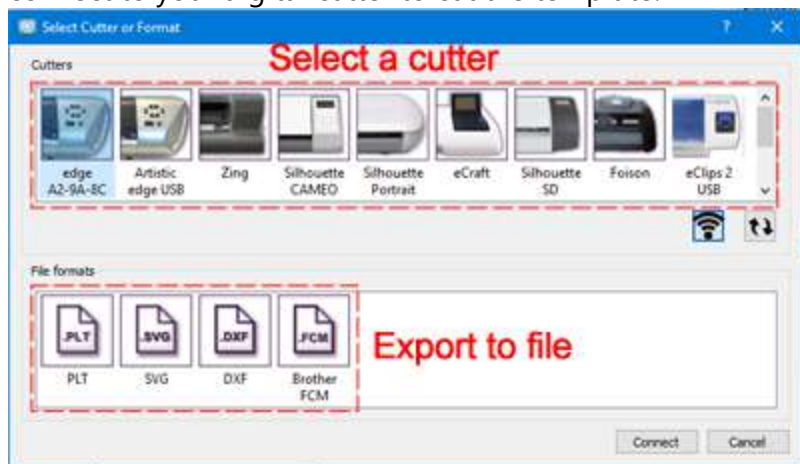


4. Select the balloon you have created and create a duplicate by pressing duplicate button on "Tools options" bar.
5. Move the duplicate part and from "Properties" bar select a different color for the second balloon.

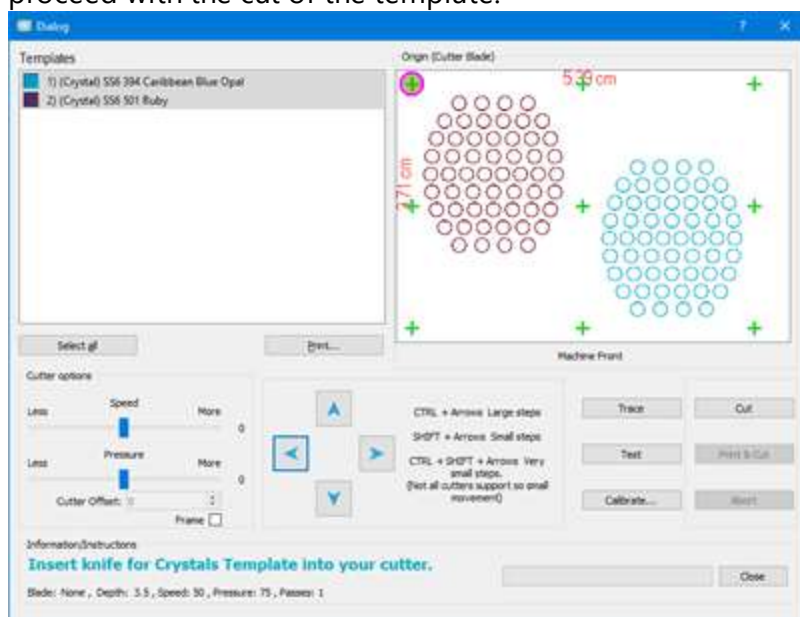


6. Likewise you may create more balloons in various sizes and different crystal colors.

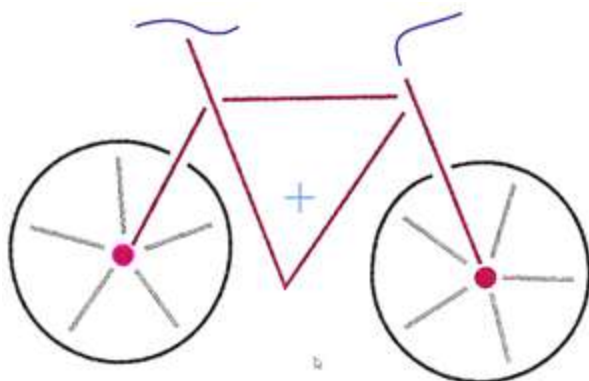
7. The final step when working with "Crystals" is that you need to export the "Cutting template" or connect to your digital cutter to cut the template.



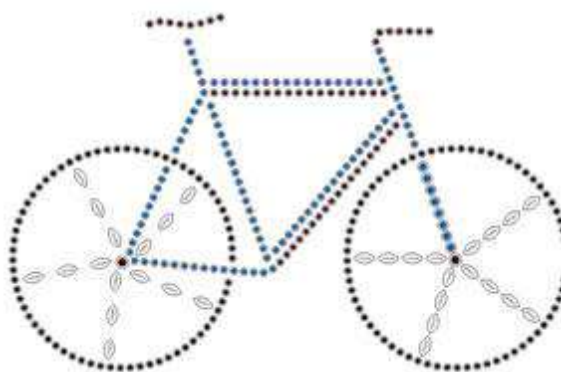
8. If you connect directly to your digital cutter, place the material to be cut onto the "cutting mat" and proceed with the cut of the template.



Just like that you can easily add crystals to the fill of any object. In the same way, by selecting "Crystals" type of "outline" tab of "Properties" bar, you can apply crystals on the outline of any object.



Satin design



Crystal design

The material you need in order to produce cutting templates are:

- Template material
- Backing board for a firm surface to mount the template
- A Brush to position the rhinestones
- Transfer tape to move the crystals/Rhinestones to your project
- and of course Rhinestones

The various methods that you can use to create crystal design will be analyzed in this section.

- Insert single crystals
- Crystals on fill
- Crystals on outline

Insert single crystals

Using the "Crystal shape"  tool you can insert crystals anywhere in the design simply by left clicking once in the position you want each crystal to be added.

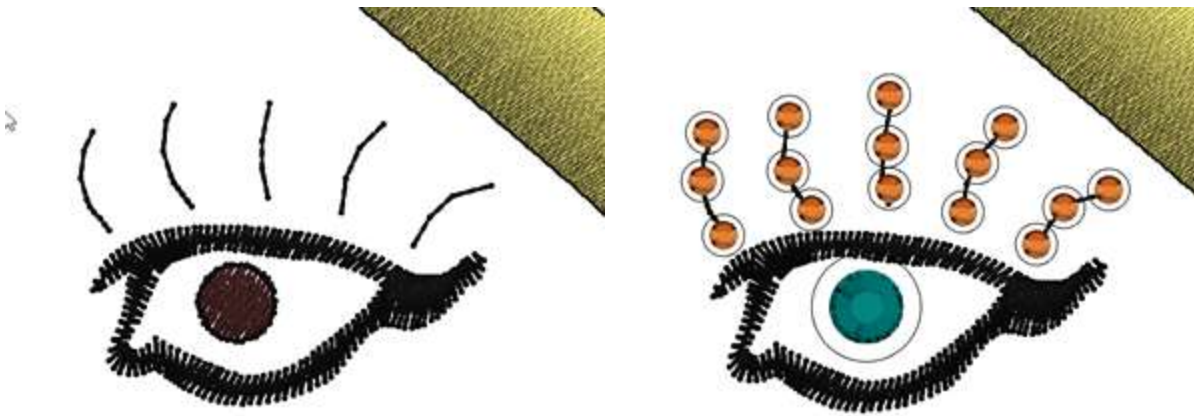


Notice, in order to use Crystals, the "Crystals" technique needs to be enabled.

When "Crystals" technique is enabled then can you find the "Crystal shape"  tool on Tools bar and using this tool you can add crystals manually to the design. When you start this tool, a crystal is attached to the mouse cursor and you can place it anywhere on the design. Before you left click to place the Crystal, you can customize it from the tools option bar. You can select one of the available palettes, some of the palettes have different crystal shapes but at this point we will use round crystals. Then you can select a COLOR from the respective list and finally you can select the size of the crystal.



Now, you can give a crystal touch to any design. When you want to release the tool, right click once. With just a single click you can place a crystal wherever you want it. If you want to end the insertion of crystals you have to right click once or to select a different tool from the Tools toolbar like the Rectangle selection tool. You can also adjust the properties of the selected crystal afterward, using the Properties.



Remember that you can easily select multiple crystals by color, right click on the crystal color use "add to selection", all the crystals with this color are selected and you can change the properties for all of them at once or you can change color, size or even move them.

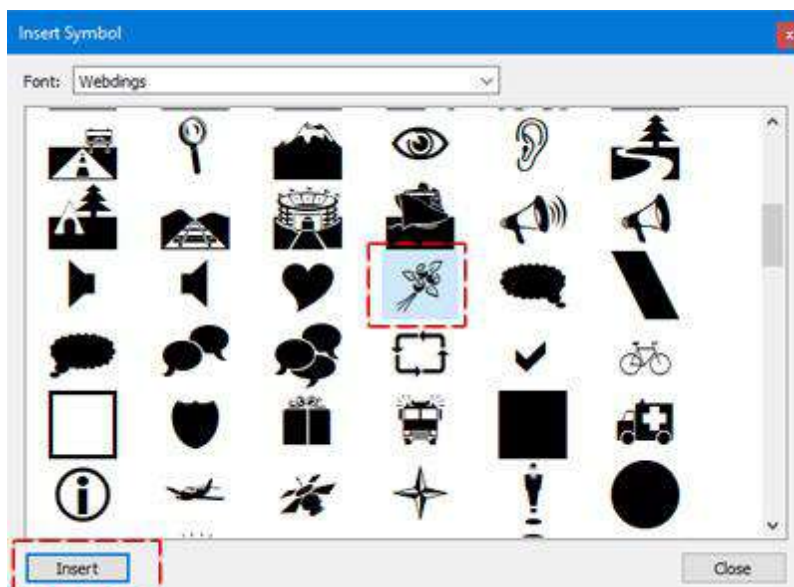
Now that the design is ready, you need to cut the template for the added crystals. To do so, you need to export to Cutter.

Create a design with crystals

Every crystal fill object that you are creating can be adjusted with the options that appear in the Properties toolbar. You can change the fill pattern, the spacing between the crystals, the crystal size, the crystal color/shape and other options that will be explained through examples in this section.

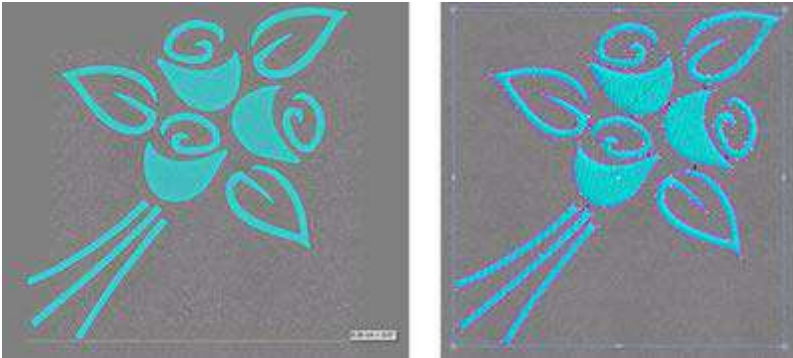
We will analyze the available options through the creation process of a design with crystals. We will use a symbol and transform it to a beautiful design.

1. From Tools menu select Insert symbol option.
2. From the Font list select Webdings and then design with the bouquet of flowers.



Insert symbol dialog

3. Insert the bouquet of flowers in the working area by selecting Insert and then click and dragging to specify the designs size.



bouquet symbol design

4. Remove the outline from the design by setting the pen color to empty  and from the right click menu select Break apart option.



Break apart the design

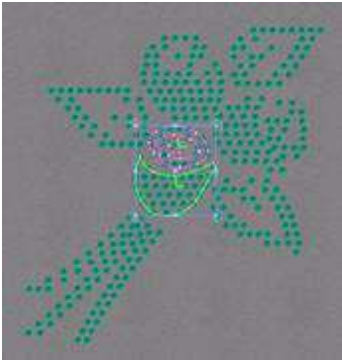
5. Select the entire design and click on the Crystals  icon from the Properties toolbar.

6. The design will be filled with crystals automatically. with a first look the result is not attractive but the software gives you all the needed to make it so.



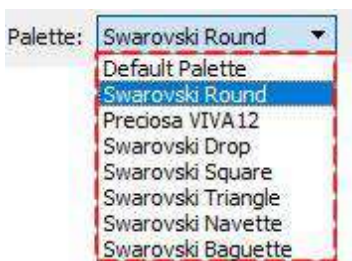
bouquet filled with crystals

7. First we will change the Color/Shape of the crystals that are placed on the flowers. Select a bud by holding the Shift key pressed and clicking first on the bottom object and then on the top object.



select bud

8. From the Properties toolbar select the Palette of crystals you are using. Currently there are three palettes available. The Default Palette, the Swarovski Round and the Preciosa VIVA12.



select palette

Each crystals creator palette contains only the crystals that are included in the specific collection. After selecting, for example Swarovski Round palette the crystals that includes appear on the Color/Shape list from where you can select any crystal by simply clicking on it.

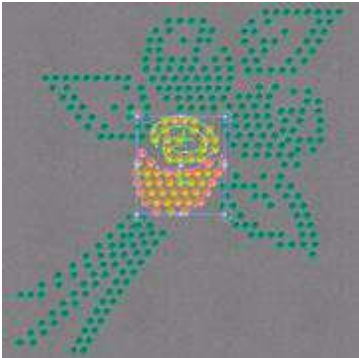


Color/Shape

If you do not have any of the available palettes your only alternative is to use the Default palette. The Default palette contains only one crystal. You can use this crystal to fill all your crystal designs and change its color by

simply changing the color of the shape where crystal was placed. Therefore with only one crystal you can apply any color you like by changing the color of the shape.

In our example with will select the Swarovski Round palette and apply the Topaz crystal on the selected bud.



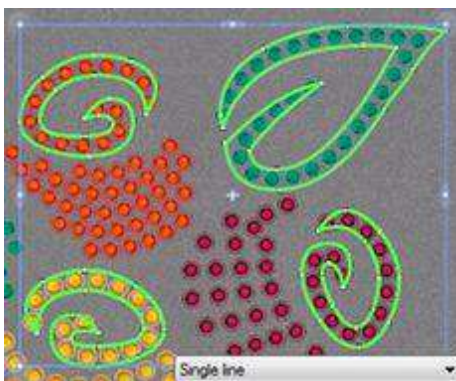
apply Topaz color/shape

9. We will do the same for the rest buds by assigning different Crystal Colors/Shapes.

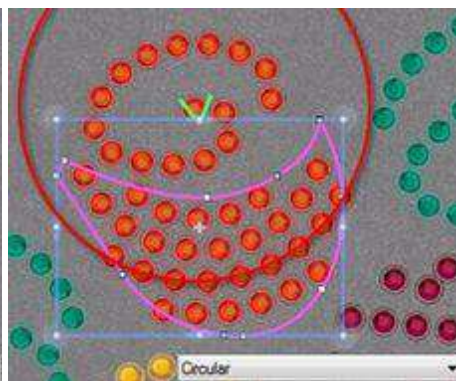


change colors/shapes to crystals

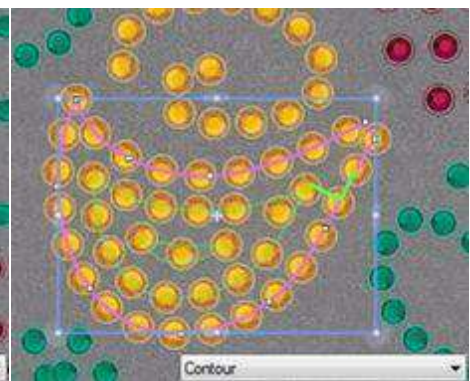
10. The next thing we have to do to improve our design is to adjust the Fill pattern of each shape in the design. This is important because not all Fill patterns fit on all shapes. Therefore based on the shape and the look we want to give to our design, we set a different fill pattern. By default the fill pattern to all shapes is set to Shape fit. To change that you have to select the object you want and from the Fill pattern drop down menu select a different one.



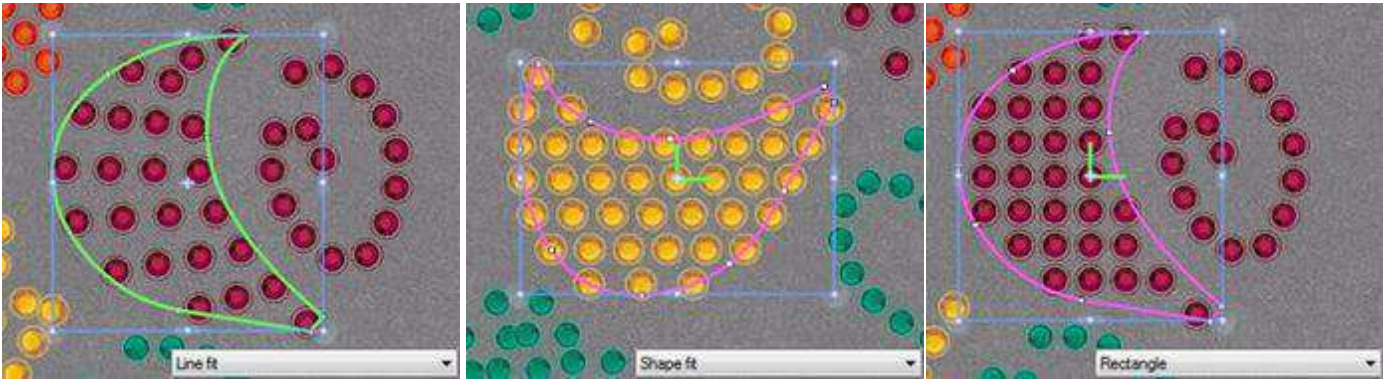
Single line Fill pattern



Circular Fill pattern



Contour Fill pattern



Line fit Fill pattern

Shape fit Fill pattern

Rectangle Fill pattern

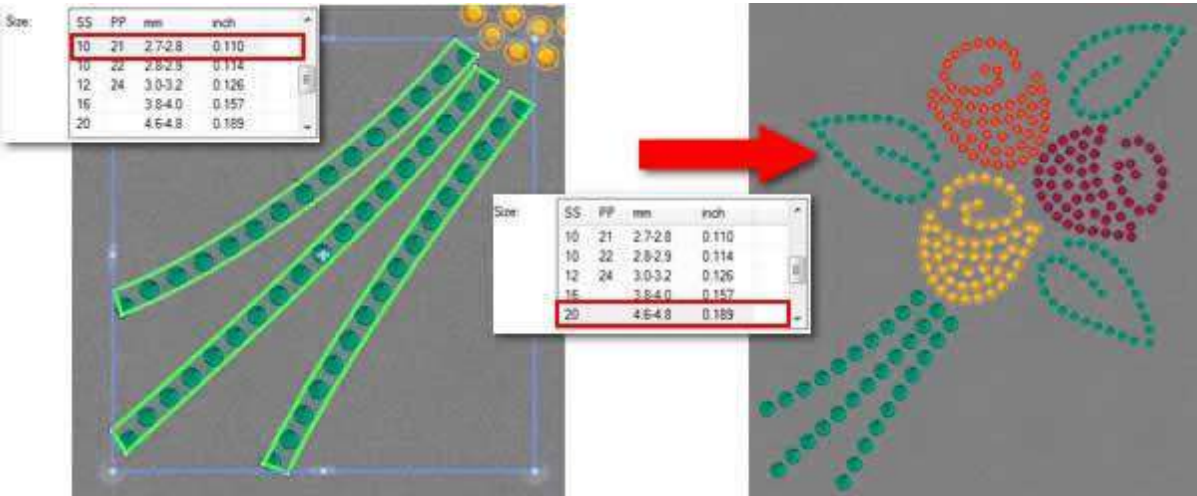
Each Crystal Fill pattern has different parameters that you can adjust to produce the results you want. We explain each Crystal Fill pattern and its options later in this chapter. In this example we will set all buds to Contour Fill pattern and the rest objects to Single line Fill pattern.



Contour & Single line fill pattern

11.If you want you can edit each Fill pattern by adjusting the vertical (V.Spacing) or horizontal (H.Spacing) spacing of crystals, the Start angle and the Slant angle (Rectangle fill pattern), the expansion Steps (Circular fill pattern) and add offset to increase or decrease the distance of crystals from the shapes outline.

12.One final adjustment that we will do to our design is to change the Size of crystals. Select the three stem objects and set the crystal size to SS20 from the respective option of the Properties toolbar.



Change crystal size

The sizes list varies based on the crystal Palette you have selected. The sizes that are available on the list are those that the specific palette supports. Only the Default palette contains all crystal sizes.

13. The design is ready. Within some simple steps we managed to create a beautiful design that can be created from everyone easily.

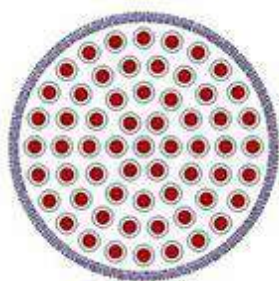
14. The only thing that remains is to export the design to the cutting machine and start creating the holes where the crystals will be placed on.

Crystals on fill - Properties

As already mentioned the software gives you the ability to fill an objects with crystals with a single click. If you select any design part and click on "Crystals" type on the "Fill" tab of "Properties" bar, then the object is automatically filled with crystals in a patterned way. For example, the circle of the following figure, in the beginning, it is filled with step. Then by using "Crystals" fill it gets filled with Crystals.



Step fill

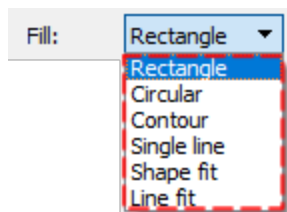


Crystal fill

Fill pattern

The "Crystals" fill type has various "properties" that you can adjust, but the most important is the pattern fill. By selecting a "Fill" pattern you can adjust the placement pattern of the crystals. There are 6 fill patterns and each one has some unique options that affect differently the pattern where they belong. We will analyze them separately in order to be clear how they work and what you can create by editing them. The "Fill" patterns that we will analyze are the following:

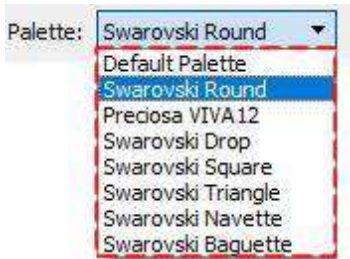
- Rectangle
- Circular
- Contour
- Single line
- Shape fit
- Line fit



In this section we will present the "Crystals" options that are common for all "Crystals" objects.

Palette

First of all you must select the crystals "Palette" from "Properties" bar. The selection of the palette is important because, once you select the palette, then you will see only the available sizes and colors of the selected palette.



The Swarovski Round palette has 85 crystals and the Preciosa Viva12 has 59 crystals. There are also some Swarovski palettes with different shapes: "Drop", "Triangle", "Square", "Navette" and "Baguette".



If you do not have any of the available palettes your only alternative is to use the Default palette. The Default palette contains only one crystal. You can use this crystal to fill all your crystal designs and change its color by simply changing the color of the shape where the crystal was placed. Therefore with only one crystal you can apply any color you like by changing the color of the shape.

Size

Then you need to select one of the available crystals "Sizes". The available crystal sizes depends on the palette you have selected. For example, the Swarovski Round palette has 15 different crystal sizes, the Preciosa has 4 and the Default palette includes all possible sizes that can be cut from the cutting machines, 33 sizes. The Size selection table includes different values in order to be easier for the user to select the one that corresponds to the crystal/rhinestone he wants to use.

- SS: SS stands for Stone Size. This name is used for flat back and larger pointed back stones
- PP: PP stands for Pearl Plate. This name is used for stones and it comes from pearl sizing techniques. The size approximation is $1/2 \text{ PP} = \text{SS}$
- mm: This value shows the approximate size range of the crystals in millimeters.
- inch: This value shows the exact size of the crystals in inches.

Usually the crystal packages mention the actual size of each crystal. The size is very important for the software because all the crystal hole sizes are calculated based on this value. If for example you select a larger size from the actual size of the crystal you want to use, the holes will be larger and the pattern after placing the crystals might not be correct. If you do the opposite, the crystals will not fit in the holes you have cut. The default crystal size of the software is SS10 or PP21- PP22.

Size:

SS	PP	mm	inch
5	11	1.7-1.8	0.071
5	12	1.8-1.9	0.075
6	13	1.9-2.0	0.079

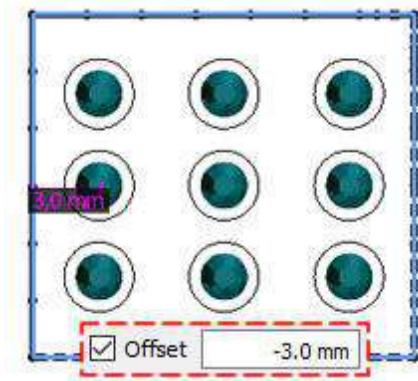
Color / Shape

Then you can click on the icon of the selected crystal color to see the full list of the available colors of the selected palette.



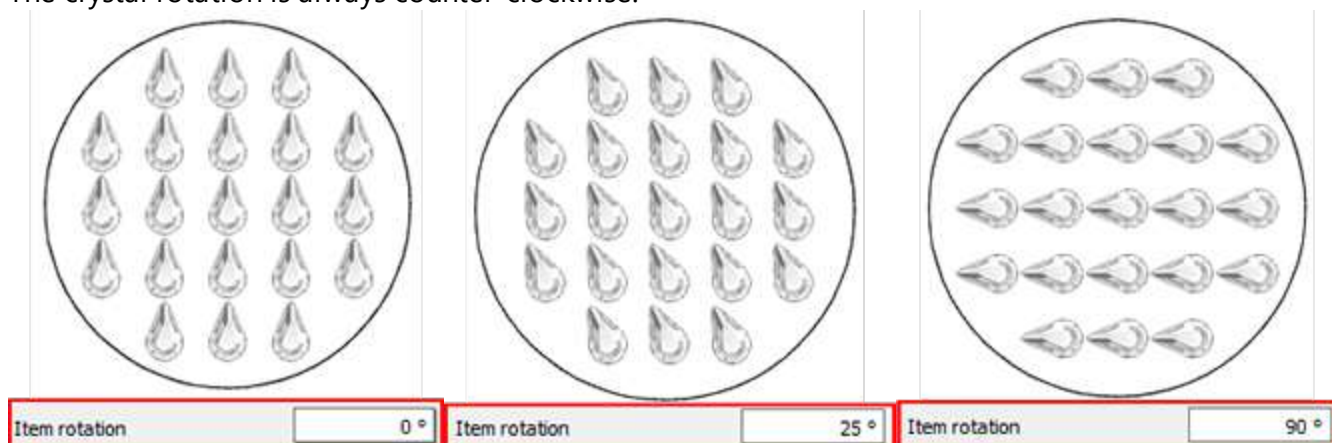
Offset

The offset parameter specifies the minimum distance between the outline and the center of the Crystal. You can activate the "Offset" option by checking the check-box next to it. In the numeric field you can enter the value of offset you want, with lowest value of -15mm and highest value 15mm. Also, you can increase or decrease the offset value by rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the outline to have from its initial position. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value it is previewed on the design. The offset distance value starts from the outline until the center of the crystal. Therefore, every time you want to set offset you have to keep in mind the way the software calculates it.



Item rotation

With the Item rotation you have the ability to rotate the crystals you have inserted in the shape. You can type a rotation value or rotating the mouse wheel. The value that you are inserting defines the exact rotation angle you want the crystals to have from their initial position. The default Item rotation value is zero and can be changed only from you. Any changes you are making on the Item rotation value it is previewed on the design. The crystal rotation is always counter-clockwise.



Cutter presets

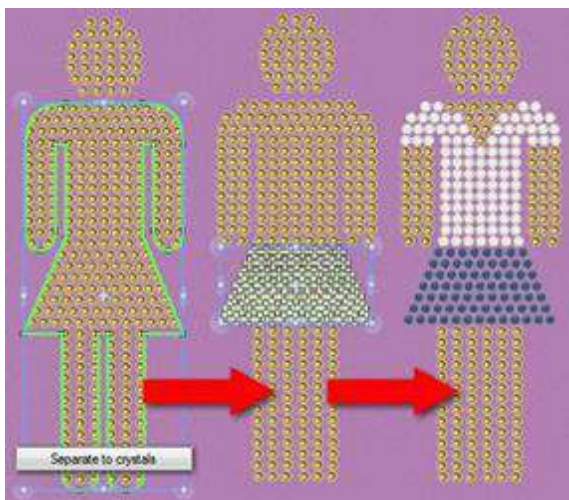
Since any crystal design you create will be send to a digital cutter for template production it is a good practice to "Adjust" the options of the cutter either by selecting a cutter preset or if you are familiar with the cutter and the material by adjusting cutter settings manually. The following cutter options (Cutter pressure, Speed, Passes, Blade color and Depth) should be adjusted correctly in order to produce any design using your digital cutter. The following cutter options must be adjusted either for each object, here in Properties, or at the Export to Cutter dialog. In order to assist you in selecting the proper settings according to the material and the type of the operation we have prepared various operation presets. Click on the Cutter presets button and from the drop down menu, select any of the available presets for your Cutter and the material that you are going to use. This preset selection affects only the selected objects. The settings that you select here are used for the selected objects when you export the design to the digital cutter.

Cutter presets			
Cutter speed	50		
Cutter pressure	60		
Cutter passes	1		
Blade depth	50.0		
Blade color	Blue		

Name	Material	Blade color	Blade depth
Edge	Vinyl	Red	2.0
Edge	Fabric with Terial Magic	Yellow	4.0
Edge	Fabric backed with Fusible Webbing	Yellow	4.0
Edge	Wool Felt – treated with Terialma...	Yellow	4.0
Edge	Felt backed with Freezer Paper	Yellow	8.0
Edge	Naugahyde/Pleather (medium wei...	Blue	8.0
Edge	Leather (lightweight, Kid)	Blue	4.0
Edge	Paper .20 lbs. +	Red	2.0
Edge	Card Stock (medium weight) 60 lb...	Red	3.0
Edge	Heavyweight Card Stock/Cardboard	Blue	6.0
Edge	Heavy metallic card stock	Blue	4.0
Edge	Contact paper	Red	2.0
Edge	Crystal Template Material - Smooth Blue		5.0

Separate to crystals

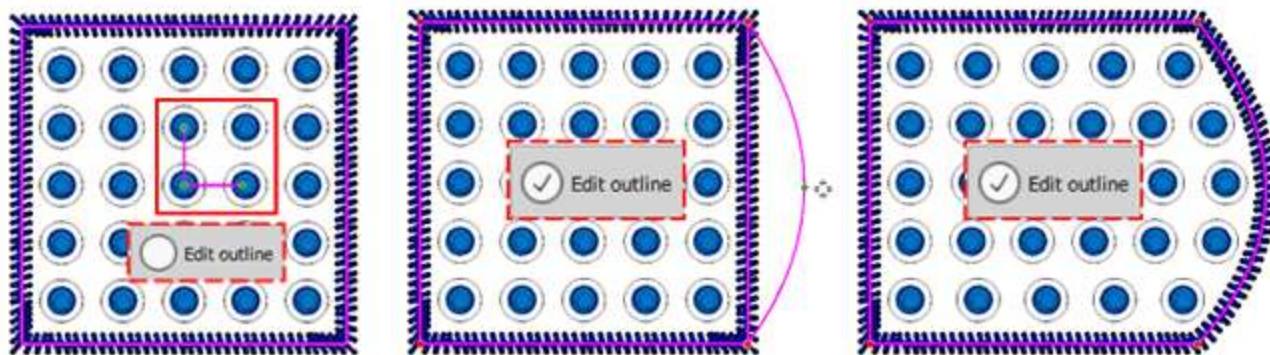
Using the "Separate to Crystals" button you can convert the selected object into individual Crystals. That means that you are able to delete, move or manually add Crystals. This option is mainly used to avoid overlaps and to refine certain designs. Also, is very useful when you want to create a shape filled with crystals and then assign different crystal Color/Shape to parts of the design. Keep in mind though, that you cannot group the separated crystals back to a crystal fill object. Therefore keep the "Separate to crystals" option as your last choice or keep a duplicate object of the one that you will separate to crystals in order to be able to go back and edit it again.



Edit nodes - edit outline

One very powerful feature of the software is that can edit the shape of any created object at any time using "Edit nodes" mode. For the objects that have Crystals fill applied, you can not edit their outline by default. When you switch to node editing mode, you can edit the fill pattern using the available control handles. The usage of these handles will be presented into the following topics. In case that you want to edit the outline of the crystal object, you must enable "Edit outline" option on "Tools options" that is available when editing the

shape an object with "Crystals" fill. When this option is enabled you can edit the shape of the object as any normal object.



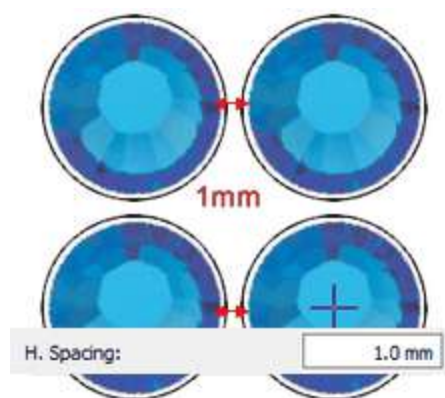
Rectangle fill

The Rectangle fill pattern has the following extra parameters:

- H. Spacing
- V. Spacing
- Start angle
- Slant angle

H. Spacing

The H.Spacing (Horizontal Spacing) parameter specifies the distance between the outlines of the crystals. For this calculation the "Crystals cut offset" (blue circle around the crystals) is not taken under consideration .

