

DIGITAL FLEXO SUITE 23.11

FOR CORRUGATED



USER MANUAL

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## System Requirements

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The following minimum requirements must be met:

- Intel Dual Core 2 processor
- 8 GB RAM
- Network board
- screen resolution of 1,280 x 1,024 pixels
- Microsoft Windows 7 64bit
- disabled firewall
- disabled UAC (User Account Control)
- Grapholas 14 on the CDI
- Grapholas 20.1.4 for „PlateID“

The following configuration is recommended:

- Intel i9 processor
- 16 GB RAM
- Hard drives: 512 GB SSD
- 1 GB network board
- Microsoft Windows 11 64 bit
- disabled firewall and user account control (UAC)
- Grapholas 23.11 on the CDI

## Windows Service and Ports

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The service for the *"Digital Flexo Suite"* is started automatically.

The following programs must be enabled:

- **gravurd**
- **cmotsim**
- **cdid**

The Digital Flexo Suite Service "bsl\_cdisvc / Esko DFS" and an http server "bsl\_http / Esko HTTP" are installed to allow communication with the CDI.

The following ports are used for communication with the CDI:

- Port 5542: gravurd (TCP)
- Port 5543: cmot (TCP)
- Port 5544: cdid (TCP)
- Port 5544: cdid (UDP)
- Port 5580: http server (TCP)

In the firewall, these ports (in/out) must be released on the DFS as well as on the CDI.



## First Start-up of the Software

LEN and TIF files are prepared for exposure on a CDI using the "Merger". It positions the images on the printing plate, and can also rotate, mirror, crop and invert the images as required.

Several CDIs can be controlled via the network simultaneously.

"XL CUT" generates cutting files so that the generated plate can be cut automatically on the Kongsberg table.

"Staggered Cut" (option) creates a user-defined cutting shape which then can be cut using "XL-CUT".

The "PlatePatcher" analyses the image content of LEN or TIF files and applies register marks to the determined areas. A file with coordinates is created for automatic mounting. A printout of an ACM or EPS file is used for manual mounting.

The "Viewer" is used for viewing and measuring the Len/TIF files. The angle and the rasterization can also be measured.

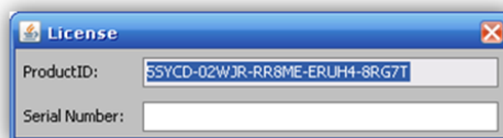
"iMask" (option) adds an adjustable frame to the output data and creates an additional LEN or TIF file.

"Lenticular" (option) adjusts the width of the job to adapt the data to the lens system for creating 3D images.

All important settings are copied over during an update. When the software is being installed for the first time, the output devices must be set up and the network settings must be set.

## Entering the License Key

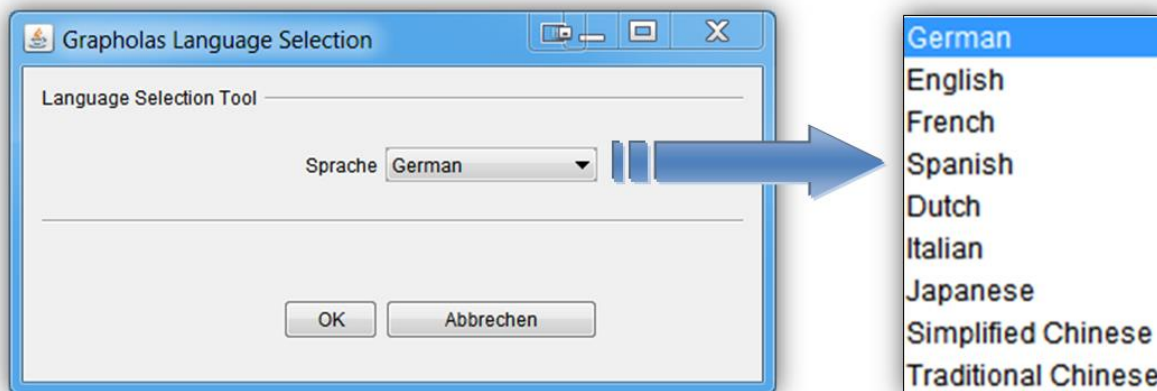
During initial installation or when updating from an older version, the license key must be entered to start the "Merger":



The ESKO-Service provides a serial number for this "ProductID" which needs to be entered in the "Serial Number" field and confirmed by ENTER. The license can be subsequently changed with the "New License" program in the Windows Start Menu under "Esko - Digital Flexo Suite - System".

## Setting the Language

The language can be changed in the Windows start menu under "ESKO – Digital Flexo Suite - System – UI Language":

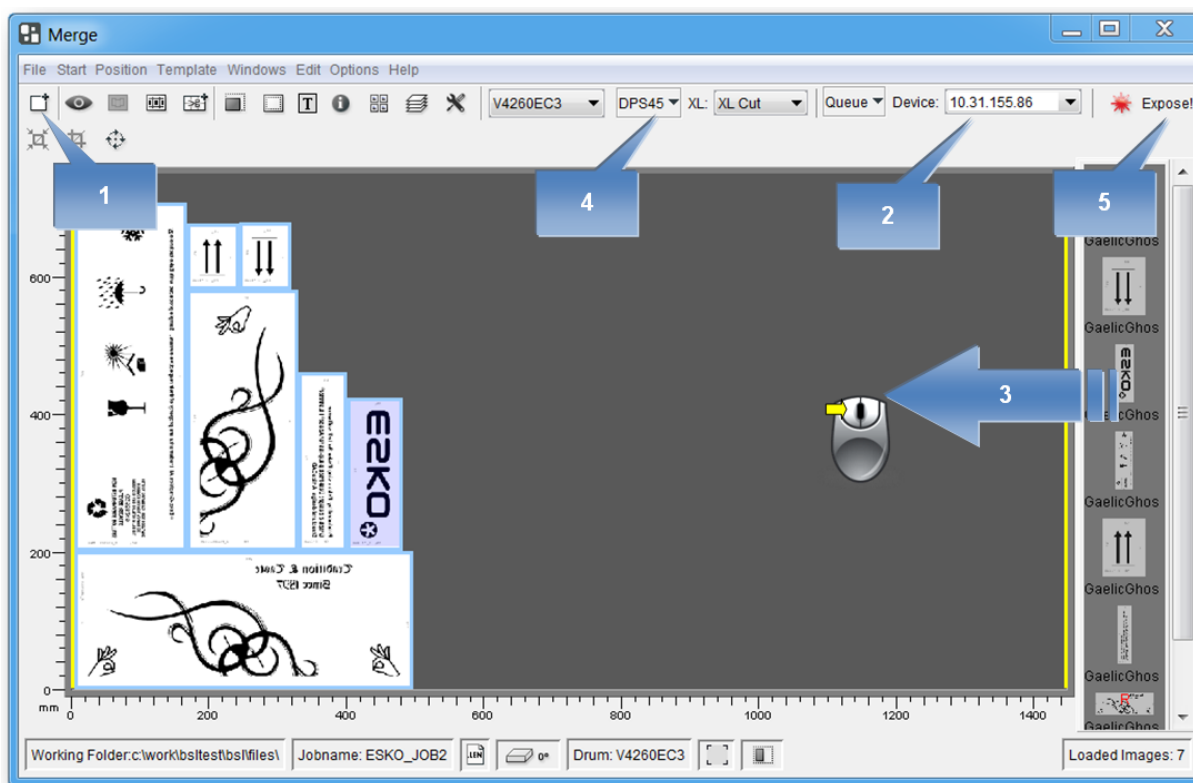


## Merger

The "Merger" is used to load the image data from the local hard drive or from the network and to send it to the preselected CDI.

In addition, simple tools such as "mirror", "crop" and "rotate" are available. The operation of the functions "XL CUT", "PlatePatcher" and "Staggered Cut" is described in the chapters of the same name.

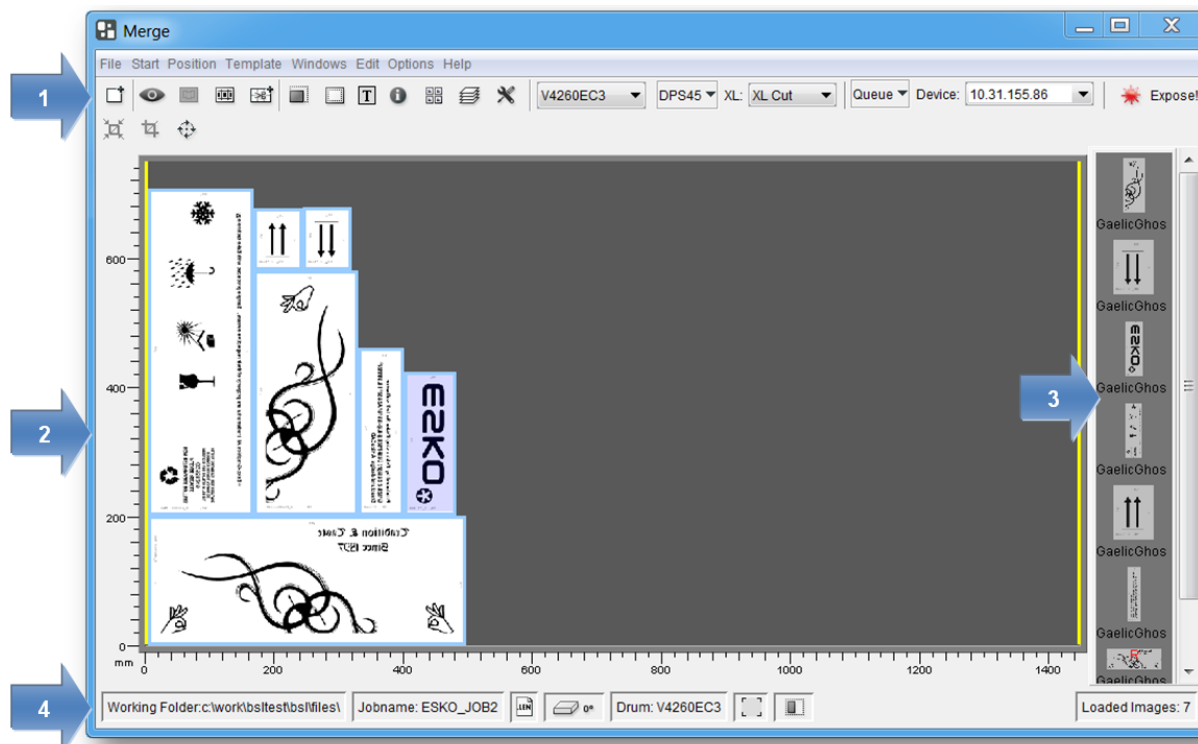
## Quick Start



- 1 Start the Merger and load the required images. They are displayed in the image gallery (on the right).
- 2 If necessary, select the CDI or the TIF output device. All important parameters are updated in the Merger.
- 3 Position the images on the working surface. Click on the images or the working surface with the right mouse button to display additional information.
- 4 Select the required plate. Right-click on the plate to display additional information.
- 5 Send the job to the CDI or the TIF output device.

## The User Interface

The Merger can be divided into four areas:



**Area 1:** menu bar / toolbar with icons for the most important options

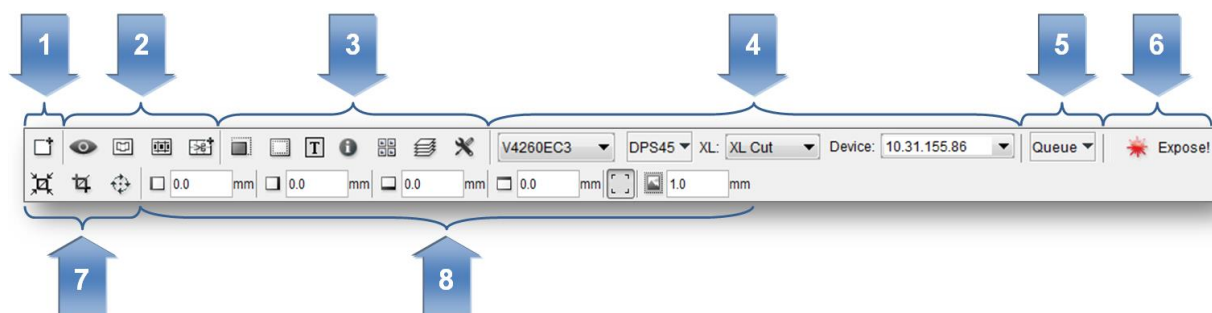
**Area 2:** working surface on which the images are positioned

**Area 3:** display of loaded image data

**Area 4:** status bar - display of the most important settings

## Toolbar

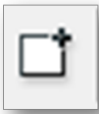
All important functions are listed in this area. The toolbar is subdivided into seven areas:



- 1 Opens a dialog box to load the image files.
- 2 Opens **ADDITIONAL** functions such as *"Bitmap Viewer"*, *"Staggered Cut"* and *"PlatePatcher"*.
- 3 Activates additional functions in area 7 to adapt the output.
- 4 Allows to set the data output, for example, the drum, the plate, the Kongsberg cutting file and the CDI.
- 5 Opens an overview of the jobs lined up on the selected CDI.
- 6 Opens a dialog box to send the job to the CDI or to the TIF output device.
- 7 Allows to modify the image data, for example, rotating and cutting.
- 8 Area for the various functions selected in area 3.

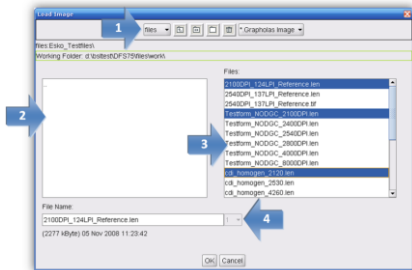
If some required functions are not displayed, they can be activated in the Merger configuration settings.

## Loading Images



**Ctrl + E**

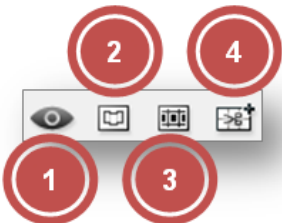
calls up a file dialogue box in which the LEN or TIF files can be selected.



- 1 Selection of network shares.
- 2 Display of directories.
- 3 Display of files. By pressing the "Control" or the CAPS button together with the left mouse button, several files can be marked simultaneously; they can then be loaded by pressing "OK". Single files can directly be loaded by double-clicking them.

4 Multiple loading of the files.

## Displaying and Modifying Image Data

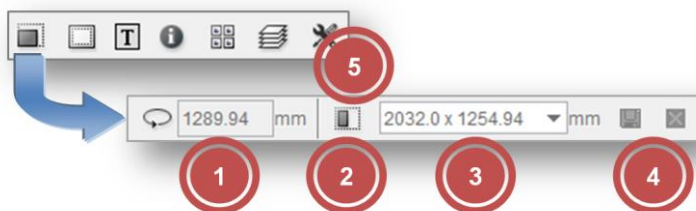


- 1 Opens the "Bitmap Viewer".

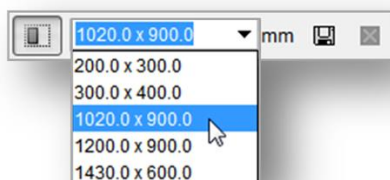
Several files can be marked simultaneously by pressing the "Control" button together with the left mouse button to view these files, each superimposed on top of the other, in the "Viewer".

- 2 "Staggered Cut" (option) - Opens a new window to create user-defined cutting lines. "PlatePatcher" and "Plato Staggered Cut" files cannot be edited.
- 3 "Line Editor" (option) - Opens a new window in which the cutting lines can be created manually. "PlatePatcher" and "Plato Staggered Cut" files cannot be edited.
- 4 "PlatePatcher" - Opens the PlatePatcher window. Refer to chapter "PlatePatcher" for further information.

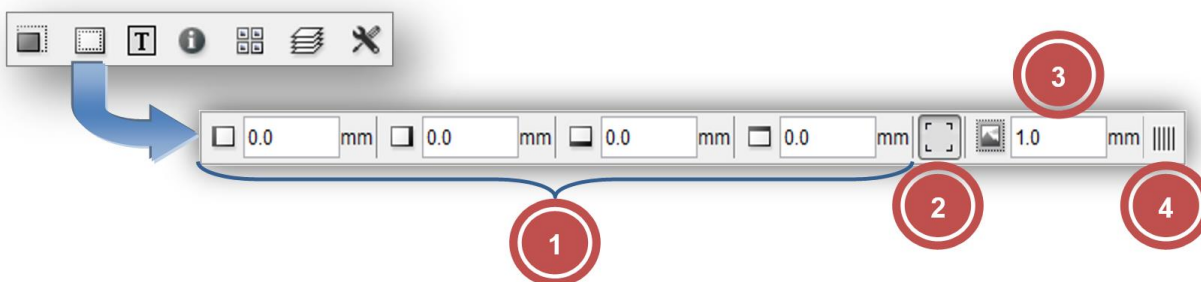
## Plate Size and Partial Plate



- 1 Display of the drum circumference – This value can be changed for sleeves.
- 2 Switchover to partial plate – In this mode, the vacuum on the CDI is not analysed and is reduced to a lower, safer speed.
- 3 Allows to set the plate width and plate height in partial plate mode. The data is entered in the format 'width x height' (e.g. 768 x 500).
- 4 Save the newly entered entry or delete an entry from the existing list:

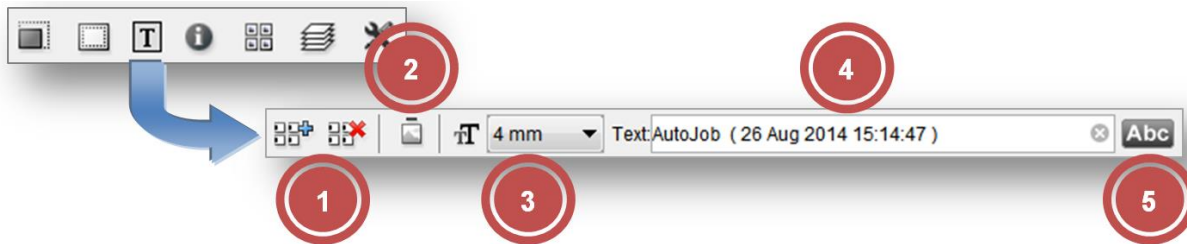


## Frames and Cutting Lines



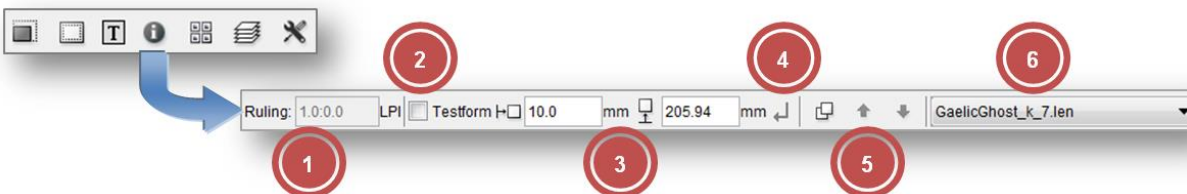
- 1 Allows to enter a frame area which is not available for the imaging process. The area is marked red.
- 2 If activated, cut marks are added in the corners of each image.
- 3 Distance between cut marks and image.
- 4 Expose the right plate frame for the CCC workflow.

## Adding Text



- 1 Add text to or delete from all positioned images. A frame is automatically added to all images.
- 2 Allows to switch the position (top or left).
- 3 Selection of the text size.
- 4 Input field for the text. The text should not be longer than the image width or height. The position and width of the text is marked in yellow on the working surface. A frame is automatically added to all images.  
The text can be deleted by clicking on the "X" at the end of the input field.
- 5 Addition of an image name together with a date and time stamp.