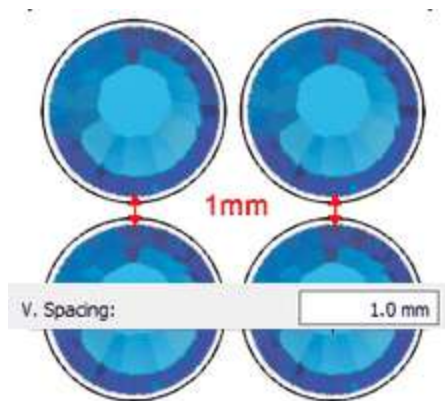


Horizontal Spacing

The default value of the H.Spacing is 0.8mm and is calculated by adding the Crystal cut offset (0.4mm) together with the Crystal minimum hole spacing (0.4mm). These values can be adjusted from Tools >Optimizer options... dialog.

V. Spacing

The V.Spacing (Vertical Spacing) parameter specifies the vertical distance between the outlines of the crystals. For this calculation the "Crystals cut offset" (white circle around the crystals) is not taken under consideration.



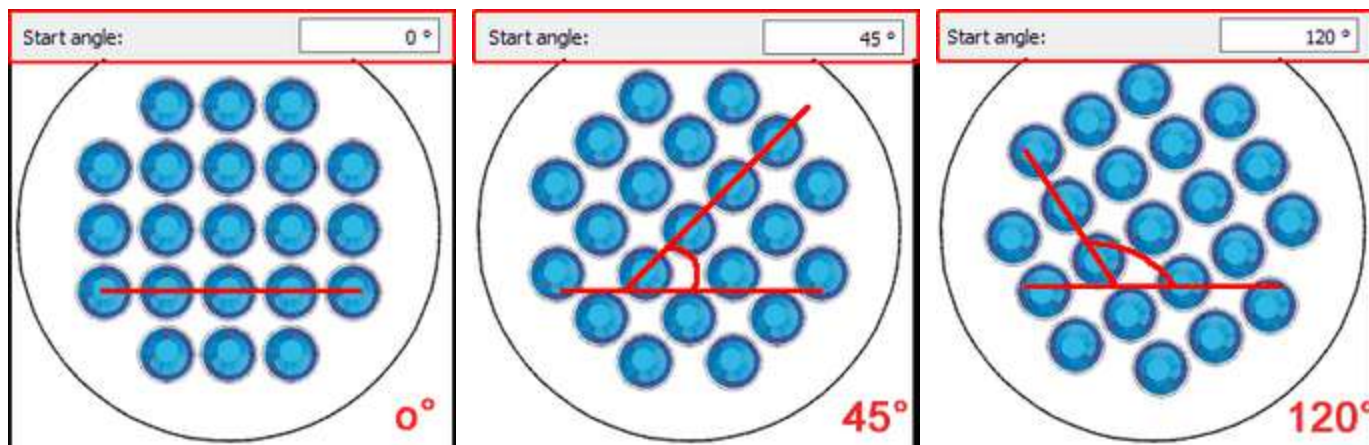
Horizontal Spacing

The default value of the V.Spacing is 0.8mm and is calculated by adding the Crystal cut offset (0.4mm) together with the Crystal minimum hole spacing (0.4mm). These values can be adjusted from Tools >Optimizer options... dialog.

Start angle

The Starting angle parameter specifies the angle of the horizontal lines of crystals which will fill the object you created. When the starting angle is set to 0 degrees, the lines will be horizontal. By changing the angle you will get different results on the Rectangle fill pattern. Each shape might need different Start angle in order the pattern to fit in the design. Therefore it is good practice to change values until you find the one that is appropriate with the design.

For better result also you will have to adjust the H.Spacing and V.Spacing values. By adjusting the spacing between the crystals you will be able to apply the pattern you want.



Start Angle 0o

Start Angle 45o

Start Angle 120o

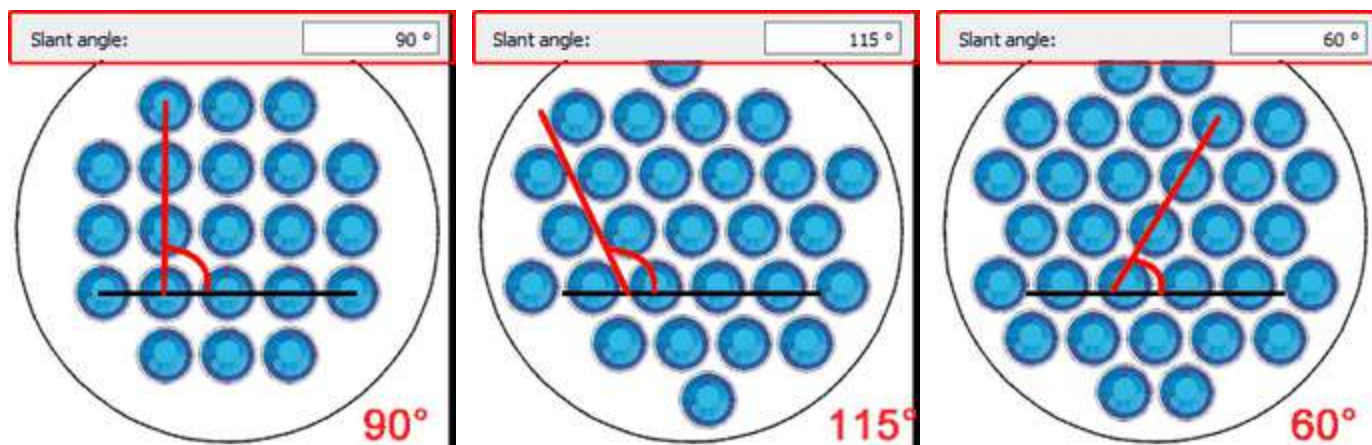
The Start angle parameter it is also specified in the design with the horizontal green handle. This handle can be edited while you are in Edit shape nodes  mode and the Edit outline  option is unchecked from the Tools options bar.

This parameter is especially useful when you want to force pattern to start from a specific angle that fit better on a specific shape.

Slant angle

The Slant angle parameter specifies the way in which the crystals will be repeated vertically. When the Slant angle is set to 90 degrees the crystals will be placed vertically in lines. The range of values that this parameter can take varies from 10 degrees up to 170 degrees. By changing the Slant angle you can create different patterns that will fill better in the design you are creating.

For better result also you will have to adjust the H.Spacing and V.Spacing values. By adjusting the spacing between the crystals you will be able to apply the pattern you want.



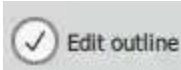
Start Angle 90o

Start Angle 115o

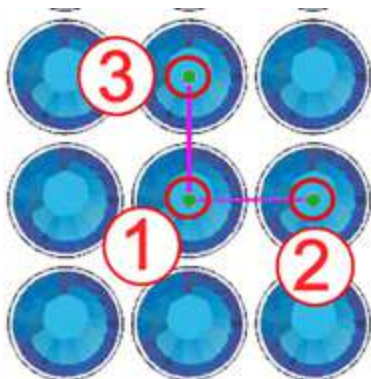
Start Angle 60o

The Slant angle parameter it is also specified in the design with the vertical green handle. This handle can be edited while you are in Edit shape nodes  mode and the Edit outline  option is unchecked from the Tools options bar.

Node editing of Rectangle fill area with Crystals

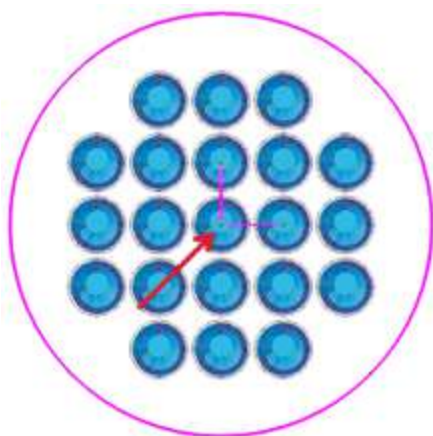
When selecting an object which is filled in with Rectangle Fill pattern and clicking on Edit shape nodes  icon, you can edit the control handles of the crystal placement. If you cannot see the control handles as they appear in the images below you will have to uncheck the Edit outline  option from the Tools options bar. Then you will see a 90o green corner at the middle of the design.

There are three control points:

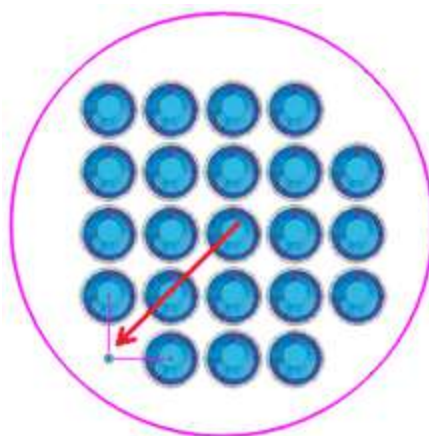


Control handles

Control point 1 specifies the position of the first crystal in the design. All the other crystals will be placed based on the first one, following the parameters of the Crystal fill type that were specified on the Properties toolbar. You can click and drag the starting point of the design and change the way that crystals are positioned in shape. Also, you can select the control point and use the arrow keys to move it for more precise adjustments. By holding the Ctrl key pressed and using the arrow key the movement step is larger for quicker movements. The way that the crystals are positioned inside the shape will change immediately.

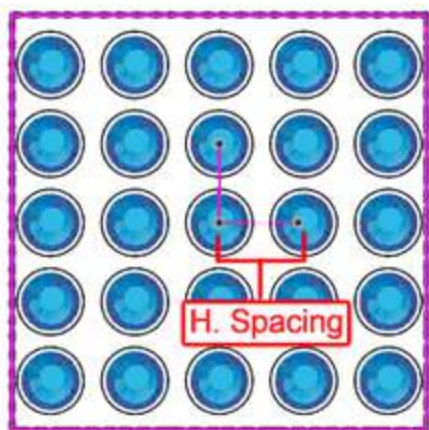


Starting Point

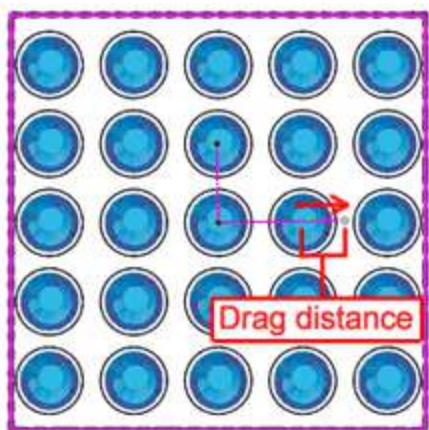


Start Point at bottom left corner

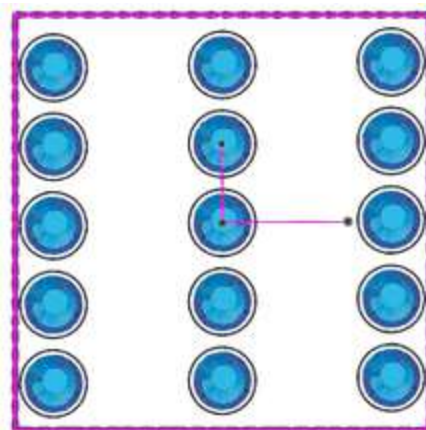
The distance between control points 1 and 2 specifies the H.Spacing parameter. This means that by dragging the control point 2 you can change the horizontal spacing (H.Spacing) of the crystals.



Adjust H.Spacing



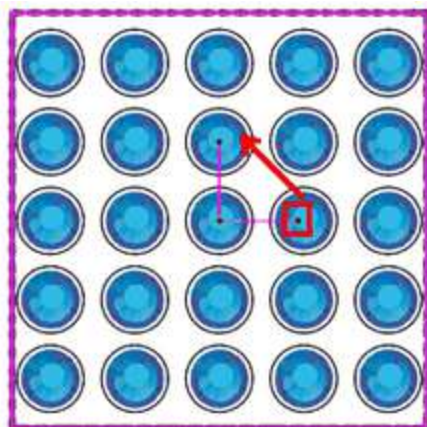
Drag distance



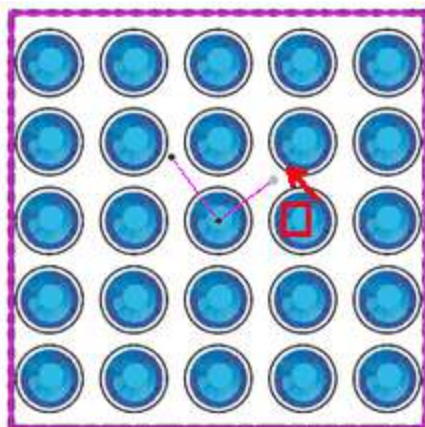
H.Spacing Increased

Important: The distance between control points 1 and 2 is not the actual value that you see on the H.Spacing parameter but the handle that is defined from these two points can change this parameter by dragging the control point 2.

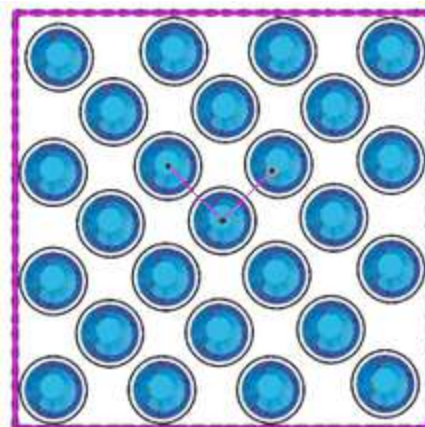
The angle of 1-2 line, specifies the Starting angle. By rotating the control point 2 clockwise or counter clockwise you can change the Starting angle of the crystal fill.



Rotate control point 2



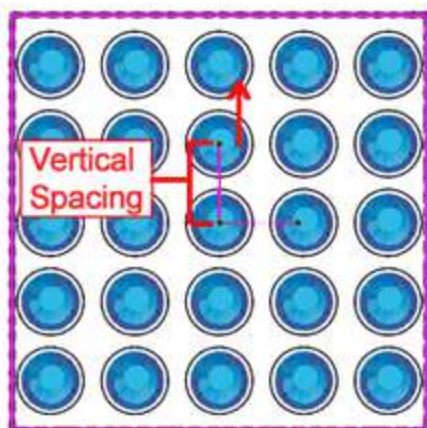
Hold Ctrl to snap on every 22.5o



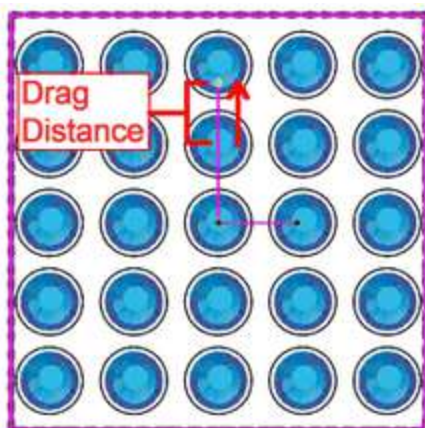
Rotated 45o degrees

If you hold the "Ctrl" key pressed (for Mac OS "Cmd" key) the handle will snap on every 22.5o degrees. Also, if you hold the Alt key pressed the handle will snap on the grid points.

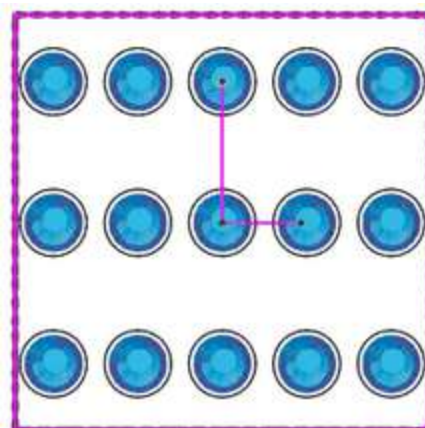
The distance between control points 1 and 3 specifies the Vertical Spacing parameter. This means that by dragging the control point 3 you can change the horizontal spacing (V.Spacing) of the crystals.



Adjust V.Spacing



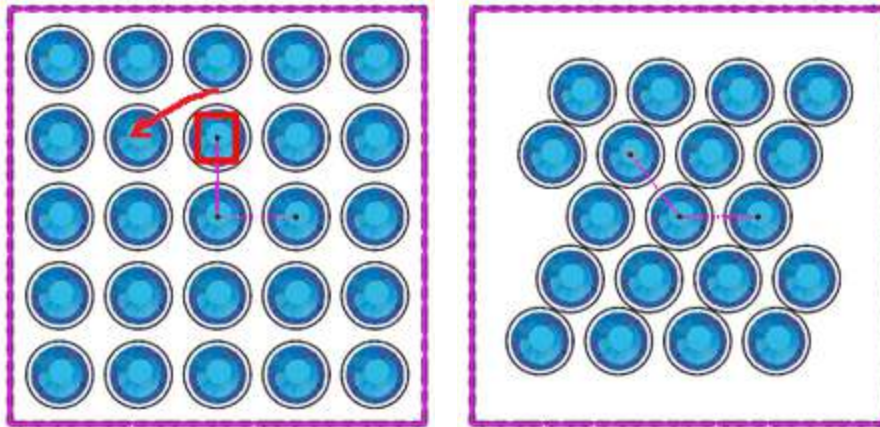
Drag distance



V.Spacing Increased

Important: The distance between control points 1 and 3 is not the actual value that you see on the V.Spacing parameter but the handle that is defined from these two points can change this parameter by dragging the control point 3.

The angle of 1-3 line, specifies the Slant angle. This means that by dragging the control point 3, you can change the fill pattern of the crystal fill by changing the way crystals are applied line by line.



Drag handle

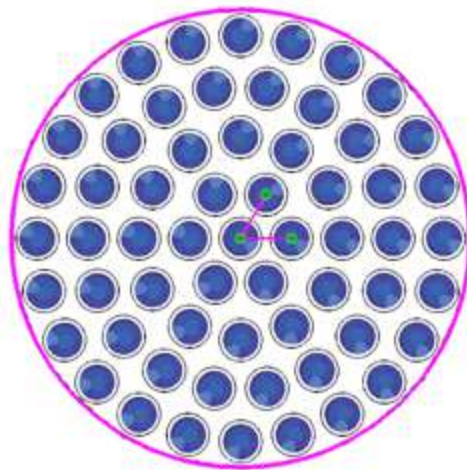
New slant angle

If you hold the "Ctrl" key pressed (for Mac OS "Cmd" key) the handle will snap on every 22.5o degrees. Also, if you hold the Alt key pressed the handle will snap on the grid points.

Circular fill

Circular pattern fill it is very useful especially for rounded shapes or shapes that are curvy. With the special parameters that includes you can create unique and complex crystal patterns. Circular way of filling areas with Crystals has the following parameters:

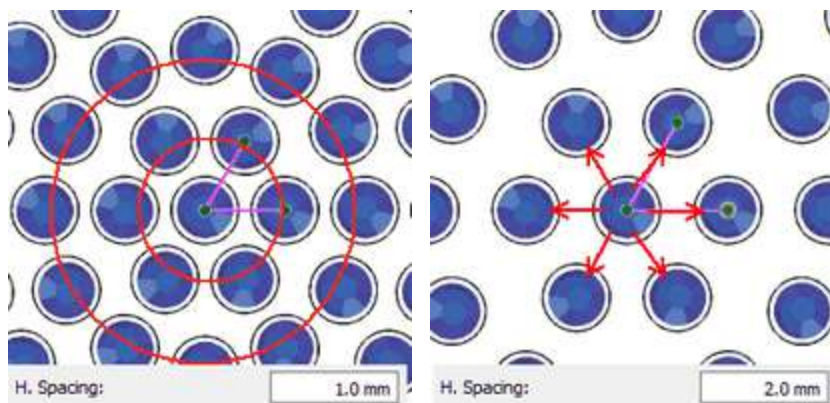
- H.Spacing
- Start angle
- Steps



H.Spacing

Spacing:

The Spacing parameter specifies the distance between the outlines of the crystals placed on different circles. The distance between the crystals of the same circle are specified from the Step parameter. For this calculation the Crystals cut offset (white circle around the crystals) is not taken under consideration.

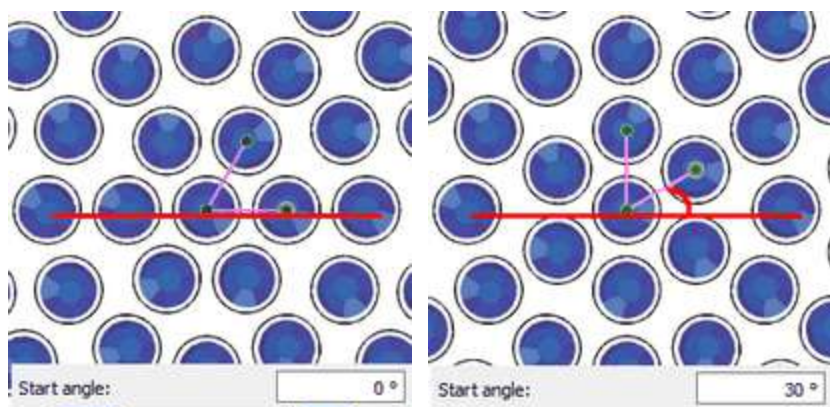


The default value of the Spacing is 0.8mm and is calculated by adding the Crystal cut offset (0.4mm) together with the Crystal minimum hole spacing (0.4mm). These values can be adjusted from Tools >Optimizer options... dialog.

Start angle



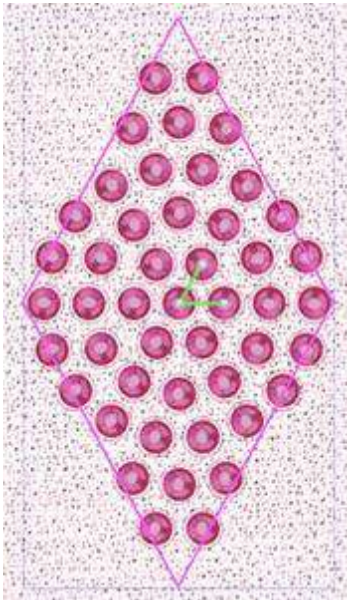
The Start angle parameter specifies the angle of the horizontal lines of crystals which will fill the object you created. When the starting angle is set to 0 degrees, the lines will be horizontal. The Start angle also is defined from the horizontal green handle of the Circular Fill pattern.



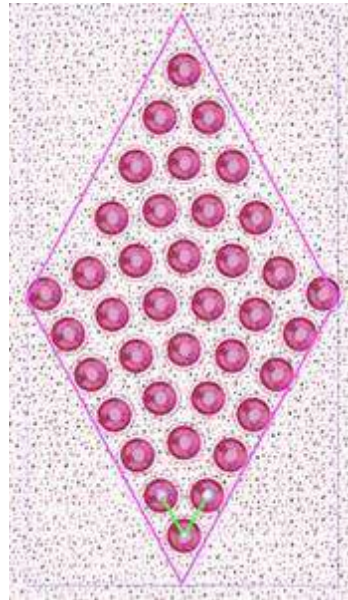
0o degrees angle

30o degrees angle

This parameter is especially useful when you want to force pattern to start from a specific angle that fit better on a specific shape. For example if you want to add a circular fill pattern inside a rhombus and you want the center of the circular pattern to start from the bottom corner and the start angle to be parallel with the side of the rhombus you have to use this parameter. The Start angle must be set equal with the angle that the rhombus shape side has.



Start Angle 0o

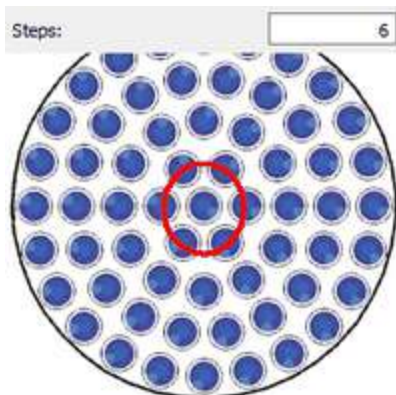


Start Angle 60o

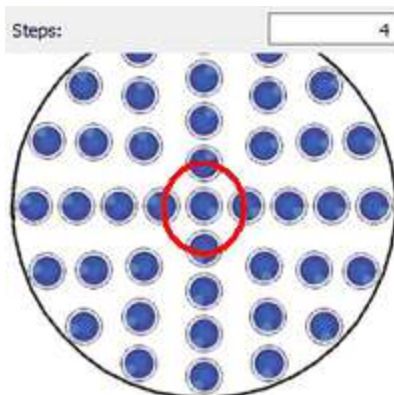
Steps

Steps:

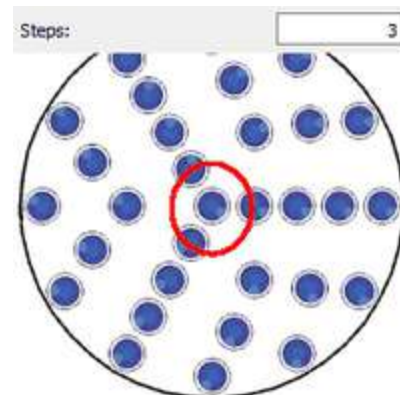
The "Steps" parameter specifies the number of crystals which will be added in any circle pattern starting from the center of the object to the outside. In the center of the object the software will put one crystal. Then, if for example the Steps value is set to 6, it will make the first circle with 6 crystals, the second with 12 crystals, the third with 18 crystals etc. The crystals that belong to the same circle pattern will be distributed evenly.



Steps set to 6



Steps set to 4



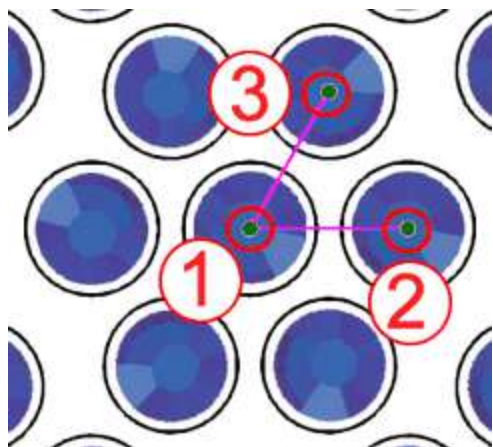
Steps set to 3

By trying various Steps values you will see that the pattern changes accordingly.

Node editing of Circular fill area with Crystals

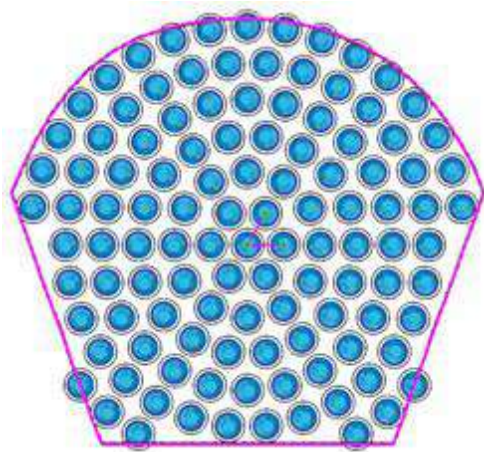
When selecting an object which is filled in with Circular Fill pattern and clicking on Edit shape nodes icon , you can edit the control handles of the crystal placement. If you cannot see the control handles as they

appear in the images below you will have to uncheck the Edit outline  option from the Tools options bar. Then you will see a 90o green corner at the middle of the design. There are three control points:

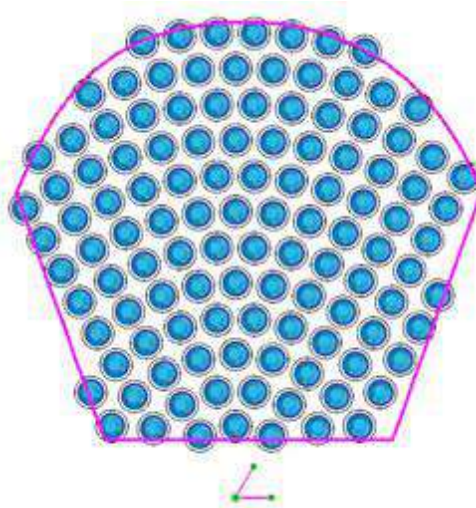


Control handles

Control point 1 specifies the position of the first crystal. All the other crystals will be placed based on the first one, following the parameters of the Crystal fill type. All the other crystals will be placed based on the first one, following the parameters of the Crystal fill type that where specified on the Properties toolbar. You can click and drag the starting point of the design and change the way that crystals are positioned in shape. Also, you can select the control point and use the arrow keys to move it for more precise adjustments. By holding the Ctrl key pressed and using the arrow key the movement step is larger for quicker movements.

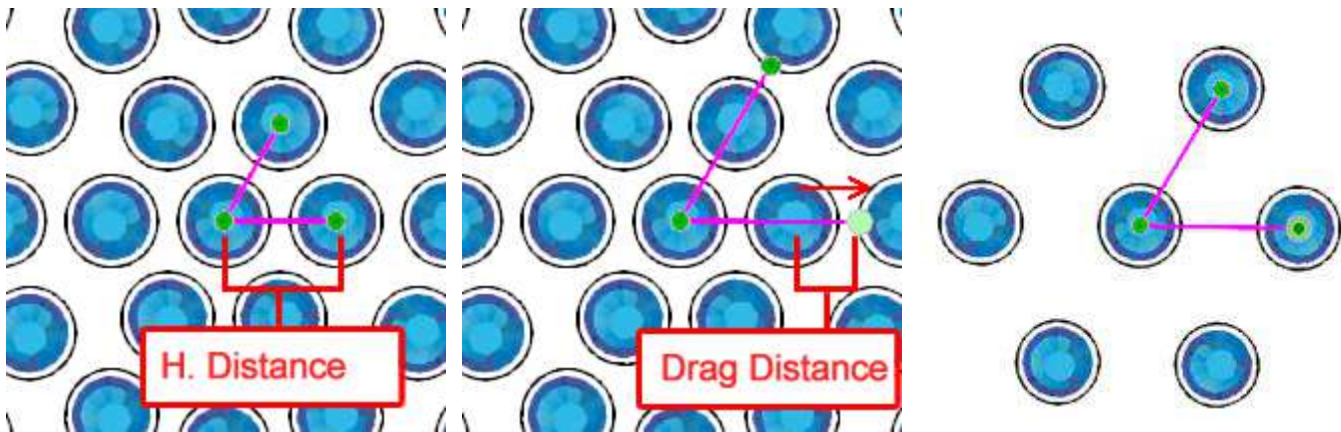


Starting Point



Start Point at the bottom out of the shape

The distance between control points 1 and 2 specifies the Spacing parameter. This means that by dragging the control point 2 you can change the horizontal spacing (H.Spacing) of the crystals.

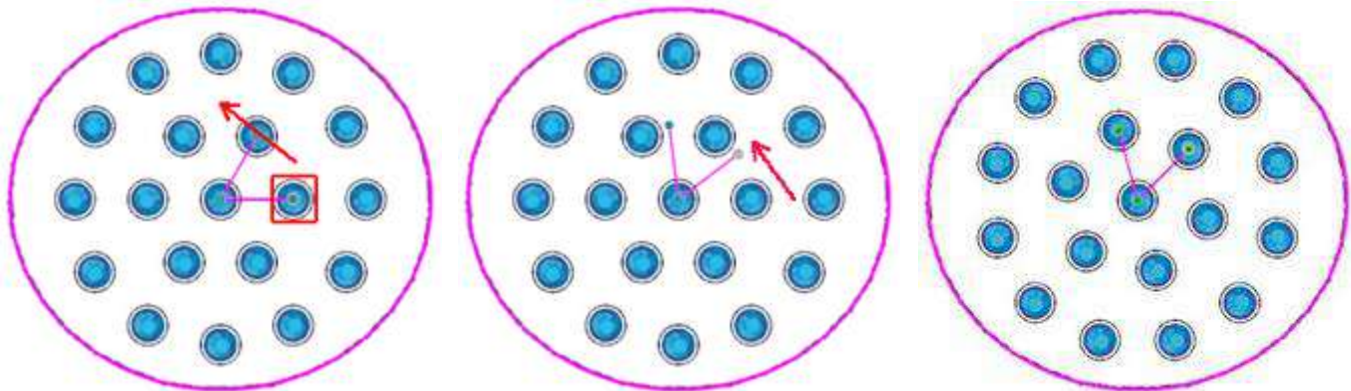


Adjust H.Spacing

Drag distance

H.Spacing Increased

The angle of 1-2 line, specifies the Starting angle. By rotating the control point 2 clockwise or counter clockwise you can change the Starting angle of the crystal fill.



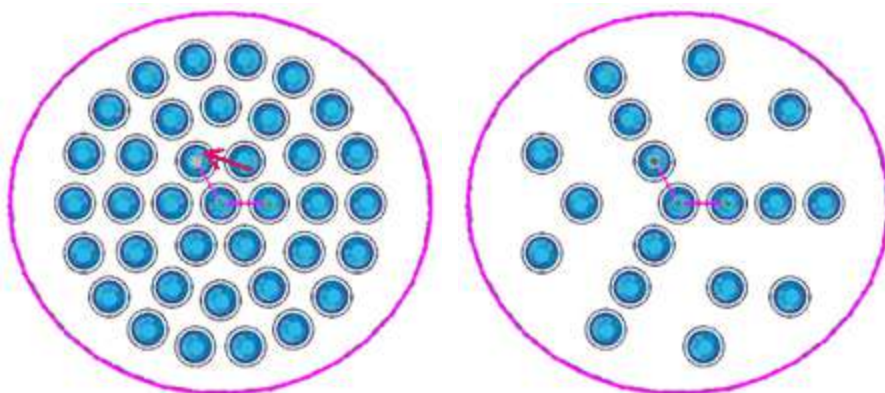
Rotate control point 2

Hold Ctrl to snap on every 22.5o

Rotated 45o degrees

If you hold the Ctrl key pressed (for Mac Cmd key) the handle will snap on every 22.5o degrees. Also, if you hold the "Alt" key pressed the handle will snap on the grid points.

The angle of 1-3 line, specifies the Steps parameter. By dragging the 3 control point you can change the circular fill pattern steps.



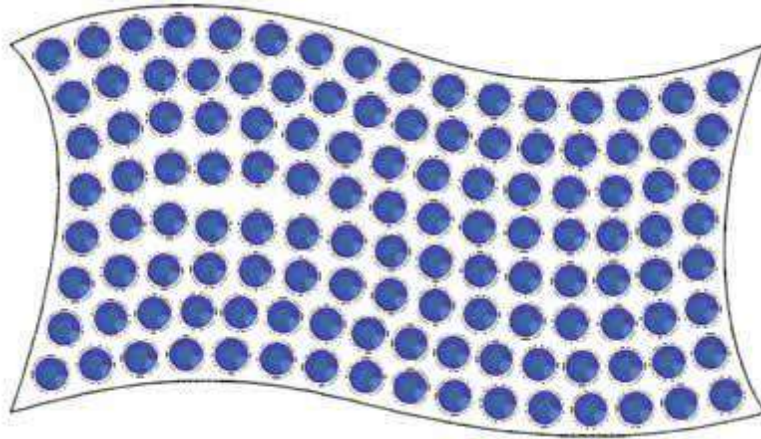
from 6 Steps change to 3 steps 3 steps

If you wish to edit the outlines of the object, you need to enable the parameter Edit outline from the Tool options toolbar.

Contour fill

Contour fill pattern is a very useful crystal fill pattern which can give an echoing effect to the designs. It can fill complex designs easily and produce unique results. Contour way of filling areas with Crystals has the following parameters:

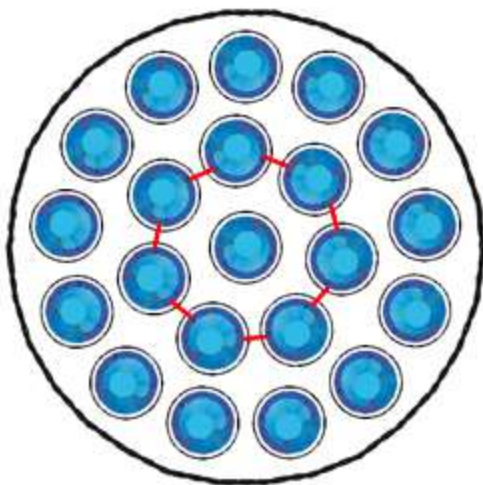
- H.Spacing
- V. Spacing



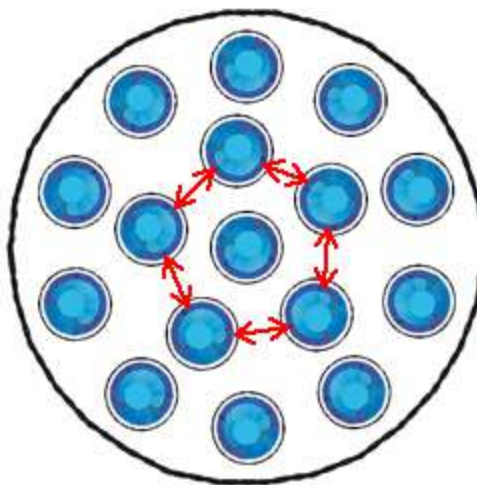
H. Spacing

H. Spacing: 2.0 mm

The H.Spacing parameter specifies the distance between the outlines of the crystals which are on the same contour. The H.Spacing in this case may not be precise, since the crystals of the same contour should be distributed evenly. Therefore whenever you set a H.Spacing value for the contour fill pattern you must always keep in mind the fluctuation of the distance between the crystals.



horizontal Spacing 1.0 mm

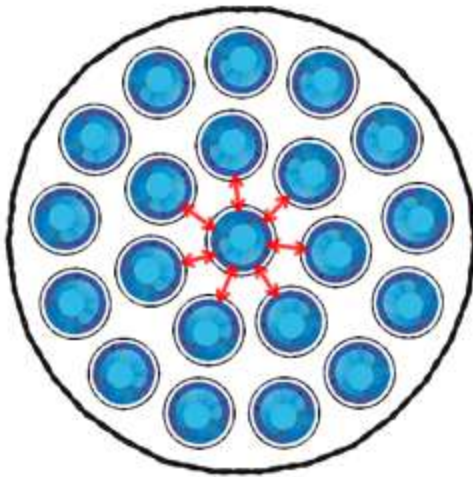


Horizontal Spacing 2mm

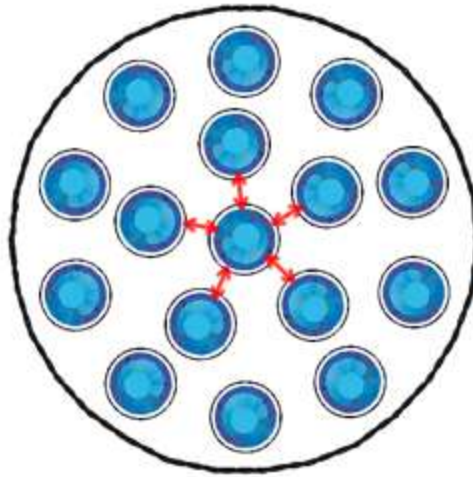
V. Spacing

V. Spacing:

The Vertical Spacing parameter specifies the distance between the outlines of the crystals which are on different but adjacent contours. The spacing in this case may not be precise, since the contours should be placed in a way that does not leave big gaps in the middle of the object.



Vertical Spacing 1.0mm



Vertical Spacing 2mm

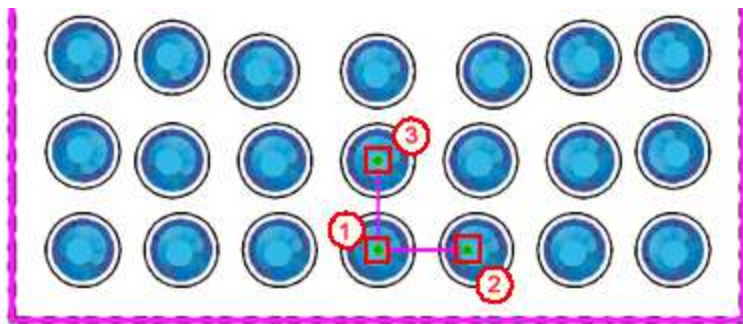
When the contour Fill pattern is selected the V.Spacing option could not be accurate because the software in order to produce the contour fit result needs to average the distances between the crystals. Therefore sometimes the V.Spacing option you have defined might not be exactly the same on the actual design.

Node editing of Contour fill area with Crystals

When selecting an object which is filled with Contour fill type of crystals and clicking on the "Edit nodes" icon



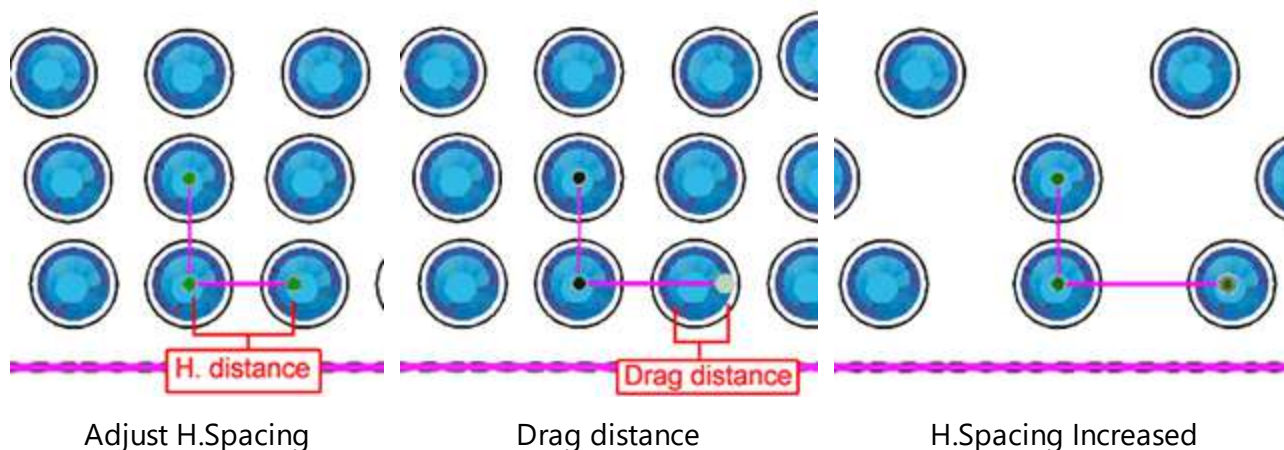
, you can edit the control points of the crystal placement. There are three control points:



Control handles

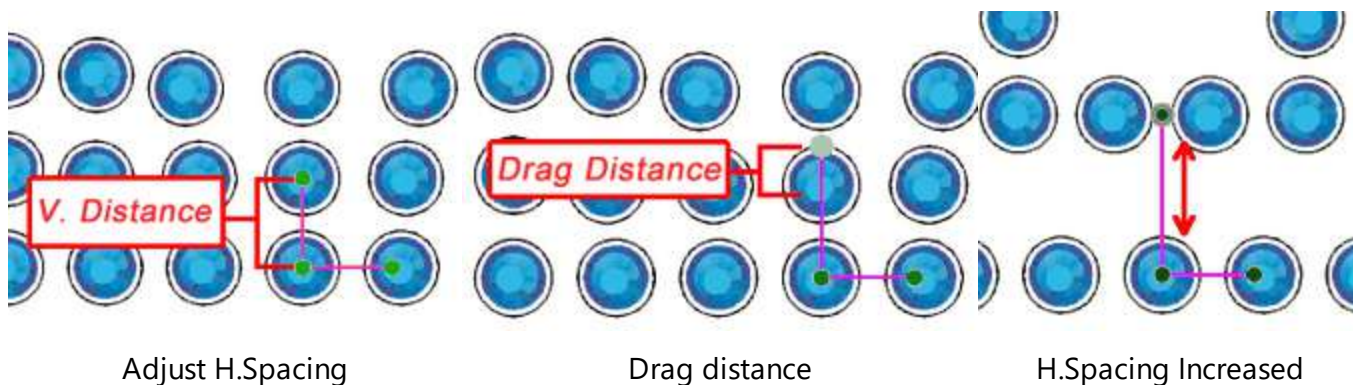
Control point 1 specifies the offset of the parameter, where the first contour will be placed.

The distance between control points 1 and 2 specifies the H.Spacing parameter. This means that by dragging the control point 2 you can change the horizontal spacing (H.Spacing) of the crystals.



Important: The distance between control points 1 and 2 is not the actual value that you see on the H.Spacing parameter but the handle that is defined from these two points can change this parameter by dragging the control point 2.

The distance between control points 1 and 3 specifies the Vertical Spacing (V.Spacing) parameter. This means that by dragging the control point 3 you can change the horizontal spacing (V.Spacing) of the crystals.



Important: The distance between control points 1 and 3 is not the actual value that you see on the V.Spacing parameter but the handle that is defined from these two points can change this parameter by dragging the control point 3.

You cannot rotate 1-2 and 1-3 handles since there is no meaning in changing the starting or slant angle in contour fill type. Therefore the only changes that you can make to the handles are only on their axis. The only limit you have is that you cannot shrink the handles and make the crystals to overlap.

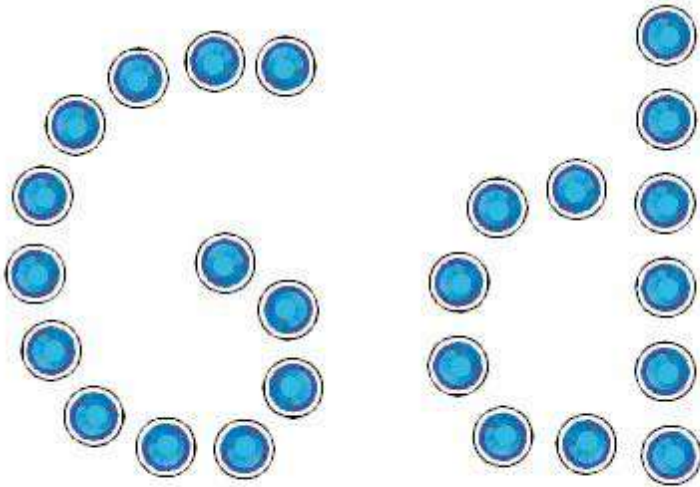
If you wish to edit the outlines of the object you have to enable the parameter Edit outline from the Tool options toolbar.

Single Line

Single line fill pattern is filling areas with Crystals in a continuous line order and it has the following parameter:

- H. Spacing

It is very useful for filling text art designs which otherwise is very difficult to match their shapes.

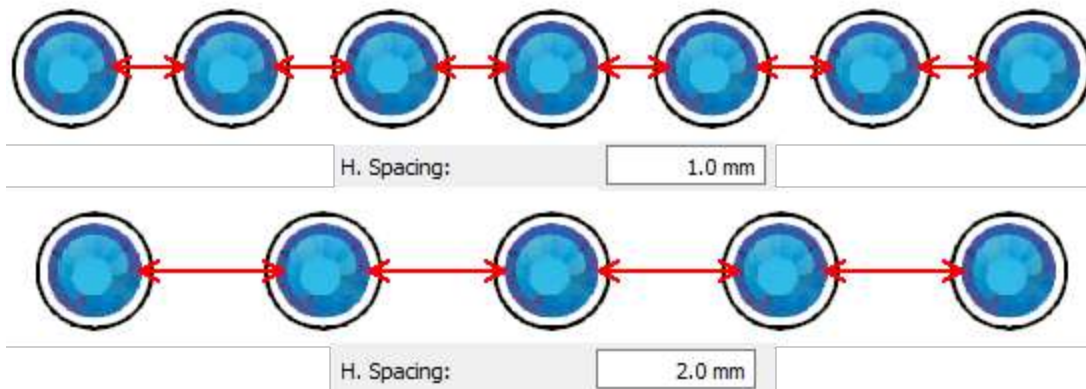


Single line Crystal fill

H. Spacing

H. Spacing: 2.0 mm

The H.Spacing (Horizontal Spacing) parameter specifies the distance between the outlines of the crystals. The H. Spacing in this case may not be precise, since the crystals inside the shape should be distributed evenly. Therefore whenever you set a H.Spacing value for the Single line fill pattern you must always keep in mind the fluctuation of the distance between the crystals.

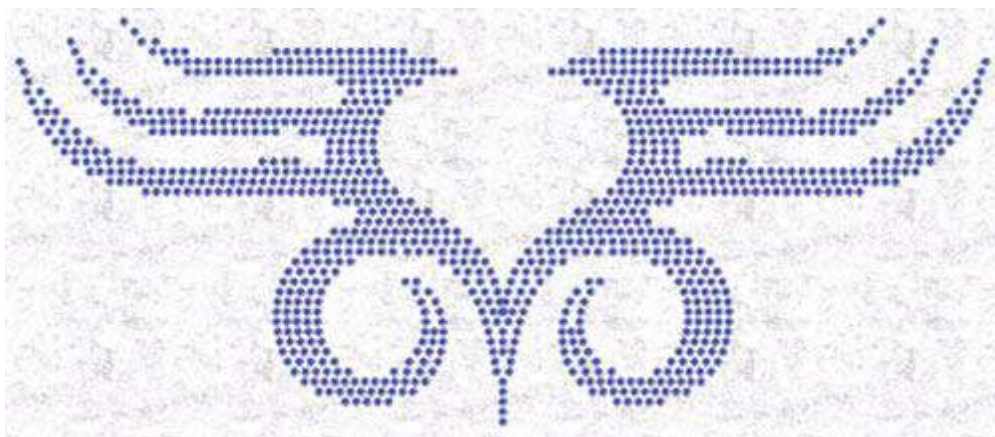


Horizontal Spacing

Shape fit fill

Shape fit is the default way of filling crystal fill designs because it fits better to the most designs that you will try to fill with crystals. Its major advantage is that adjusts the way that the crystals will be placed by not keeping the distance between objects standard and by following better the shapes flow. Shape fit way of filling areas with Crystals has the following parameters:

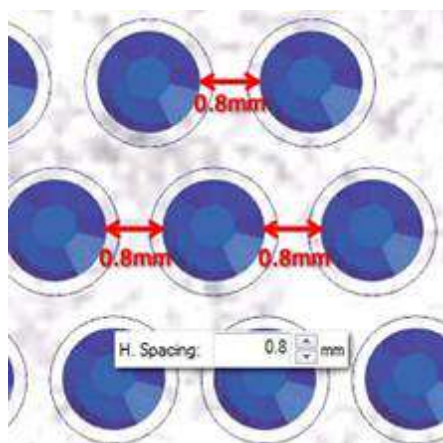
- H.Spacing
- V. Spacing
- Start angle



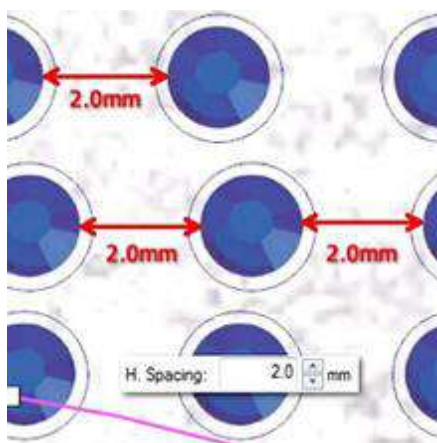
H. Spacing

H. Spacing: 2.0 mm

The H.Spacing parameter specifies the distance between crystals. The H.Spacing in this case may not be precise, since the crystals may not be distributed evenly. Therefore whenever you set a H.Spacing value for the Shape fill pattern you must always keep in mind the fluctuation of the distance between the crystals.



horizontal Spacing 0.8 mm

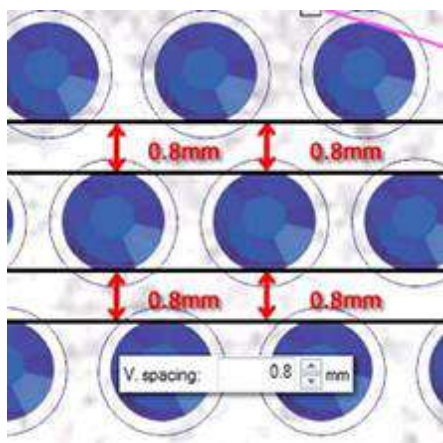


Horizontal Spacing 2mm

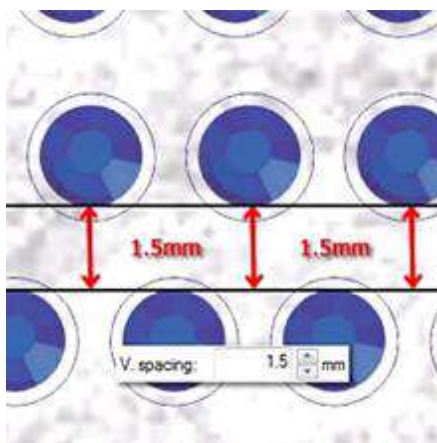
V. Spacing

V. Spacing: 1.0 mm

The Vertical Spacing parameter specifies the distance between the outlines of the crystals which are on different but adjacent contours. The spacing in this case may not be precise, since the contours should be placed in a way that does not leave big gaps in the middle of the object.



Vertical Spacing 1.5mm



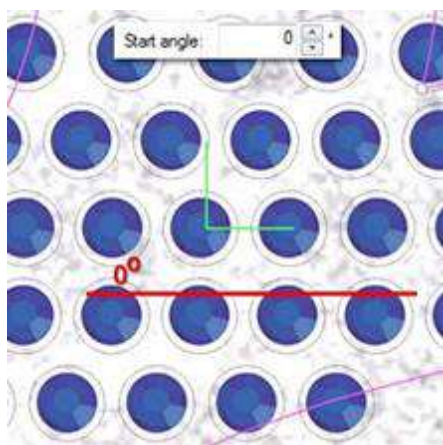
Vertical Spacing 3mm

When the contour Fill pattern is selected the V.Spacing option could not be accurate because the software in order to produce the contour fit result needs to average the distances between the crystals. Therefore sometimes the V.Spacing option you have defined might not be exactly the same on the actual design.

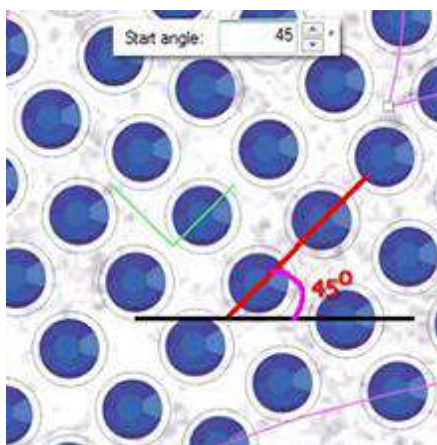
Start angle

The Starting angle parameter specifies the angle of the horizontal lines of crystals which will fill the object you created. When the starting angle is set to 0 degrees, the lines will be horizontal. By changing the angle you will get different results on the Shape fit fill pattern. Each shape might need different Start angle in order the pattern to fit in the design. Therefore it is good practice to change values until you find the one that is appropriate with the design.

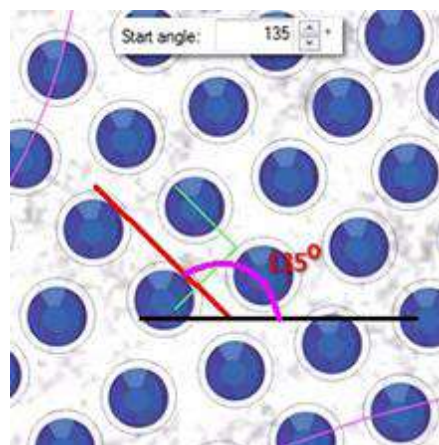
For better result also you will have to adjust the H.Spacing and V.Spacing values. By adjusting the spacing between the crystals you will be able to apply the pattern you want.



Start Angle 0o



Start Angle 45o



Start Angle 135o

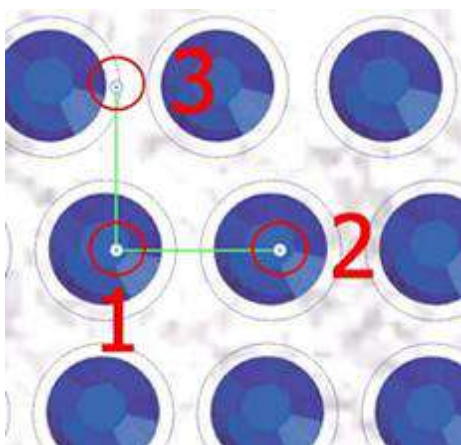
The Start angle parameter it is also specified in the design with the horizontal green handle. This handle can

be edited while you are in Edit shape nodes  mode and the Edit outline  option is unchecked from the Tools options bar. This parameter is especially useful when you want to force pattern to start from a specific angle that fit better on a specific shape.

Node editing of Shape fit fill area with Crystals

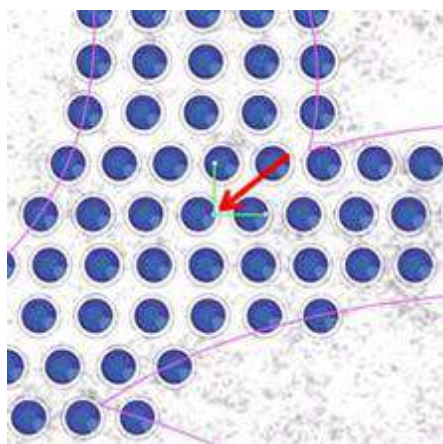
When selecting an object which is filled in with Shape fit Fill pattern and clicking on Edit shape nodes icon , you can edit the control handles of the crystal placement. If you cannot see the control handles as they

appear in the images below you will have to uncheck the Edit outline  option from the Tools options bar. Then you will see a 90o green corner at the middle of the design. There are three control points:

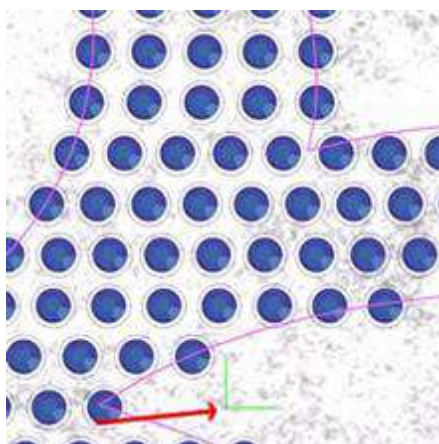


Control handles

Control point 1 specifies the position of the first crystal in the design. All the other crystals will be placed based on the first one, following the parameters of the Crystal fill type that were specified on the Properties toolbar. You can click and drag the starting point of the design and change the way that crystals are positioned in shape. Also, you can select the control point and use the arrow keys to move it for more precise adjustments. By holding the Ctrl key pressed and using the arrow key the movement step is larger for quicker movements. The way that the crystals are positioned inside the shape will change immediately

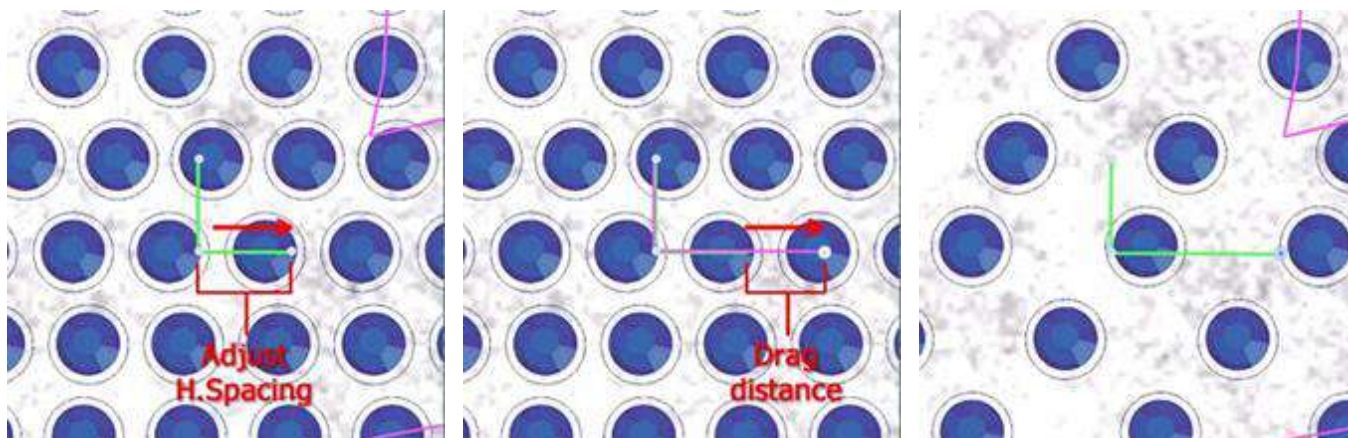


Starting Point



Start Point at bottom left corner

The distance between control points 1 and 2 specifies the H.Spacing parameter. This means that by dragging the control point 2 you can change the horizontal spacing (H.Spacing) of the crystals.



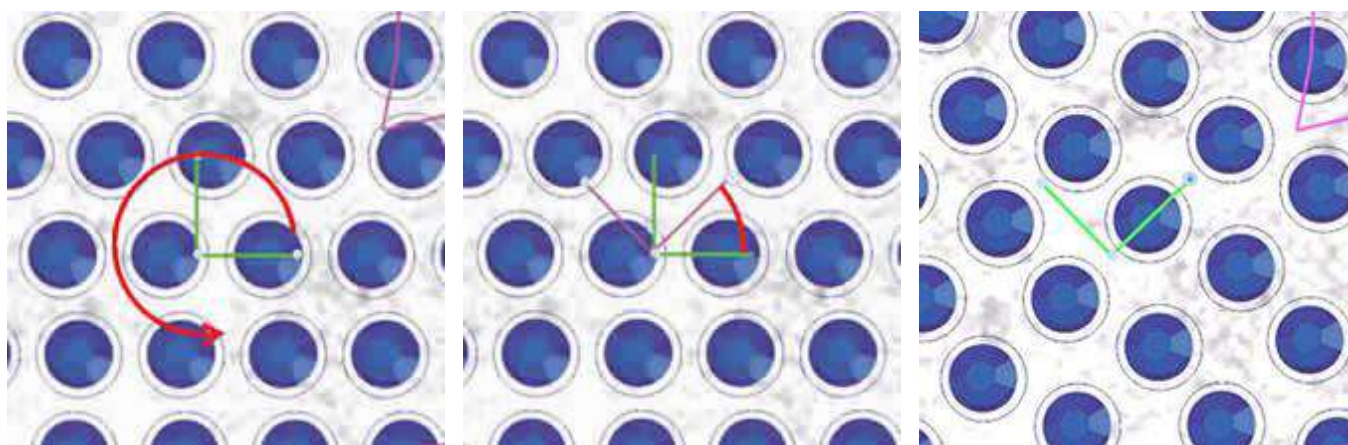
Adjust H.Spacing

Drag distance

H.Spacing Increased

Important: The distance between control points 1 and 2 is not the actual value that you see on the H.Spacing parameter but the handle that is defined from these two points can change this parameter by dragging the control point 2.

The angle of 1-2 line, specifies the Starting angle. By rotating the control point 2 clockwise or counter clockwise you can change the Starting angle of the crystal fill.



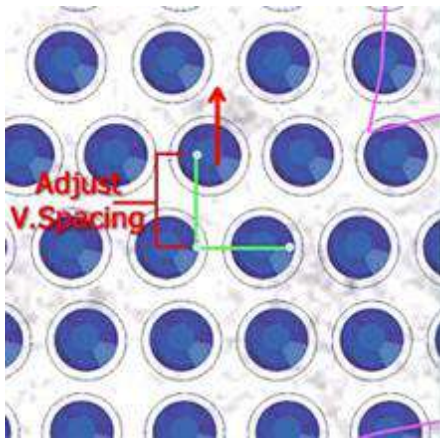
Rotate control point 2

Hold Ctrl to snap on every 22.5o

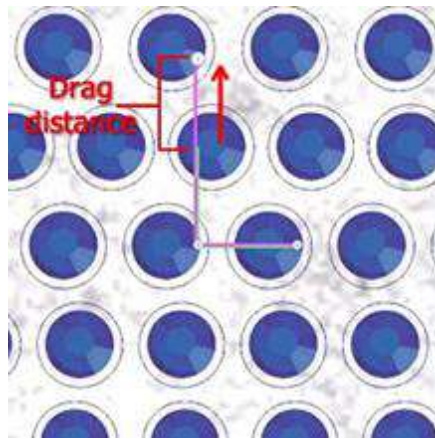
Rotated 45o degrees

If you hold the Ctrl key pressed the handle will snap on every 22.5o degrees. Also, if you hold the Alt key pressed the handle will snap on the grid points.

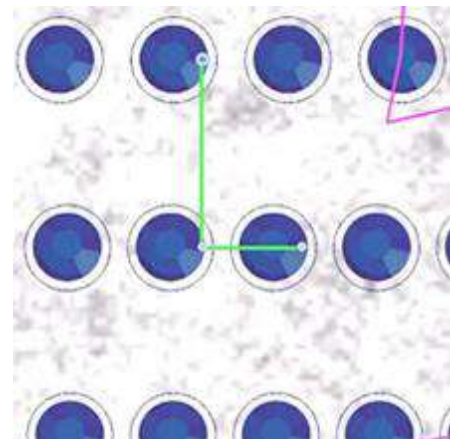
The distance between control points 1 and 3 specifies the Vertical Spacing parameter. This means that by dragging the control point 3 you can change the horizontal spacing (V.Spacing) of the crystals.



Adjust V.Spacing



Drag distance



V.Spacing Increased

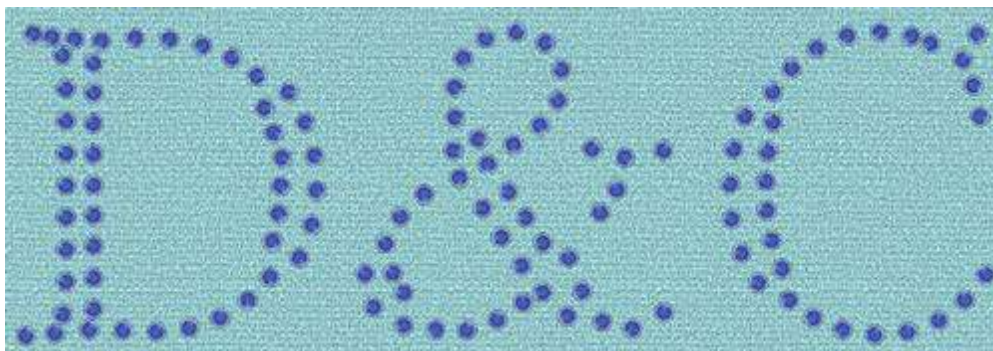
Important: The distance between control points 1 and 3 is not the actual value that you see on the V.Spacing parameter but the handle that is defined from these two points can change this parameter by dragging the control point 3.