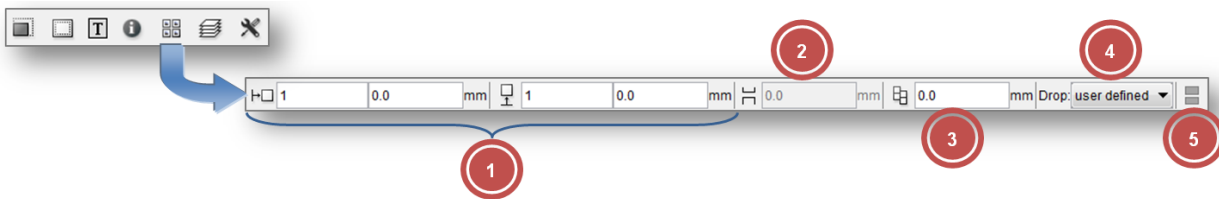
## Information on Grids and Image Position



- 1 Allows to enter the raster count and the angle if they have not yet been included in the image. Images without this information are marked in red on the work surface.
- 2 Allows to mark an image as a test wedge. For this image, the output optimization function is deactivated to increase productivity. If these two fields are highlighted in grey, then they are irrelevant for the selected CDI.
- 3 Allows to display and change the current image position.
- 4 Confirmation of the changed image position. The image is not positioned until the changed image position is confirmed.
- 5 Activation of the overlaying option. The images can be positioned on top of each other. Using the arrows, the selected image can be positioned above or below another image.
- 6 Allows to display and change the image to make further changes.



## "Step & Repeat" and Seamless Option for Sleeves



- 1 Allows to enter the number of repetitions in horizontal and vertical direction. It is possible to set a gap between the images.
- 2 Displacement of the image above the zero point of the sleeve (5 activated).
- 3 Offset of the images to each other when horizontal repetition is selected (5 activated).
- 4 Predefined offset of the images to each other (5 activated).
- 5 Activates the seamless option. If the image is smaller than the circumference, a gap will be automatically added and repeated in vertical direction if possible.

## "PreMount" Output



To ensure the dimensional accuracy and the focus on the CDI for **"PreMount"** output, the thickness of the glued materials must be specified.

- 1 thickness of the mounting film
- 2 thickness of the adhesive tape
- 3 thickness of the support such as, for example, an "airbag"

The thickness of the mounting film, of the adhesive tape and of the support can be changed by selecting the "Premount Support" function in the "Edit" menu:

Should one entry no longer be required, select this entry and remove the value by pressing the Delete key on the keyboard.

New entries are entered in the desired field using the keyboard and confirmed by pressing the Enter key. The values are automatically sorted.

If the value "0" is entered in a field, this field will not be displayed in the Merger.

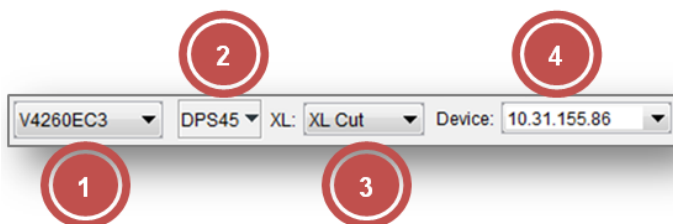
## Mirroring, Inverting, Lenticular, iMask



If this icon is not displayed, it can be displayed by selecting "Image Manipulation" under "Options - Configuration".

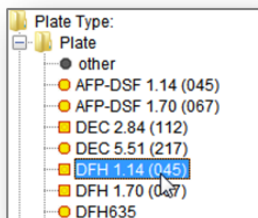
- 1 Allows to mirror (horizontally or vertically) and invert the selected image. "ymir", "xmir" or "inv" is added to the new files.
- 2 "Lenticular" output settings. For more information, refer to chapter "Lenticular".
- 3 "iMask" output. For more information, refer to chapter "iMask" Output.

## Output Options



- 1 Selection of the drum on the CDI. This option is only shown if more than one drum or the drum and the sleeve have been set up on the CDI.
- 2 Selection of the plate. To ensure an optimum imaging result, the right plate needs to be selected. Additional information such as "UV Inline" and "Full HD Flexo" is stored on the plate.

Normal plates are marked with a circle and Inline UV plates are marked with a square.



DFH 1.14 (045)	
Thickness:	1.14 mm
Job Type:	PLATE
Energy	3.2 J/sqcm
UV Main Exposure:	360 sec
UV Main Energy:	22 mW/sqcm

Using the right mouse button to click the plate entry displays information on the plate properties.

Only the plate types which fit the selected drum are displayed.

For more information, refer to chapter "Managing the Plate List".

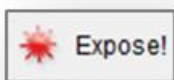
- 3 Selection of the required Kongsberg settings. If activated, a yellow bar is visible on the left or on the bottom in the Merger.

The cutting file for the Kongsberg is stored in the directory which was selected for this setting.

For more information, refer to chapter *"Kongsberg Output (XL CUT)"*.

- 4 Selection of the output device. CDIs and TIF output devices are listed separately.

## Sending a Job to CDI or Creating a TIF File



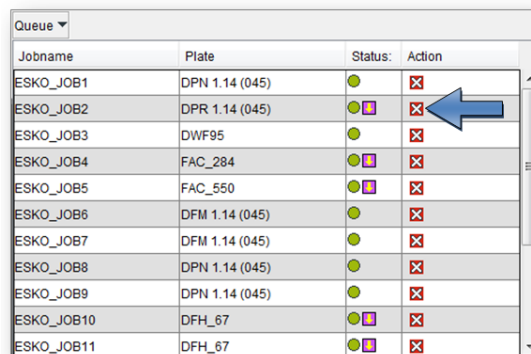
**Ctrl + E**

opens a dialogue window in which the job name can be entered. By pressing "OK", the job is sent to the CDI or a TIF file is created in the output directory.

## Displaying the Job List of the CDI

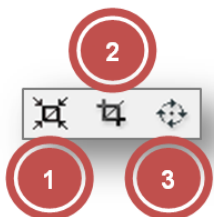


displays the job list of the connected CDI. In the "Action" column, the job can be deleted by clicking on the cross. The job status is displayed in the "Status" column. An explanation of the icons can be found in the "Grapholas" user manual.



Jobname	Plate	Status:	Action
ESKO_JOB1	DPN 1.14 (045)	●	✘
ESKO_JOB2	DPR 1.14 (045)	● □	✘
ESKO_JOB3	DWF95	●	✘
ESKO_JOB4	FAC_284	● □	✘
ESKO_JOB5	FAC_550	● □	✘
ESKO_JOB6	DFM 1.14 (045)	●	✘
ESKO_JOB7	DFM 1.14 (045)	●	✘
ESKO_JOB8	DPN 1.14 (045)	●	✘
ESKO_JOB9	DPN 1.14 (045)	●	✘
ESKO_JOB10	DFH_67	● □	✘
ESKO_JOB11	DFH_67	● □	✘

## Cropping and Rotating Images



- 1 Automatic cropping of the selected images. Unused frame areas are removed.

**Right-click the icon to undo the changes.**

The distance to the "Bleed" pixels can be set in the Merger properties. If the image contains "Staggered Cut" information, the image is cut on the cutting line.

- 2 Opens a new window in which the image can be cut. For more information, refer to chapter *"Manual Cropping"*.
- 3 Rotates the selected images by 90°. The rotated files are generated when sending the data to the output device. Depending on the resolution, this may take some time.

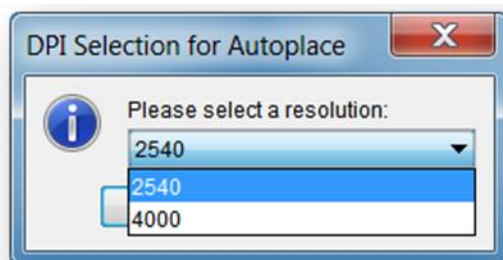
## Automatic Positioning of the Images

The images loaded in the Merger can be automatically positioned.

Use the key combination **Ctrl + a** to reposition all images automatically. Images which were already positioned on the working surface are removed.

Use the key combination **Ctrl + h** to position all non-positioned images automatically. Already positioned images are **not** removed.

When more than one image was marked (**Ctrl + left mouse button**), only these images are used for automatic positioning.



Images with different resolutions cannot be sent on one plate to the CDI. When multiple resolutions are available for the automatic positioning, a selection is displayed.

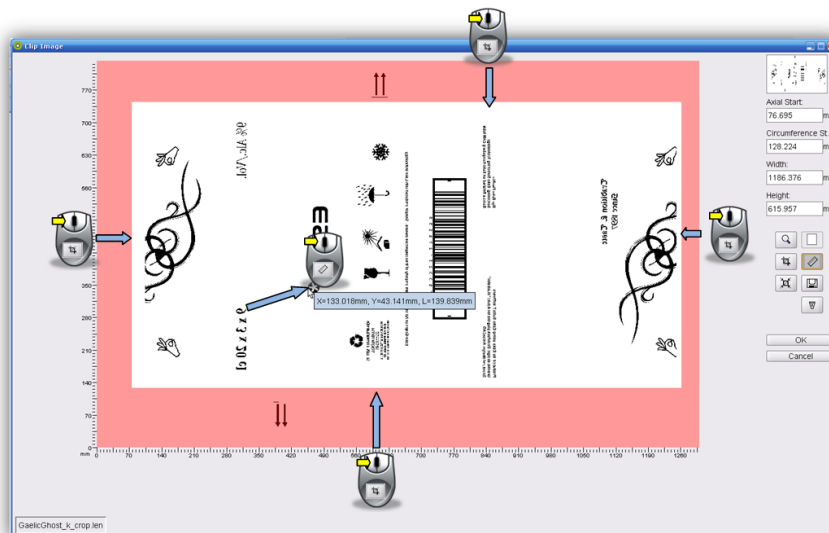
Only the images with the selected resolution are then positioned.

You can define in the basic settings of the Merger how to position the images. If the images are to be subsequently cut by hand, then the cut-optimised positioning method is a good choice.

## Manual Cropping



opens a new window in which the image can be cropped:



Starting from the frame area, a lasso can be pulled open by pressing and holding down the left mouse button and pulling the mouse across the work surface; or the exact lasso size can be entered in the four input fields on the right-hand side (1).



The distance between two positions in the image can be measured by pressing and holding the left mouse button down.



Individual sections of the image can be enlarged with a square magnifier by pressing and holding down the left mouse button and pulling the mouse across the section of interest. The magnified image section can then be positioned using the arrow keys on the keyboard.



displays the entire image.



performs the automatic cropping.



sets back all cutting edges.



saves the current image section as a new LEN file.

Manual cropping is not available for LEN files of the *"PlatePatcher"* and the *"Staggered Cut"*.

## Menu Bar

---

Only the additional functions which are not listed in the toolbar are described. The menu bar is situated above the toolbar.

## Unloading Images

---

*"File - Unload Image" (Ctrl + u)* removes the selected image from the "Merger". The file is not deleted from the hard drive.

## Unloading Positioned Images

---

*"File - Remove All Positioned Images" (Ctrl + d)* removes all images from the "Merger" which are positioned on the working surface. The files are not deleted from the hard drive. This is useful when the job was sent and several images are still in the queue.

## Select Working Folder...

---

*"File - Select Working Folder" (Ctrl + w)* changes the working directory in which all images are copied or moved during the loading process. This option is not available if images are loaded.

## Saving the Image Arrangement

---

*"File - Save Plate" (Ctrl + s)* saves the compilation and the exposure parameters as plate. When the compiled images are sent to the CDI, the plate is automatically saved under the entered name.

*"File - Save Plate as"* saves the compilation under another name.

## Loading the Image Arrangement

---

*"File - Load Plate" (Ctrl + L)* loads a previously saved or sent compilation with all parameters. All currently loaded images are removed.

## Deleting the Image Arrangement

---

*"File - New Plate" (Ctrl + n)* removes all images from the "Merger" and resets the parameters.

## Automatic Positioning of the Images

---

**"Position - Auto Arrange Images" (Ctrl + a)** automatically positions as many loaded images as possible on the working surface. Beforehand, images which were already positioned on the work surface are removed. The type of positioning can be selected in the Merger properties.

## automatically position new images

---

**"Position - Auto Arrange New Images" (Ctrl + h)** automatically adds the loaded images to the compilation on the working surface. Already positioned images are not removed.

## Removing Images from the Working Surface

---

**"Position - Unplace all" (Ctrl + u)** removes all images from the working surface. The images are not unloaded.

## Displaying File Names

---

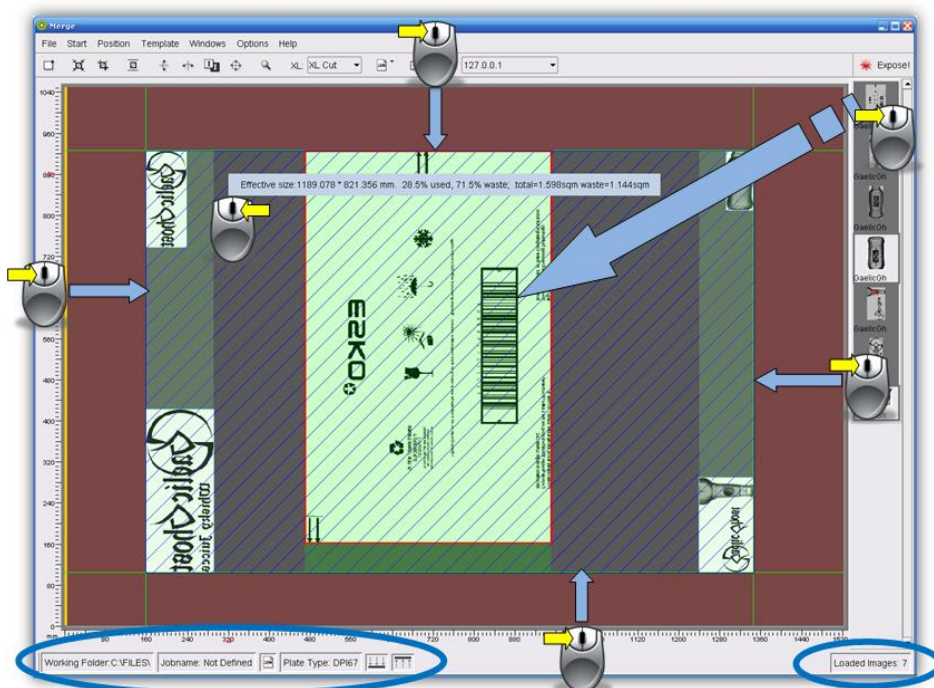
**"Windows - Display Names"** shows the file names in the images positioned on the working surface.

## Working Surface and Status Bar

---

The working surface shows the available area on the plate. It is not necessary to enter the upper and lower borders as the entire working area is shown.

The loaded images are pulled from the right queue on the working surface by holding down the left mouse button.



In addition, guides can be pulled from the grey frame area by holding down the left mouse button. The images cannot be positioned in the red area. The guide can be removed again by clicking with the right mouse button on the grey frame area.

Using the right mouse button to click the image file displays information on the image.

The status bar shows the current settings and the number of loaded images.

## Displaying Plate Use

Using the right mouse button to click on the work surface displays information on the plate size and the use of the plate.

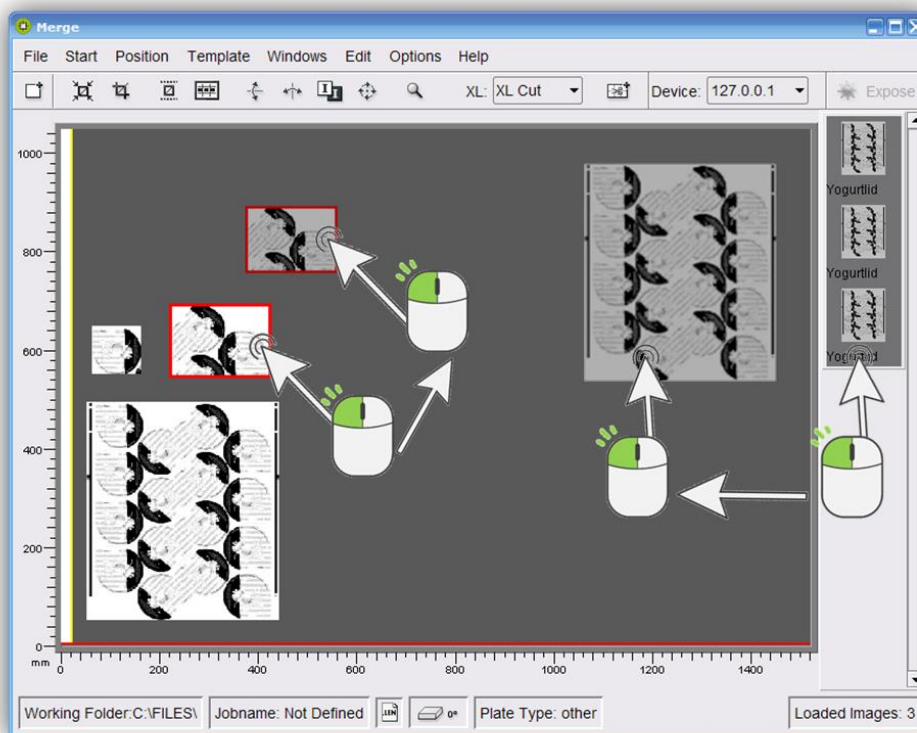
	Width: [mm]	Height: [mm]	Used [%]	Waste [%]	Used [sqm]	Waste [sqm]
Partial Plate	947.744	277.462	49.4	50.6	0.263	0.133
Full Plate	1000.0	800.0	16.2	83.8	0.8	0.67

The line "Partial Plate" shows the values for the marked area. The line "Full Plate" refers to the entire work area.



## Multiplying Images

An image can be multiplied by holding down "Ctrl" on the keyboard and pressing the left-hand mouse button:



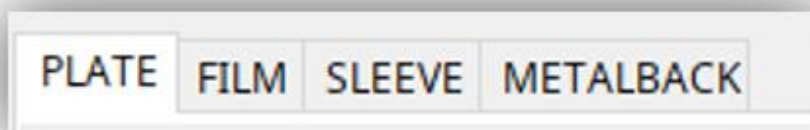
This is possible on both the working surface and from the image gallery (right).

## Manage Plate List

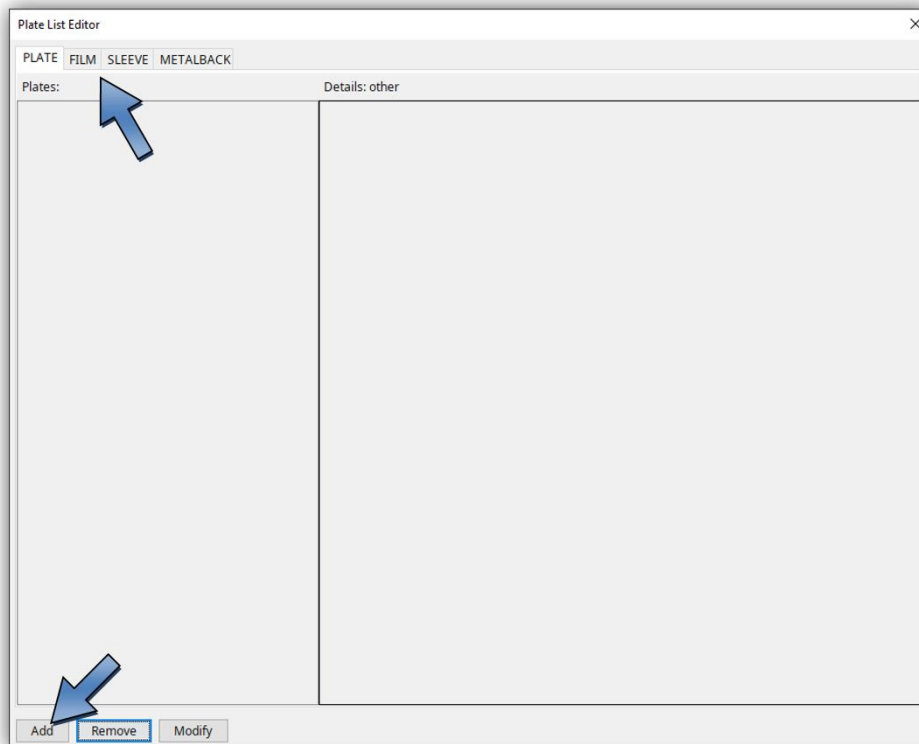
"**Edit – Edit Plate List**" opens a new window in which new disks can be created, changed and deleted.