Line fit

Line fit fill pattern is filling areas with Crystals in a continuous line order and where is needed it adds more lines. This fill pattern it has the following parameter:

H. Spacing

It is very useful for filling text art designs which otherwise is very difficult to match their shapes. Line fit pattern will add single line crystals in narrow areas and will double/triple the lines in wider areas. With this procedure will match better the text art design or any other design that has narrow and wide areas.



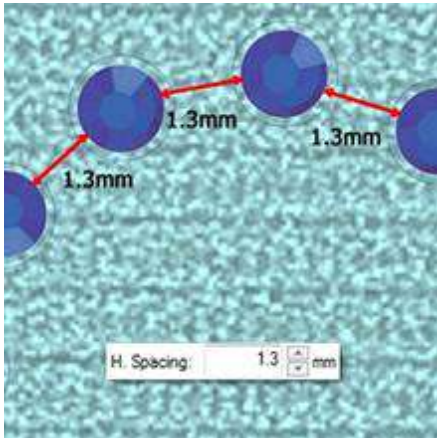
Single line Crystal fill

H. Spacing

H. Spacing: 2.0 mm

The H.Spacing (Horizontal Spacing) parameter specifies the distance between the outlines of the crystals. The H. Spacing in this case may not be precise, since the crystals inside the shape should be distributed evenly.

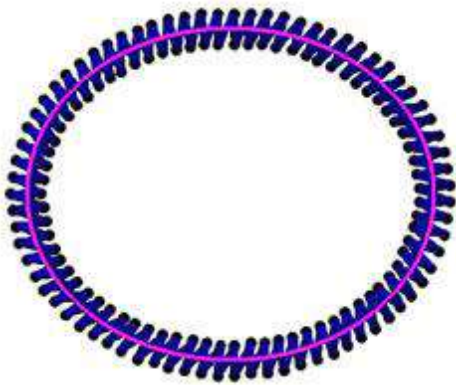
Therefore whenever you set a H.Spacing value for the Single line fill pattern you must always keep in mind the fluctuation of the distance between the crystals.



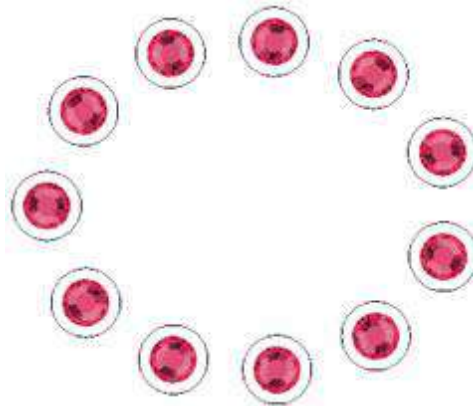
Horizontal Spacing

Crystals on outline

The "Crystals" type is also available on outline and you apply, crystals are placed on the outline of the object. For example, the circle of the following figure, in the beginning, it has a "Satin serial" outline. Then by using "Crystals" type on "Outline" of "Properties" bar, it has crystals on its outline. The options that are available in order to customize the crystals when applied on "Outline" are described below.



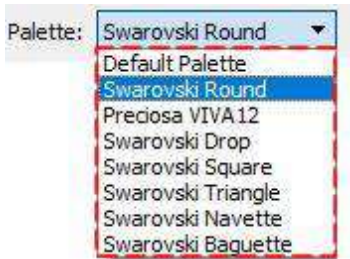
Satin serial outline



Crystals outline

Palette

First of all you must select the crystals "Palette" from "Properties" bar. The selection of the palette is important because, once you select the palette, then you will see only the available sizes and colors of the selected palette.



The Swarovski Round palette has 85 crystals and the Preciosa Viva12 has 59 crystals. There are also some Swarovski palettes with different shapes: "Drop", "Triangle", "Square", "Navette" and "Baguette".



If you do not have any of the available palettes your only alternative is to use the Default palette. The Default palette contains only one crystal. You can use this crystal to fill all your crystal designs and change its color by simply changing the color of the shape where the crystal was placed. Therefore with only one crystal you can apply any color you like by changing the color of the shape.

Size

Then you need to select one of the available crystals "Sizes". The available crystal sizes depends on the palette you have selected. For example, the Swarovski Round palette has 15 different crystal sizes, the Preciosa has 4 and the Default palette includes all possible sizes that can be cut from the cutting machines, 33 sizes. The Size selection \le includes different values in order to be easier for the user to select the one that corresponds to the crystal/rhinestone he wants to use.

- SS: SS stands for Stone Size. This name is used for flat back and larger pointed back stones
- PP: PP stands for Pearl Plate. This name is used for stones and it comes from pearl sizing techniques. The size approximation is $1/2 \text{ PP} = \text{SS}$
- mm: This value shows the approximate size range of the crystals in millimeters.
- inch: This value shows the exact size of the crystals in inches.

Usually the crystal packages mention the actual size of each crystal. The size is very important for the software because all the crystal hole sizes are calculated based on this value. If for example you select a larger size from the actual size of the crystal you want to use, the holes will be larger and the pattern after placing the crystals might not be correct. If you do the opposite, the crystals will not fit in the holes you have cut. The default crystal size of the software is SS10 or PP21- PP22.

Size:

SS	PP	mm	inch
5	11	1.7-1.8	0.071
5	12	1.8-1.9	0.075
6	13	1.9-2.0	0.079

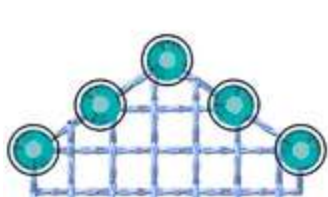
Color / Shape

Then you can click on the icon of the selected crystal color to see the full list of the available colors of the selected palette.



Offset

The Offset parameter specifies the distance between the outline and the center of the Crystal. The Offset parameter can also accept negative values from -15 to + 15 mm. This is a very useful parameter when you want to move the crystals placed on the outlines away from the design and vice versa. Usually when you apply crystals on the outline, they are placed along the outline which makes them overlap with the fill area of the shape. This is the reason why the offset value is there, to allow you make changes on the outline easily.



Crystal fill offset 0mm



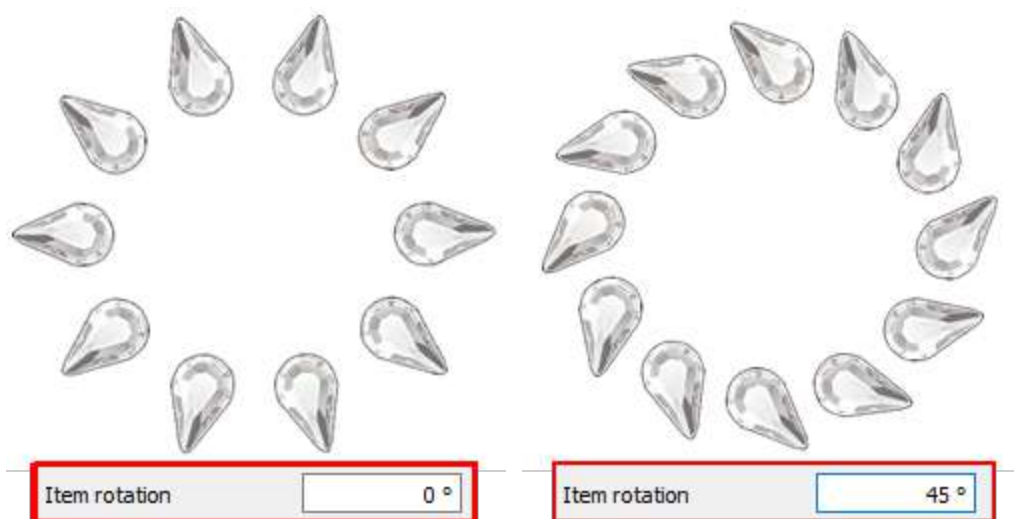
Crystal fill offset 2.0mm



Crystal fill offset -2.0mm

Item rotation

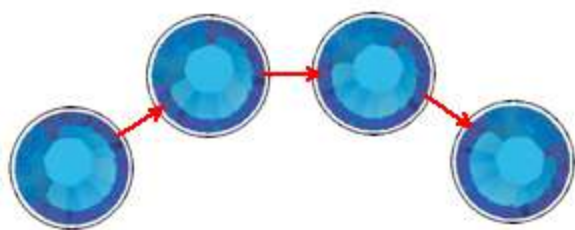
With the Item rotation you have the ability to rotate the crystals you have inserted in the shape.



You can increase or decrease the Item rotation value by clicking on the arrows next to the value or by clicking on the value and rotating the mouse wheel. The value that you are inserting defines the exact rotation angle you want the crystals to have from their initial position. The default Item rotation value is zero and can be changed only from you. Any changes you are making on the Item rotation value it is previewed on the design. The crystal rotation is always counter-clockwise.

Spacing

The Spacing parameter specifies the distance between the outlines of the crystals. For this calculation the Crystals cut offset (green circle around the crystals) is not taken under consideration. The Spacing in this case may not be precise, since the crystals of the same outline should be distributed evenly and the software also adds crystals on sharp corners. This is a very important options because it allows you to create perfect crystal holes on the material you want and avoid crystals' overlapping.

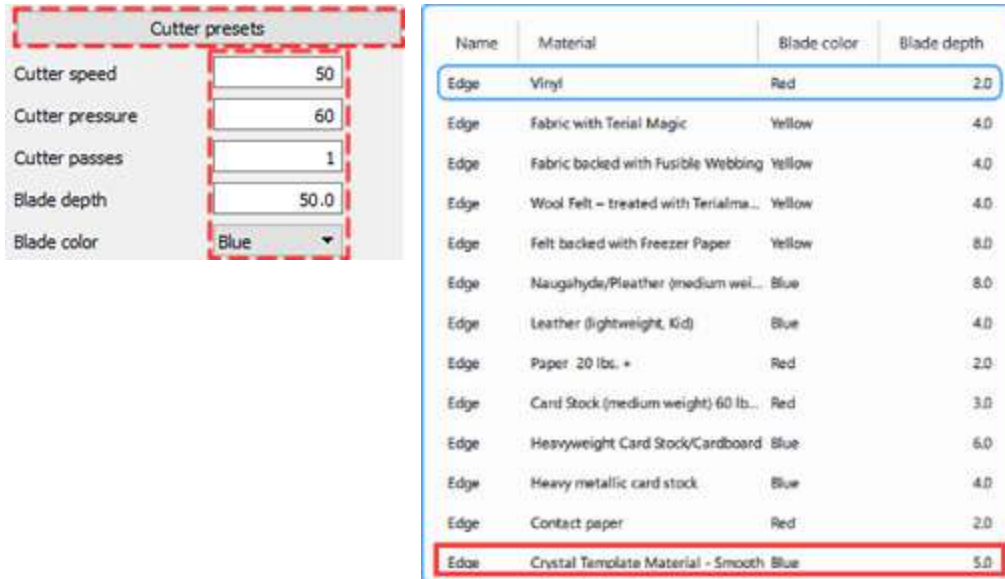


Horizontal Spacing

Cutter presets

Since any crystal design you create will be sent to a digital cutter for template production it is a good practice to "Adjust" the options of the cutter either by selecting a cutter preset or if you are familiar with the cutter and the material by adjusting cutter settings manually. The following cutter options (Cutter pressure, Speed, Passes, Blade color and Depth) should be adjusted correctly in order to produce any design using your digital cutter. The following cutter options must be adjusted either for each object, here in Properties, or

at the Export to Cutter dialog. In order to assist you in selecting the proper settings according to the material and the type of the operation we have prepared various operation presets. Click on the Cutter presets button and from the drop down menu, select any of the available presets for your Cutter and the material that you are going to use. This preset selection affects only the selected objects. The settings that you select here are used for the selected objects when you export the design to the digital cutter.

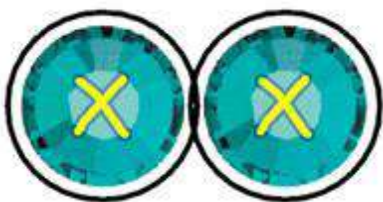


Separate to Crystals

Using the "Separate to Crystals" button you can convert the selected object into individual Crystals. That means that you are able to delete, move or manually add Crystals. This option is mainly used to avoid overlaps and to refine certain designs. Also, is very useful when you want to create a shape with crystals and then assign different crystal Color/Shape to parts of the design. Keep in mind though, that you cannot group the separated crystals back to a crystal fill object. Therefore keep the "Separate to crystals" option as your last choice or keep a duplicate object of the one that you will separate to crystals in order to be able to go back and edit it again.

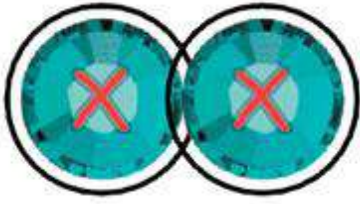
Overlapping Crystals

This option is very useful when you are creating designs with crystals. You can enable this option from View menu by selecting Overlapping crystals. By enabling this view all crystals that overlapping will be marked with an "X" in order to be easily recognizable. If the overlapping between the crystals is limited on the outline of the crystals the "X" will be yellow.



Crystals outline overlapping

If the overlapping between the crystals is on the actual crystals the "X" will be red.



Actual crystals overlapping

Every time you finish a design with crystals it is a good practice to enable the Overlapping crystals option in order to check if there is any overlapping in your crystals that you have not noticed and needs to be fixed.

Notice: It is advisable not to leave the Overlapping Crystals always on because it might slow down your PC.

Cut - Creating designs with Cuts

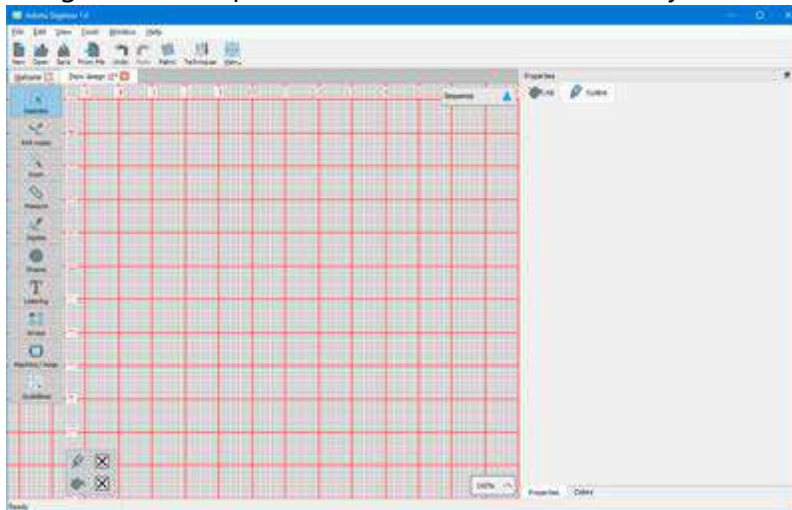
The software implements "Cut" capability in a way that cutting was made simple. In the following topics we will present how Cutting works. Connect to your Digital cutter and the possibilities are endless. You can easily connect to a variety of Digital Cutters (Artistic Edge, Zing, Silhouette Cameo-Portrait-SD, eCraft, Foison, eClips USB 2, Redsail and GCC Jaguar) or export to an file format that your cutter supports (*.PLT,*.SVG,*.DXF,*.Brother FCM, and *. NCK files).You have the ability to create shapes, motifs and designs in the software and cut it out of virtually any material. You can cut fabric for applique, templates for crystal designs, vinyl to adhere to shirts, glassware, walls or mirrors, magnets for your car or fridge, paper for any scrap-booking or paper-crafting projects. Be prepared to find yourself experimenting with new techniques, materials and designs in no time! In the following topics we will present some samples of how to create Cut designs. Generally we can easily change any design part into a Cut line by apply Cut Outline type.

All the functionality that is described into the following topics (Cut chapter) is enabled only if you have enabled Cut Technique technique for the created/edited design.

Create a Cut design from scratch

It this topic we will create a design from scratch, without using any artwork source and using the available design tools and we will design some objects and make them "Cut" objects.

1. Start the software and create a new design, the design area will appear blank without any design on it.
2. Using the Techniques icon  make sure that only "Cut" technique is enabled.



3. We will create a logo like design with a "Text" object and a "Symbol", and then cut the letters and the symbol into a material with different color. Start the "Text" tool  from the "Tools" toolbar.
4. Click on the place you wish to place the text object. Now on "Tools options" bar you can type any text you want and you can also adjust the options of the added text before adding.



Adjust Text options

5. We will type "Water" and then we will left click the Rectangle selection  to finalize the entered text and release the text tool.

Water

Entered text

6. In order to be able to separate text object I will select a light Fill color and a darker outline color as you can see in the following figure.

Water

7. Now we will use the option "Insert symbol" of "Tools" menu option in order to add a drop shape. Start "Insert symbol", select "Wingdings" font, select the drop icon as on the following figure and press "Insert" button.



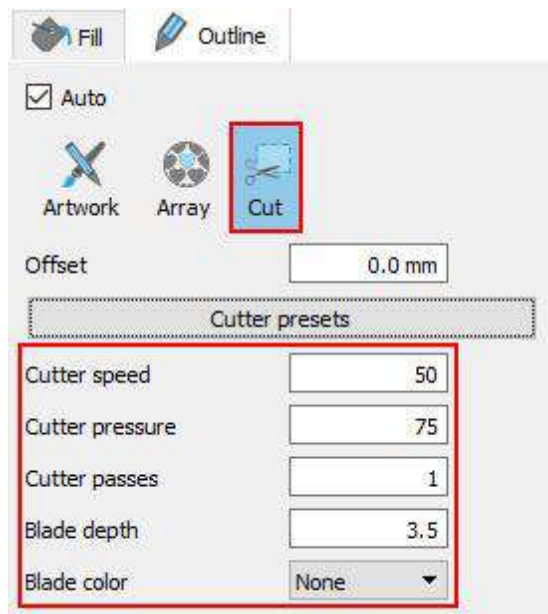
- The insert symbol dialog closes and the cursor turns into a cross waiting for you to specify the position of the symbol. Click and drag to define position and size of the symbol.



- We will select a light blue color for the fill of the symbol and a darker blue for the outline of the symbol.

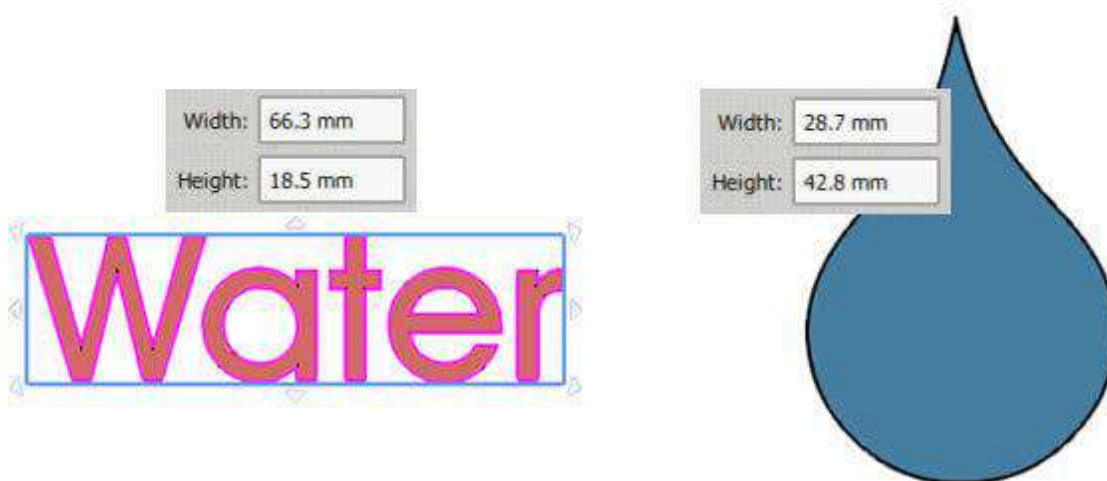


- Since we have only "Cut" technique enabled any object we design is automatically set to have a "Cut" outline type. So we do not need to do anything, the created objects are already Cut objects. Select both the Text object and the Symbol and check the outline properties. As you can see on the following figure there are some options about the "Cutter" we will present them later in detail.



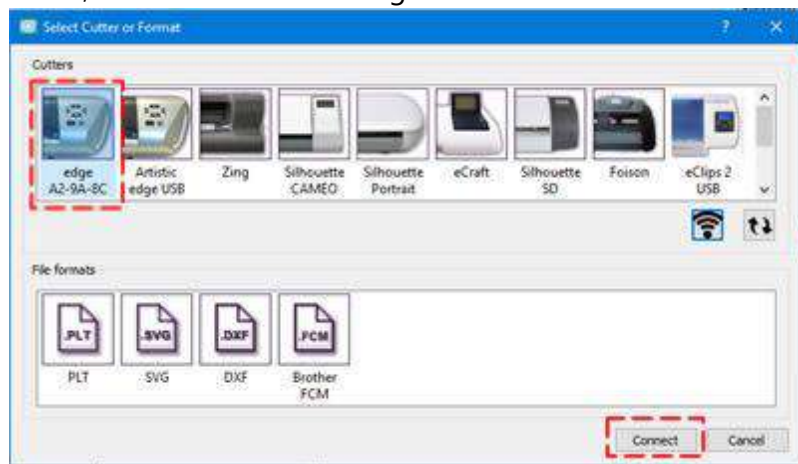
- Let's suppose that we are done with the design and we are ready to Cut the parts using our digital cutter. We want to Cut the characters on a Red color material and the symbol on a Blue color material. So we need a Red adhesive material sized Width 66.3mm and Height 18,5mm according to

the size of the Text part to be placed on the cutting mat and Blue one according to the size of the drop symbol.



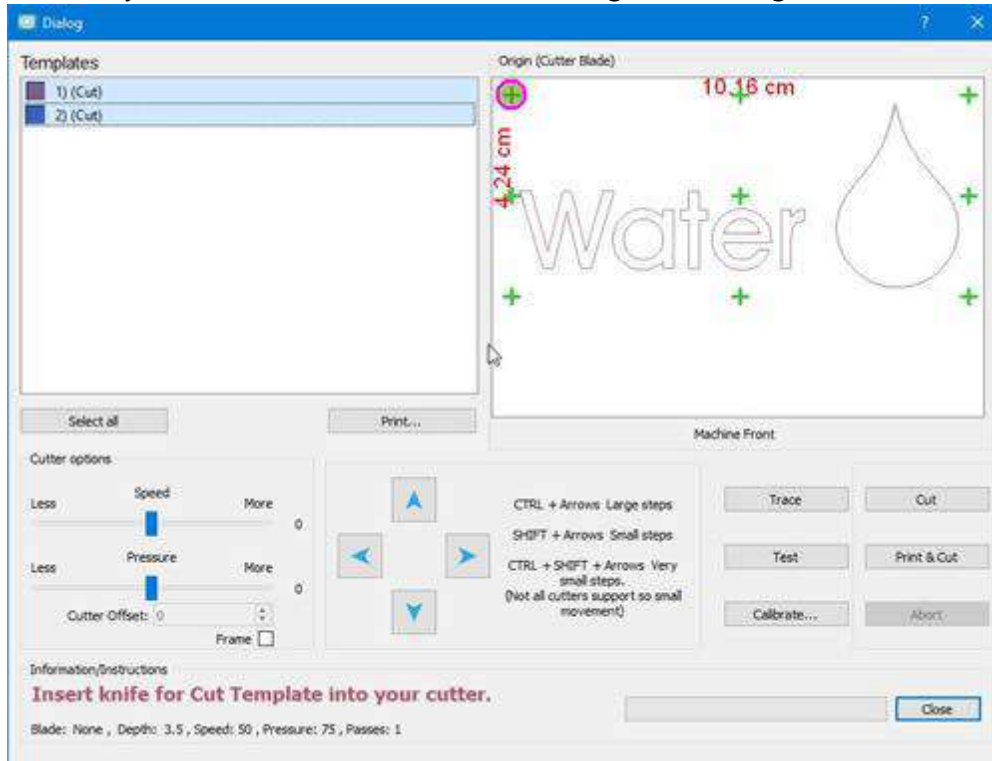
12. Use "Export to cutters" option from "File-Export" menu.

13. From the appearing dialog we must select one of the Cutters to connect or a File format if we want to export to a file and import to our cutter in a manual way. In our sample we will use Artistic Edge cutter, click on the Artistic Edge Cutter icon and then click on "Connect" to proceed



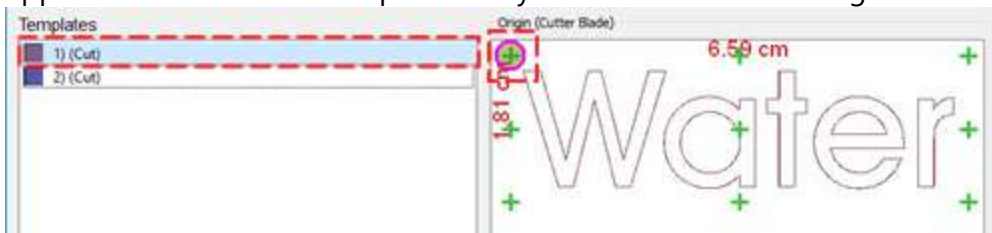
14. The "Export to Cutter" dialog will appear, using this dialog you can Cut any design part with your cutter. If the Digital Cutter is properly connected and powered ON, then at this point you should be able

to directly communicate with the Cutter through this dialog.



15. Before proceeding you must have loaded the cutting mat with the cutting materials into the Cutter.

16. First we will select the Text part to be cut from the Templates area and set the starting point o the upper left corner. This is the point that you want the cutter to begin from.



17. If you have never used this material on your Cutter you should first perform a Test cut to verify that the material is Cut properly with the current settings. Using the arrow buttons move the Blade to a position that will not be used for the actual Cut and press Test button. The cutter will perform a test Cut of the material, peel the cut part in order to verify if it was correctly Cut. if it was not adequate adjust the cutter options until you are satisfied by the result.

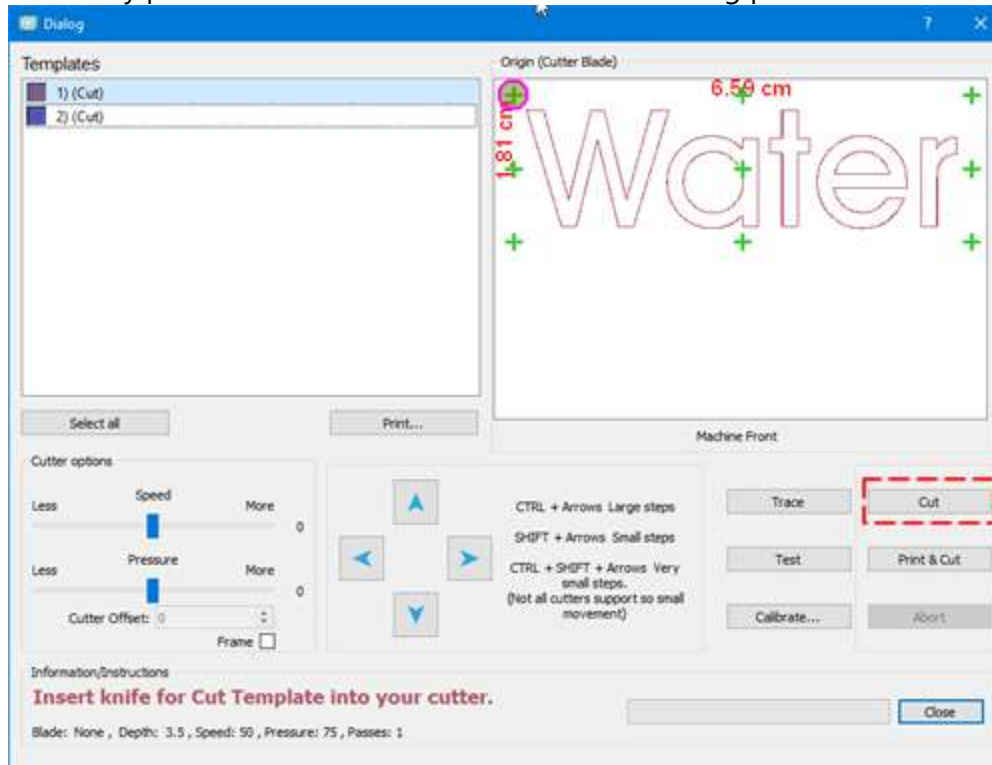
18. Now you must position the Blade for the actual Cutting of the material. In our case we must move the Blade close to the edge of the upper left part of the material according to the origin we have selected. Use the arrow buttons to move the Blade to a desired position. If you need to fine tune the position of the Blade you can use "Ctrl" , "Shift" keys to adjust the step of the movement.

- Hold Shift key  in order to make the movement small.
- Hold "Ctrl" key  (for Mac OS use "Cmd") in order to have a large movement step.

- Use Ctrl and Shift keys together (**Ctrl** + **Shift**) (for Mac OS use "Cmd") to make a very small movement step.

19. You can "Trace" the area that the design will need to make sure that it fits into the material you have placed.

20. Finally press "Cut" in order to start the actual cutting process.

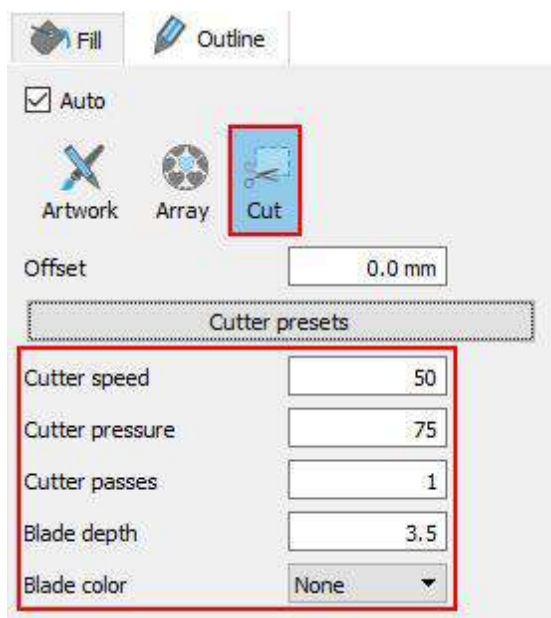


21. After the cutting process of the text part is complete you must Cut the symbol part. Select the symbol template, set the same starting point and move the Blade to the upper left corner of the blue material on the cutting mat using the arrows. Press Cut to proceed cutting the Symbol part. If you have followed all the steps correctly then at this point you must be peeling out the part to use them for your projects.

Cut properties

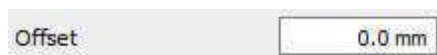
As we have already mentioned we can easily create any design and by applying the ""Cut"  outline type the select part is marked as a cut design and we can cut it using our digital cutter. The "Cut" outline type is applied only on objects that have outline, otherwise it is not available. If we have only "Cut" technique enabled and we import a vector design, it is automatically converted into "Cut" lines. When we have other techniques the software selects other outline types for the imported artwork. We can apply "Cut" on any

object simply by selecting the object and then press on the "Cut"  type on "Outline" section of "Properties" bar.



For the "Cut" type we have "Offset" property and a set of cutter settings.

Offset



By defining an "offset" value for a "cut" outline, you can specify a distance, inner or outer from the original, that you want the "Cut" to be moved. For example: if you set the offset value to 3mm the "Cut" will move by 3mm to all directions outside its initial position. On the other hand if you set the value to -3mm the "Cut" will move its outline by 3mm to all directions inside its starting position. In the Offset numeric field you can enter the value of offset you want (Cut offset), with lowest value of -15mm and highest value 15mm. Also, you can increase or decrease the offset value by rotating the mouse wheel, if there is one. The value that you are inserting defines the exact distance you want the "Cut" to have from the initial artwork position. If the value is negative an inner offset will occur and vice versa, if it is positive. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value they are automatically previewed on the design

Cutter presets

All the "Cut" objects are produced by placing a Blade to your digital cutter and then exporting the design to the cutter. The following cutter options (Cutter pressure, Speed, Passes, Blade color and Depth) should be adjusted correctly in order to produce any design using your digital cutter. The following cutter options must be adjusted either for each object, here in Properties, or at the Export to Cutter dialog. In order to assist you in selecting the proper settings according to the material and the type of the operation we have prepared various operation presets. Click on the Cutter presets button and from the drop down menu, select any of the available presets for your Cutter and the material that you are going to use. This preset selection affects only the selected objects.

Cutter speed	50
Cutter pressure	20
Cutter passes	1
Blade depth	2.0
Blade color	Red

For example, if you are going to cut a design onto Vinyl using Artistic Edge cutter you must select the appropriate preset. If we select Edge - Vinyl preset then all the cutter options we be set as on the above figure.