### Select medium

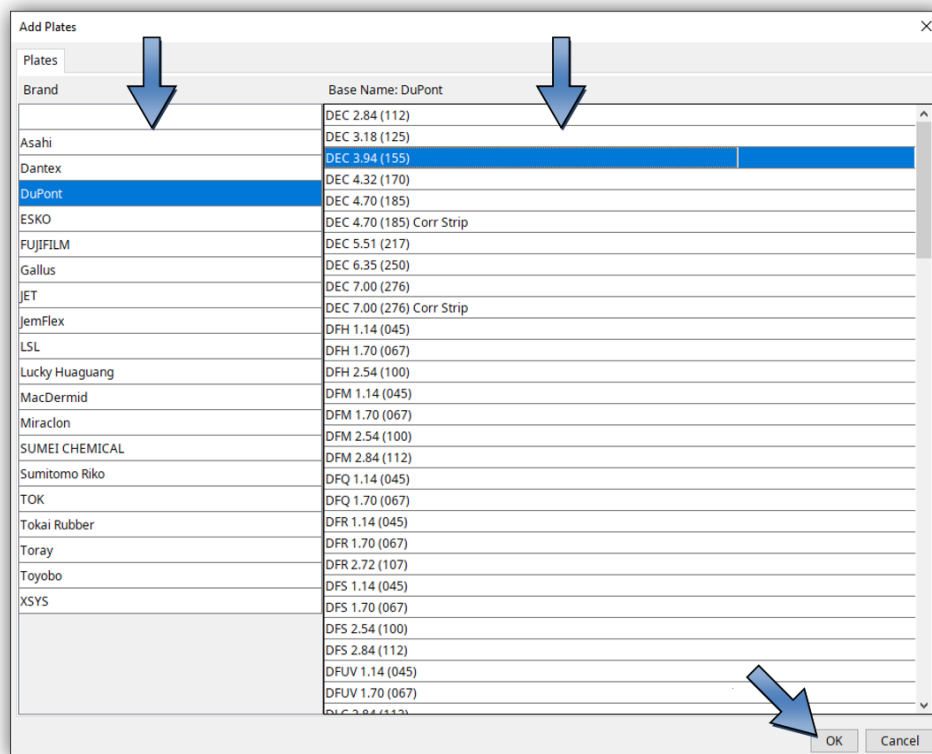
The possible media are displayed at the top of the disk list editor. Only the entries for the corresponding medium are displayed:



## Create a new plate entry



Select the desired medium and click "Add". A new window will open.



Select manufacturer and type and confirm with "OK". The overview of the disk parameters is now displayed.

## General

Modify Plate

Plate Name: DEC 3.94 (155)

Plate Settings

- General
- Imaging
- Inline UV
- XPS Automation
- PlateID Content

Brand: DEC 3.94 (155)

Plate: DEC 3.94 (155)

Thickness: 3.94 mm

Distortion: 0 %

Laser Energy: 3.2 J/cm<sup>2</sup>

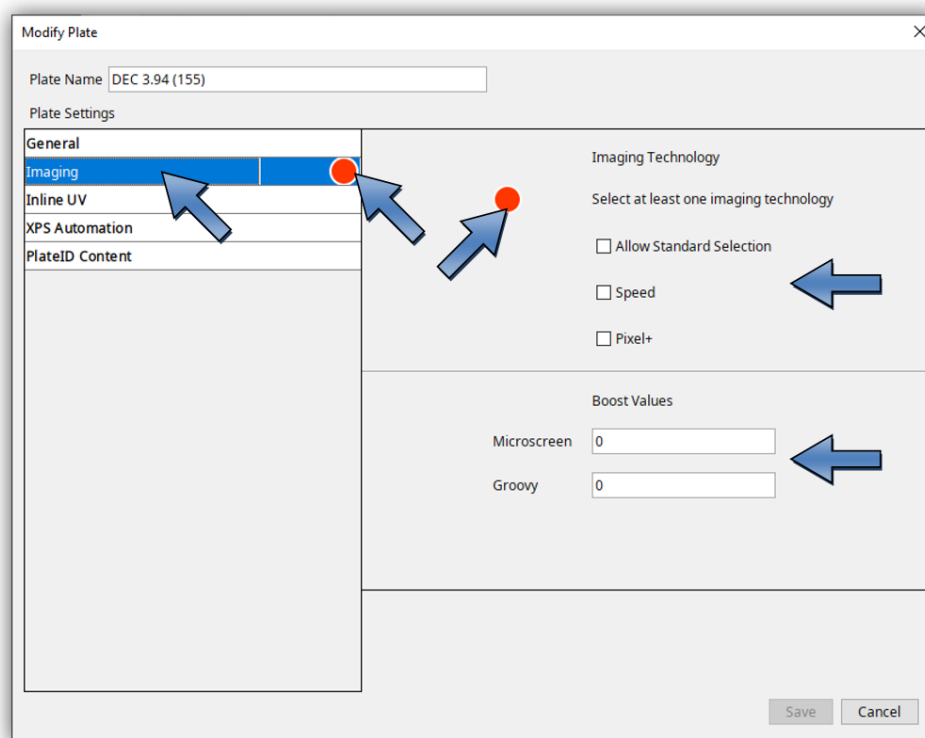
Save Cancel

"Name" determines the display name in the disk list and „Thickness" determines the plate thickness. For sleeves, enter the "Circumference" field:

In addition, the output in the Distortion field can be distorted in the circumferential direction. The input is made in percent. Entering "5.0" would increase the output by 5 percent in the scope direction. The input "-5.0" would reduce the output accordingly.

With " Laser Energy" the energy density is adjusted, at which speed and power are automatically selected.

## Imaging



The red dot appears if no imaging type "Imaging Technology" is set.

With "Allow Standard Selection" the normal imaging method of the CDI is used, which helps to avoid moiré.

Pixel Boost for 4000ppi jobs is enabled with the "Pixel+" option.

As soon as "Pixel+" or "Full HD Flexo UV" is used, the "Boost Values" must be defined so that the microcell structure can be imaged.

For Optics 100v2 machines, the option "Speed" can also be activated. This reduces the speed at 2400ppi and 2540ppi jobs by using a different imaging method.

## Inline UV

Modify Plate

Plate Name: DEC 3.94 (155)

Plate Settings

- General
- Imaging
- Inline UV**
- XPS Automation
- PlateID Content

Enable inline UV exposure

Main Exposure

UV Main Exposure: 0 sec

UV Main Energy: 0 mW/cm<sup>2</sup>

Full HD

UV Main Exposure: 0 sec

UV Main Energy: 0 mW/cm<sup>2</sup>

Speed: 1 Rotations

Save Cancel

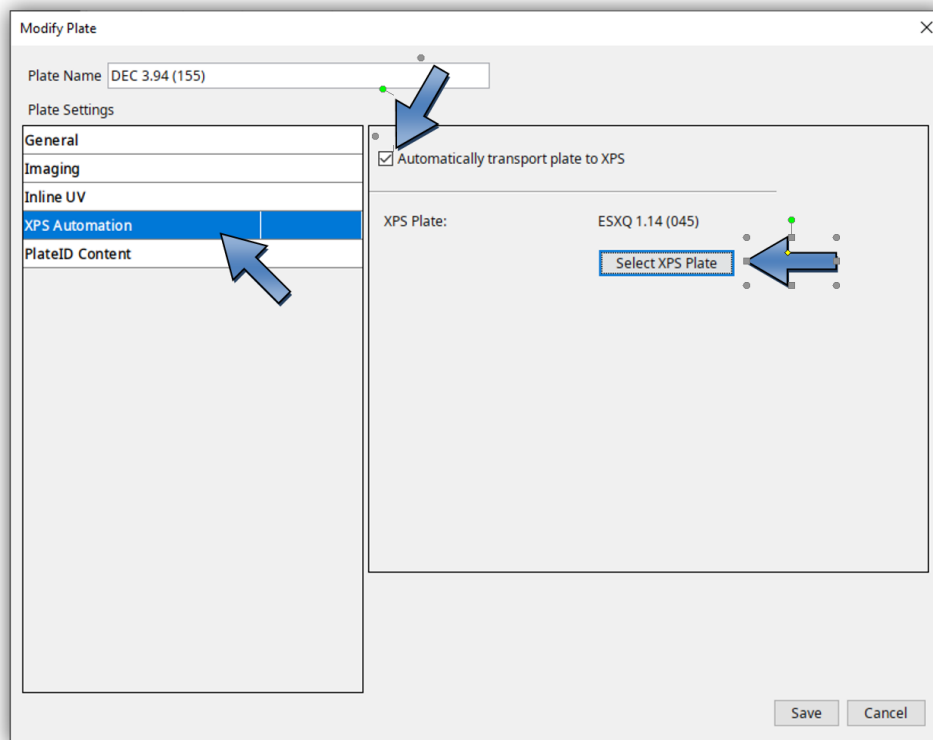
If the CDI has inline UV, this function can be activated with "Enable UV exposure".

For inline-UV, the UV exposure time "UV Main Exposure" and the UV-Energy "UV Main Energy" can be entered.

If the CDI is prepared for Full HD, the number of revolutions can also be entered in the "Speed" field in the "Full HD" section.

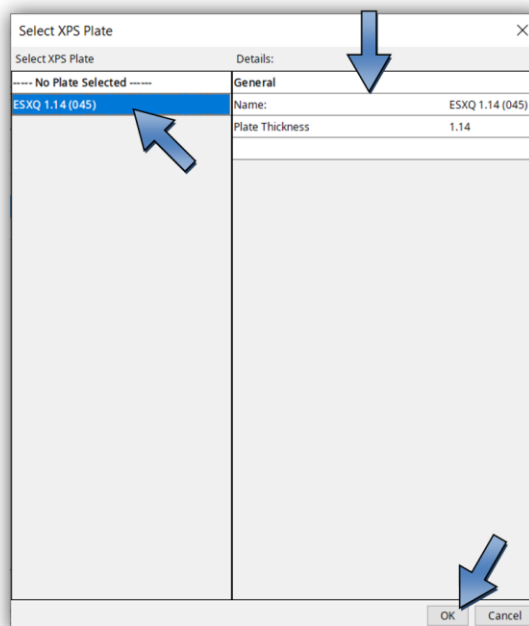
UV exposure can be deactivated individually by entering a value of "0" for "UV Main Exposure".

## XPS Automation

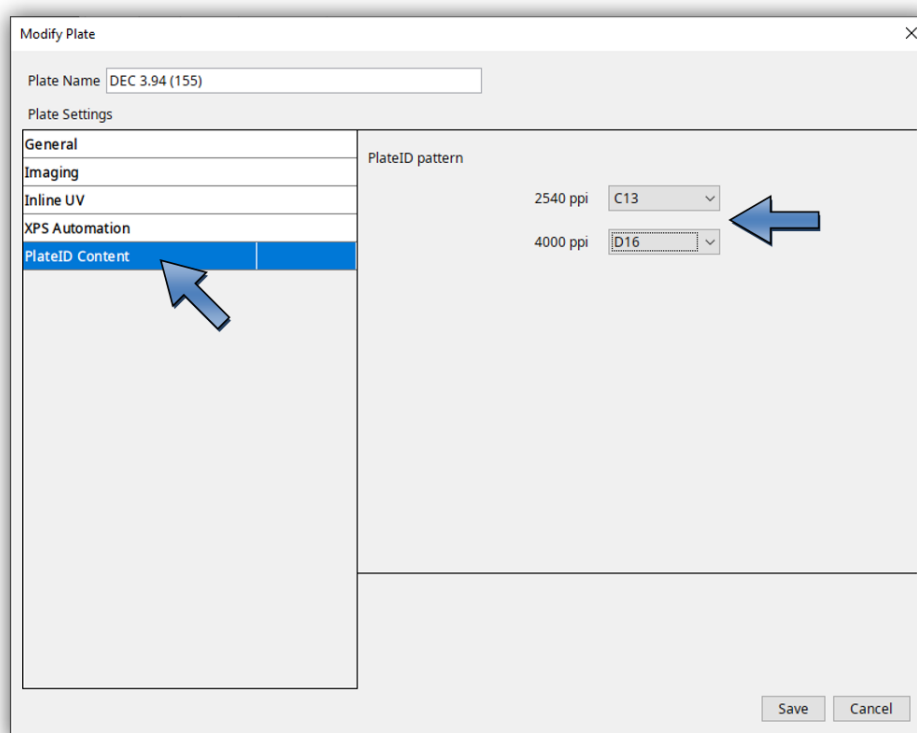


"XPS Automation" is only available if an XPS is connected to the CDI with the PlateHandler. If this function is activated, the plate is automatically transported to the XPS and exposed with UV after imaging on the CDI.

If this option is activated, an XPS disk with "Select XPS Plate" must be selected.



## PlateID Content



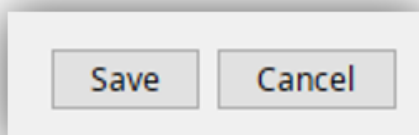
With "PlateID" information is illustrated in the flexo plate without it being visible in the print. A special raster is applied to the "PlateID" areas.

Since each flexo plate behaves differently, each plate must be retracted on the CDI. The raster to use is stored in the CDI's disk list.

Once the license has been installed on the CDI, the "PlateID" grid can be set with the Disk List Editor.

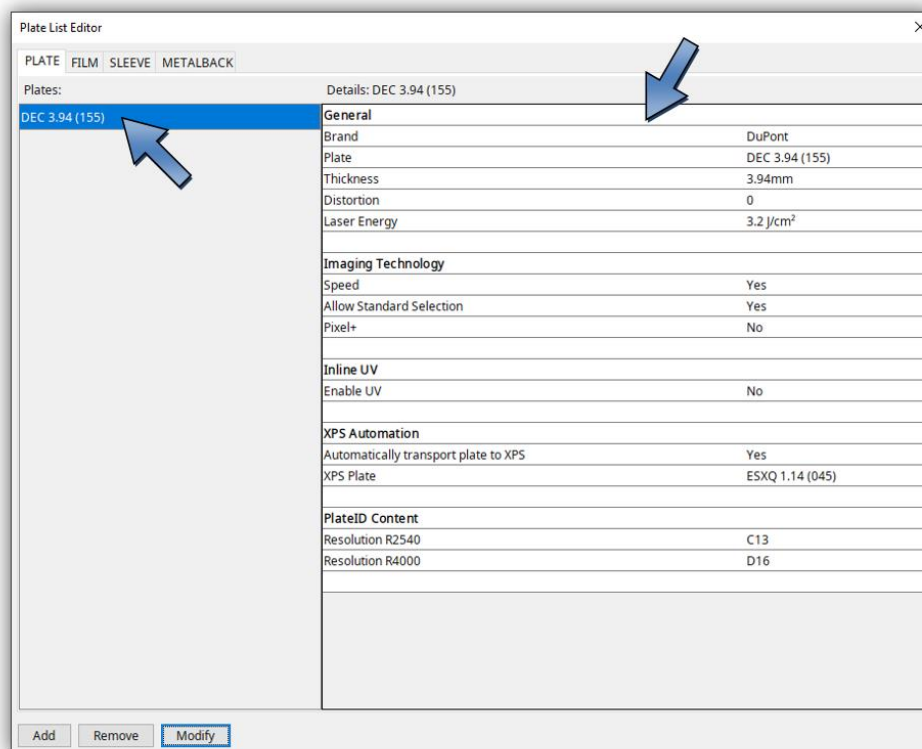
## Save

If all parameters are set correctly, the disk can be saved with the "Save" button in the lower right corner.



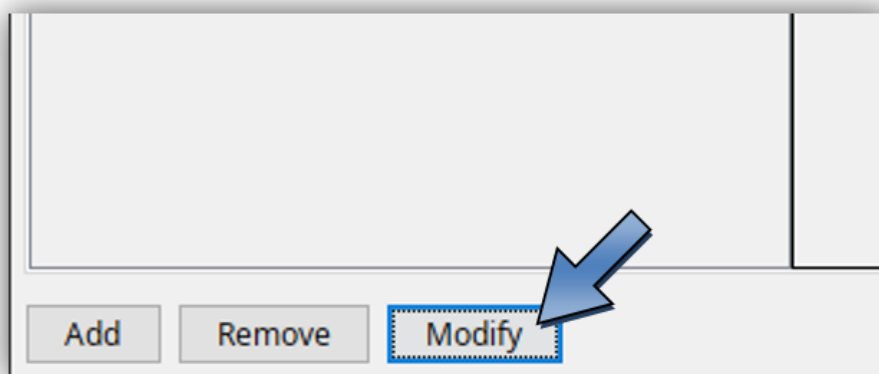
## Check parameters

The disk parameters are summarized in the right column.



## Modify Plate

Select the desired disk and click on "Modify".

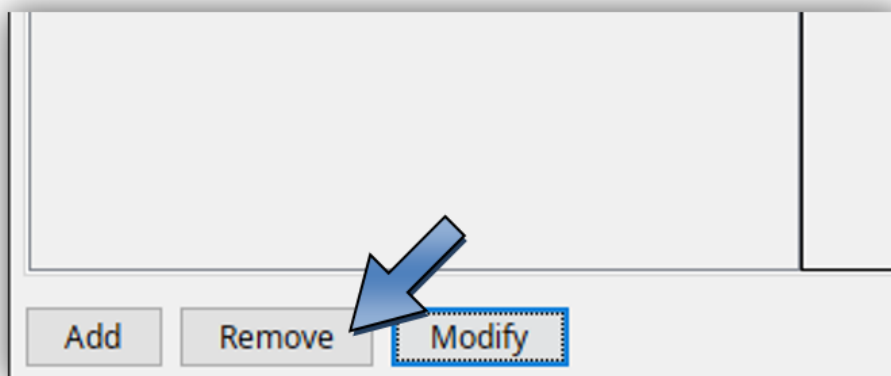


Change and save the parameters as previously described.



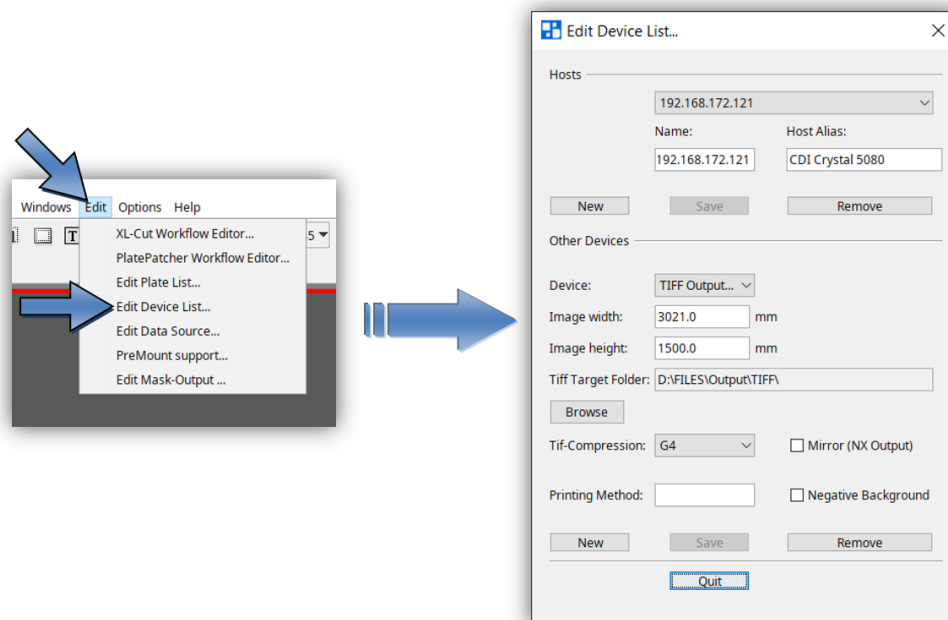
## Erase disk

Select the disk you want to delete and click Remove.



## TIF Output

"*Edit – Edit Device List*" opens the dialogue window to subsequently add new TIF output devices (special license required):



"New" in section "Other Devices" opens a new dialogue box in which you can enter the name of the TIF output device.

Width and height can be set in the fields "Width" and "Height".

„*Mirror (NX Output)*“ mirrors the TIF-File for the output to an NX-Device.

“*Negative*” inverts the background colour for the output on film. The output directory is defined in field “*TIF Target Folder*”.

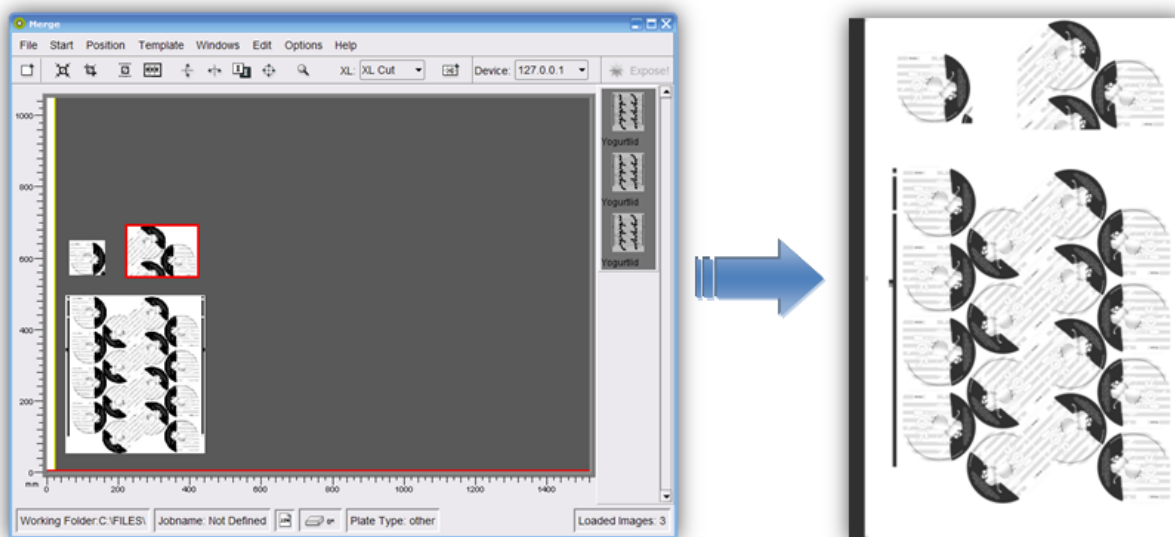
“*Remove*” deletes the selected entry.

“*Expose*” creates the TIF file.

## Exposing Plate Borders

The “*Expose frames*” option can be activated in the basic settings of the “*Merger*” under “*Edit – Preferences...*”, giving the plate more stability in the washer.

The left and the right border can be set in the “*Drum Window*” and is now shown in white. When the TIF output is negative, the border is displayed in black.



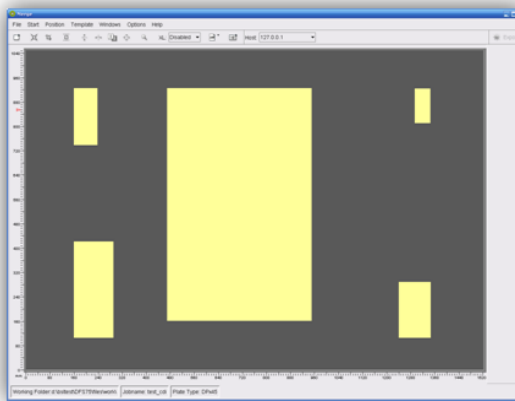
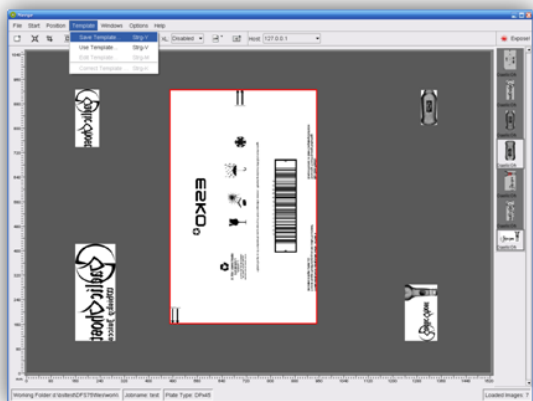
## Templates

If these functions are not displayed, they can be activated in the basic settings.

The positions, image sizes, image resolution and plate parameters are stored in the template in order to position images quickly at a later time. This working mode is interesting for register pinwheels such as, e.g. for Letterpress.

## Creating a Template

To create a template, you first position the required images onto the working surface and then select the plate type. This compilation is then saved by pressing “*Template - Save Template*”.



## Loading a Template

---

"*Template - Use Template*" loads the template. This is only possible when no other images are loaded in the "*Merger*".

The stored positions and sizes are shown as yellow fields. After loading the images, they can be positioned in the yellow fields.

The images must be within a certain size tolerance in order to be assigned to a field.

## Modifying a Template

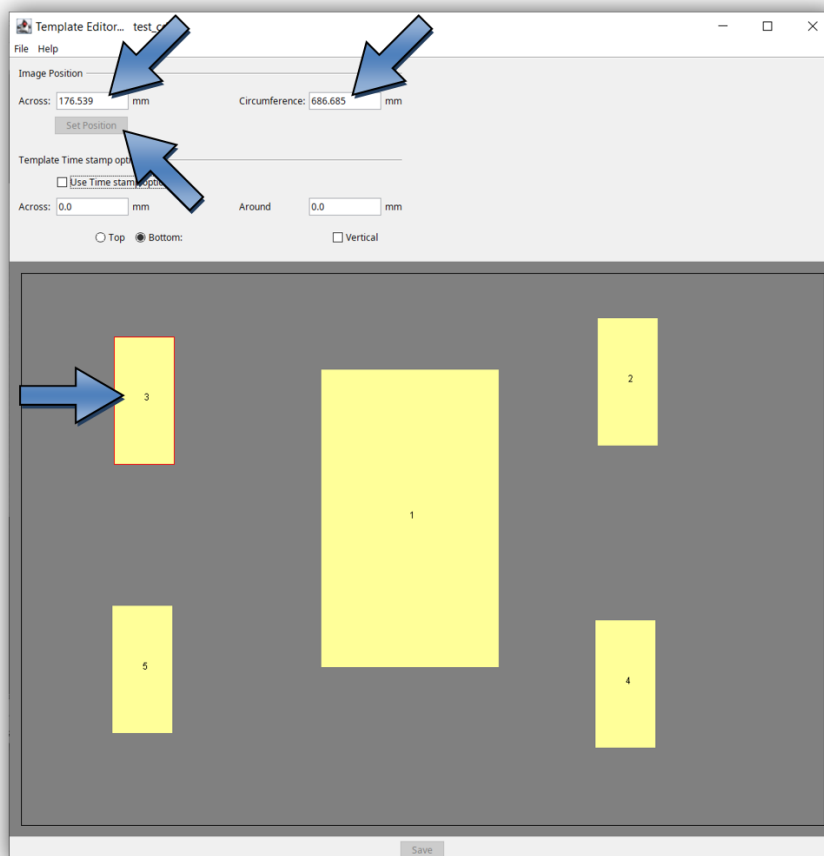
---

After loading the template and positioning all the images, the mask can be opened using "*Template - Edit Template*". Now you can change all parameters as required and save them using "*Template - Save Template*".

The modified template can now be loaded using "*Template - Use Template*".

## Moving a Template

"Template – Template Editor" opens a new program in which the template can be loaded using "File – Load Plate".



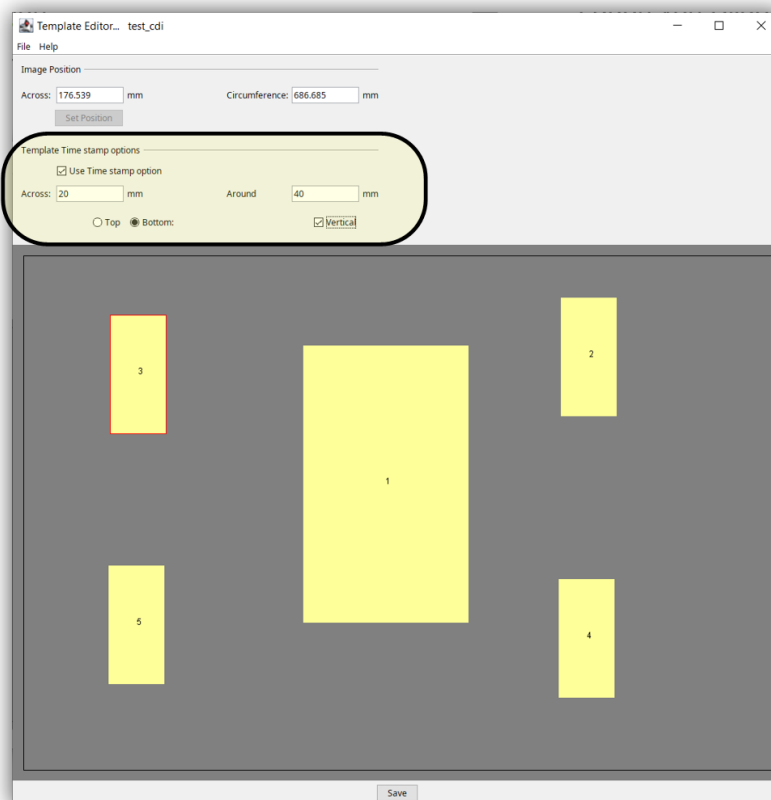
The position of single or multiple images can be changed horizontally using "Across" and vertically using "Circumference". The value is entered absolute or relative to the current position, ENTER is then pressed and the value is set using "Set Position".

Several images are marked by pulling a square around the required images with the left mouse button pressed.

The template is saved by clicking the "Save" button.

## Activate and set "Time Stamp" in the template

"Template – Template Editor" opens a new program in which the template can be loaded using "File – Load Plate".



With the "Time Stamp" function, a text is inserted to each image when the job is started on the CDI. The position of the text can be modified via the template.

"Use Time stamp option" activates this function. With "Across" the horizontal position is determined, with "Around" the vertical position from the edge of the image. With "Top" the text is inserted at the top of the image with the distance "Around". In addition, the text can be rotated with "Vertical".

This function must also be activated in the CDI Exposer.

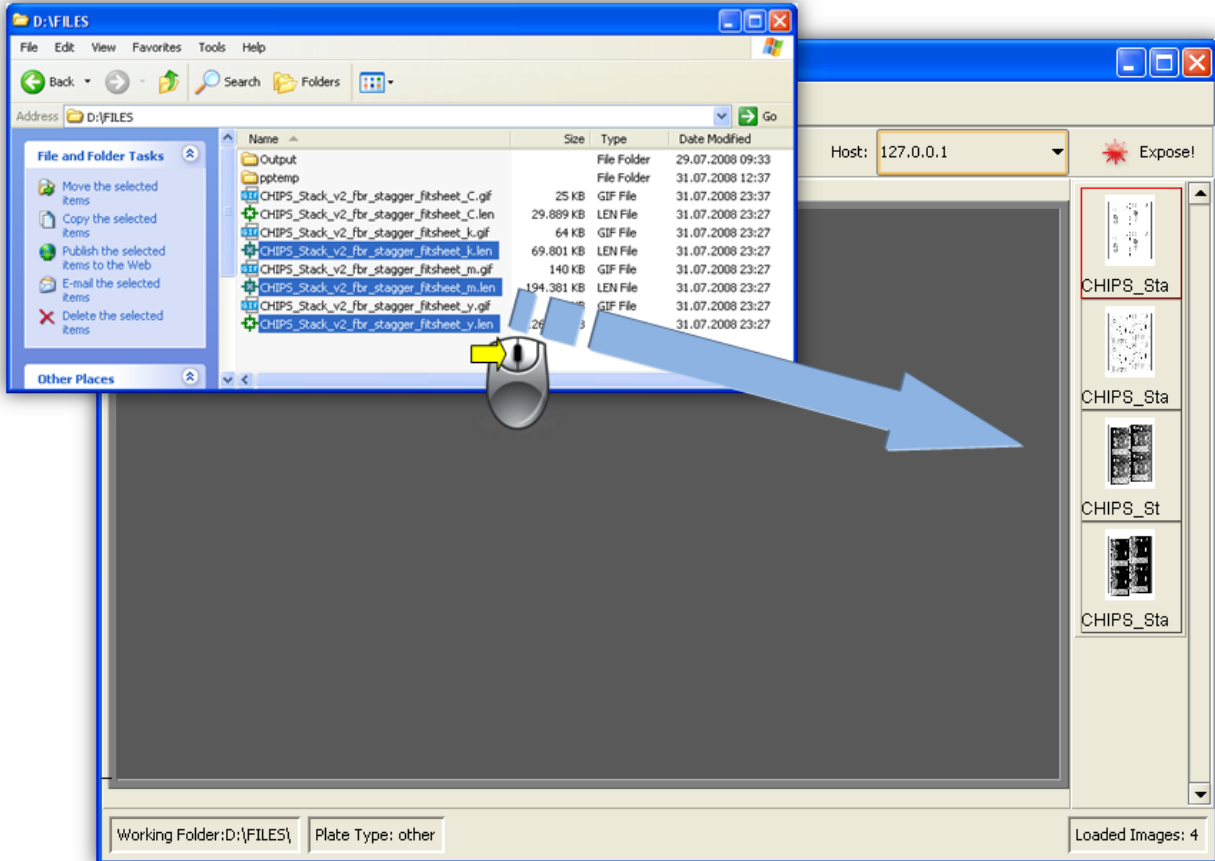
## Job information

An HTML or XML file with the respective job name is created in the "HTM Target Folder" output directory for each sent job.

All important information concerning the job is stored in that directory. The output directory "d:\files\output\html" is preset.

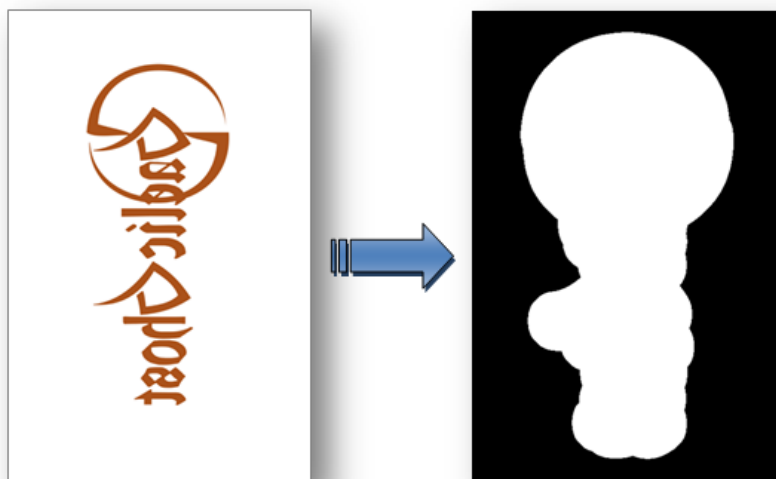
## Loading Images via "Drag & Drop"

Image files (LEN and TIF) can directly be dragged into the right image bar of the "Merger" from the Windows Explorer. First, the data is copied into the working directory, then it is loaded. If the "Ctrl" key is pressed at the same time, the data is always copied.

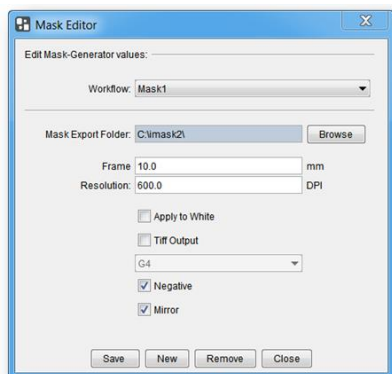


## "iMask" Output (Option)

As soon as "iMask" output is activated, a LEN or TIF file with the mask is generated in addition to the job. An appropriate license is required to output TIFs. Depending on the settings, a frame is added to the contour compiling the various elements.



The output directory and the parameters can be changed under *"Edit – Edit Mask Output"*:



*"Workflow"*: Displays the name of the parameter set.

*"Mask Export Folder"*: Output directory.

*"Frame"*: Size of the extension frame.

*"Resolution"*: Output resolution.

*"Apply to White"*: White pixels are expanded.

*"Tiff Output"*: Activates the TIF output.

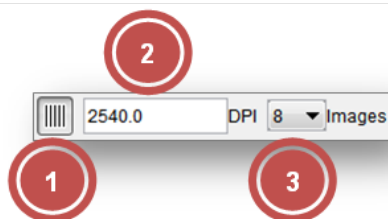
*"Negative"*: Inverts the output.

*"Mirror"*: Mirrors the output.

Changes are saved by pressing *"Save"*. *"New"* creates a new parameter set. *"Remove"* removes the currently selected parameter set. *"Close"* closes the setup window.

## **"Lenticular" Output (Option)**

As soon as the "Lenticular" function is activated, the output is converted into the required resolution and then sent to the CDI. To achieve an optimum printing result, the output is reprocessed on the CDI.



- 1 Activates the "Lenticular" function.
- 2 Allows to enter a new resolution. This value may differ from the original resolution of the positioned images by a maximum of 50 DPI.
- 3 Allows to set the number of lenses used for printing.

To ensure an optimum printing result, the correct number of lenses needs to be set.

The resolution results from the test print and the resulting change in the size of the image which is set via the new resolution.

***The "Lenticular" output must not be used for normal jobs.***

## "Unique ID"

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All LEN and/or TIF files from an AE12 system contain a unique code which can be read by the Merger.

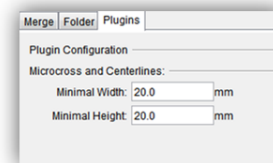
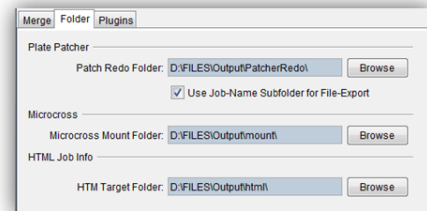
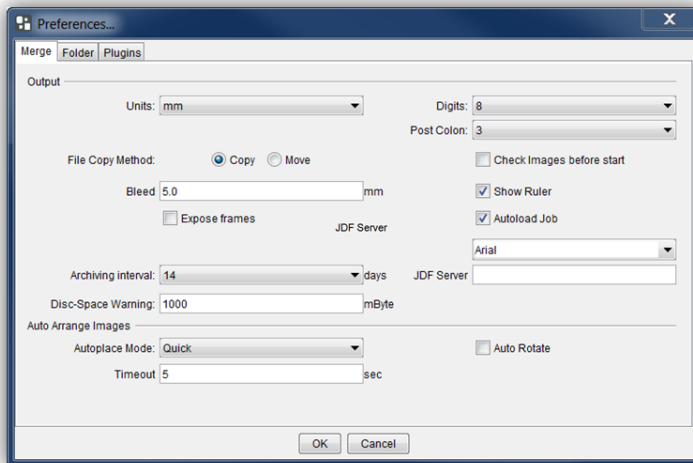
As soon as the "Unique ID" option is activated under "Options – Configuration", this code is added to all images.

Depending on the output, the code is either inserted at the top or in the left frame area as normal text or, for XL CUT, it is output as front text or back text.



## Basic Merger Settings

The basic settings of the Merger can be changed via the menu item *"Options – Preferences..."*:



*"Units"* switches between "mm" and "inch".

*"Digits"* and *"Post colon"* set the amount of numbers and/or decimal points.

*"Check Images before start"* checks the images of all outgoing jobs.

*"File copy method"* sets the behaviour while loading images. With the setting *"Copy"*, the files are always copied; if *"Move"* is selected, they are deleted from the source directory.

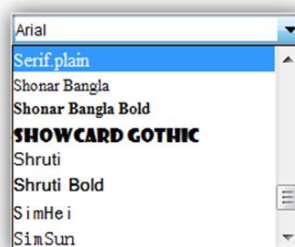
*"Bleed"* sets the border during automatic cropping.

*"Expose frames"*: When activated, the left and right border is exposed to provide more stability to the plate in the washer.

*"Show Ruler"* activates or deactivates the ruler.

When restarting the *"Merger"*, *"Autoload Job"* actuates automatic loading of the last job.

*"Font"* changes the font type for text in the bitmap output files. All fonts installed in Windows are available for selection. OCR fonts must be additionally installed:



*"Archiving Interval:"* determines the number of days after which the HTML overview files and the files of the directory "Mergelog" are archived in a ZIP file.