Cutter presets			
Name	Material	Blade color	Blade depth
Edge	Vinyl	Red	2.0
Edge	Fabric with Terial Magic	Yellow	4.0
Edge	Fabric backed with Fusible Webbing	Yellow	4.0
Edge	Wool Felt – treated with Terialmagic	Yellow	4.5
Edge	Felt backed with Freezer Paper	Yellow	8.0
Edge	Naugahyde/Pleather (medium weight)	Blue	8.0
Edge	Leather (lightweight, Kid)	Blue	4.0
Edge	Paper 20 lbs. +	Red	2.0
Edge	Card Stock (medium weight) 60 lbs. +	Red	3.0
Edge	Heavyweight Card Stock/Cardboard	Blue	6.0
Edge	Heavy metallic card stock	Blue	4.0
Edge	Contact paper	Red	2.0
Edge	Crystal Template Material - Smooth	Blue	5.0
Edge	Crystal Template Material - Flocked	Blue	6.0
Edge	Stencil Plastic	Blue	10.0
Edge	Plastic	Red	5.0
Edge	Paint/Draw	None	0.0
Zing	25mil Rhinestone template	None	0.0
Zing	18mil PVC Rhinestone Template	None	0.0
Zing	Fabric backed with Fusible Webbing	None	0.0
CAMEO	25mil Rhinestone template	None	0.0
CAMEO	18mil PVC Rhinestone Template	None	0.0
eCraft	25mil Rhinestone template	None	0.0
eCraft	18mil PVC Rhinestone Template	None	0.0
Foison	25mil Rhinestone template	None	0.0
REDSail	25mil Rhinestone template	None	0.0
GCC_Jaguar	25mil Rhinestone template	None	0.0

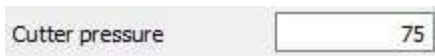
In case that you have a special material or you want to improve the "Cut" quality, you can also adjust the cutting options by changing the following options (Cutter speed, Pressure, passes, blade depth and Blade selection).

Cutter speed

Cutter speed	50

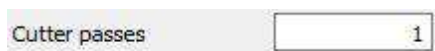
With this value, you can specify the speed that the machine will cut the design. This value varies from cutting machine to cutting machine and some machines does not allow you to change this value at all through our software. You can make adjustments though, through the machine's panel. Feel free to change the Speed setting based on the speed you want the design to be cut. The Cutter speed field can take values from 0 up to 100.

Cutter pressure

A screenshot of a software interface showing a label 'Cutter pressure' followed by a text input box containing the number '75'.

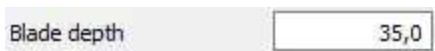
With this value, if it is enabled, you can specify the force that the machine will add on the blade in order to cut the design or to the Pen/brush in order to draw the design. This value varies from cutting machine to cutting machine and some machines does not allow you to change this value at all through our software. You can make adjustments though through the machine's panel. Feel free to change the Cutter Pressure setting based on the depth you want the material to be cut or paint. The value of Cutter Pressure varies from cutting material to cutting material. Thicker material need more pressure and thinner less. The Cutter pressure field can take values from 0 up to 100.

Passes

A screenshot of a software interface showing a label 'Cutter passes' followed by a text input box containing the number '1'.

You can specify the number of Passes you want the design to be made with. It actually defines how many times each shape will be made by the machine.

Blade depth

A screenshot of a software interface showing a label 'Blade depth' followed by a text input box containing the value '35,0'.

With this option you can set the Blade depth of the cutter blade. This value varies from cutting machine to cutting machine and it depends on the blade selection (some digital cutter have more than one blades) . This option is some kind of informational because you may need to adjust the blade depth manually by hand when placing the blade to the digital cutter. The value of Blade depth varies from cutting material to cutting material. Thicker material need more depth and thinner less. The Blade depth field can take values from 1 up to 12.

Blade color

A screenshot of a software interface showing a label 'Blade color' followed by a dropdown menu. The menu is open, showing options: Red, None, Red, Blue, Yellow, and Embosser. A mouse cursor is pointing at the 'Red' option.

This drop down menu lists the Blade color that you have to use in order to cut the specific material. This is applicable on specific machines that include various blades, with different colors. Usually each color is for cutting different material. Check the cutters manual for more information about which blade is from which material.

For example, for Artistic Edge cutter the Blades are for the following use:

- Blue Cap Blades is for cutting thicker materials
- Red Cap Blades is for cutting thin materials
- Yellow Cap Blades is for cutting fabrics

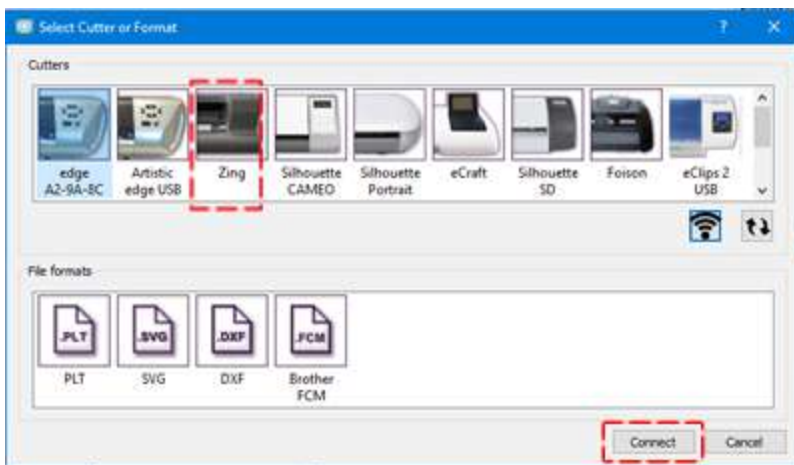
Select the Blade color that you will use for the currently selected object and during the Cutting process the Software will notify you that you will have to use the respective Blade color in order to cut the shape.

Print & Cut

Lets make a brief presentation on how "Print & Cut" functionality works. As we have already mentioned Print & Cut functionality works is 2 ways according to the used cutter. For "Artistic Edge", "Zing" and "Foison Koala" that have a laser pointer we must point (on the printed paper) with the laser pointer some special marks during the procedure so that the print and the cut are properly aligned. For Silhouette CAMEO that has a special optical recognition mechanism we must place the printed paper to the cutter and the Cutter will recognize the special marks using optical recognition. For the following example we have used "Zing" cutter that uses a laser pointer. We will start from the design of the following figure.

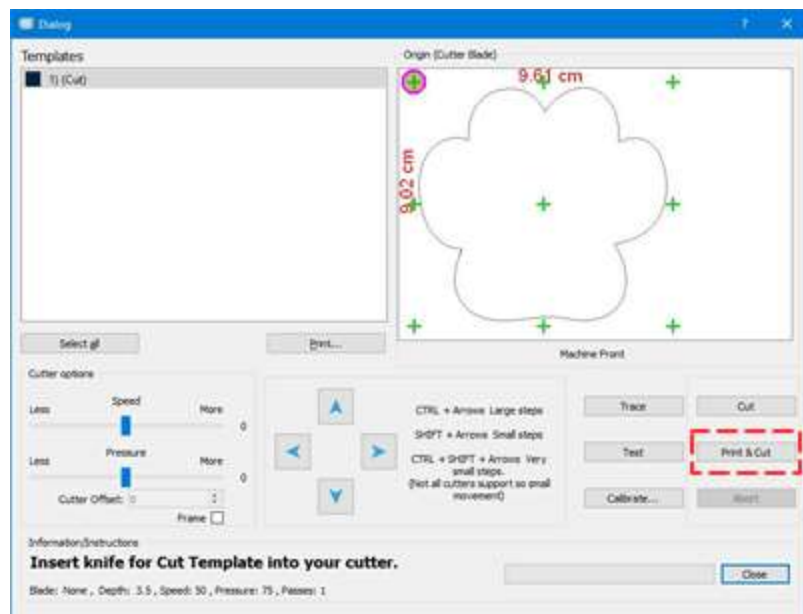


The outer line is set to have "Cut" outline type. From "File" menu, expand option "Export" and from appearing menu use "To Cutters" option. From the appearing dialog we must select one of the Cutters to connect or a File format if we want to export to a file and import to our cutter in a manual way. In our sample we will use "Zing" cutter, click on the "Zing" Cutter icon and then click on "Connect" to proceed.

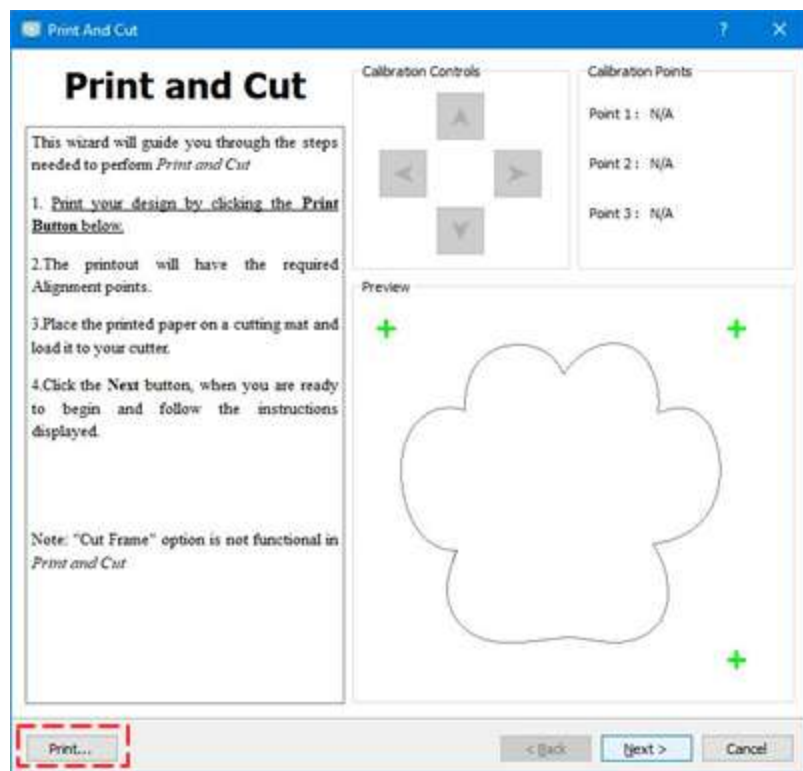


Select a Cutter or Export to a file

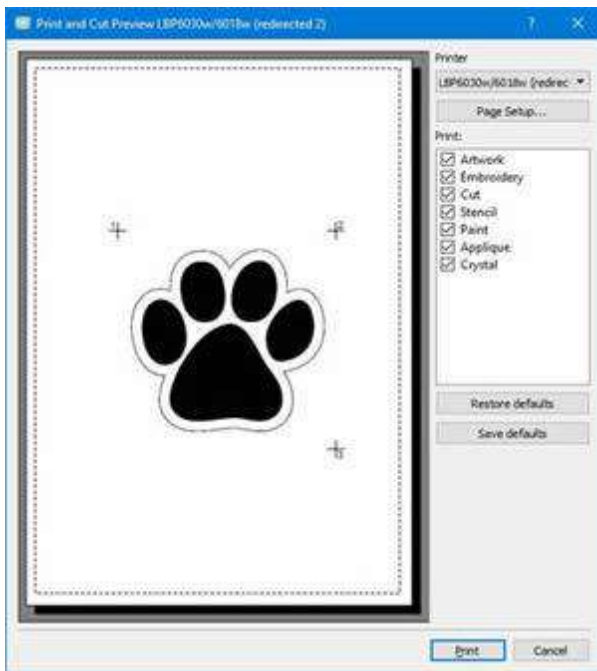
The Export to Cutter dialog will appear, using this dialog you can Cut any design part with your cutter. If the Digital Cutter is properly connected and powered ON, then at this point you should be able to directly communicate with the Cutter through this dialog. For the purposes of this demonstration we will present Print & Cut functionality.



A wizard will start to guide us through the procedure. First you must press print to send the design to your printer.



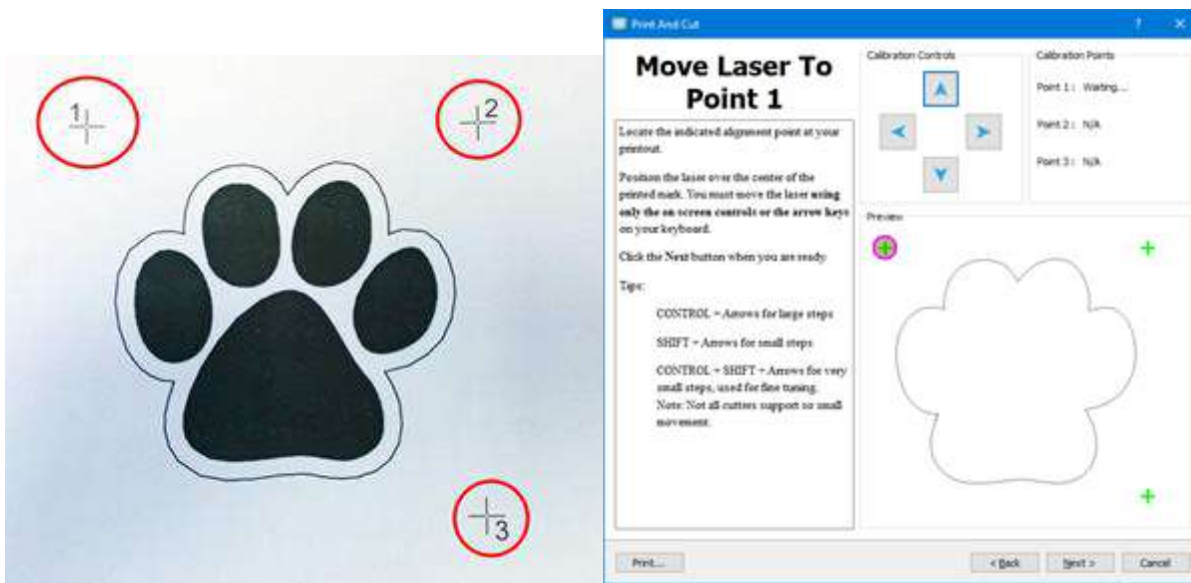
Adjust printing options and press "Print" to send to your printer.



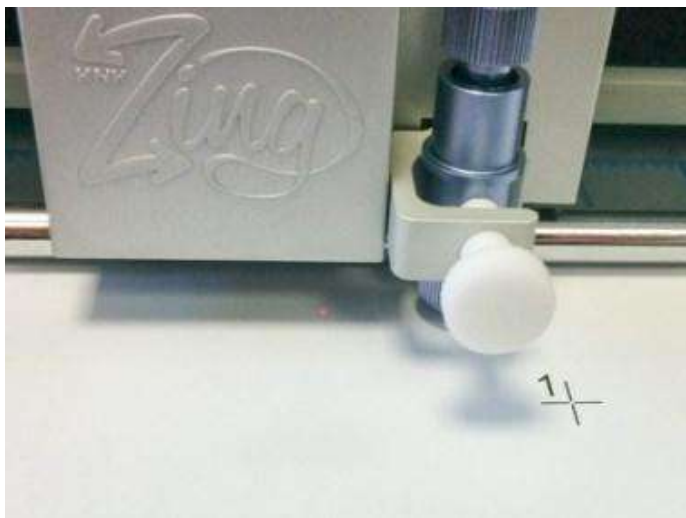
At this point we must mention that you can remove the cutting line from the print in order to have only the artwork and not the cut line.



Now you must place the printed paper onto the cutting mat and place the mat to the Cutter. The printed paper appears on the following figure. Now by pressing next on the Print & Cut wizard we are prompted to move the laser pointer to the 3 points that are pointed by the red ellipses.



Press Next to define the first one, move the laser pointer using the arrow keys to the center of the cross of each point.



Move the laser pointer using the arrow keys on your keyboard to move the pointer at the center of axis of the first point



Move to the center of the first point using the arrow keys and press Next.



Move the pointer to the center of the second point using the arrow keys and press Next.



Move to the center of the third point using the arrow keys and press Cut to start the actual cutting process.

At the end you can remove extra paper and you have the outline of your design cut.



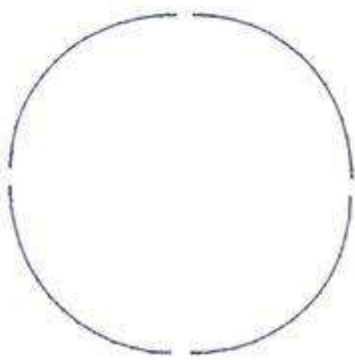
Stencil - Creating stencil designs

In this section we will describe the ability of the software to create "Stencil" designs. A Stencil produces an image or pattern by coloring a surface over an intermediate object with designed gaps in it, which create the pattern or image by only allowing the color to reach some parts of the surface. There are stencil designs that have large cut areas that need to be bridged before cutting them, otherwise the pattern/shape will not be applied correctly. To do that, you have to add a bridge in the outline of the design and increase the support of the material. There are many parameters in the software that can help you adjust the stencil design and produce the result you want.

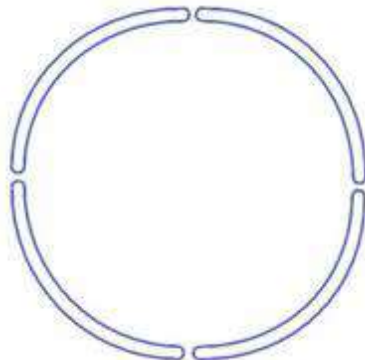
In order to be able to use the "stencil" type we need to have the "Stencil" technique enabled.

Working with stencil

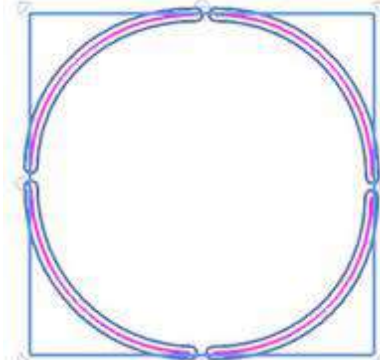
The software includes a special outline type that can convert any open shape to "stencil" shape. To apply it on an open shape you have to select it and then click on the "Stencil"  icon on "outline" tab of "Properties" bar. The open shape will become stencil shape without altering the artwork. A curve outline will be drawn around it to specify the area that will be cut.



Open shape

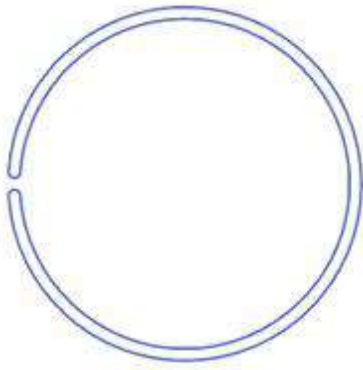


Stencil tool applied

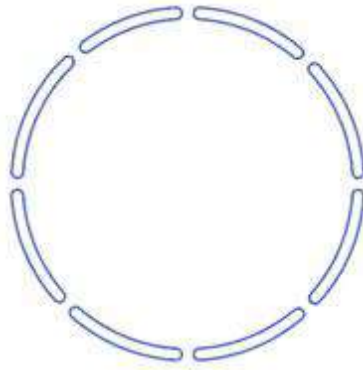


The outline is there but hidden

If you try to apply stencil on a closed shape you will see no difference. If you wish to create a stencil based on a closed shape, you need to add stencil bridges on the shape. To do so, start "Edit nodes" mode and right click on the outline of the closed shape, at the point where you wish to add the stencil bridge, and from appearing menu use "Stencil bridge" option. The closed shape will become open and now it will look like a stencil. According to the shape and its size, you may need to add more stencil bridges, in order to make your stencil more stable. For example if you have a stencil shape circle, you cannot have only one stencil Bridge. You have to add more than one bridges in order to make the stencil design more stable.



Only one stencil Bridge



Many stencil Bridges

It is important to know that if the closed shape you want to apply stencil bridge is any of the build in shapes, you will have to "convert it to curves" first by selecting the respective option of the right click menu and then you can add "stencil bridges" like on any normal object.

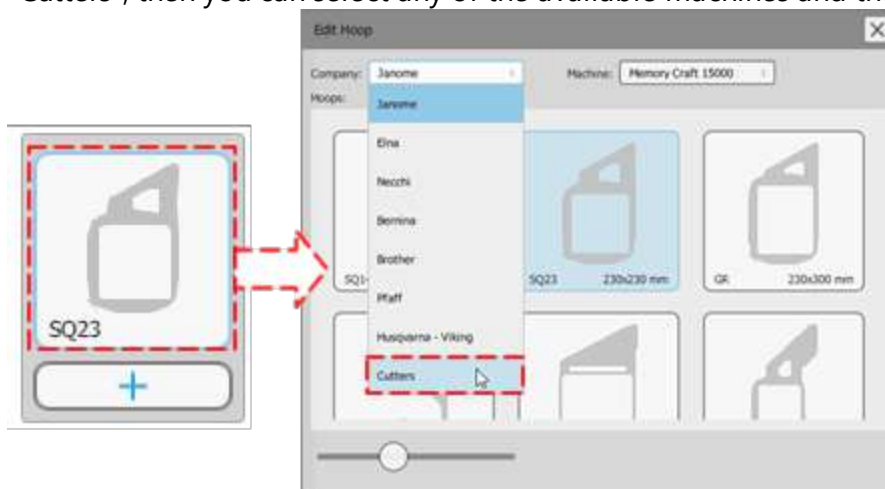
Create stencil design

This is a step-by-step tutorial to guide you on how to create a new design, import an vector file and convert into "Stencil" design.

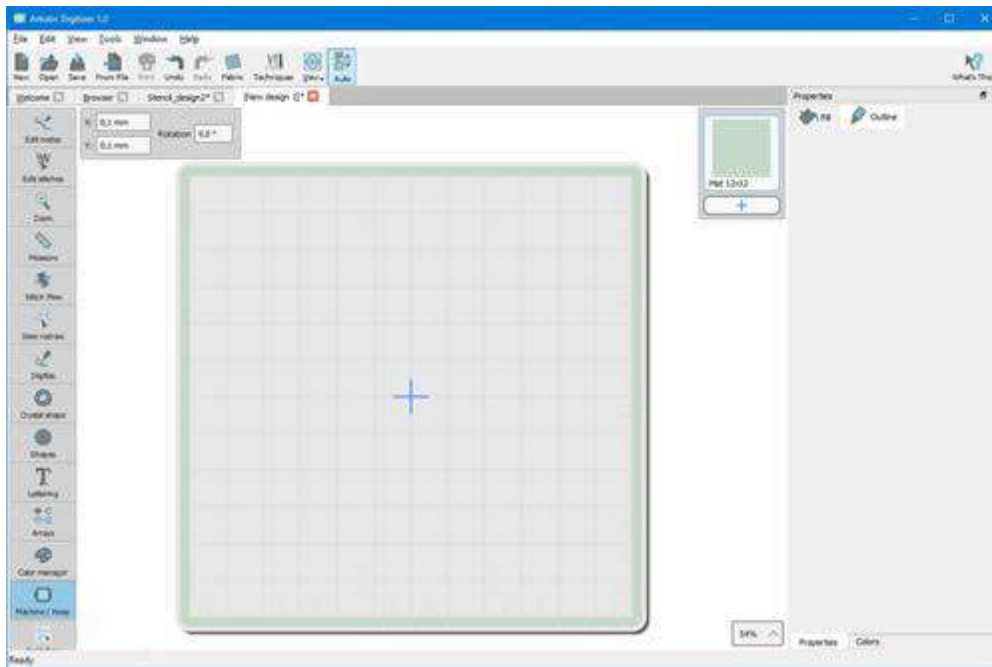
Start the software and create a new design, to start with a blank canvas.

Make sure that the "stencil" technique is enabled.

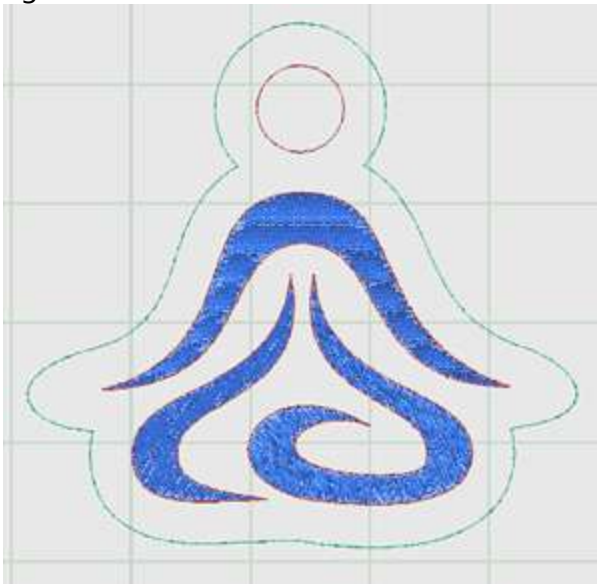
1. If you wish to preview your design onto a cutting mat then press the "Machine / Hoop" option on "Tools" bar and then you will see a hoop bar on the upper right part of the design area. Double click on that hoop and the "Edit hoop" dialog will appear. Expand the company drop-down menu and there is an option "Cutters", then you can select any of the available machines and their cutting mats.



- If you have followed the example until this point you should have a blank design area with a cutting mat on the center.

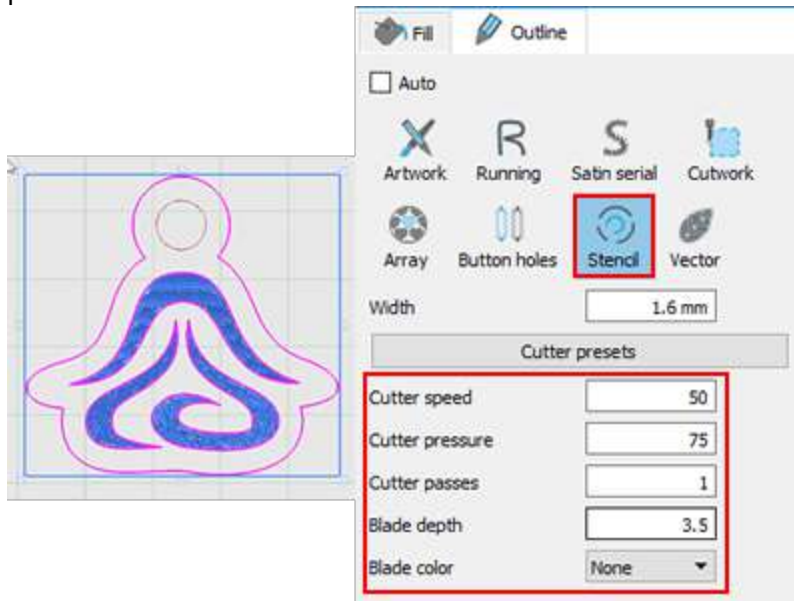


- Use the "Open" design icon or "Import- From file of "File" in order to select the design to import.
- For the purposes of this demonstration we will import an outline design. As you can see on the following figure.

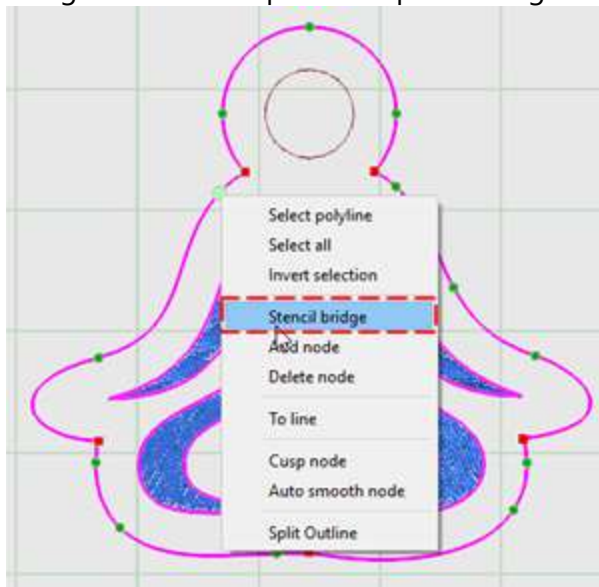


- Select the green outline object and then click on "Stencil"  outline type on "Properties" bar. For our example on "Artistic Edge" cutter, we will select the "Stencil Plastic" material from the list of "Cutter

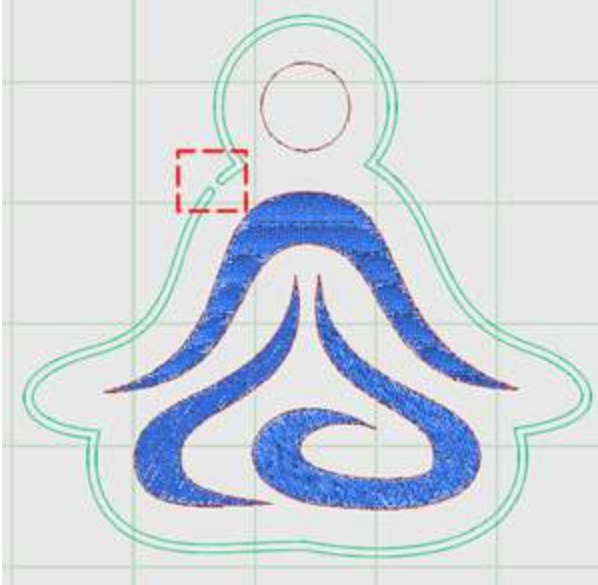
presets".



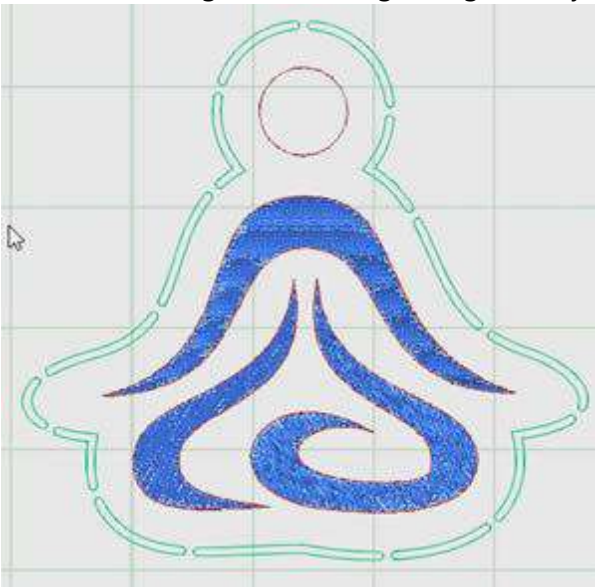
- The design is a closed shape and the Stencil cutting area is not visible. To convert it to a proper stencil design you have to convert it to an open shape by adding stencil bridges. To do that you have to click on the "edit nodes"  from the "Tools" bar and by right clicking at the points you wish to add "stencil bridges" use the respective option of right click menu to add the stencil bridges.



7. The shape is now an open shape and a "stencil bridge" exist on the position defined.

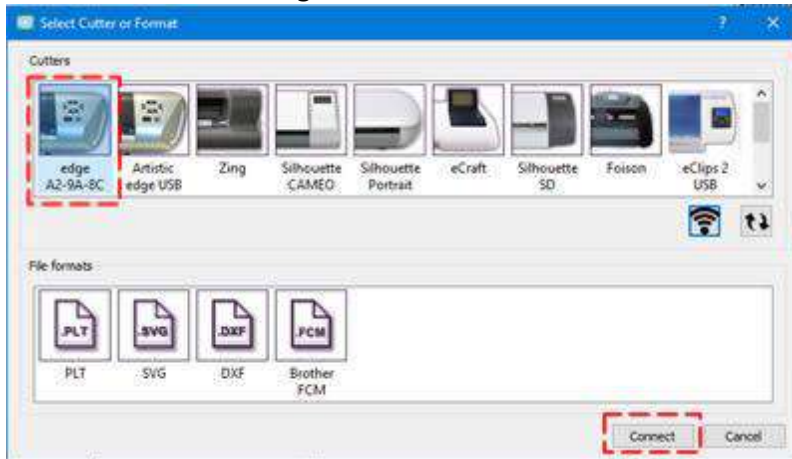


8. Continue adding Stencil bridges in generally close distances to make the stencil more stable.

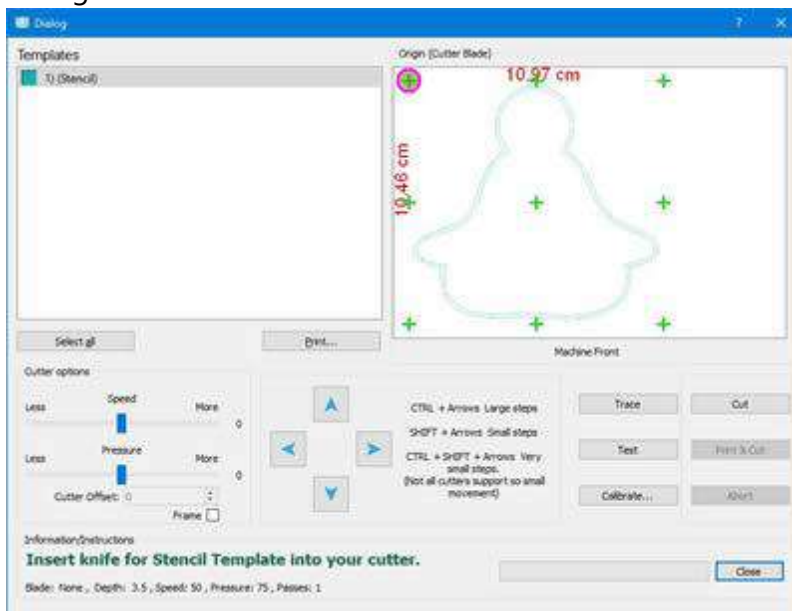


9. The stencil design is ready and you can send it to your cutter. From "File" menu, go to "Export" and use "To cutters" option. From the appearing dialog, select a Cutters to connect or a File format if we want to export to a file and import to your cutter in a manual way. In our sample we will use "Artistic Edge" cutter,

click on the Artistic Edge Cutter icon and then click on Connect to proceed.