"*Disc-Space Warning*": The Merger warns the user as soon as the drives being used indicate that their available disc space has fallen below the set value.

"*JDF Server*": Enter IP number or computer name of JDF server.

"*Autoplace mode*:" sets the method (mode) of how the images are automatically arranged on the working surface. The fast, space-optimised and cut-optimised methods are available.

In most cases, the fast positioning method is sufficient. The space-optimised method will continue trying to position the images until the maximum time "Timeout" is reached. The cut-optimised method places the images so that the plates can be subsequently better cut by hand.

"*Auto Rotate*" activates the rotation during automatic positioning to save more space.

In the "*Folder*" window, the preset output directories can be changed.

The job information is saved in the "*HTM Target Folder*" directory.

Under "*Plugins*", the minimum size for "*Microcross*" and "*Centerline*" images can be entered. The images are automatically enlarged to this size.

**The "Merger" must be restarted after any change.**

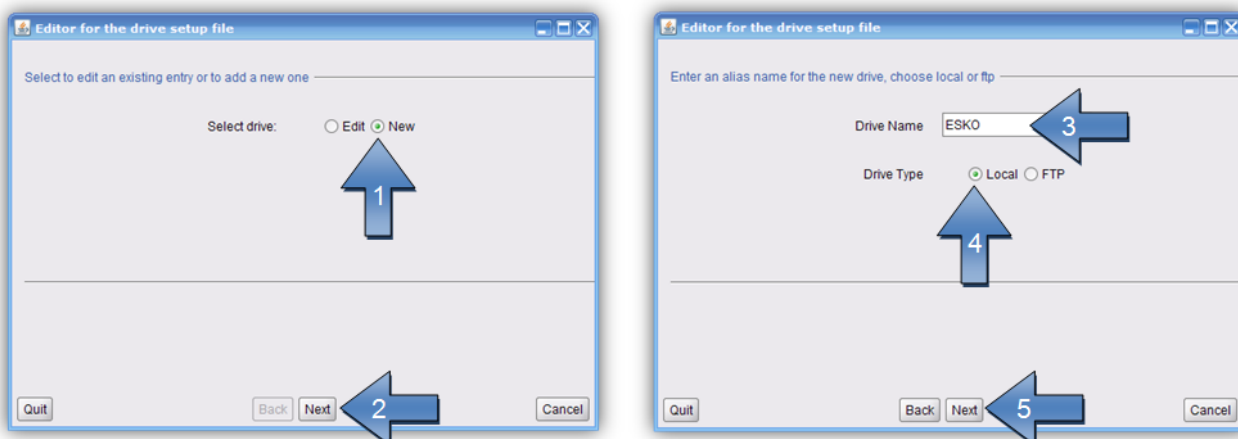
## Managing Data Sources

The image data can be loaded from the local hard drive, by means of a network release, or by FTP. Transmission using FTP protocol is generally more secure than using a network release.

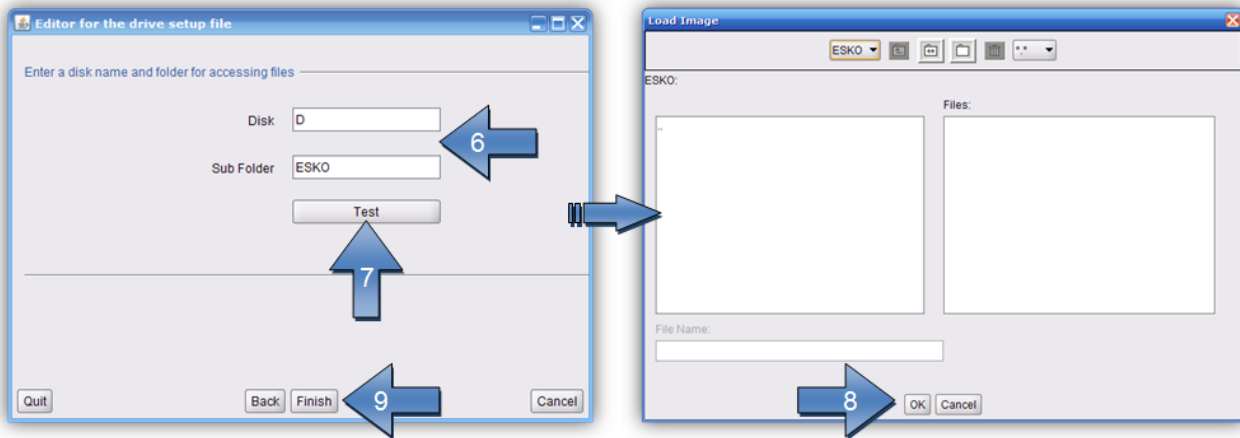
The path entered during installation for the "*User Data*" is already released as a network drive. Additional data sources can be set up under "Edit – Data Source".

## Adding a Local Data Source

Local data sources can be located on the hard drive of the computer or accessible in the network via "share" function.



The name of the data source "Drive Name" (3) will be shown later in the load dialogue.

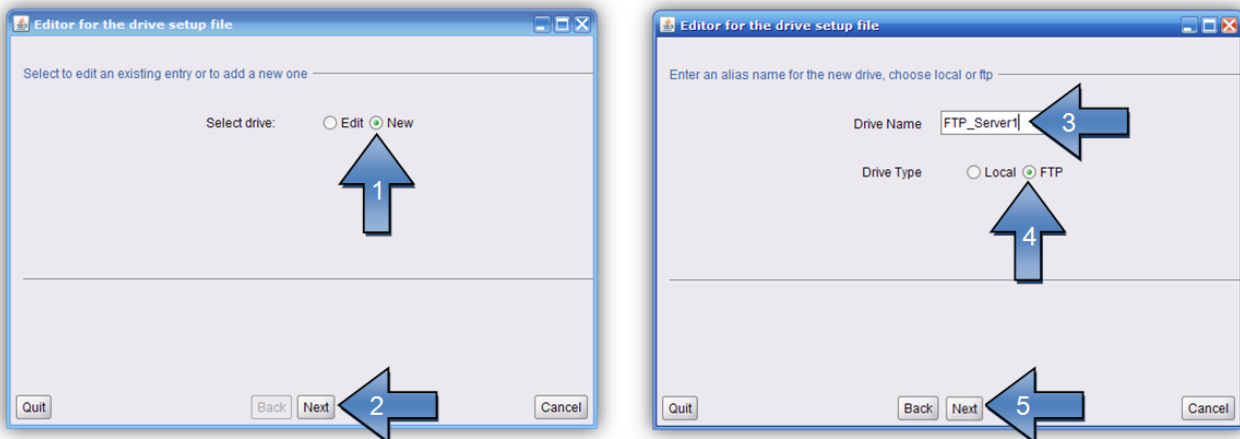


"Disk" and "Sub Folder" (6) designate the drive letter and the directory containing the data.

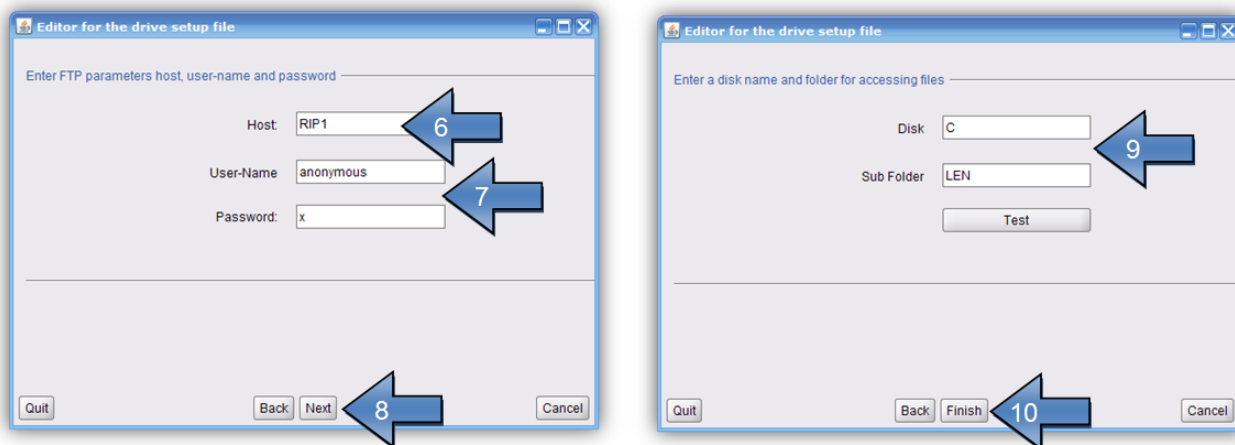
Clicking "Test" (7) opens a new window with the data source set up. "Finish" (9) completes the process. You can always switch to the previous page by pressing "Back".

## Adding an FTP Data Source

The FTP server of the data source requires a virtual directory. For a detailed installation manual, refer to *"Digital Flexo Suite 101 Installation"*.



The name of the data source "Drive Name" (3) will be shown later in the load dialogue.



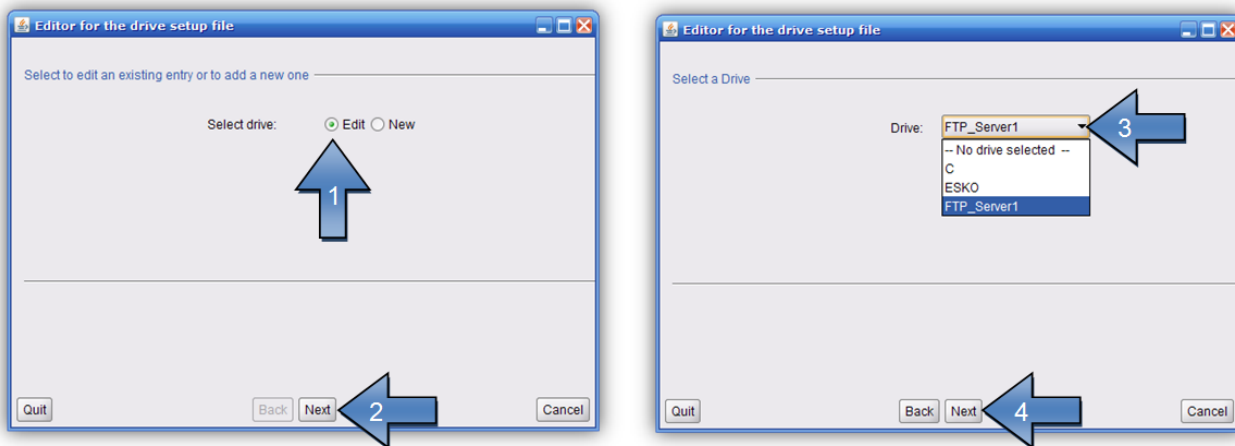
Enter the IP address or the network name in the field "Host" (6). If the FTP server was installed as specified, enter the "User-Name" (7) and the "Password" (7) as shown in the illustration.

"Disk" and "Sub Folder" (9) designate the virtual drive and the directory containing the data. Should no virtual directory be available, leave the "Disk" field empty.

Clicking "Test" opens a new window with the data source set up. "Finish" completes the process. You can always switch to the previous page by pressing "Back".

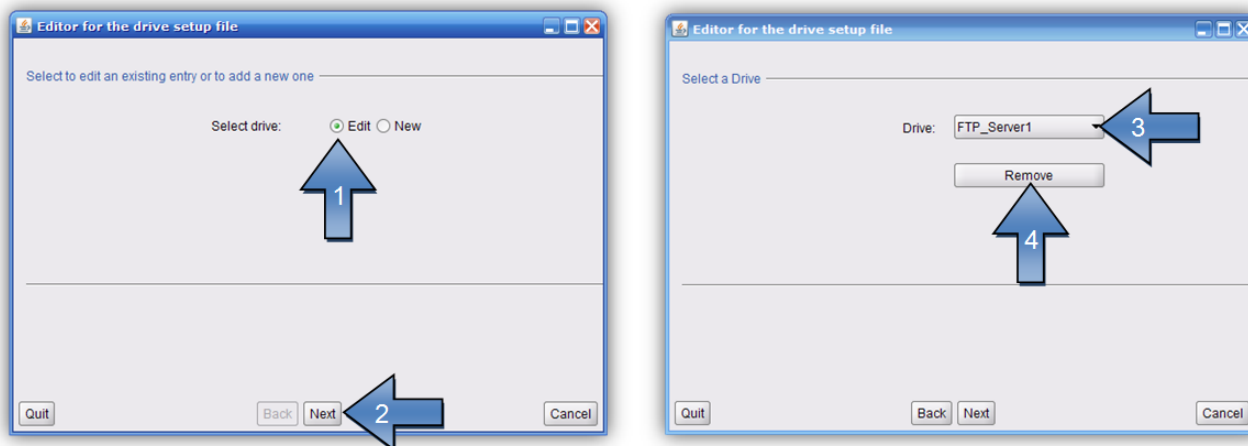
## Changing an Entry

The settings of the data source can be subsequently changed.



After selecting the "Drive" (3), you can change the following settings.

## Deleting an Entry



After selecting the "Drive" (3), you can remove it by pressing "Remove" (4).

## Saving Settings

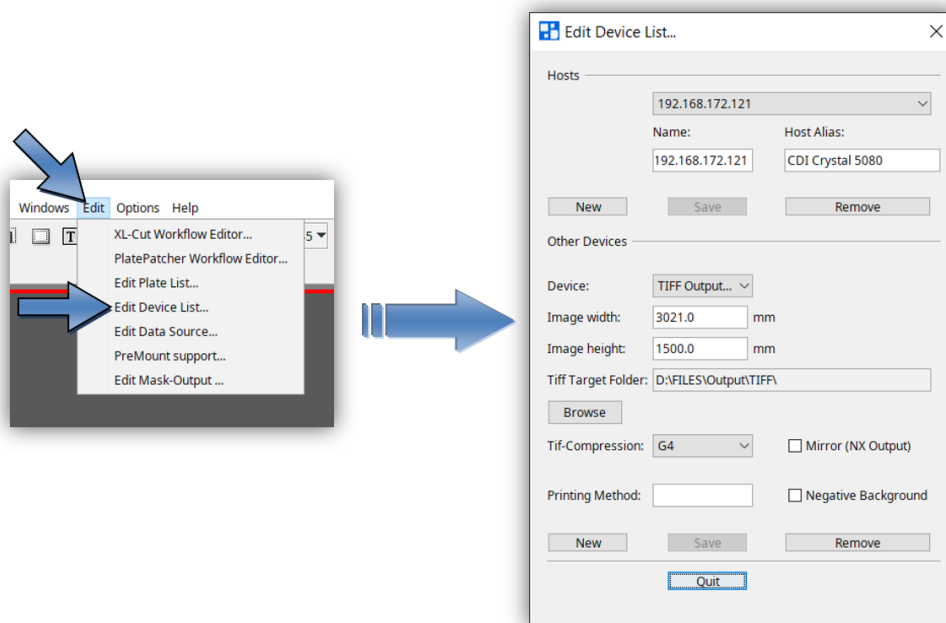
When you terminate via "Quit", a new window opens requesting whether you want to overwrite the current settings.

Pressing "OK" saves the current settings.

## Setting the Output Devices

If no output device such as, e.g., a CDI has been set up yet, the "Edit Device List" window in which you can define various output devices is displayed when the "Merger" is started for the first time.

**"Edit – Edit Device List"** opens the dialogue window to subsequently add new or delete output devices:



## A TIF license is required in order to create TIF output devices!

"New" in section "Hosts" opens a new dialogue box in which you can enter the IP address or the computer name of the CDI. Press "OK" to search for the CDI on the network.

In the entry „*Host Alias*:“ a name for the connected CDI can be defined.

"Scan Network" scans the network 60 seconds for CDIs and then displays them in a list. A new connection can be selected from this list.

"Accept" accepts the new CDI.

"Test" checks the connection to the CDI.

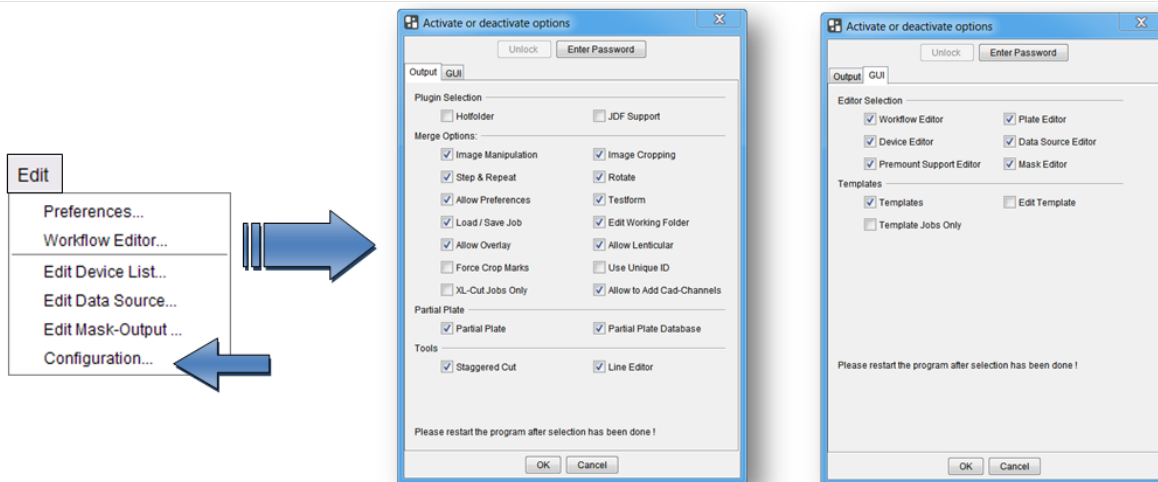
"New" in section "Other Devices" opens a new dialogue box in which you can enter the name of the TIF output device. Width and height can be set in the fields "Width" and "Height". "Negative" inverts the background colour for the output on film. „*Mirror (NX Output)*“ mirrors the TIF-File for the output to an NX-Device. The output directory is defined in field "TIF Target Folder".

"Remove" deletes the selected entry.

If an old CDI SUN computer is to be connected, you must enter the IP address "127.0.0.1". In addition, service needs to adapt the LEN output format for the SUN.