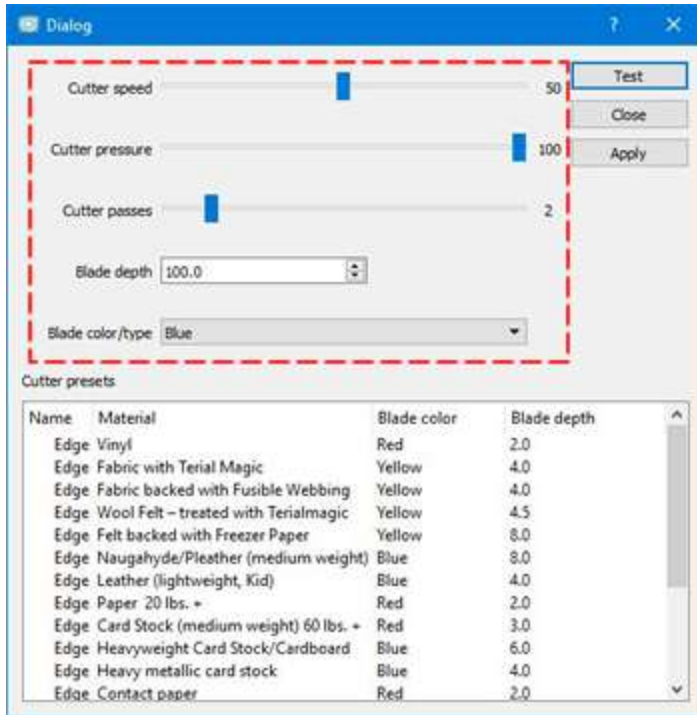


10. At this point if the cutter is connected to your computer, the "Export to Cutter" dialog will appear, using this dialog you can cut the Stencil design with your cutter. If the Digital Cutter is properly connected and powered ON, then at this point you should be able to directly communicate with the Cutter through this dialog.



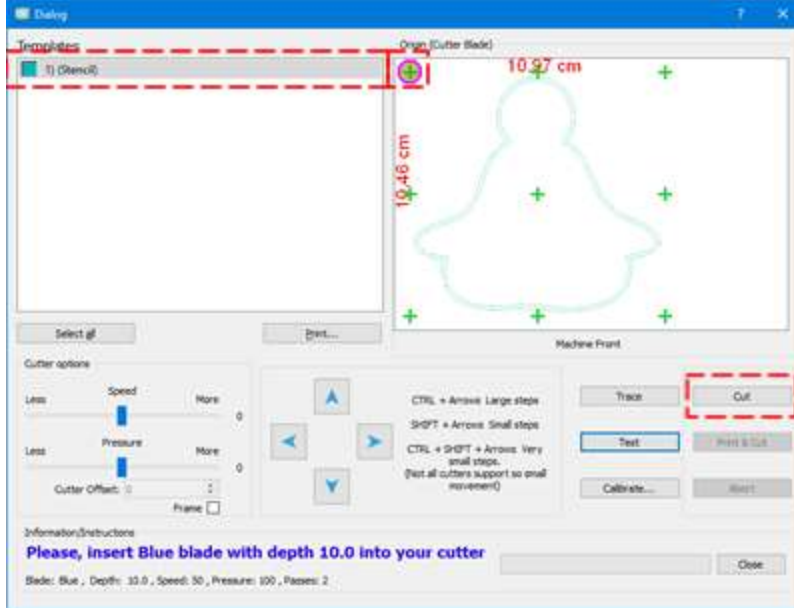
11. Now you are ready to send the design to the cutter, before proceeding you must have loaded the Cutting mat with the cutting material onto the Cutter.
12. First select the design parts that you want to cut from the Templates area. You only have one template so the next is to select an origin. This is the point that you want the cutter to begin from.
13. If you have never used this material on your Cutter you should first perform a "Test" cut to verify that the material is cut properly with the current settings. Using the arrow buttons move the Blade to a position that will not be used for the actual Cut and press Test button.
14. The Test Cut dialog will appear listing all the cutter settings that you can adjust. Make the adjustments you prefer or select any cutter preset from the available ones. Click "Test" to cut the test design, which will be made based on the specific settings. Peel the cut part in order to verify if it was correctly Cut. If you are satisfied with the specific settings you can click Apply. The settings will be updated on the Properties

toolbar.



15. Now you are ready to send the design to the cutter. Place the "Blade" for the actual Cutting of the material. In our case we must move the Blade close to the edge of the upper left part of the material according to the origin we have selected. Use the arrow buttons to move the Blade to a desired position. If you need to fine tune the position of the Blade you can use "Ctrl" (Cmd for Mac) ,"Shift" keys on your keyboard to adjust the step of the movement.
16. Hold Shift key in order to make the movement small.
17. Hold Ctrl key (for Mac OS "Cmd") in order to have a large movement step.
18. Use Ctrl and Shift keys (for Mac OS "Cmd") together to make a very small movement step.
19. You can also "Trace" the area that the design will need to make sure that it fits into the material you have placed.

20. Finally press "Cut" in order to start the actual cutting process.

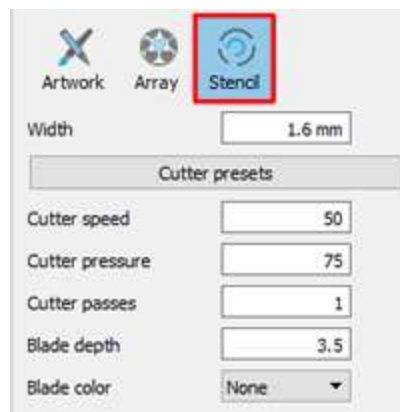


After the cutting process remove the Cutting mat with the material and peel the cut shapes to produce the final stencil design. That's all for now if you have followed the guide you should now have your first stencil design created.

Stencil parameters

To every stencil design you are creating you have the ability to make adjustments on the stencil width and to the cutter parameters that will affect the way the stencil will be cut. Therefore it is important to make the correct adjustments, to ensure the best results. All adjustment can be made on the "Properties" bar on "Outline" tab, where the stencil's parameters will appear after selecting the object. The parameters that you can adjust are the following:

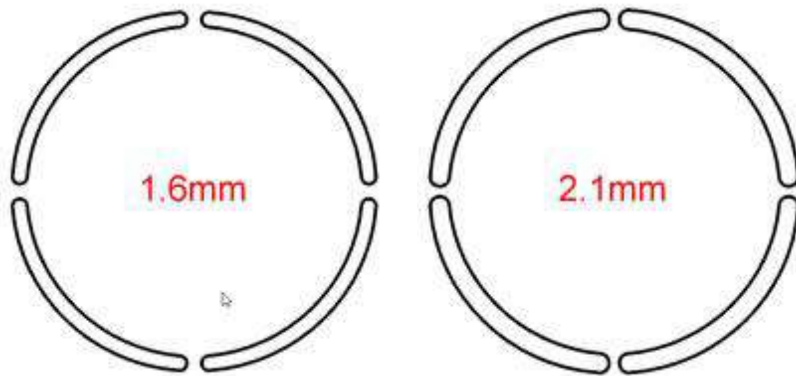
- Width
- Cutter presets
- Cutter Speed
- Cutter Pressure
- Cutter Passes
- Blade depth
- Blade color



Width

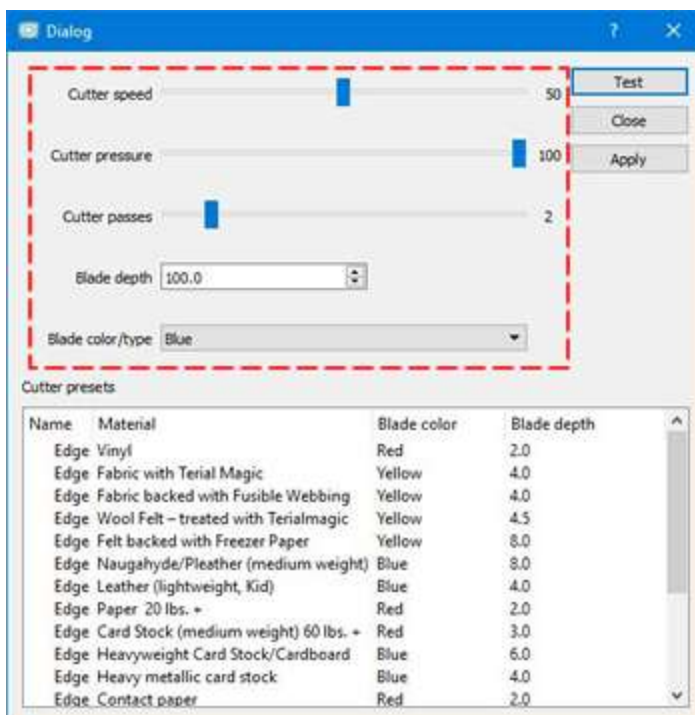
Width 1.6 mm

With the width property you can change the stencil width. The default value is 1.6mm and the one that most of the times you will use in your designs. The minimum value is 0.5mm and the maximum 3.0mm.



The higher the width value the smaller the stencil bridge gap. If you set the width to 3.0mm, bridge would be tiny. If you want to keep this stencil width but you want to increase the bridge width you will have to edit the shape's outline and manually increase the bridge width.

All the options except from the "Width" are referring to the cut settings. Some machines does not allow you to change some or any of these values through our software. You can make adjustments though, through the machine's panel. These options will be available always at "Properties" toolbar because no cutter is selected. If you want to see which options the cutter allows you to adjust you can go to File > Export > To Cutters and from the wizard dialog that will appear select the cutter you have connected on the PC. Click "Connect" and from the next dialog select "Test". The test dialog will have enabled only the options that you can adjust for the connected cutter. Using this dialog you can adjust these settings and even test them on the cutter. If you are satisfied with the setting you have selected you can click "Apply" to the object (the Properties toolbar will be updated automatically).



Test Cut dialog

Cutter presets

The Cutter presets button allows you to select cutter settings presets, based on the material that you will cut and the blade that you will use, and apply them on the currently selected object. By clicking on the Cutter presets button a pop up list will appear with the available cutter presets. The cutter presets are listed with the following information Name, Material, Blade color and Blade depth.

- Name: Lists the Cutter's name that the template is made for
- Material: Lists the Material that you can cut by using the preset. Those are referring to Rhinestones, are mainly for Vinyl material.
- Blade color: Lists the Blade color that you have to use in order to cut the specific material. This is applicable on specific machines that include various blades. Usually each color is for cutting different material. Check the cutters manual for more information about which blade is from which material.
- Blade depth: Lists the Blade depth that you have to set on the cutters blade. Usually the Blade depth is set manually. Therefore you have to check the Cutter's manual and find how to change the Blade depth.

Cutter presets			
Name	Material	Blade color	Blade depth
Edge	Vinyl	Red	2.0
Edge	Fabric with Terial Magic	Yellow	4.0
Edge	Fabric backed with Fusible Webbing	Yellow	4.0
Edge	Wool Felt – treated with Terialmagic	Yellow	4.5
Edge	Felt backed with Freezer Paper	Yellow	8.0
Edge	Naugahyde/Pleather (medium weight)	Blue	8.0
Edge	Leather (lightweight, Kid)	Blue	4.0
Edge	Paper 20 lbs. +	Red	2.0
Edge	Card Stock (medium weight) 60 lbs. +	Red	3.0
Edge	Heavyweight Card Stock/Cardboard	Blue	6.0
Edge	Heavy metallic card stock	Blue	4.0
Edge	Contact paper	Red	2.0
Edge	Crystal Template Material - Smooth	Blue	5.0
Edge	Crystal Template Material - Flocked	Blue	6.0
Edge	Stencil Plastic	Blue	10.0
Edge	Plastic	Red	5.0
Edge	Paint/Draw	None	0.0
Zing	25mil Rhinestone template	None	0.0
Zing	18mil PVC Rhinestone Template	None	0.0
Zing	Fabric backed with Fusible Webbing	None	0.0
CAMEO	25mil Rhinestone template	None	0.0
CAMEO	18mil PVC Rhinestone Template	None	0.0
eCraft	25mil Rhinestone template	None	0.0
eCraft	18mil PVC Rhinestone Template	None	0.0
Foison	25mil Rhinestone template	None	0.0
REDSail	25mil Rhinestone template	None	0.0
GCC_Jaguar	25mil Rhinestone template	None	0.0

To apply the preset you want you can simply click on it. The settings of Properties toolbar will be adjusted accordingly.

Cutter Speed

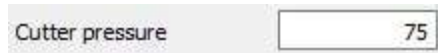
Cutter speed

50

With this value, you can specify the speed that the machine will cut the design. This value varies from cutting machine to cutting machine and some machines does not allow you to change this value at all through our

software. You can make adjustments though, through the machine's panel. Feel free to change the Speed setting based on the speed you want the design to be cut. The Cutter speed field can take values from 0 up to 100.

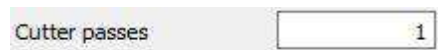
Cutter Pressure



Cutter pressure

With this value, if it is enabled, you can specify the force that the machine will add on the blade in order to cut the design or to the Pen/brush in order to draw the design. This value varies from cutting machine to cutting machine and some machines does not allow you to change this value at all through our software. You can make adjustments though through the machine's panel. Feel free to change the Cutter Pressure setting based on the depth you want the material to be cut or paint. The value of Cutter Pressure varies from cutting material to cutting material. Thicker material need more pressure and thinner less. The Cutter pressure field can take values from 0 up to 100.

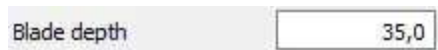
Cutter Passes



Cutter passes

You can specify the number of Passes you want the design to be made with. It actually defines how many times each shape will be made by the machine.

Blade depth



Blade depth

With this option you can set the Blade depth of the cutter blade. This value varies from cutting machine to cutting machine and some machines does not allow you to change this value at all through our software. You can make adjustments though on the actual machine. Feel free to change the Blade depth setting based on the depth you want the material to be cut. This value is there only for your information, to remind you that for this object you have to change the Blade depth on the machine. The value of Blade depth varies from cutting material to cutting material. Thicker material need more depth and thinner less.

Blade color



Blade color

This drop down menu lists the Blade color that you have to use in order to cut the specific material. This is applicable on specific machines that include various blades, with different colors. Usually each color is for cutting different material. Check the cutters manual for more information about which blade is from which material. For example, for Artistic Edge cutter the Blades are for the following use:

- Blue Cap Blades is for cutting thicker materials
- Red Cap Blades is for cutting thin materials

- Yellow Cap Blades is for cutting fabrics

Select the Blade color that you will use for the currently selected object and during the Cutting process the Software will notify you that you will have to use the respective Blade color in order to cut the shape.

Paint - Painting designs

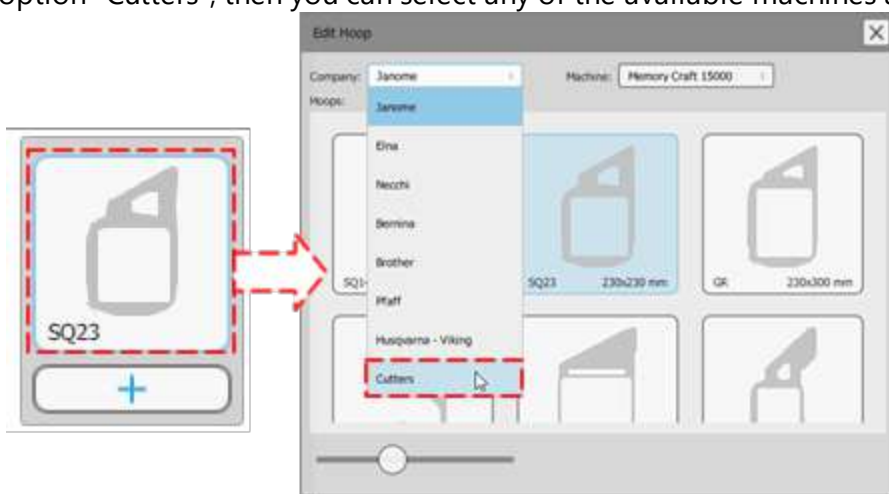
The software gives you the ability to create "Paint" designs by mounting a Pen/Brush to your Digital cutter. It is a totally new way to create paint designs on garments or any other material. There are various "Paint fill" types and various "Paint outline" types. Each design will be applied on the material by drawing the paint pattern you have created using the software. The Digital cutter moves back and forth with the Pen\Brush attached on it and draws the design you have created, object by object, following a similar sequence of action that you usually follow when you cut a design. Although this time instead of Blades you are changing Pen\Brush colors.



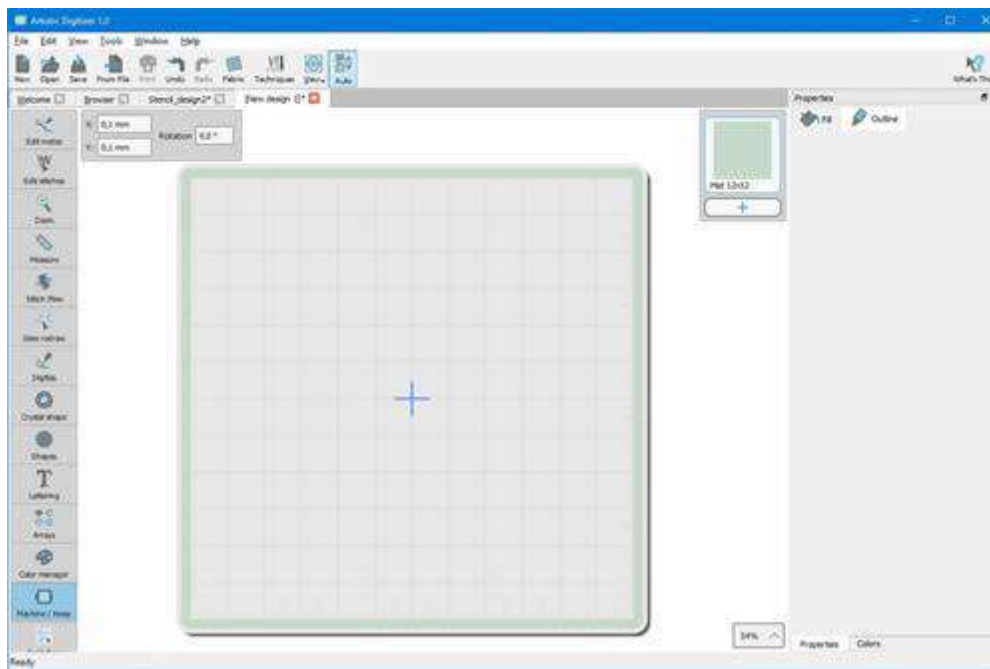
In order to create paint designs you need to have "Paint" technique enabled.

Create a paint design

1. Start the software and create a new design, to start with a blank canvas.
2. Using the "Techniques" icon  make sure that only "Paint" technique is enabled.
3. If you wish to preview your design onto a cutting mat then press the "Machine / Hoop" option on "Tools" bar and then you will see a hoop bar on the upper right part of the design area. Double click on that hoop and the "Edit hoop" dialog will appear. Expand the company drop-down menu and there is an option "Cutters", then you can select any of the available machines and their cutting mats.

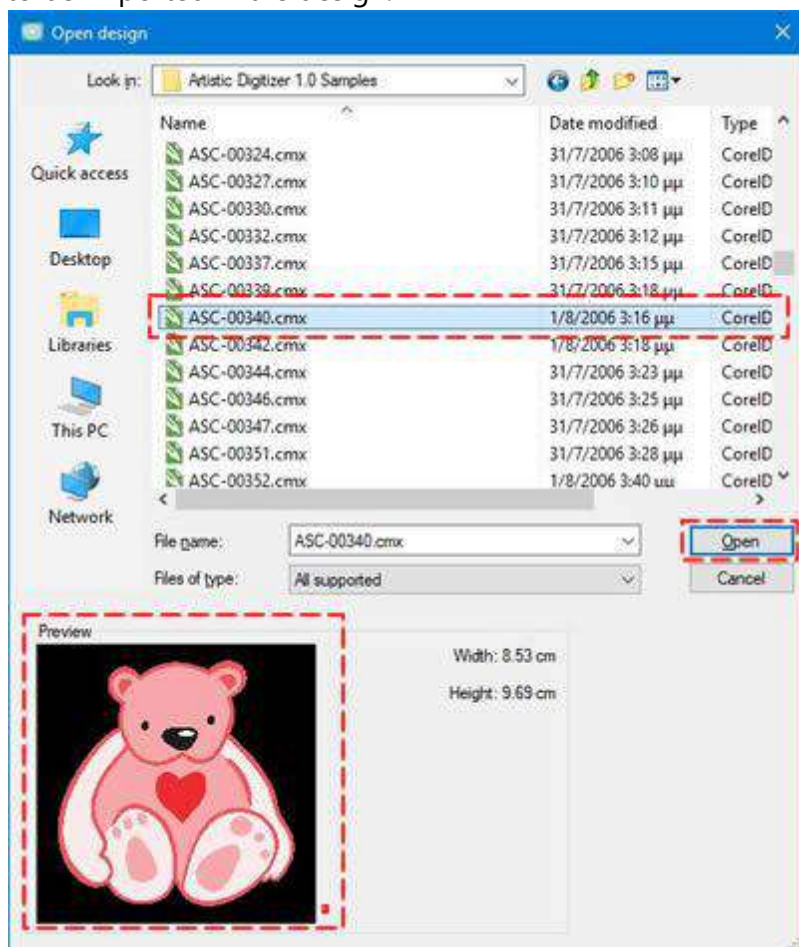


4. If you have followed the example until this point you should have a blank design are with a cutting mat on the center.



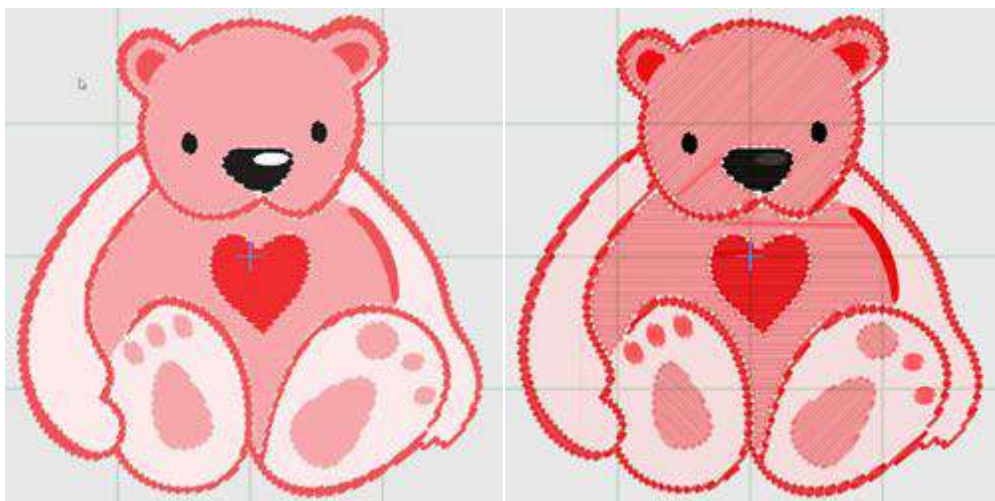
5. Use the "Open" design icon or "Import- From file of "File" in order to select the design to import.

6. The "Open design" dialog will appear from where you can browse to locate a bitmap or vector image to be imported in the design.



7. Browse to "Documents" folder and locate the "Embroidery designs" folder. In this folder you will find a folder with various samples. Among the samples you will find many vector designs that you can easily import and convert to a paint design. Select any of them and click the "Open" button.

8. The imported design will appear in the design area and since only the "Paint" technique is enabled, the software will convert the imported design using paint types and paint colors. You can have a better preview of the paint effect by activating Realistic paint.

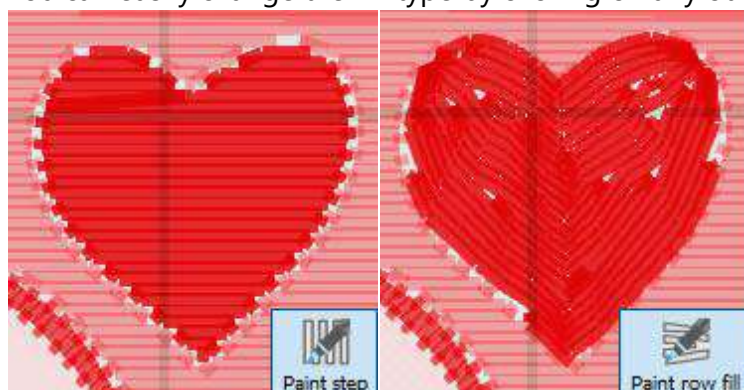


Imported design

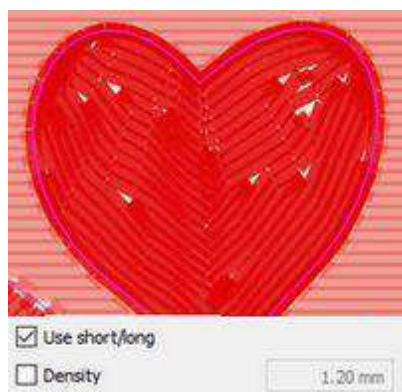
Realistic paint view

9. Select any of the design parts and on "Properties" bar you can see the "Fill" or "Outline" types have been automatically applied. Every time you select an object its properties appear on the "Properties" bar. You can select multiple objects by holding the "Shift" key pressed and clicking on the objects you want to add it to the selection.

10. For example select the heart, as you can see that "Paint step" is the automatically selected paint type. You can easily change the fill type by clicking on any other fill type for example "Paint Row fill"



11. Using the available editing tools you perform various transformations of the artwork. but at this point we will only mention about the usage of the "Properties". There are various properties for any of the paint types. For example for the "Paint Row fill" of the previous figure you can adjust the "Density" and or "use Short/long" movements.



Initial object



Disable short/long

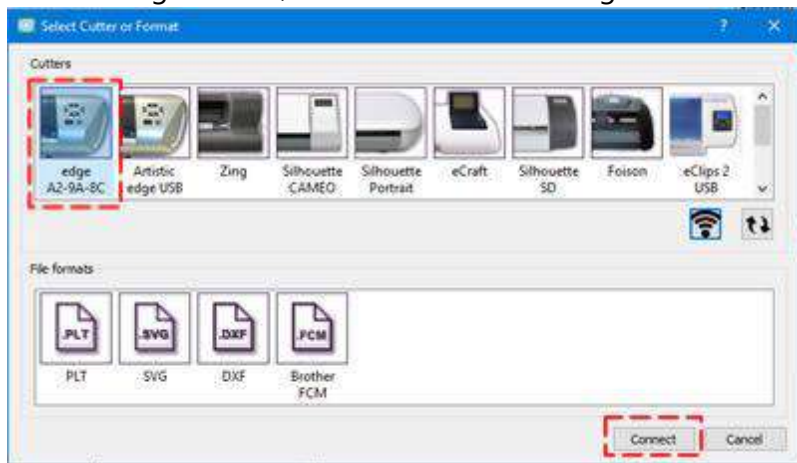


Increased density

12. At this point we should mention about Cutter settings, let's suppose that you own "Artistic Edge" digital cutter and your design has only paint objects. Select all objects and from "Cutter presets", select the preset "Edge - Paint". The selected set of cutting options (Cutter speed, pressure, passes) will be applied to all selected objects. This set of settings is suitable only Paint objects.

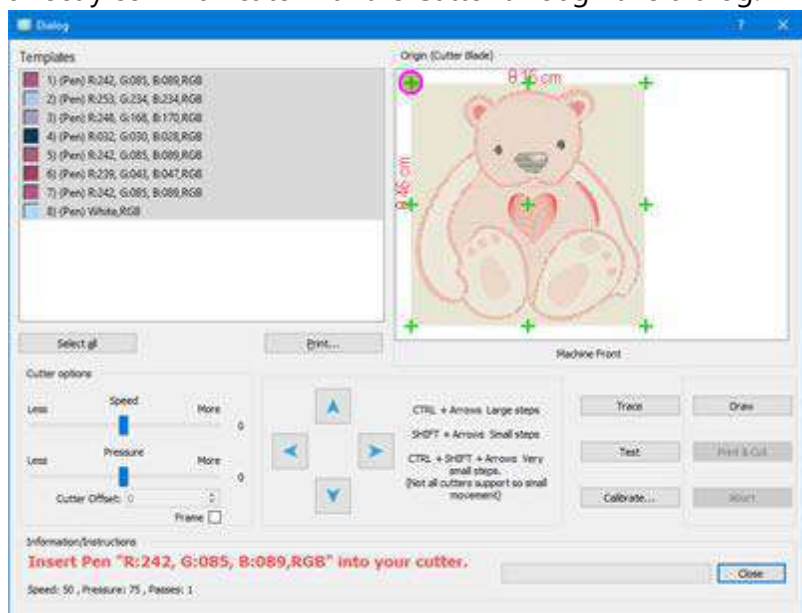


13. When you are done with the design and you are ready to "Paint" the parts using your Digital cutter (the cutter must support placing of a Brush instead of the Blade), use "To Cutters" option from "File" menu, "Export" sub-menu. From the appearing dialog you must select one of the "Cutters" to connect or a "File format" if you want to export to a file and import to your cutter in a manual way. In this sample we will use "Artistic Edge" cutter, click on the "Artistic Edge" icon and then click on "connect" to proceed.



You should always save the design to ".draw" file format, in order to have it for later reference.

14. The "Export to Cutter" dialog will appear, using this dialog you can DRAW any design part with your cutter. If the Digital Cutter is properly connected and powered ON, then at this point you should be able to directly communicate with the Cutter through this dialog.



If you have applies any Brush palette to the colors of this design, then at this point, you should see on the template name the color of the actual brush that has been selected and in the preview the actual colors of the Brush palette that you have selected for the design. Some colors may have been substituted by their closest one from the Brush palette.

15. Before proceeding you must have loaded the cutting mat with the material to Draw onto the Cutter.

If you have never used this material or the brush on your Cutter you should first perform a "Test" to verify that the Pen/Brush Draws as you wish on the current material. More information about Test functionality setting is provided into separate topic.

16. In order to proceed and Draw the design parts onto any paper like material or onto a Fabric, you need to select all items from the Templates area and select an origin. The origin is the point that you want the cutter to start drawing from.

17. Then place the respective Brush on the blade holder onto your cutter and position the head of Cutter, on top of the area that you want to Draw. More specifically you need to place the head close to the edge of the upper left part of the material according to the origin you have selected. Use the arrow buttons to move the Head to a desired position. If you need to fine tune the position of the Head you can use "Ctrl" , "Shift" keys on your keyboard to adjust the step of the movement.

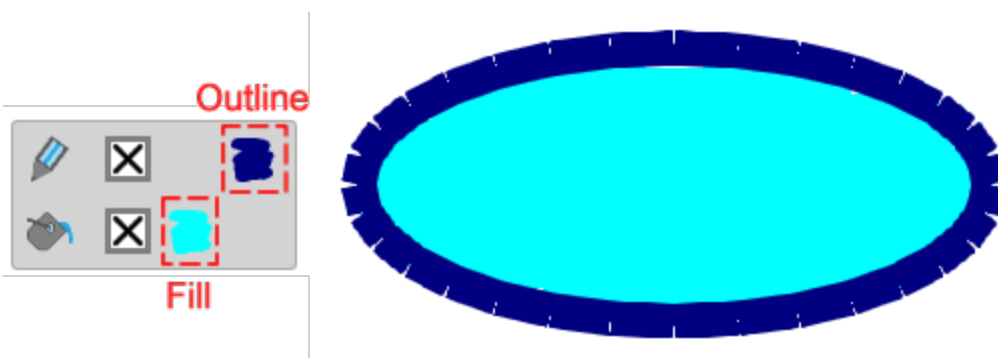
- Hold "Shift" key in order to make the movement small.
- Hold Ctrl key (for Mac OS use "Cmd") in order to have a large movement step.
- Use "Ctrl" (Cmd) and "Shift" keys together to make a very small movement step.

You can also "Trace" the area that the design will need to make sure that it fits into the material you have placed.

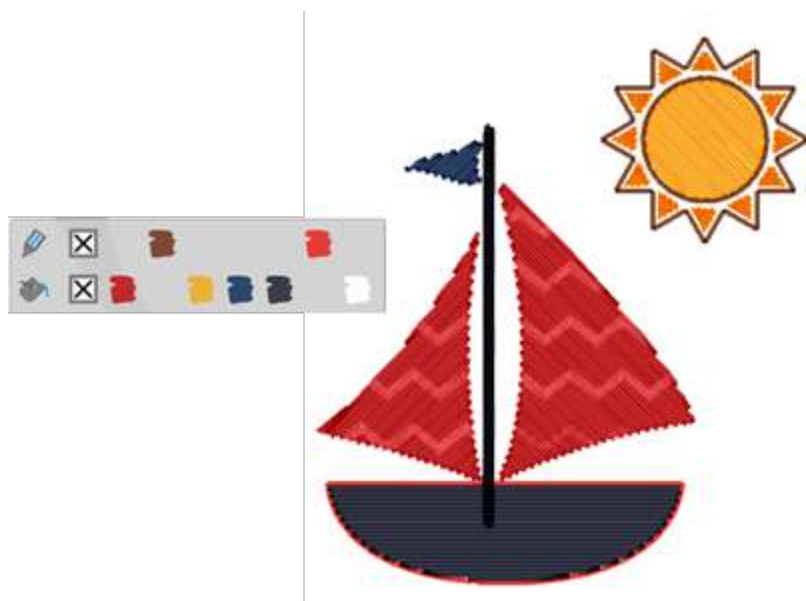
18. Finally press "Draw" in order to start the actual cutting process. When the part of the first Brush is complete the Cutter will stop and you will be prompted to place the next Pen/Brush onto the pen holder.