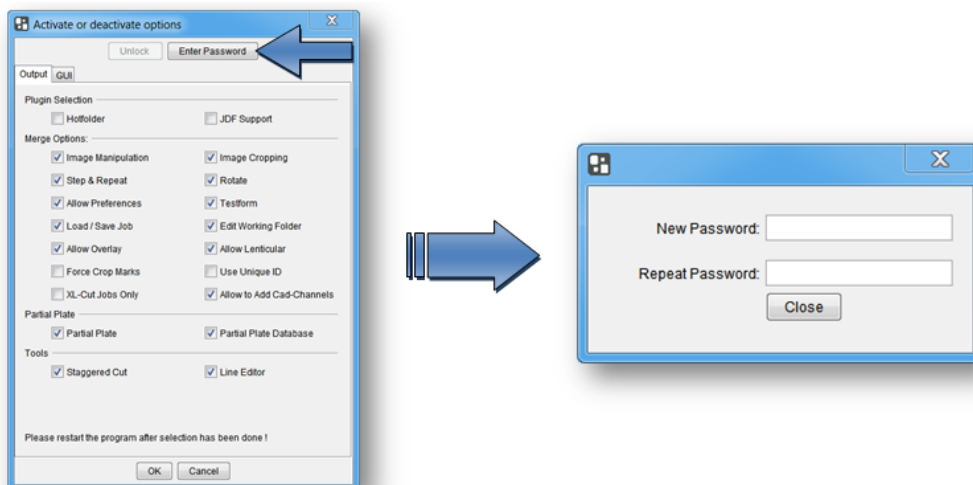
## Adjusting the "Merger" User Interface

The user interface and some of the functions of the "Merger" can be customised and protected with a password ("*Edit – Configuration*"):



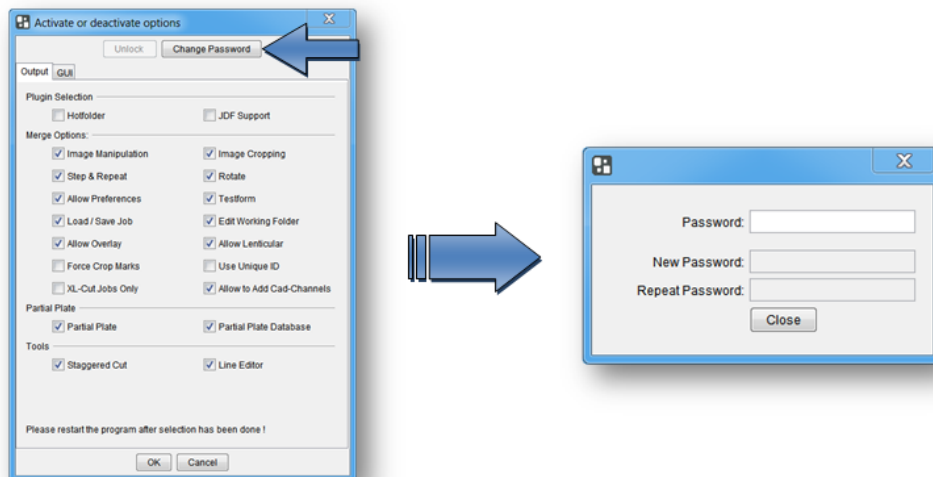
## Password-Protecting Functions

Left-clicking on "Enter Password" opens a new window in which the password is entered twice and confirmed with "Close":



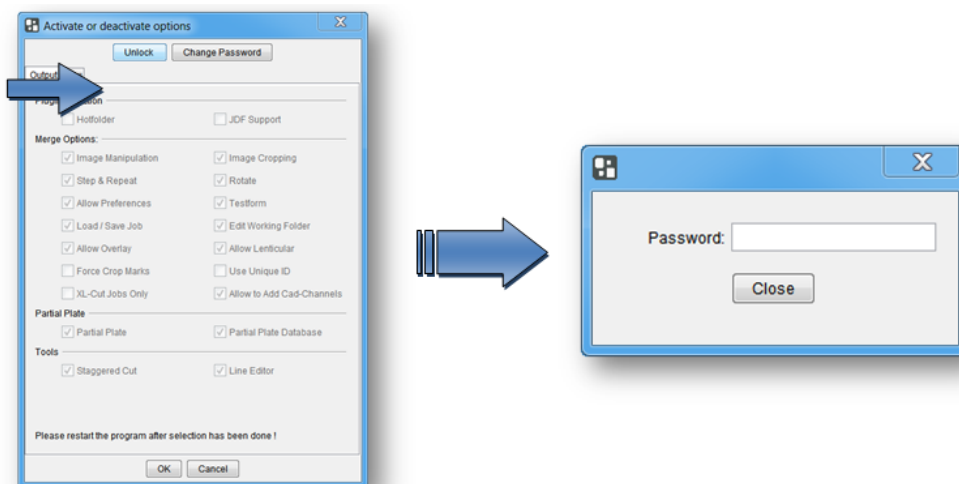
## Changing the Password

Left-clicking on *"Change Password"* opens a new window in which the current password is entered once and the new password is entered twice. *"Close"* confirms the input:



## Entering a Password to Change Settings

Left-clicking on *"Unlock"* opens a new window in which the current password is entered. *"Close"* confirms the input and enables the input mask:



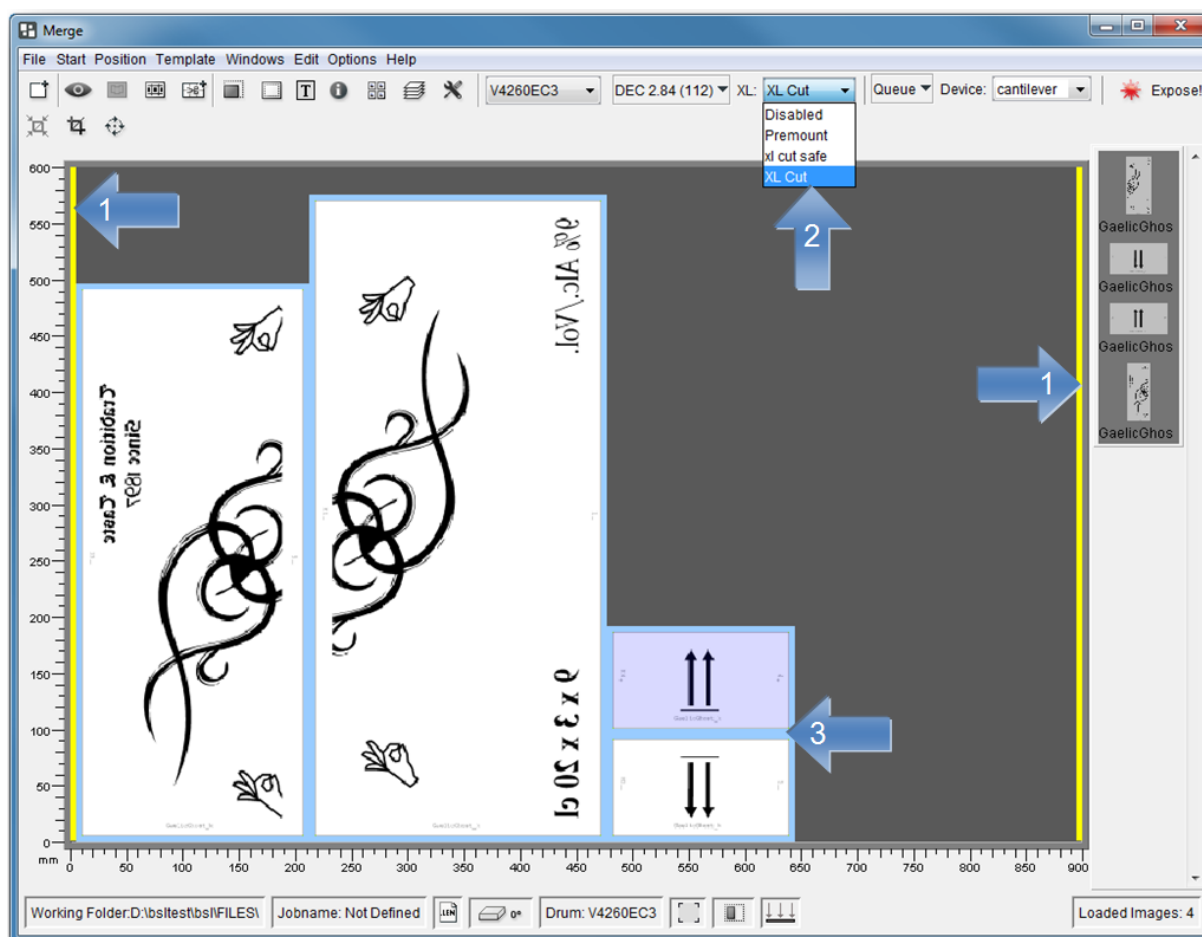


## Kongsberg Output (XL CUT)

In order to properly process the cutting data on the Kongsberg table, at least XL/XN- Guide version 6064 or IPC 2.0 must be installed!

The Kongsberg file is generated automatically after each transmission to the CDI or each time a TIF file is generated in the output directory. The position, the size of the images and additional information is made available on the Kongsberg table in the form of an ACM file. Different settings can be created and selected in order to adjust the cutting settings on the Kongsberg table (2).

The reserved area (1) marked yellow on the left side is needed for later alignment of the plate on the Kongsberg table. This area contains two marks and the ACM file name.



Depending on the plate thickness, an additional frame is put around each image as soon as the 45° knife is activated (3).

Once an image has been placed, you can click on the image with "shift + the right-hand mouse button" to change the lettering.

## Cutting Accuracy

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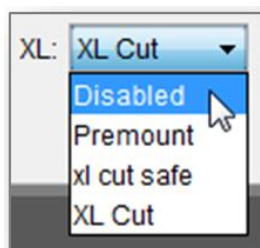
Using the Kongsberg table, it possible to reach a cutting accuracy of  $\pm 0.2$  mm depending on the kind of registration. The camera is more accurate than the laser.

The 4-point registration can compensate the distortion of the Flexo plates resulting from the exposure process.

## Activating / Deactivating the XL-CUT

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When "*Disabled*" is selected, the XL CUT output is deactivated. No ACM files will be created.



## Selecting the Type of Knife

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The type of knife can be defined in the XL CUT settings.

## Back Labelling of the Plate

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Using the pen, the plate can only be labelled on the back. For this purpose, the option "*Mirror X*" or "*Mirror Y*" must be selected in the settings.

Cutting the back with the 45° knife is **not** recommended.

## Front Labelling of the Plate

---

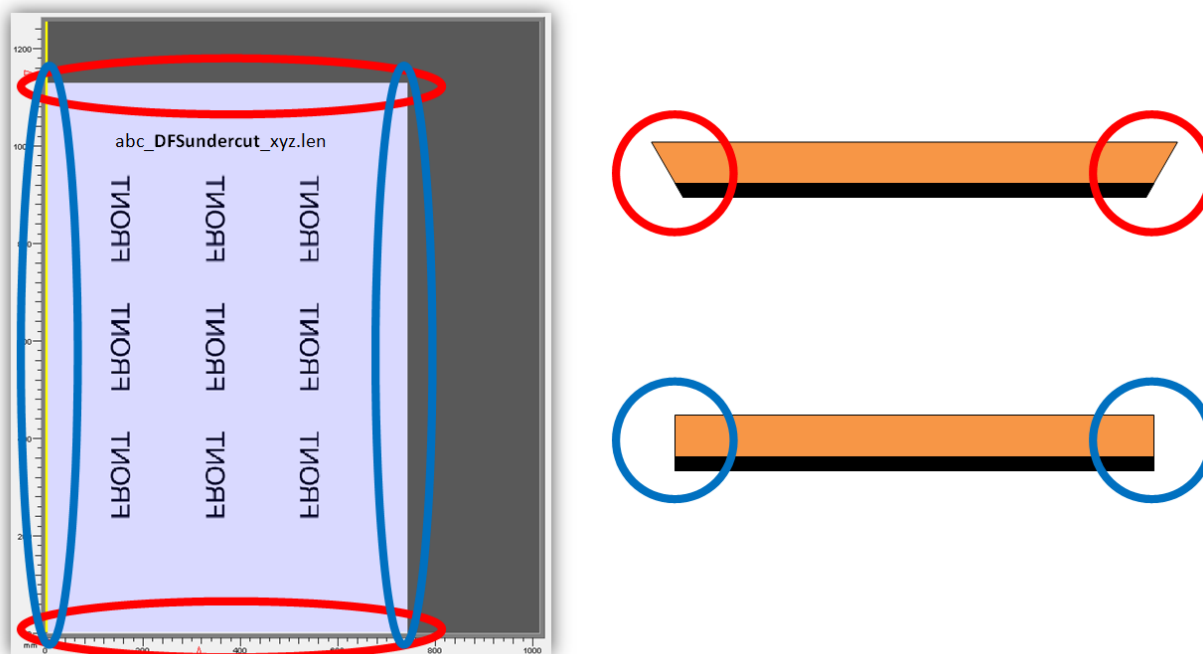
The image name (for front labelling) or the plate name (for images from the PlatePatcher) is carved into the frame area with a knife.

This option must be activated in the settings of the XL CUT or the PlatePatcher.

## Undercutting the Plate

Irrespective of the selected XL Cut template, an undercut can be added to files at the bottom and top. No change to the XL Cut settings is required for this function.

The files must contain the designation "DFSundercut" after the first underscore and before the second underscore (e.g. esko\_**DFSundercut**\_44234\_k.len):



The top and bottom always refers to the original alignment of the image, if it is loaded into the Merger. In the event that the image is rotated, the undercut side is also rotated.

## IPC output

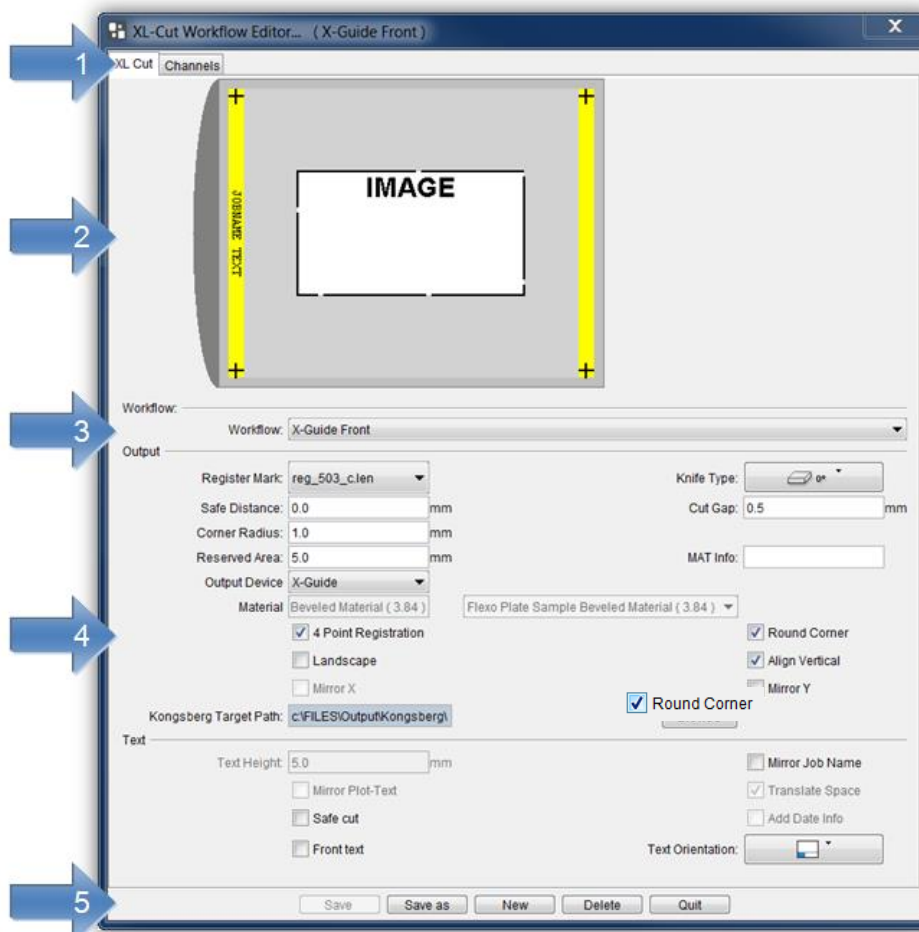
IPC 2.0 is prepared for flexo plate cutting. Depending on the plate thickness different parameters are applied.

The output is a .dfscut-file which contains the cut and additional information for the flexo plate cutting. This file cannot be loaded directly into IPC. Instead the import function via KBQS is used.

In the xl-cut settings the material needs to be selected. With the selection "AUTO" the plate type is used for the material. "User Defined" allows to enter a fixed output material. Additional default material which do exist on IPC already can be used for testing.

## Setting the XL CUT Options

Templates can be created for the XL CUT options by calling up the "XL Cut Workflow Editor..." under "Edit":



The "XL Cut Workflow Editor" can be divided into five areas:

- 1 Allows switching between XL Cut settings and channel overview
- 2 Schematic view of the selected options
- 3 Selection of the saved settings
- 4 Options for the current selection
- 5 Store, delete and create new settings

## Adding Settings

By selecting "New", a new window appears in which you can enter a name for this setting. "OK" confirms the input. The new setting is automatically selected. Adjust the required settings and save them by pressing "Save".

## Changing Settings

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Select the setting (1) and change it. Press "Save" to store the setting.

To not lose existing settings, the new settings can be renamed by pressing "Save as".

## Deleting Settings

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Select the setting (1) and delete it by pressing "Delete".

## Possible Settings

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**"Register Mark"**: The register marks for later alignment on the Kongsberg table can be selected from a list. An overview can be found in the appendix.

**"Knife Type"**: Thick plates are often cut at an angle of 45°. For this purpose, select **"BevelKnife"**. Depending on the plate thickness, an additional frame is put around each image except for images from the PlatePatcher (Plot / PreMount). For **"PreMount"**, this option is controlled automatically.



**"Safe Distance"**: The distance between the cutting lines can be specified to avoid double cuts.

**"Cut Gap"**: A base area that cannot be cut can be selected close to the corners to prevent plate pieces coming loose during cutting.

**"Reserved Area"**: Sets the width of the reserved area in which the marks for setting up and labelling of the plate are positioned.

**"Mat Info"**: As an option, the name of the XL-Guide "Job Setups" which will be automatically loaded on the Kongsberg table can be entered in this field.

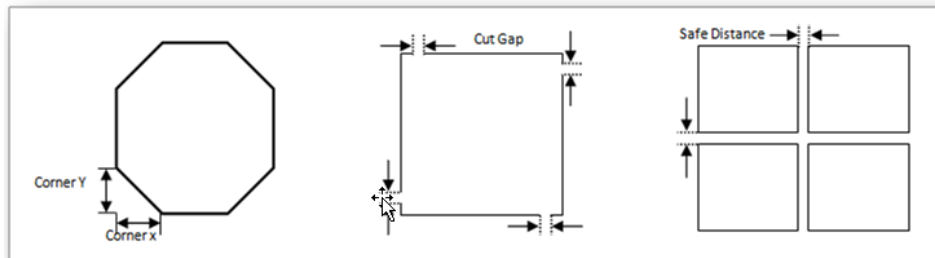
**„Output Device“**: The plates can be used with XL/XN-Guide (X-Guide) or IPC 2.0 (IPC).

**"4-Point Registration"**: This option activates the 4-point registration. In order to balance the plate distortion, four register marks instead of two are exposed on the plate.

**"Round Corner"**: The corners of the plate are rounded. Provided that this option is active, the radius can be set in the "Corner radius" field.



**"Corner X – Corner Y":** The parameters for X and Y need to be specified (see sketch) if the edges are to be cut at an angle.



**"Landscape":** In order to cut e.g. a 4260" plate on an XL20 Kongsberg table, it must be 90° rotated before mounting it. The options *"Vertical"* and *"Y-Mirror"* are deactivated. In this case, the yellow reserved area is always on the bottom.

**"Align Vertical":** This option is activated to display the reserved area on the left of the working surface in the "Merger". If deactivated, the reserved area is shown at the bottom.

**"Mirror X" / "Mirror Y":** The coordinates of the cut on the X axis and/or the Y axis can be mirrored depending on the alignment of the plate on the Kongsberg table.

**"Kongsberg Target Path":** Output directory of the ACM file.

**"Safe Cut":** If plate pieces are lifted during the cutting process, this option can be activated. As a consequence, the processing time of the Kongsberg table will increase.

**"Text Height":** when labelling the back of the plate, the text height can be changed.

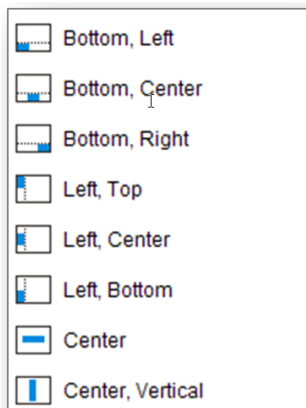
**"Mirror Job Name":** This option is used to mirror the job name on the plate.

**"Front Text":** This option activates the front labelling in the frame area using the knife. This deactivates all options for back labelling. The text can be positioned at the bottom or on the left.

**"Mirror Plot-Text":** As an option, the label on the back can be output as a mirror image.

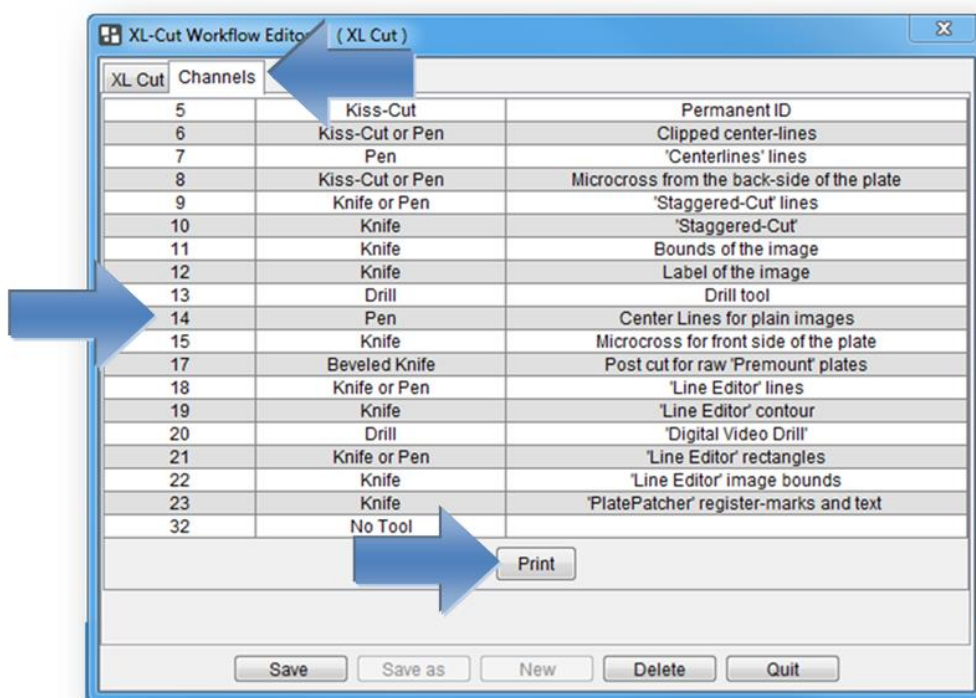
**"Translate Space":** The file name determines the labelling of the image. If this function is active, underscores are converted into spaces.

**"Text Orientation":** Three positions on the left and lower side can be used to label the image. On the back, the text can be set to "Center".



## Overview of Output Channels

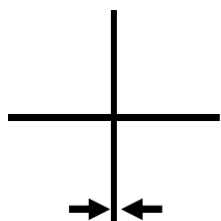
"Channels" provides an overview of the output channels. All displayed channels must be set up on the Kongsberg table. By pressing the "Print" button, the overview can be printed.



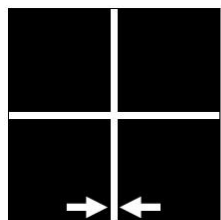
For more information, refer to chapter "Kongsberg".



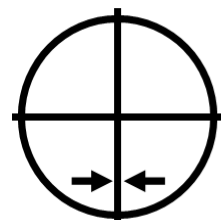
## Register Marks and Mounting Marks for XL CUT



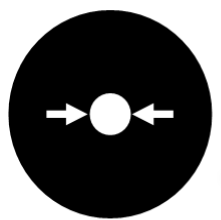
reg_2501	2,5 mm x 2,5 mm	0,5 mm
reg_501	5 mm x 5 mm	0,2 mm
reg_501	5 mm x 5 mm	0,3 mm



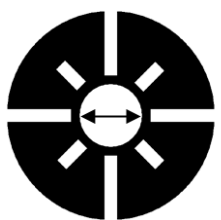
reg_5010_Negativ	5 mm x 5 mm	→← 0,1 mm
reg_10010_Negativ	10 mm x 10 mm	→← 0,1 mm



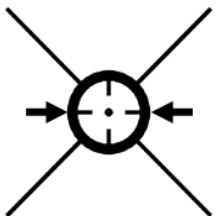
reg_502_c	5 mm x 5 mm	→← 0,2 mm
reg_503_c	5 mm x 5 mm	→← 0,3 mm



reg_5005_h	5 mm x 5 mm	→← 0,5 mm
reg_5010_h	5 mm x 5 mm	→← 1 mm
reg_5015_h	5 mm x 5 mm	→← 1,5 mm
reg_5020_h	5 mm x 5 mm	→← 2 mm



reg_5015_h2	5 mm x 5 mm	→← 1,5 mm
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reg_5015_h3	5 mm x 5 mm	→← 1,5 mm
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## Recommended Settings in XL-CUT

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- The plate can be set up on the Kongsberg table more easily with vertically arranged positional markers ("*Align Vertical*").
- For small plate pieces, a "*Cut Gap*" of 0.5 mm is recommended so that the plate pieces are not triggered automatically.
- The marks "reg\_5010\_h" and "reg\_5015\_h" are suited for positioning using the laser pointer on the Kongsberg table.

## Advanced Free-Cut (Option to Staggered Cut)

"Advanced Free-CUT" allows the use of free shapes for cutting the flexo plates.

The technical inks in the LEN(x) file are used for cutting, as long as they match the correct naming scheme.

### Naming scheme of the technical inks

Once the name of the technical color corresponds to the following scheme, it is automatically used for cutting:

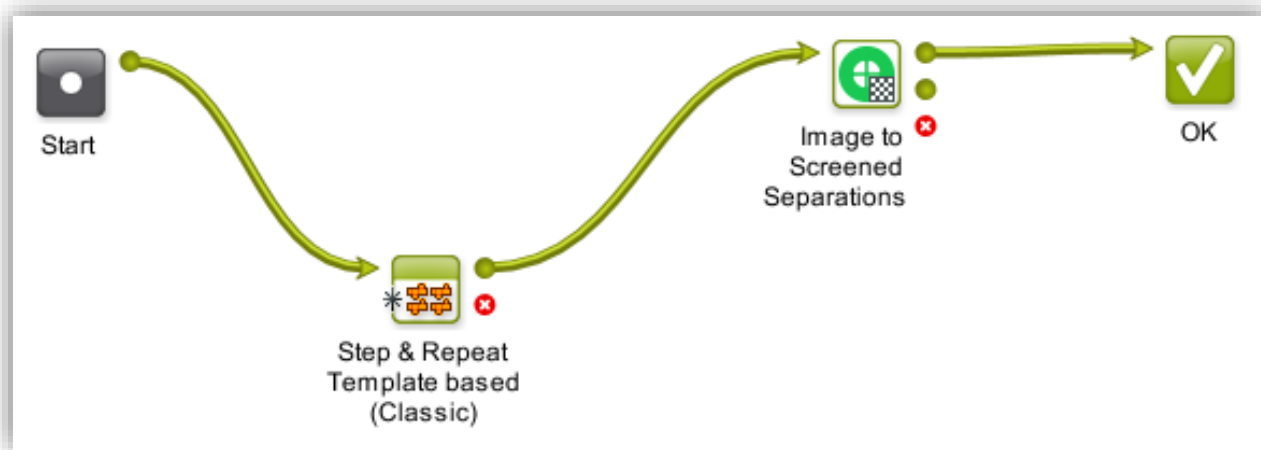
Name	Application to
<b>FREECUT_ALL</b>	all colors
<b>FREECUT_K</b>	File with color name "_K"
<b>FREECUT_C</b>	File with color name "_C"
<b>FREECUT_Y+K+WHITE</b>	Files with color names „_Y“, „_K“ and „WHITE“

A design can therefore contain several technical colors so that they can be applied later as desired.

It is important that the LEN(x) file is correctly named. The color is specified with a "\_" in the LEN(x) file. This must correspond to the name in the technical color.

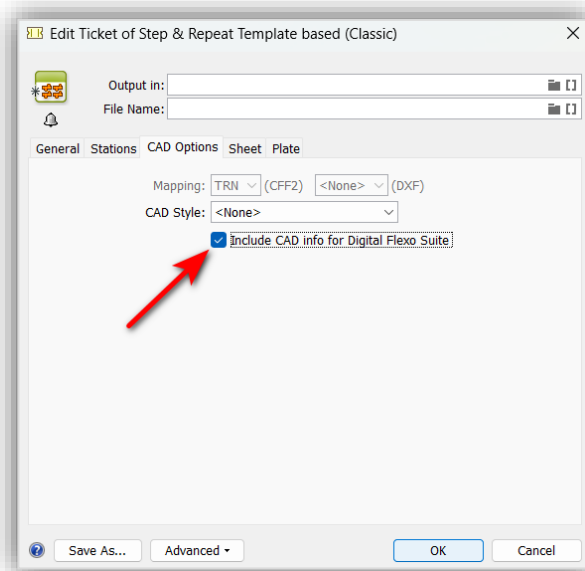
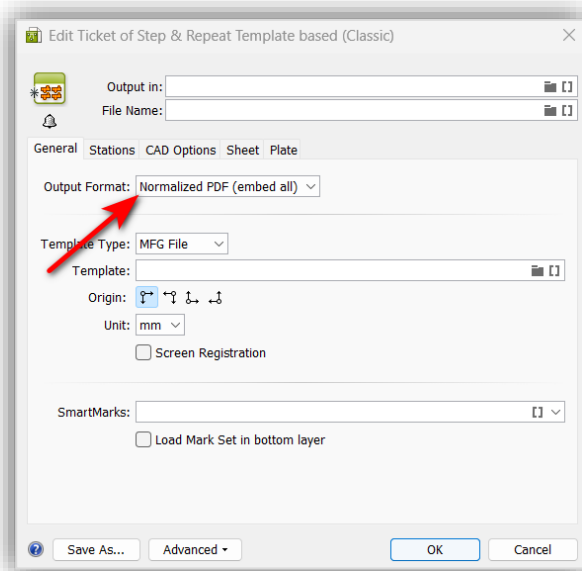
## Integrating the technical color into the LEN(x) file

The technical color is integrated via the "Step & Repeat Template based (Classic)" module.



The following parameters must be set:

- Output Format: Normalized PDF (embed all)
- "Include CAD info for Digital Flexo Suite"



Depending on the workflow, the parameters may differ. For more help, see the Automation Engine User Guide.

More information on how to set up "Advanced Free-Cut" can be found here:

[Automation Engine complete manual](#)

## Applying the Cut File in the Merger

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The cut file is automatically applied in the merger of the Digital Flexo Suite with the XL-Cut workflow if a "**Staggered Cut**" license is available.

Mergers without XL-Cut output ignore the cut content of the LEN(x) file.

## Applying the Cut File in "Device Manager" 23.11

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The cut file is applied automatically with the cutting workflow enabled. No extra settings are necessary.

## Troubleshooting

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If the desired incision is not applied, please check the following:

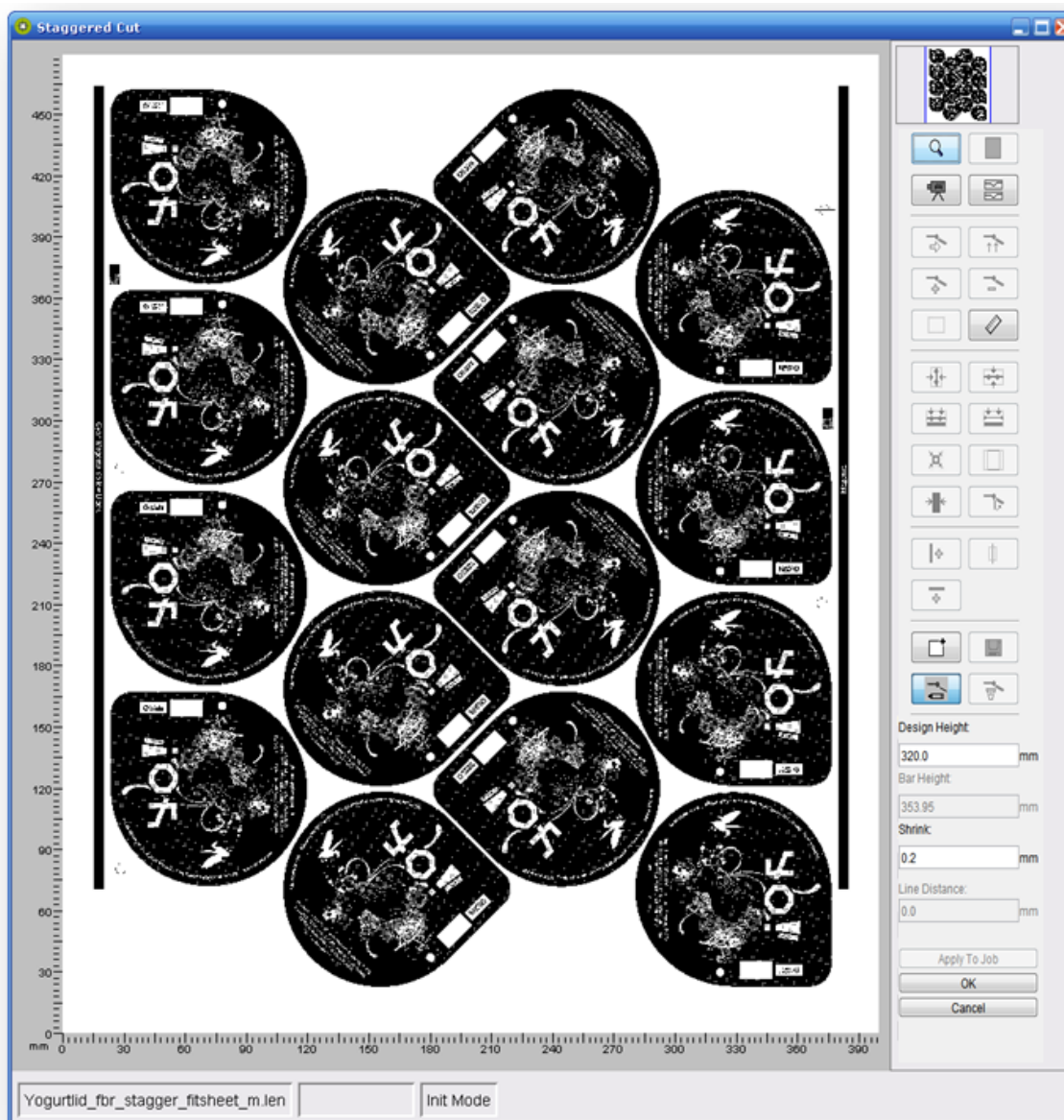
- Does the name of the technical color match the LEN(x) file?
- Digital Flexo Suite: Do I have a "Staggered Cut" license?
- Device Manager: Is the "Apply cutting flow" option enabled?
- Does the LEN(x) file contain technical colors at all (checking with Bitmap Viewer) ?

## "Staggered Cut" (Option)



opens a new window in which the cutting line can be created.

Cutting lines created by Plato cannot be edited with "Staggered Cut" in the Digital Flexo Suite.



## Toolbar

The toolbar is always located on the right-hand side. Only available functions are activated.



Individual sections of the image can be enlarged with a square magnifier by using the mouse wheel or by holding down the left mouse button and pulling the mouse across the section of interest. The magnified image section can then be positioned using the arrow keys on the keyboard. The image section can be zoomed out by pressing "Ctrl" and the left mouse button.



displays the entire image.



opens module **"Digital Video Drill"** if the respective license is available. For a detailed operating manual of this module, refer to document "Digital Flexo Suite Tools".



activates or deactivates the split screen which displays the upper and the lower cutting line simultaneously.



moves a point. By pressing this button and the "Ctrl" button, the distance to the original position is displayed in addition.



moves the upper line. For this purpose, a point is moved with the left mouse button. By pressing this button and the "Ctrl" button, the distance to the original position is displayed in addition.



adds a point.



deletes a point.



marks the points in an area. These can then be deleted by pressing the "DEL" button.



centres the points vertically between two objects.



centres the points horizontally between two objects.



adapts the points to the upper object contour.



creates a line at the upper object contour.



The distance between two positions in the image can be measured by pressing and holding the left mouse button down.



corrects excessively acute angles so that the plate will not crack in these areas.



cuts the margins. This function is only available if the entire image is displayed.



changes the margins. This function is only available if margins were automatically created beforehand.



creates an additional vertical line at the desired position by clicking the left mouse button.



creates an additional horizontal line at the desired position by clicking the left mouse button.



detects the desired position for the vertical cutting line automatically. The section containing the object must be enlarged beforehand.



detects the bear bar automatically. This function is only available if the section with the bear bars was enlarged.



loads a saved cut.



saves the current cut.



indicates that a new cutting line must be created.



deletes the cutting line.

**"Design Height"** sets the distance between the upper and the lower cutting line.

**"Bar Height"** sets the height of the bear bars. This function is only available if bear bars were detected.

**"Shrink"** reduces the lower line for gapless mounting of the plates.

**"Sample Step"** and **"Line Distance"** are available if the adaptation to the object contour is selected. With these functions, the distance between the points and the distance to the object contour is set.

**"Apply To Job"** applies the cut contour to the entire job. For this purpose, the cut contours must be loaded in the Merger.



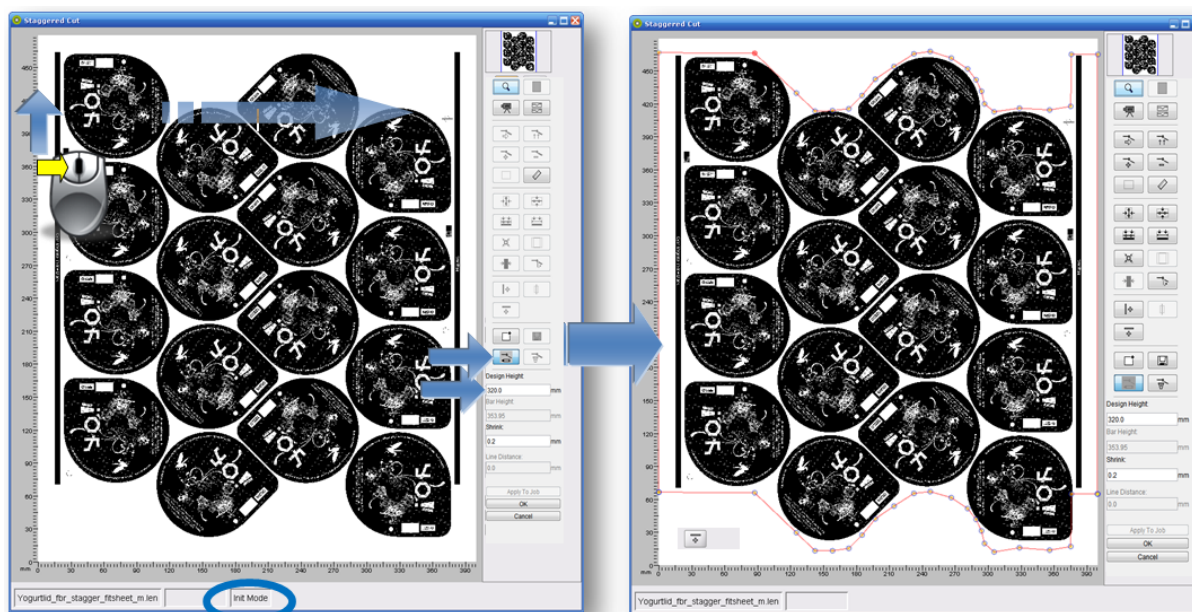
"OK" applies the cut contour.

"Cancel" cancels the editing process.

## Creating a New Cutting Line

If the file contains no cutting information, the starting point on the left side of the image must be determined by clicking the left mouse button, then the cutting lines must be added one after another with the left mouse button.

Angles larger than 90° cannot be entered.