Working with paint colors

In this section we will present how to work with colors for your Paint projects. In the following topics we assume that you have only "Paint" technique enabled in order to present how to handle Pen\Brush colors for your designs. By default when creating a new blank design, the "Used colors" bar, that is located on the lower part of the application, is blank. When you create an object the default "fill" and "outline" color are automatically applied and you can see them on "Used colors" bar. Since you only have "Paint" technique enabled the color icon will be like a "Brush" as on the following figure.



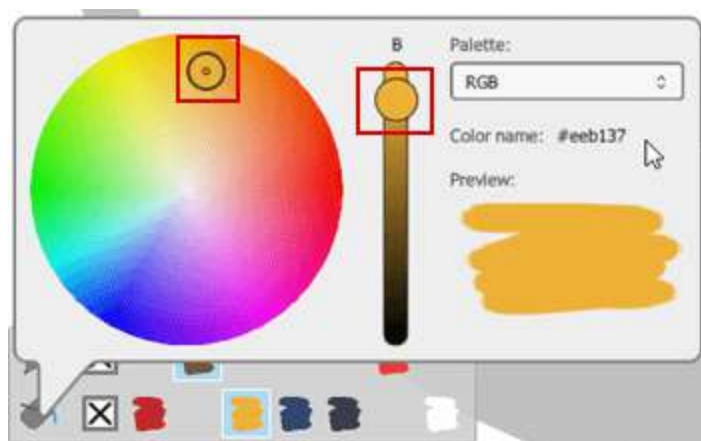
This bar holds all the colors that are already used on this design and you can apply any color to any object, remove fill or outline, select a new color and edit any color. The upper row, holds the "outline" colors and the lower row shows the "fill" colors. If you open a design with multiple objects you can see all used outline colors on the upper row and all used fill colors on the lower row. When an object is selected the colors that this object has appear highlighted. If you click on any other color (fill or outline), than those already applied to this object, then the color that you click is automatically applied to the selected object. In case that you create any design with only "Paint" technique enabled all the used colors will be "Brush" colors, as on the following figure.



Click on the "none" color  (fill - outline) to remove the fill or outline from the selected object.

You can set a new color, to the selected object, by clicking on the "Fill"  or "outline"  icons. The "color selector" appears to select a new color for the selected object. In the same way, if you click on any of the used colors you can edit the color. The "color selector" appears and you can change the color. The new color is automatically applied to all objects that were using the previous color. You can also right click on any color and use "Edit color" option to edit the color.

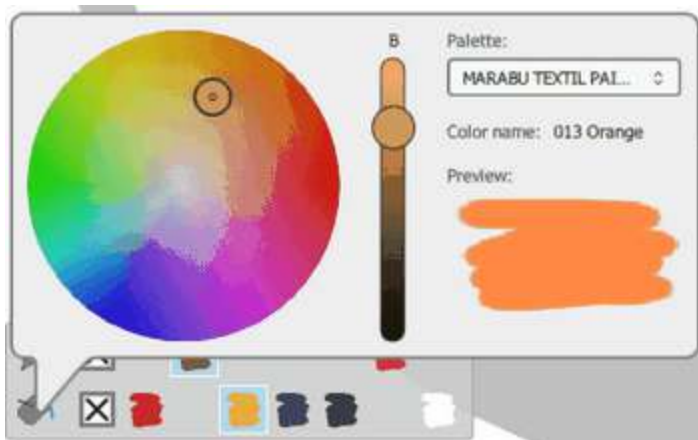
In the color selector you can also set the brush's color "Width".



Using "color selector" you can move the small circle inside the color wheel to select any other color and you can also adjust the brightness of the color, using the track bar that is next to the color wheel. When you drag this handle upwards the object gets brighter. At any point you can see a preview of the selected color on the preview area.



By default the RGB palette is loaded, but if you select any palette from the Brush manufacturer palettes, then while using the "color selector" you can see the "Color name" of the available colors of the selected palette. You can view all colors of the specific palette by clicking on the "Swatches" tab. If you know the color name you type it in the color name field and then press "Enter" and the software will find it for you.



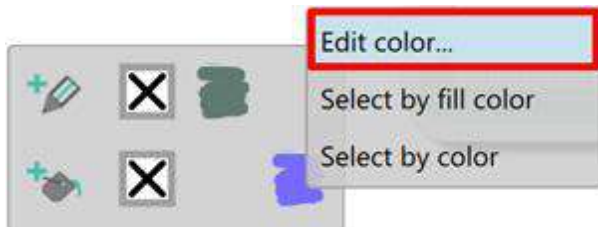
One thing to have in mind is that generally the Thread/Brush palettes have a limited number of colors. When a design has too many colors, the program can not always match all colors to an identical color from the thread/brush palette. There is a mechanism that matches the design colors to the closest available from the selected color palette.

You can also use "Color manager" to manage and reduce the design colors or the "Harmonies" in order to automatically replace the colors of the design using various techniques. If you set a default color then the RGB color is set as the default fill or outline color, not only for paint technique, for all techniques. Finally you can make Selections by color in order to select multiple colors.

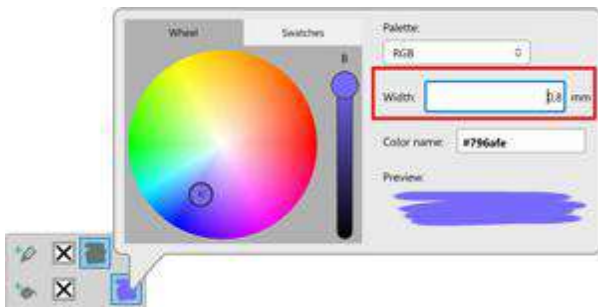
Change brush width

The actual brushes have various widths. Therefore in order the software to be more accurate, in the Brush palette you have the ability to define the width of the specific brush color you will use. To do that right click

on a Brush/Paint color and select "Edit color..." option, or select the object that is filled with the paint color you want to edit and then click on the color at the Currently used colors bar.



The "Edit color" dialog will appear where you can set the "Width" of the actual brush that you will use.



In the "Width" field type the brush width you like or use the up and down arrows to increase or decrease the current width. After changing the width click outside the "Edit color..." dialog to confirm the change. If you hover over the color you right clicked on you will see that in a pop-up info box shows you the color width of the specific color.



The changed width will appear on the design, especially if the "View > Realistic Paint" option is enabled. By adjusting the width and the "paint fill" density, you can simulate the exact result that you will get, when you paint the design.

Important: Please remember that the brush manufacturer's palettes have a fixed brush width and the width cannot be changed.

Paint properties

The Properties bar holds the "Properties" for all the available object types, there are various Embroidery, Crystal and Paint types. In this chapter we present "Paint" technique so we will the properties of the available Paint types. The paint types are separated into types that are used to fill an area (Fill section) and types that are placed on the objects Outline (Outline section). Using the provided options you can change the Fill or Outline type of any design part just by clicking on the desired type.

The "Paint" technique must be enabled for the current design in order to view the available Paint types.

Paint Fill
Paint Outline

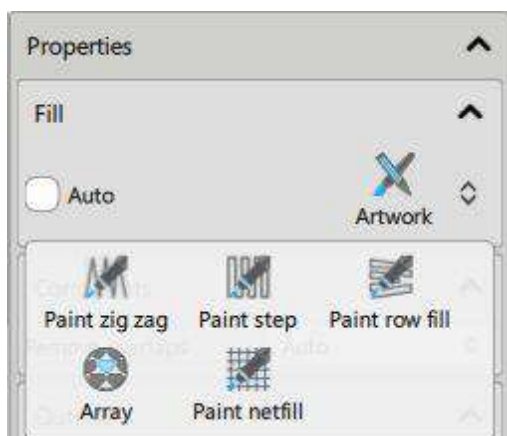


The Paint fill types that are added in Paint technique are "zig zag", "step", "Row fill" and "Paint net fill" and the Paint outline types are "zig zag" and "Line". Using the available Paint types you can chose the method that will paint your objects. Each one of them uses a different methods to paint a shape which allows you to give an embroidery feel to the paint designs you are creating.

Paint Fill

According to the enabled techniques, in the fill tab there may be various fill types, "Embroidery" , "Crystals" or "Paint" types. At this point we will only present the paint types that enabled by "Paint" technique. When "Paint" technique is enabled in the "Fill" tab the paint fill types are added. The paint fill types have a brush in their icons to reveal that they are paint types. The available fill types are not visible until you select an object from a design or the whole design. When a vector design is imported and we have only "Paint" technique enabled, the design is filled with paint types automatically. You can apply any paint fill on the design

manually by selecting an object and then clicking on the respective Fill you want ("Paint Zig Zag" , "Paint Step" , "Paint Row fill" , "Paint netfill"  . The default applied paint fill type is the "Pain step" .



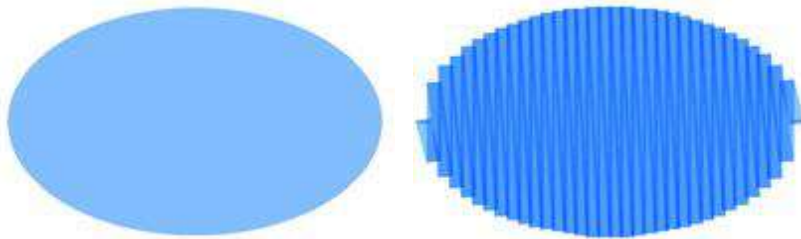
All the Paint fill types may have some common properties such as cutter settings and Remove overlaps that will be described at the end of this topic.

Paint Zig Zag

This paint type is a special fill type that brush-lines are connecting two points from one side of the object to the other. These points are formed like closely arranged zigzag lines along the shape of the object. The direction of the object defines the angle of the stitches. We can easily set the angle of the "Zig Zag" using the

"Directions" tool  on "Stitch flow" section of "Tools" bar. Generally small and oblong objects will be filled with ZigZag Paint type automatically.

Additionally, by select a "Cutter preset" or by adjusting the cutting parameters (Cutter speed, Cutter pressure and passes) you are setting up the parameters that will be used by the digital cutter in order to produce this part.



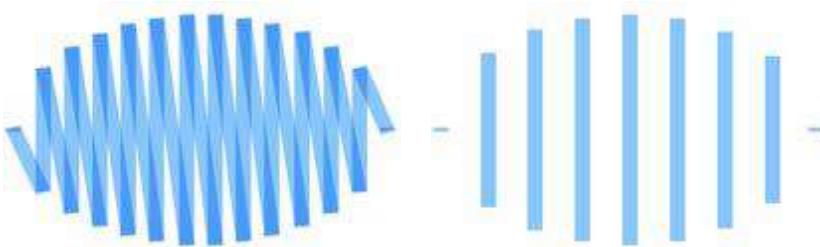
Artwork

Paint Zig-Zag

If you enable the "density" property you can define the distance between the brush-lines of the Zig Zag. In this numeric field, you can specify the density of the brush-lines that you are adding. You can also adjust

density by rotating the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be seen when clicking outside the density field. The default Density is 1.20mm that ensures a good area coverage.

If you increase the density over 5mm then the ZigZag paint fill will change to single lines that will not be connected with a diagonal line. This means that if two successive lines go further away than 2.5mm width the ZigZag will switch to single lines.

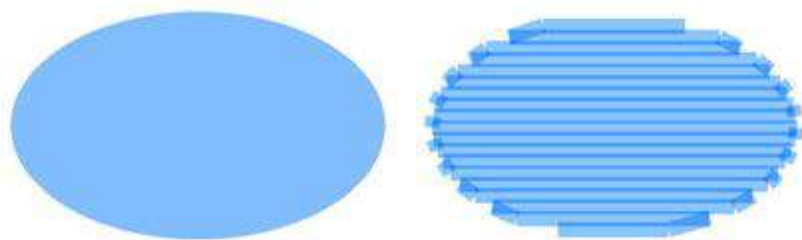


Zigzag Density 3.00mm

Zigzag Density 5.00mm

Paint step

The "Paint step" type is a series of brush-lines commonly used to fill large areas. You can create various fill patterns by altering the angle and the density of the brush-lines. Most of the times the large objects are filled with "Paint step" fill type. This is the default Paint fill for every object that will be filled with a Brush color.

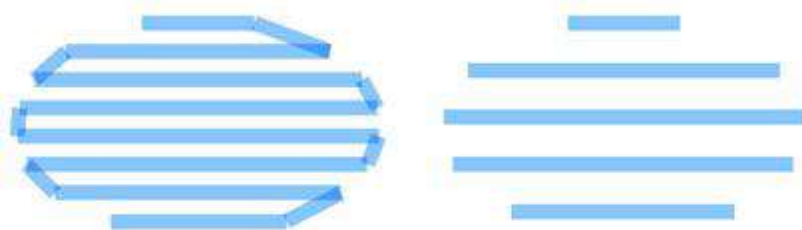


Artwork

Paint Step

If you enable the "density" property you can define the distance between the brush-lines of the "Paint step". In this numeric field, you can specify the density of the brush-lines that you are adding. You can also adjust

density by rotating the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be seen when clicking outside the density field. The default Density is 1.20mm that ensures a good area coverage. If you increase the density over 5mm then the Fill paint will change to single lines that will not be connected with each other. This means that if two successive lines go further away than 2.5mm width the Fill paint type will switch to single lines.

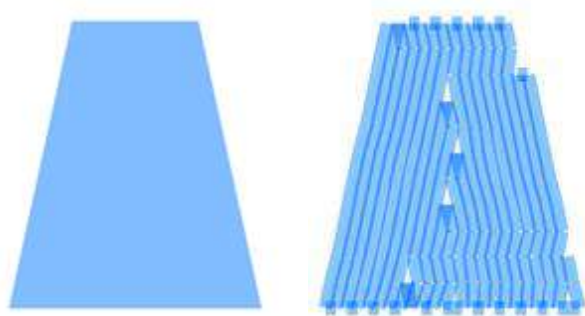


Density 3.00mm

Density 5.00mm

Paint Row fill

The "Paint Row fill" type is a fill type similar to "Paint step" type. It is longitudinal brush lines from one side to the other that are vertical to the defined direction that it is automatically defined from the software. Paint Row fill is commonly used to fountain like shapes. Row fill type can be laid down at any angle and with varying densities.

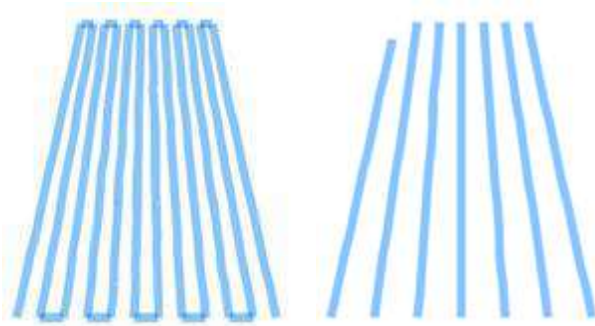


Artwork

Paint Row fill

If you enable the "density" property you can define the distance between the brush-lines of the "Paint Row fill". In this numeric field, you can specify the density of the brush-lines that you are adding. You can also

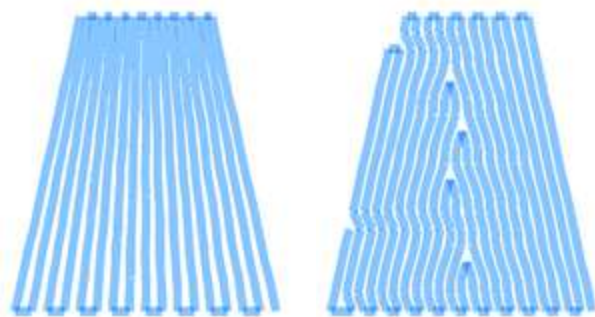
adjust density by rotating the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be seen when clicking outside the density field. The default Density is 1.20mm that ensures a good area coverage. If you increase the density over 5mm then the "Paint Row fill" fill will change to single lines that will not be connected with each other. This means that if two successive lines go further away than 2.5mm width the Row fill will switch to single lines.



Density 3mm

Density 5mm

There is also an extra option, "Use short/long", which allows you to fill the object with fill like stitches that will adjust the density based on the shape where they are placed in. This parameter has to do with the brush-lines that will pass from the thick or narrow parts of the created Row fill. If you want to keep the same density in all parts of the Row fill you should enable this parameter. In this way there will be less brush-lines passing from the narrow parts of the Row-fill and more brush-lines from the thick parts.



Density 3mm

Density 5mm

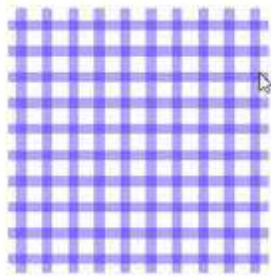
If this parameter is disabled, the same number of brush-lines will pass from all the parts of Row fill. Therefore in some narrow areas of the shape, there may be too many brush-lines passing and the quality of the result may not be the expected one. On the other hand if this parameter is enabled, the Row fill paint type will try to fill the shape with the best possible way by avoiding to paint areas that have been already covered with color by using short/long brush movements

Paint Net fill:

The "Paint Net" is a special paint type that adds two scan lines that are crossing with parallel equidistant paint lines. These two scan lines are forming a Net of paint lines. Using the available properties you can adjust the size of the cells the angle of the net and finally add offset.



Vector object



Paint Net Fill

The Net Fill includes some options that allow us to customize the way that will be applied on the selected object. These options are the following:

"Cell size": Using this option you can specify the size of each square of the Net. For example by setting the Cell size to be 2.0 mm all squares of the net will have 2.0 mm side size. The maximum value that the Cell size can have is 9.9mm and the minimum is 0.5mm. To change the value of the Cell size option you have to either type a new value you want and then press the Enter key from the keyboard. Another way to increase or decrease the value is by clicking inside the Cell size field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design. By changing this value you can create a net with large squares or small squares according your preferences.

"Angle": With this option you can change the Angle that the Net fill will be applied. For example: When the angle is set to 0o degrees the Net fill will be aligned on the X and Y axes creating right angles. If you change the Angle value to 30o degrees the Net fill will be rotated 30o degrees anticlockwise and change completely its direction. The Angle values that you can set are between 0o and 360o degrees. To change the Angle value you have to either type the exact value you want and then press the Enter key from the keyboard or click inside the Angle field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design. By changing the Angle of the Net fill you can orientate it based on the shape that it is applied on. This ability allows you to produce better and more beautiful embroidery results.

"Offset": Using this option you can specify the distance, inner or outer, you want the Net fill to be moved. For example: if you set the Offset value to 3mm the Net fill will increase its size by 3mm to all directions outside its original outline. On the other hand if you set the value to -3mm the Net fill will decrease its size by 3mm to all direction inside its original outline. The maximum value that the Offset can have is 9.0mm and the minimum is -9.0mm. To change the Offset value you have to either type the exact value you want and then press the Enter key from the keyboard or click inside the "Offset" field and use the mouse wheel to change its value. The changes that you will make will be immediately applied on the design.

Cutter presets

All the paint objects are produced by placing a Brush/Pen to your digital cutter and then exporting the design to the cutter. When exporting Paint designs, the cutter must be instructed to use lower speed and less pressure in order to achieve best results. These are some settings that you must adjust either for each object, here in "Properties", using the following properties (Cutter pressure, Speed, Passes) or at the "Export to Cutter" dialog. In order to assist you in selecting the proper settings according to the material and the type of the operation we have prepared various operation presets. Click on the Cutter presets button and from the drop down menu, select any of the available presets for your Cutter and the material that you are going to use. This preset selection affects only the selected objects. For example for painting tasks for users that own

Artistic Edge cutter you can select the preset Edge , Paint. After selecting the preset you will see the values of the following properties change (Cutter pressure, Speed, Passes).

"Cutter speed": With this value, you can specify the speed that the digital cutter will produce the design. This value takes values from 0 - 100, 100 is the max speed that each digital cutter can support. Some digital cutters may not allow you to adjust this value at all through our software, you can make adjustments though through the machine's panel. So the selection of speed though this property may not be applied during production.

"Cutter pressure": With this value, you can specify the pressure (force) that the digital cutter will use on its head. In our case, we will use a Brush/Pen to our digital cutter in order to paint a design the pressure must be less than when we actually use a Blade. This value takes values from 0 - 100, 100 is the max pressure that each digital cutter can support. Some digital cutters may not allow you to adjust this value at all through our software, you can make adjustments though through the machine's panel. So the value that you have selected may be ignored. The value of Pressure varies from material to material, thicker material need more pressure and thinner less.

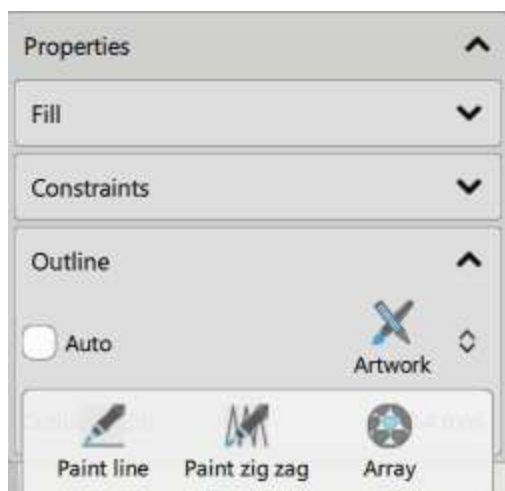
"Passes": You can specify the number of Passes you want the design to be made with. It actually defines how many times each shape will be made by the machine.

Remove overlaps:

This is an automatic filter which removes all overlaps between the objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of brush's paint that will be placed on the fabric or any other material used. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, Auto, Never and Always. The Auto is the default option that is used to create the best possible results on the design. When the Never option is applied on an object, the specific object will never trim the objects that overlap. This means that all the objects/shapes that are under the selected objects will be painted normally, coloring the fabric with the color the specific object had. The opposite option is Always. When it is applied to a specific object trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be painted with color. The software uses this tool to color your design more efficiently and effectively. Trim tool must always be used with care or after the setting Remove overlaps option to Never.

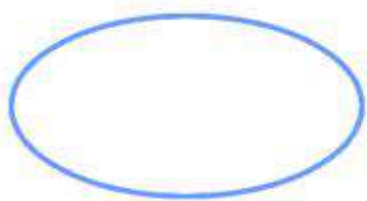
Paint Outline

According to the enabled techniques, in the outline tab there may be various types, "Embroidery" , "Crystals", "Cut", "Stencil" or "Paint" types. At this point we will only present the paint types that enabled by "Paint" technique. When "Paint" technique is enabled in the "Outline" section the "Paint line" and "Paint Zig Zag" types are added. The paint types have a brush in their icons to reveal that they are paint types. The available outline types are not visible until you select an object from a design or the whole design. You can apply any outline paint type by selecting an object and then clicking on the respective Fill you want (Paint Line , Paint ZigZag ). When a line-art vector design is imported and we have only Paint technique enabled, the program automatically paint types automatically. By default the outline is set to Line(Line ). For designs that do not have border the Outline option is not available.

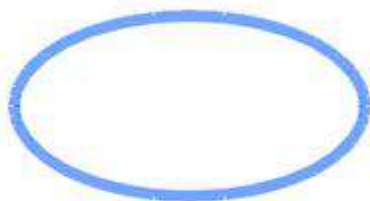


Paint Line

The "Paint" type consists of a single brush-line between two points. It is used mainly for outlining, fine detail and complete designs or for creating Redwork line art designs. The program automatically puts "Paint Line" on line art designs and thin object outlines. For all "Paint line" objects you can adjust the "Offset" and various Cutter parameters.

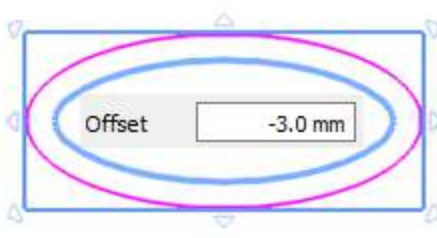


Artwork outline



Paint line outline

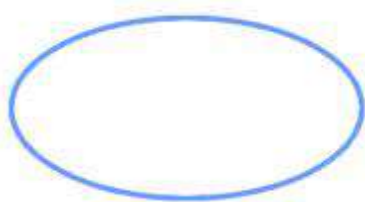
If you type an "Offset" value, the "Paint line" is placed to the defined distance according to the initial outline position. If the value is negative, the "Paint line" will move to the inner of the outline and if it is positive to the outer. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value are automatically previewed on the design. You can type any value you like and by pressing "Enter" the offset is applied. Additionally, you can click on the field and then rotate the mouse wheel, if there is one. The offset can take values from -15mm to 15mm.



Paint ZigZag

This Paint type is applied on thick outline objects by forming closely placed zigzag brush-lines along it. It is generally used to fill borders and line art designs. Generally all the thick line art designs and object outlines

will be filled with ZigZag Pen Paint type. On this Paint type you can adjust the density and produce the design you want to paint with the brush.



Artwork



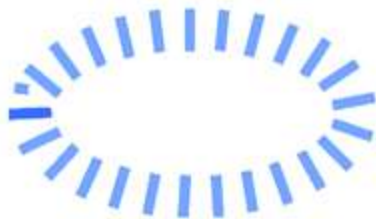
Paint Zig-Zag

Using the "Density" property you can adjust the distance between the brush lines of the "Paint ZigZag" outline. brush-lines. Once you enable the density option you can type a density value and press "Enter" to

apply. You can also click inside the field and rotate the mouse wheel  if there is one. Changes are instantly previewed on the design area and can be set by clicking outside the density field. The default Density is 1.20mm that ensures a good area coverage. If you increase the density over 4mm then the ZigZag paint fill will change to single lines that will not be connected with a diagonal line. This means that if two successive lines go further away than 2.5mm width the ZigZag will switch to single lines.



Density 3mm

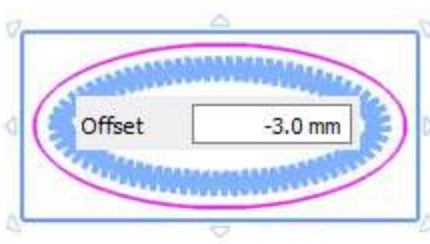


Density 5mm

If you type an "Offset" value the "Paint Zig Zag" is placed to the defined distance according to the initial outline position. If the value is negative, the "Paint Zig Zag" will move to the inner of the outline and if it is positive to the outer. The default offset value is zero and can be changed only from you. Any changes you are making on the offset value they are automatically previewed on the design. You can type any value you like and by pressing "Enter" the offset is applied. Additionally you can click on the field and then rotate the mouse wheel, if there is one. The offset can take values from -15mm to 15mm.



Paint line offset



Paint Zigzag offset

Cutter presets

All the paint objects are produced by placing a Brush/Pen to your digital cutter and then exporting the design to the cutter. When exporting Paint designs, the cutter must be instructed to use lower speed and less pressure in order to achieve best results. These are some settings that you must adjust either for each object, here in "Properties", using the following properties (Cutter pressure, Speed, Passes) or at the "Export to Cutter" dialog. In order to assist you in selecting the proper settings according to the material and the type of the operation we have prepared various operation presets. Click on the Cutter presets button and from the drop down menu, select any of the available presets for your Cutter and the material that you are going to use. This preset selection affects only the selected objects. For example for painting tasks for users that own Artistic Edge cutter you can select the preset Edge , Paint. After selecting the preset you will see the values of the following properties change (Cutter pressure, Speed, Passes).

"Cutter speed": With this value, you can specify the speed that the digital cutter will produce the design. This value takes values from 0 - 100, 100 is the max speed that each digital cutter can support. Some digital cutters may not allow you to adjust this value at all through our software, you can make adjustments though through the machine's panel. So the selection of speed though this property may not be applied during production.

"Cutter pressure": With this value, you can specify the pressure (force) that the digital cutter will use on its head. In our case, we will use a Brush/Pen to our digital cutter in order to paint a design the pressure must be less than when we actually use a Blade. This value takes values from 0 - 100, 100 is the max pressure that each digital cutter can support. Some digital cutters may not allow you to adjust this value at all through our software, you can make adjustments though through the machine's panel. So the value that you have selected may be ignored. The value of Pressure varies from material to material, thicker material need more pressure and thinner less.

"Passes": You can specify the number of Passes you want the design to be made with. It actually defines how many times each shape will be made by the machine.

Remove overlaps:

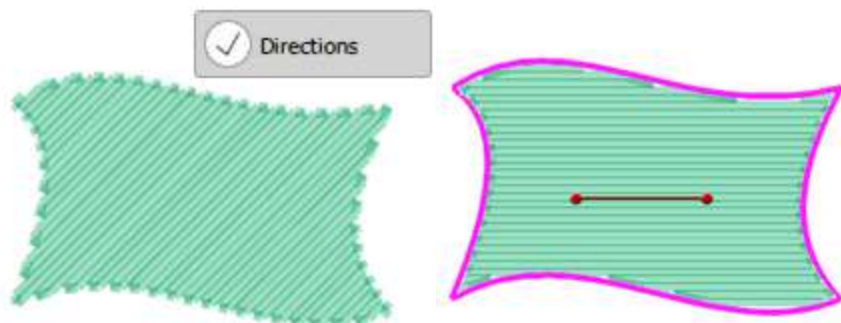
This is an automatic filter which removes all overlaps between the objects of the vector designs. This filter uses artificial Intelligence and it is applied only where necessary. The application of the filter results in the reduction of brush's paint that will be placed on the fabric or any other material used. It is also possible to manually alter the overlapping status of each object. There are three possible options that you can apply on a specific object, Auto, Never and Always. The Auto is the default option that is used to create the best possible results on the design. When the Never option is applied on an object, the specific object will never trim the objects that overlap. This means that all the objects/shapes that are under the selected objects will be painted normally, coloring the fabric with the color the specific object had. The opposite option is Always. When it is applied to a specific object trims all the objects that it overlaps. This means that all the parts of objects/shapes that are under the selected object will not be painted with color. The software uses this tool to color your design more efficiently and effectively. Trim tool must always be used with care or after the setting Remove overlaps option to Never.

Stitch flow

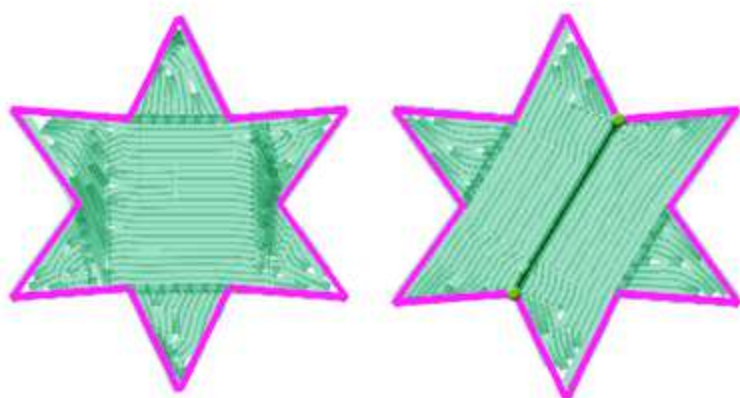
Stitch flow is a special operating mode that provides tools to adjust the directions of paint lines and divide objects into sections. Using the available stitch flow tools, you can improve the look of your designs. When you start Stitch flow, for any object that you click, on the top part of the design area you see the available stitch flow options. For example, if you click on a Paint zig zag or Paint Row fill object you see three functions available: Directions, Divide and Point directions.



If you click on a Paint Step object you only see the "Directions" option. For example, if you start Stitch flow and click on a Paint Step object like the following image, you only have the Directions option and you need to click and drag to draw a line that will define the direction of paint lines. Once you release the mouse the direction is automatically applied.

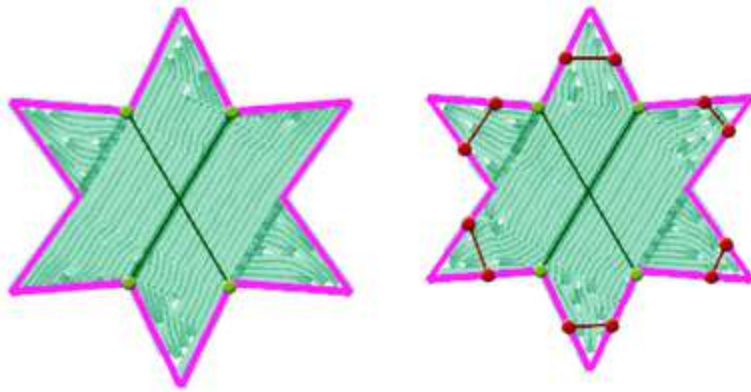


Likewise, if you click on a Paint Row fill shape like the following image, you have all Stitch flow options available. Click to select which one you want to use. Let's use "Divide".

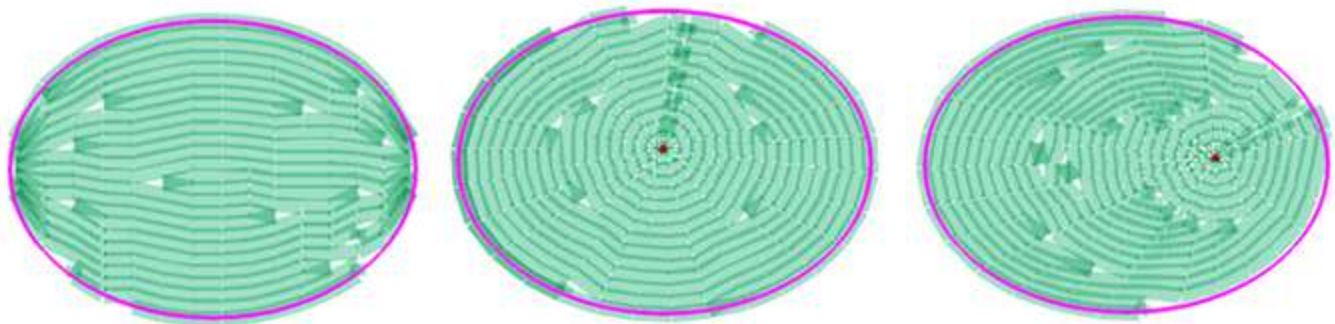


Now you can continue adding divide lines or switch to any other tool. Likewise, if you start the Directions tool, you can add one or more direction lines before you move to another tool.



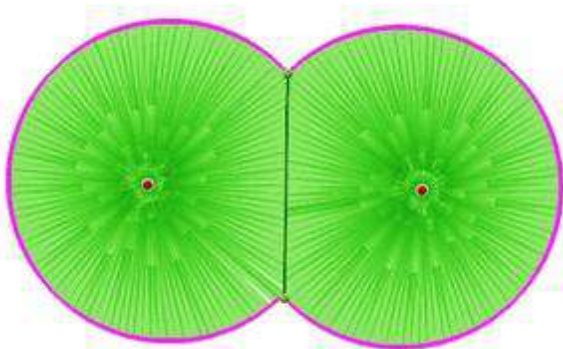


The third option from the Stitch flow tool is "Point direction" and appears only on "Paint zigzag" and "Paint Row fill" stitch types. Using this mode, you can specify a point on an object and that object will be filled with paint lines starting from its outer edge towards the selected point.



Point direction on Row fill stitches

You can also apply more than one-point directions on an object but only if you have divided the object into two or more sections.

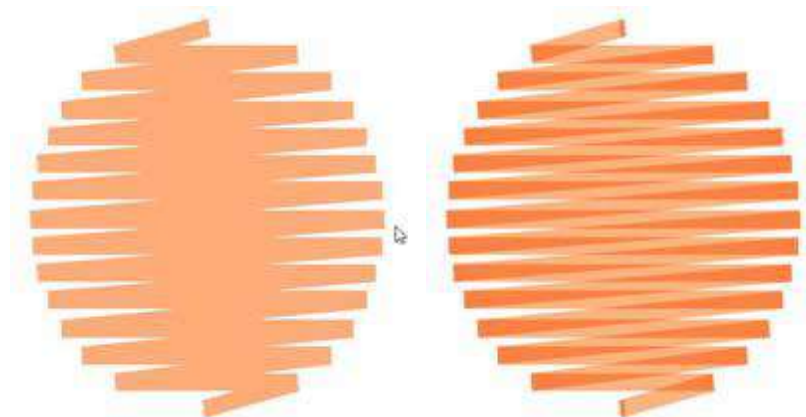


You can start the "Directions" tool using Ctrl+Shift+D keyboard shortcut (mac OS Cmd+Shift+D).

You can start the "Divide" mode using Shift+D keyboard shortcut (mac OS Shift+D).

Realistic Paint

You can enable or disable "Realistic Paint" option from the "View" menu. By enabling the Realistic paint option the software will try to create a more realistic preview of the Paint design you have created. The brush-lines will become transparent to a level that their overlapping areas will make the color appear darker. This will give you a more accurate preview of the final result. On the other hand if you disable the Realistic Paint option you will get a solid color coverage which is also the default way the objects are filled with brush-lines. This is a very useful option that allows you to have a better preview of the final Paint result.



Realistic Paint Disabled

Realistic Paint Enabled

Software Preferences

In this section we will present the "Options" dialog and how to set preferences for various aspect of the software. You can start "Options" dialog, using "Options" of "Tools" menu or by pressing Ctrl+T shortcut key. For Mac OS users go to menu "Artistic" - "Preferences" or use "Cmd+ ," keys. In the dialog box that appears you can adjust the properties in each menu tab.



Click on each tab, on the above image, to view their options.

General

In the "General" tab of "Options" dialog you can select a language for the user interface, you can manage the "Undo levels" and "Auto backup steps" and finally select the measurement system and its options. You can increase or decrease the programs "Undo level" according to your needs. The number that you define is the number of operations that you can undo.

The "Update Manuals" button appears only if there is an update available for the currently selected language.

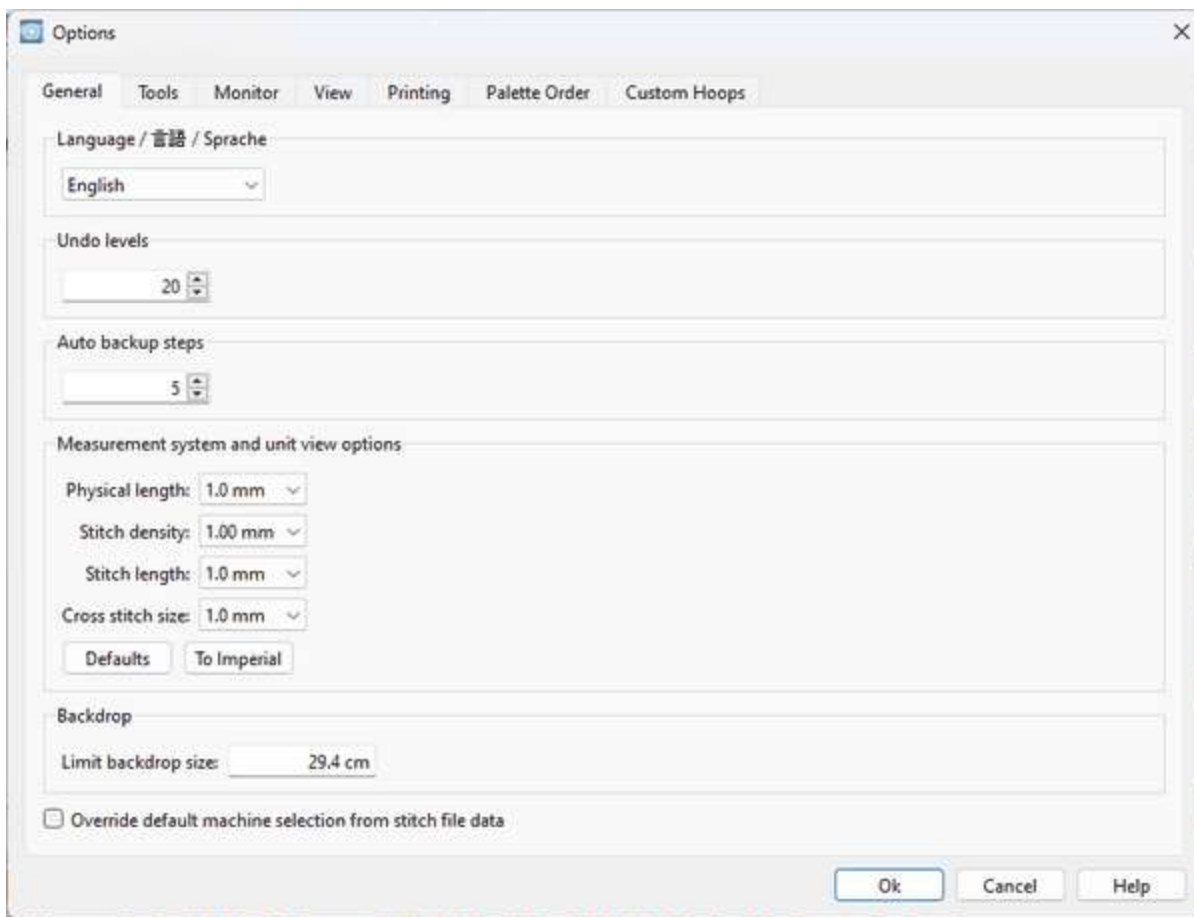
Note: that high undo levels acquire more systems memory.

With the "Auto backup steps" option you can set after how many of your actions an autobackup will occur. For example, if Auto-backup steps is set to 5, the software will take a backup every 5 changes you are making to your design.

You can select the "Measurement system" of the program, by default the programs shows all measurement values in Metric (mm). If you wish to show in "Inches" you can use "To imperial" button and this will changes the display of all measurements to inches.

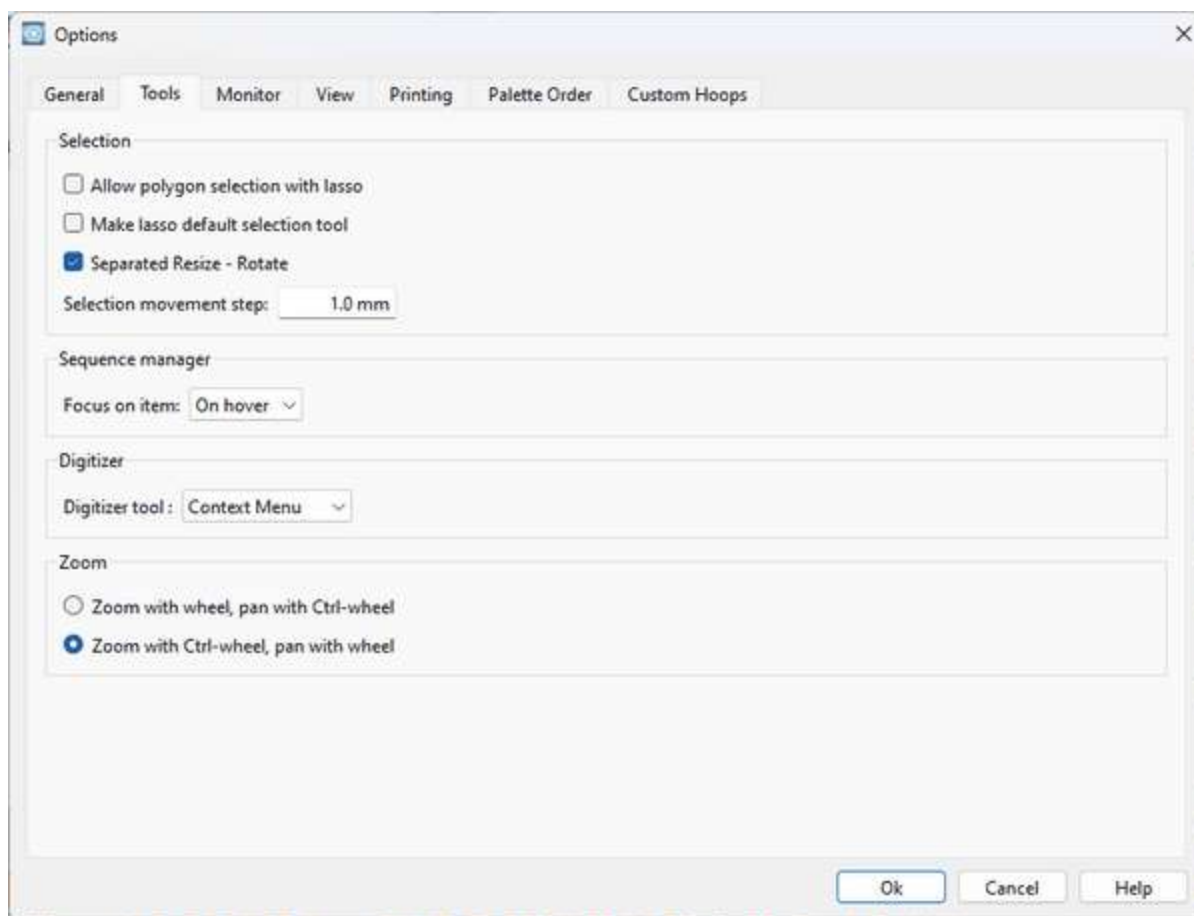
You can adjust the "Limit Backdrop size" by typing a new value. This numeric value specifies the maximum width or height of any imported image. If any of the imported image dimensions (width or height) is larger than the default "backdrop size limit" (29,5cm), the resolution values (width, height and dpi) are automatically adjusted to match this limit.

By checking the "Override default machine selection from stitch file data" option, the default machine will change based on the imported stitch file like .pes, .jef etc. Therefore if you import a .jef file and your default machine was set to Brother, it will automatically change to Janome machine. Currently the supported stitch file formats are .pes, .jef, .jef+ and .jpx.



Tools

In the "Tools" tab you can change some options about the selection tools, the focus status of sequence manager and the selection of a mode for the digitizer tool.



Selection

- If you check the "Allow polygon selection with lasso" you will activate an extra feature of lasso tool. This feature lets you draw straight-edged segments of a selection border. In order to draw a straight-edged selection border, start the lasso tool and whenever you want to create a line while making a lasso selection, you need to click twice to define the start point of the line and the end point of the line. When your last straight-edge of your selection reaches the beginning point then your selection polygon will be created activating all the design objects that surrounds.
- You can set the "Lasso" as the default selection tool, using "Make lasso default selection tool".
- The software has 2 operation modes for the transformations. The default is to have "Separated resize - rotate" and this means that by default when you select an object you have "Size-Scale" handles and you need to click on the object in order to switch to "Rotate-Slant" handles. More information is available on topic Transform objects.
- In the "Selection movement step" field you can specify the distance you want an object to be moved each time you press the "arrow key" on your keyboard. The default step movement is 1mm.

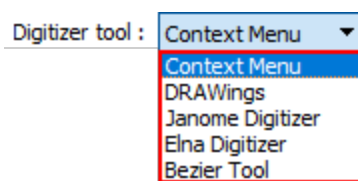
Sequence Manager

Using "Focus on item" dropdown menu you can specify when the objects on the working area will become focused when you work with the Sequence manager. To apply this option click OK on the dialog and restart the software.

- On Hover: By selecting this option whenever you hover over an object at the Sequence manager it will become focused(highlighted and centralized in the software's view port) immediately.
- On Click: By selecting this option whenever you click over an object at the Sequence manager it will become focused(highlighted and centralized in the software's view port) immediately.
- Never: By selecting this option the focus option will be disabled.

Digitizer tool

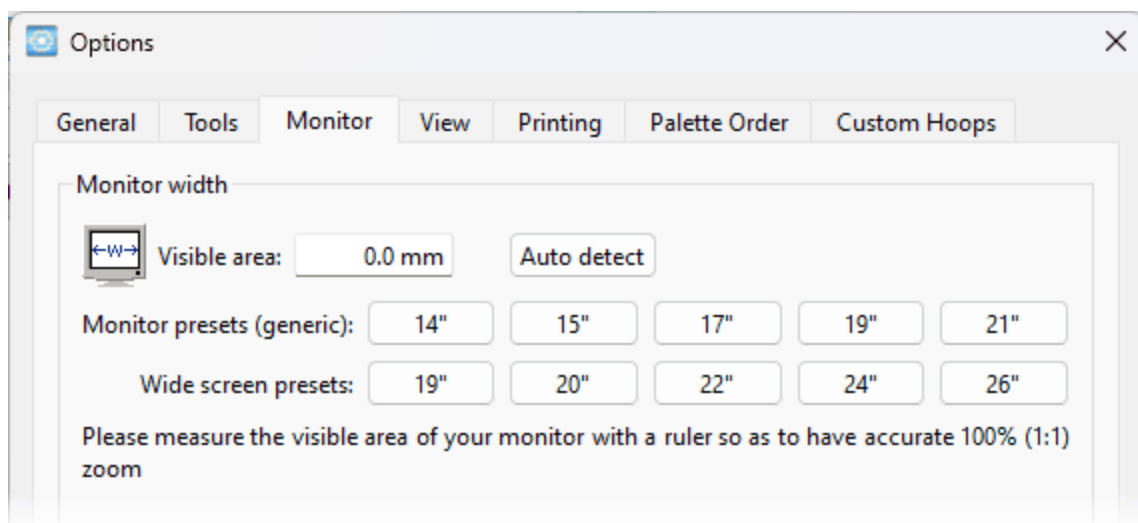
In general using the "Outline shapes"  tool you can create connected curve or line objects. Since this is the most used digitizing tool, we thought it is best to provide various operating modes, so that users accustomed to different designing software, such a vector designing programs, find it easier to become familiar with the use of this tool. Using the "Digitizer tool" dropdown menu you can select an operation mode for the outlines tool. All operating modes have the same capabilities the difference is in the way of punching, more information about the operation modes and their usage is available on Outline shapes topic.



Finally, the Adv.Scanner options button includes special settings for scanner. Please do not make changes on these options. These options must be edited only in special occasions from experienced personnel.

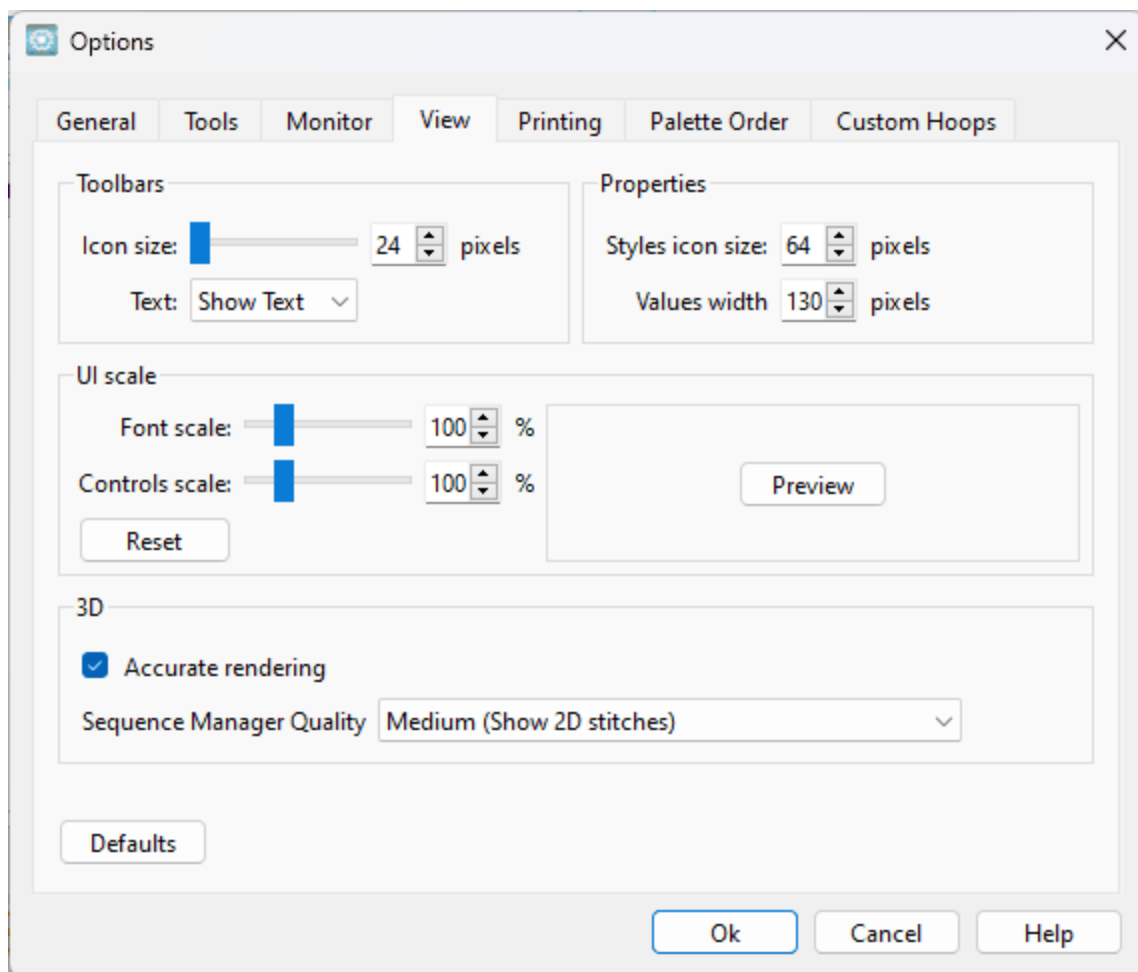
Monitor

In the "Monitor" tab you can set the actual width of your monitor. This is important if you want to view your embroidery designs in their actual size when 100% zoom selection is clicked from the standard toolbar. In order to find your monitor's width you can measure the visible area with a ruler. The result of your measurement must be entered in the text field Visible area at the right metric format. Another way to define your monitor's width is by knowing the size of your monitor in inches, and simply clicking on the respective monitor preset size button. The program will automatically set your monitor's width. Finally using "Auto Detect" option the program will try to detect automatically the size of your monitor. In order to activate your changes you have to click "OK" at the "Options" dialog box. The next time you try to view your stitch design in 100% zoom, the size of your design will be the actual one.



View

In the "View" tab you can adjust the way that you are viewing tool-bars. You can change the size of the "Stitch type" icons, the "Style icons" and the icons of the "Standard" and the "Tools" toolbar. You can also select whether "Label" text will be displayed or not and the position of the label.



Properties

- **Styles icon size:** In this numeric field you can specify the size of the "Style" icons of the "Properties" toolbar. The number of this field shows the pixel size of the icons. You can enter the exact size you want or you can adjust size by clicking the arrows next to the value or by clicking on the value and rotating the mouse wheel  if there is one. The size of the Styles icon cannot be more than 64 pixels.
- **Values width:** In this numeric field you can specify the values' width of the Properties toolbar. You can enter the exact size you want or you can adjust size by clicking the arrows next to the value or by clicking on the value and rotating the mouse wheel  if there is one. The "values width" of the Properties toolbar cannot be less than 100 pixels.

Tool-bars

Using the "Icon size" track bar you can define the size of the icons for "Standard" toolbar on the top area of the application and for the "Tools" toolbar on the left area of the application. The number you define is the size of the icon in pixels. Additionally you can select whether you want the label text to be displayed next to each icon or not.

Ui scale

Using the "Font scale" or the "Controls scale" track bars you can scale the visible "Fonts" or the "Controls" of the software in general. Using "Reset" button you can restore the default UI scale.

Finally, using the "Defaults" button you can restore the default values in the "View" tab, except from the "UI Scale" which has a separate "Reset" option. To apply all the adjustments you have made, you have to click on the "OK" button of the "Options" dialog and restart the software. The next time that you will start the software all the changes you have made will take effect immediately.

3D

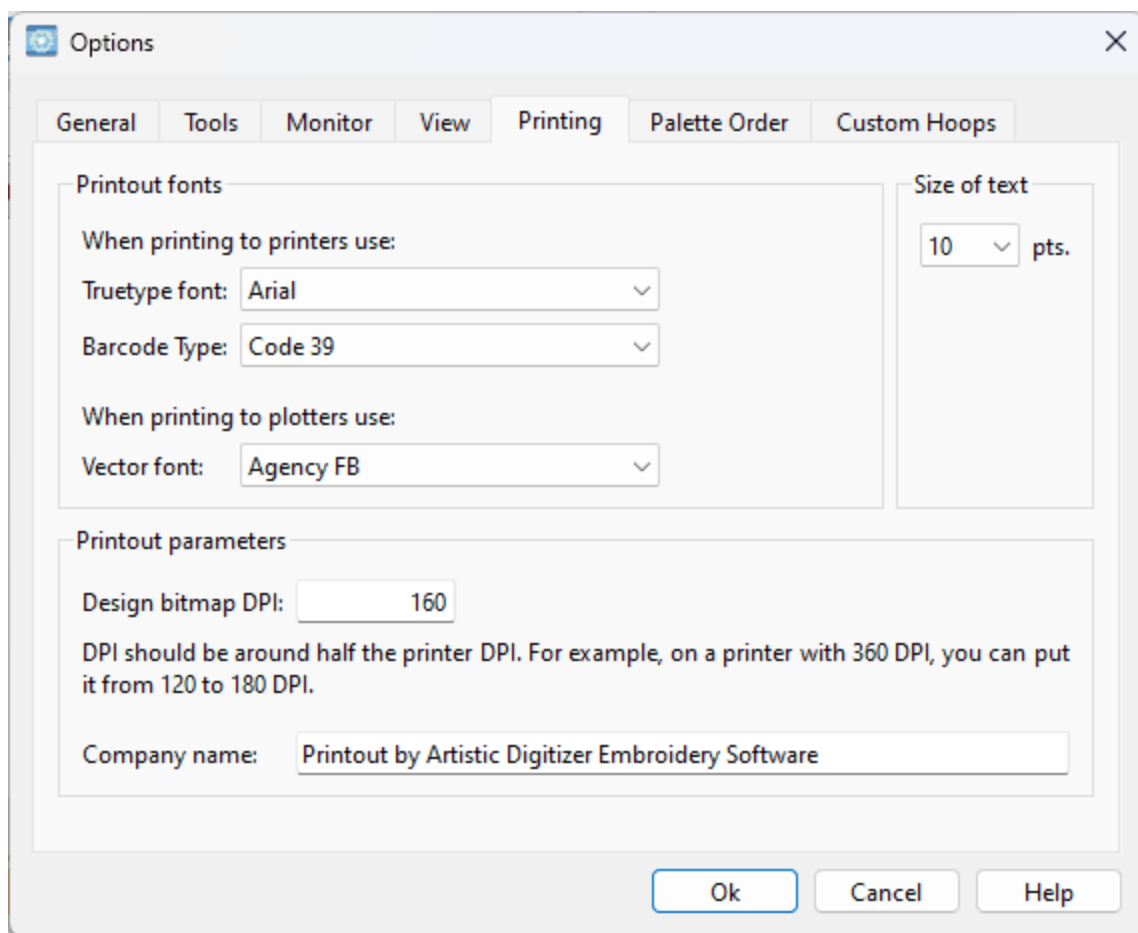
At this section you can make adjustments on the 3D settings of the software.

- By checking the "Accurate rendering" option, the 3D quality will be better and more accurate.
- From the "Sequence manager Quality" drop down menu, you can select the quality of the shapes on the sequence manager. You can set the quality to "Low(show outline when possible)", Medium(show 2D stitches), or "High(Show 3D stitches)".

These settings affect the speed of the software, together with the quality of the rendered 3D output.

Printing

In the Printing tab you can adjust the Printout fonts, the Size of text and Printout parameters.



Printout fonts

In the "Printout fonts" option you can set which "True Type font" the printer will use for printing, which "Vector font" the plotter will use for printing and the "Barcode Type" you prefer to see in the Printout. The "Barcode Type" that is supported, is the "Code 39" and the "Extended Code 39"

Also, in the "Size of text" option you can specify the size of the fonts in the printout. Click on the drop down menu and select a size.

Printout parameters

In the "Printout parameters" you can define the "DPI" (Dots Per Inch) of the printout and the "name- slogan" that will be added on the printout. Setting the "DPI" of the printout is important for the printout quality. The DPI value that must be placed in the "Design bitmap DPI" field and should be around half the DPI that the printer is capable of. For example, on a printer with 360 dpi, you can set the value from 120 to 180 dpi. In the "Company name" field you can add the name of the company or a slogan you want to view in the printout.

Palette order

Using the "Palette order" tab you can select which of the available "Thread palettes" will be visible and change the order that they appear in "Color manager" colors list.

Use the check-box that exists next to each of available thread manufacturer palettes in order to select which of them will be available on the color list of color manager or color tab.

Palette order

	Name	Visible
1	ACKERMANN ISACORD	☒
2	ACKERMANN ISAFIL	☒
3	ACKERMANN ISALON	☒
4	ACKERMANN ISAMET	☒
5	AMANN ISALON 40	☐
6	ANGELKING	☐

Additionally you can select any of the available palettes and by drag to another position on the list and just like that you can move the most used palettes in the handiest position.

Palette order

	Name	Visible
1	ACKERMANN ISACORD	☒
2	ACKERMANN ISAFIL	☒
3	ACKERMANN ISALON	☒
4	ACKERMANN ISAMET	☒
5	JANOME	☐
6	ANGELKING	☐
7	JANOME	☒
8	ANGELKING 5 FEEL SOFT	☐

Set default color palette

You can also select the default manufacturer palette that will be used for any new design using the "default" combo box. If you wish to work with RGB colors you can enable the "RGB as default" option on the lower part of the dialog.

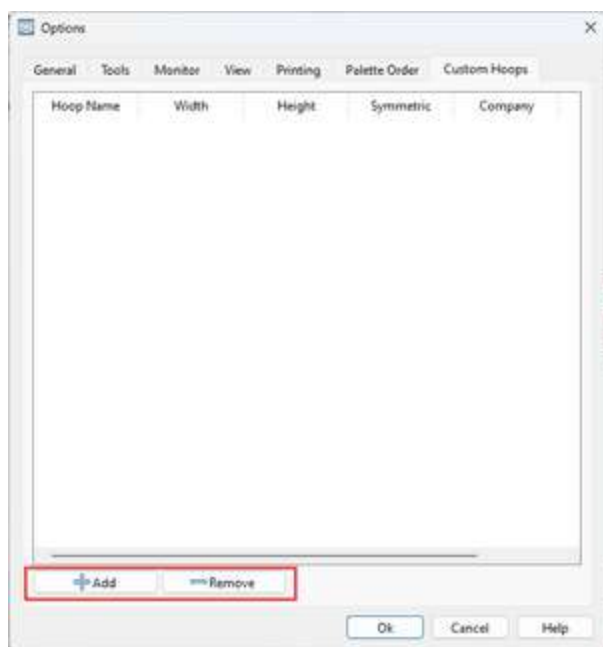
Palette order

	Name	Visible	Default
1	ACKERMANN ISACORD	☒	☐
2	ACKERMANN ISAFIL	☒	☐
3	ACKERMANN ISALON	☒	☐
4	ACKERMANN ISAMET	☒	☒
5	AMANN ISALON 40	☐	☐
6	ANGELKING	☐	☐

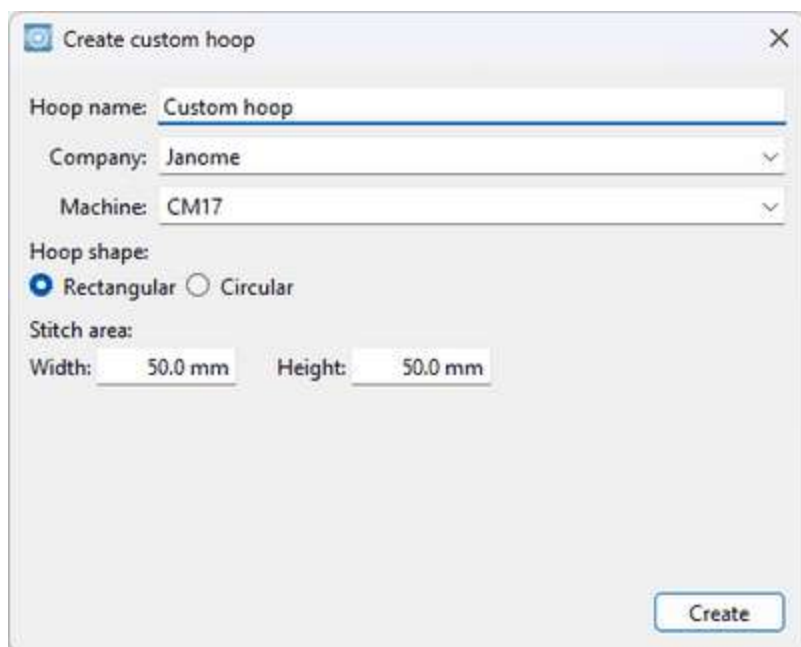
RGB as Default ☐

Custom hoops

In the "Custom Hoops" tab of "Options" dialog you can create custom hoops if you are using a hoop that is not available on the hoop list. By clicking on the "Plus" button, the custom hoop dialog will appear where you have the ability to define a new custom hoop with the dimensions you prefer. The hoop that you will create will be added to the list of hoops for the selected machine, allowing you to reuse it as many times as you want. The dimensions that you will enter must be the dimensions that the manufacturer of the hoop provides for the specific hoop.



To create a custom hoop you have to set the dimensions you want to have, select the Machine manufacturer and the machine model, select the shape of the hoop, define a name and then add it to the hoop list by pressing the "Add" button.



- **Hoop Name – Description:** The first option you have is to type the Hoop Name – Description in the respective field. The name-description that you will type in this field will be the name that you will view in the Select Hoop drop down menu. If you forget to fill this field, you will be asked from the software to do so. It is good practice also to add always a description of the hoop (Oval, Rounded rectangle etc.) and the dimensions of it in the Hoop Name – Description field, in order to be easier for you to decide which one you have to use.
- **Machine company:** Select the manufacturer of the machine that you are using this hoop on.
- **Machine model:** Select the model of the machine, the hoop will be listed on the available hoops of the selected machine.
- **Hoop shape:** Select if the new hoop will be rectangle Rectangle or Circular.
- **Width:** In the Width value field you can insert the width of the hoop you want to use.
- **Height:** In the Height value field you can insert the height of the hoop you want to use.

After adjusting the options you can save the hoop by pressing the "Create" button that will add the hoop to the list of hoops of the selected machine. To use the hoop you have created you must select a Hoop through the "Welcome" tab or using the "Machine/Hoop" icon on Tools bar.

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