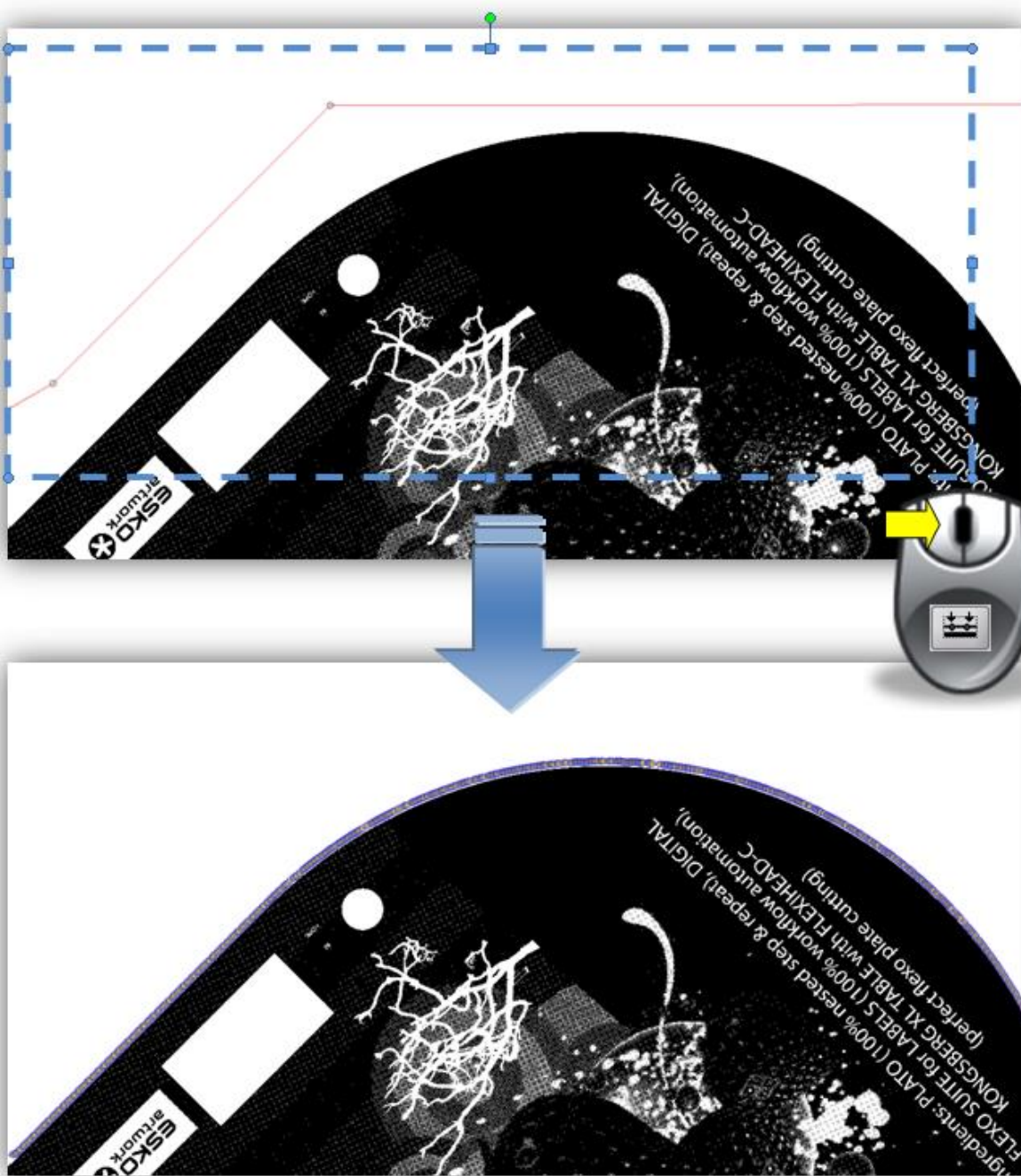
The contour can only be further edited when the line was created for the entire width.

The distance to the lower cutting lines can be set in the "Design Height" field.

## Adapting Points to the Object Contour



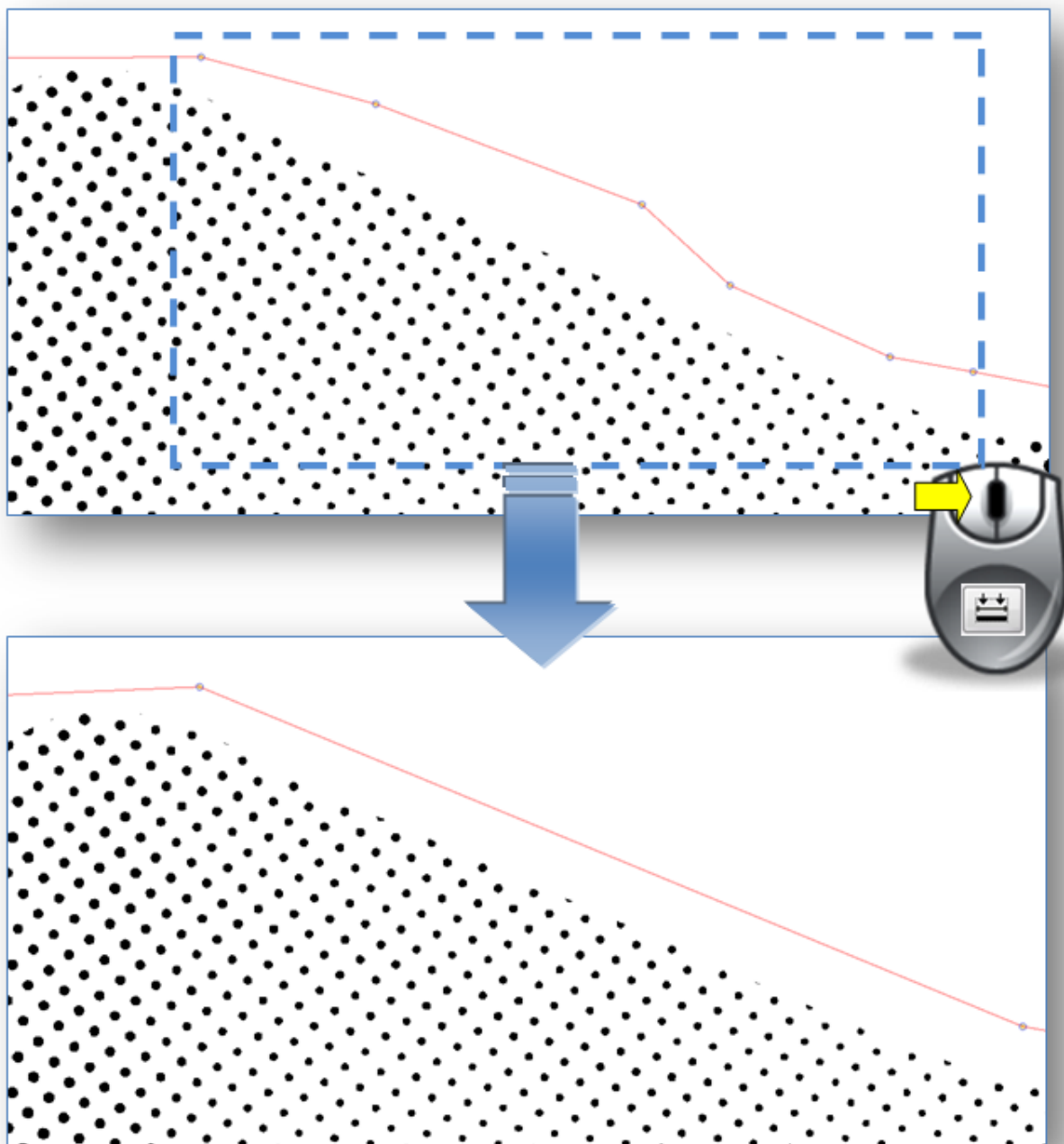
adapts the points to the upper object contour. To this end, a frame is drawn around the desired area by pressing and holding the left mouse button down. The distance to the object contour can be set with "Line Distance". If negative values are entered, the cutting line will be drawn in the design.



## Creating a Line at the Object Contour



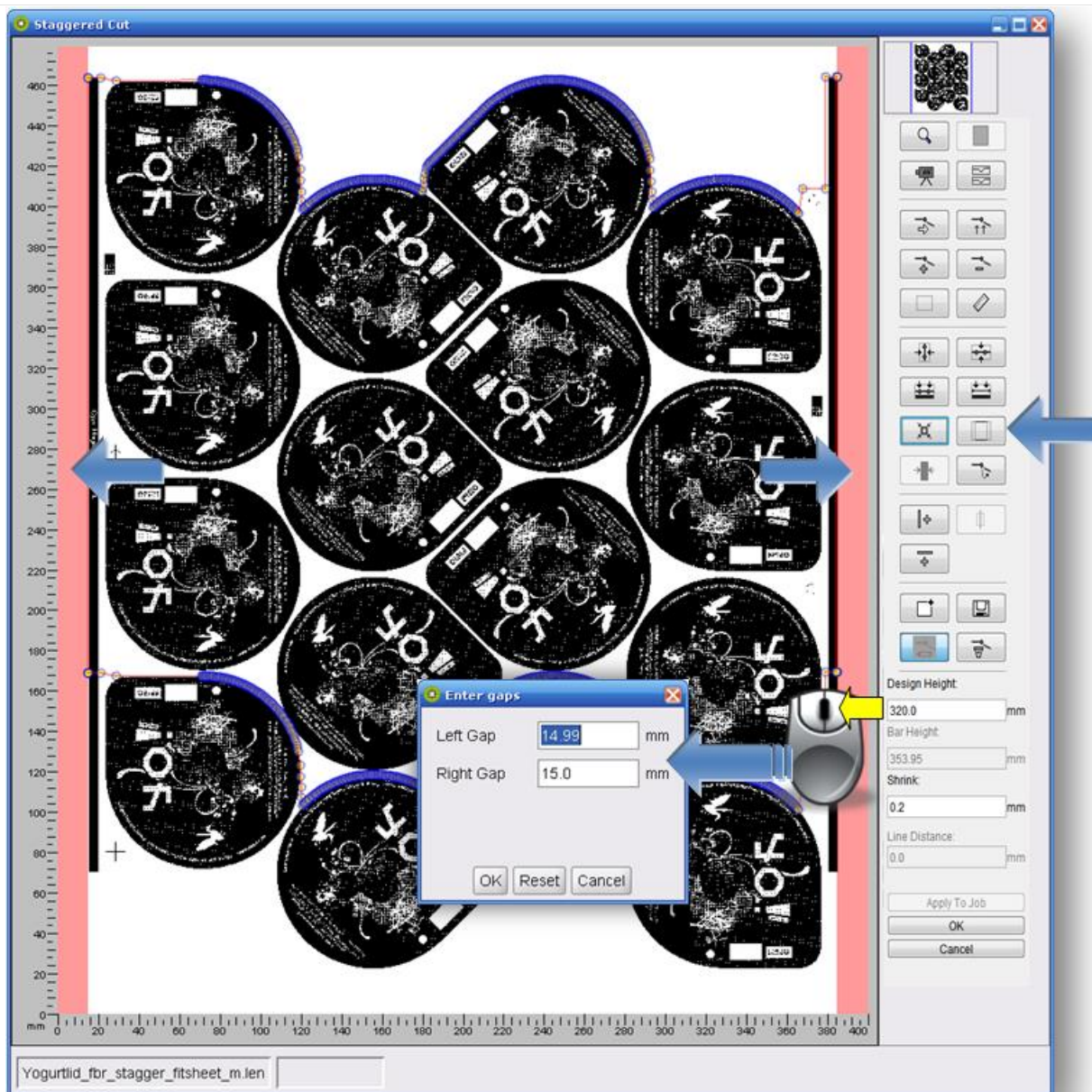
creates a line from the upper object contour. To this end, a frame is drawn around the desired area by pressing and holding the left mouse button down. The distance to the object contour can be set with "*Line Distance*". If negative values are entered, the cutting line will be drawn in the design.



## Cutting Margins



cuts the margins. This function is only available if the entire image is displayed and no bear bars have been defined yet.



The red areas on the right and left of the image show the unused space. The cutting line is automatically moved to the lateral margins of the image.



changes the margins. This function can also be called up by right-clicking the red area. A new window is opened in which you can enter the "Left Gap" and the "Right Gap" of the margins.

"OK" applies changes.

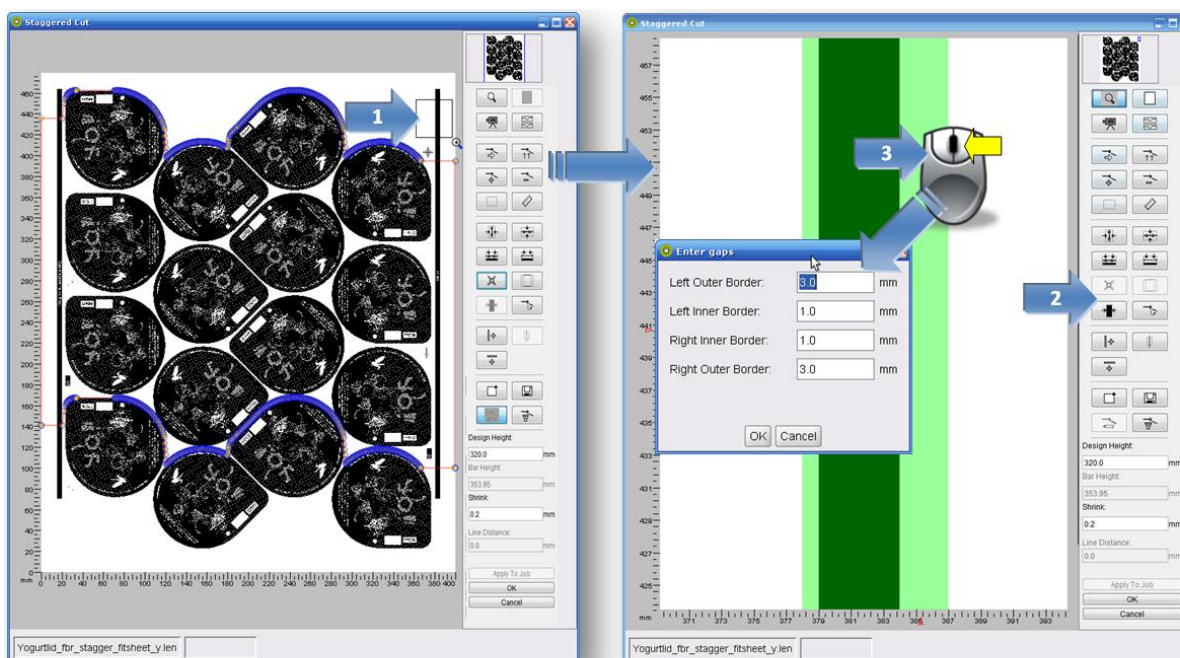
"Reset" removes the frame.

"Cancel" cancels this change.

## Detecting the Bear Bars Automatically



detects the bear bars automatically. This function is only available if no margins have been defined yet and an area was enlarged.



- 1 Enlarge the bear bars until no other elements are visible.
- 2 By left-clicking on the icon for automatic detection, the image section is analysed and the detected area is displayed in green.
- 3 By right-clicking on the green area, a new window is opened in which the width of the bear bar can be changed asymmetrically. The last changed values will be applied automatically.

"Left Outer Border" → left bear bar - left margin

"Left Inner Border" → left bear bar - right margin

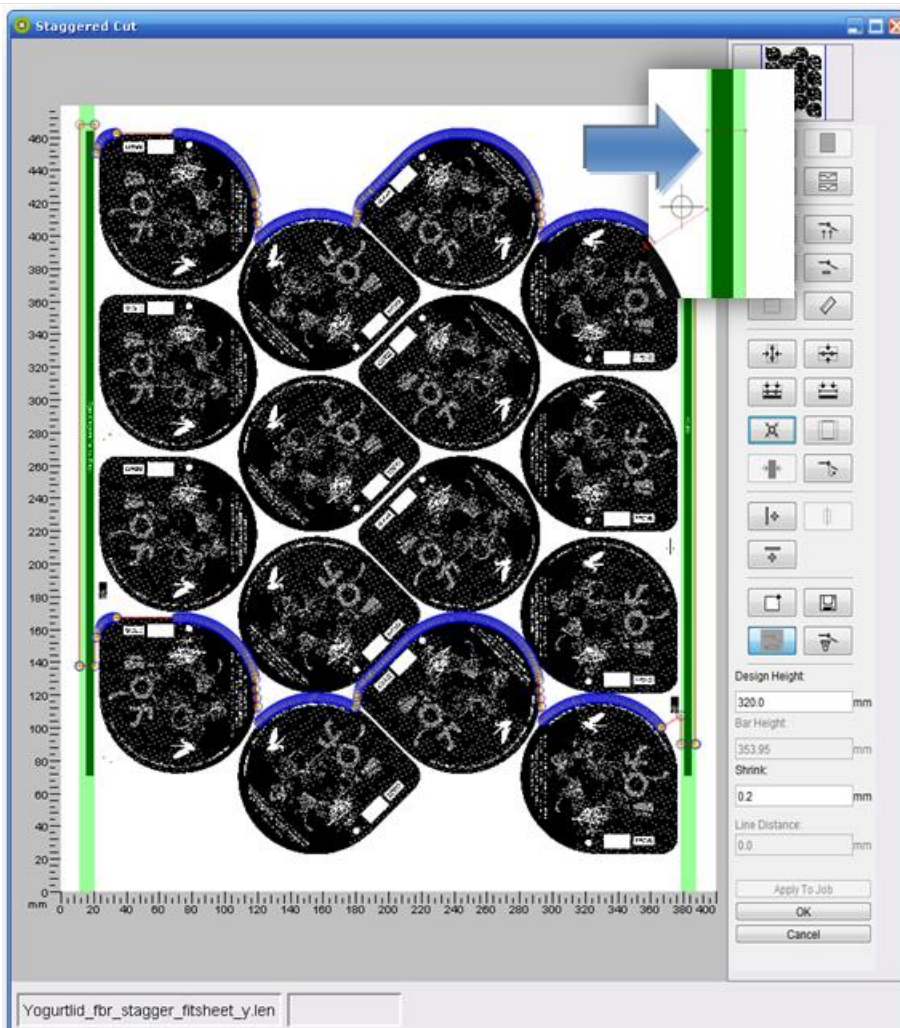
"Right Inner Border" → right bear bar - left margin

"Right Outer Border" → right bear bar - right margin

Repeat this step for the second bear bar.

Now you can enter the height of the bear bars in the *"Bar Height"* field. These bars will always be arranged in the centre of the cut.

If the difference between *"Design Height"* and *"Bar Height"* is 20 mm, the bear bar will be 10 mm longer at the top and at the bottom than the cut.



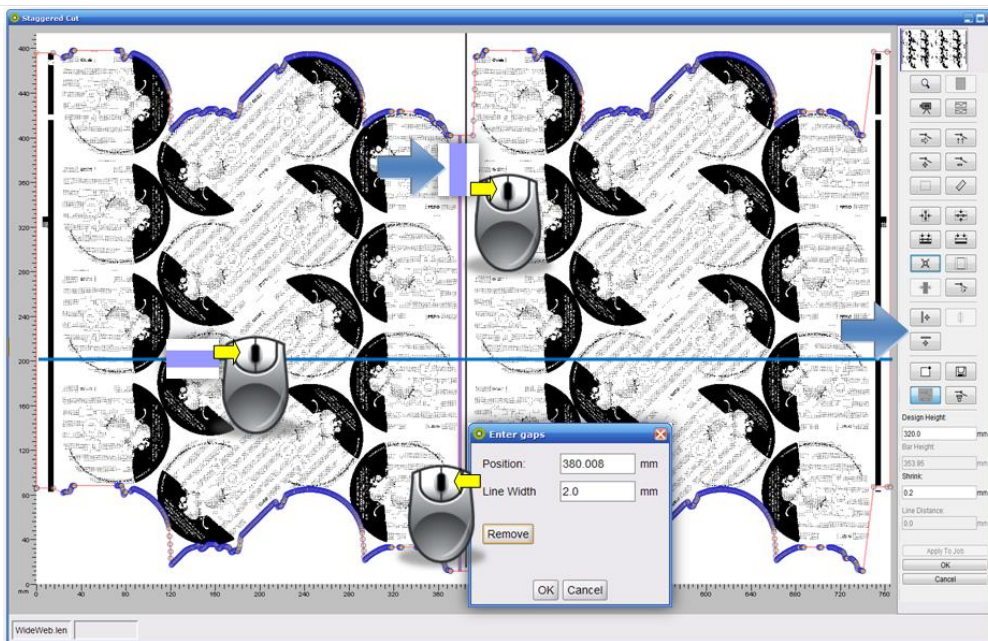
## Creating Vertical and Horizontal Lines



creates an additional vertical line at the desired position by clicking the left mouse button.

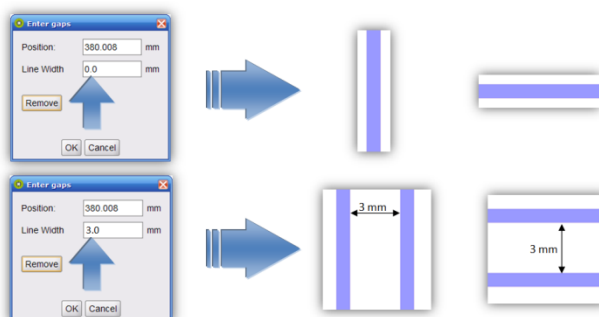


creates a horizontal line at the mouse position.



Right-clicking on a line opens a new window in which the "Position" and the "Line Width" can be changed. "Remove" removes the line.

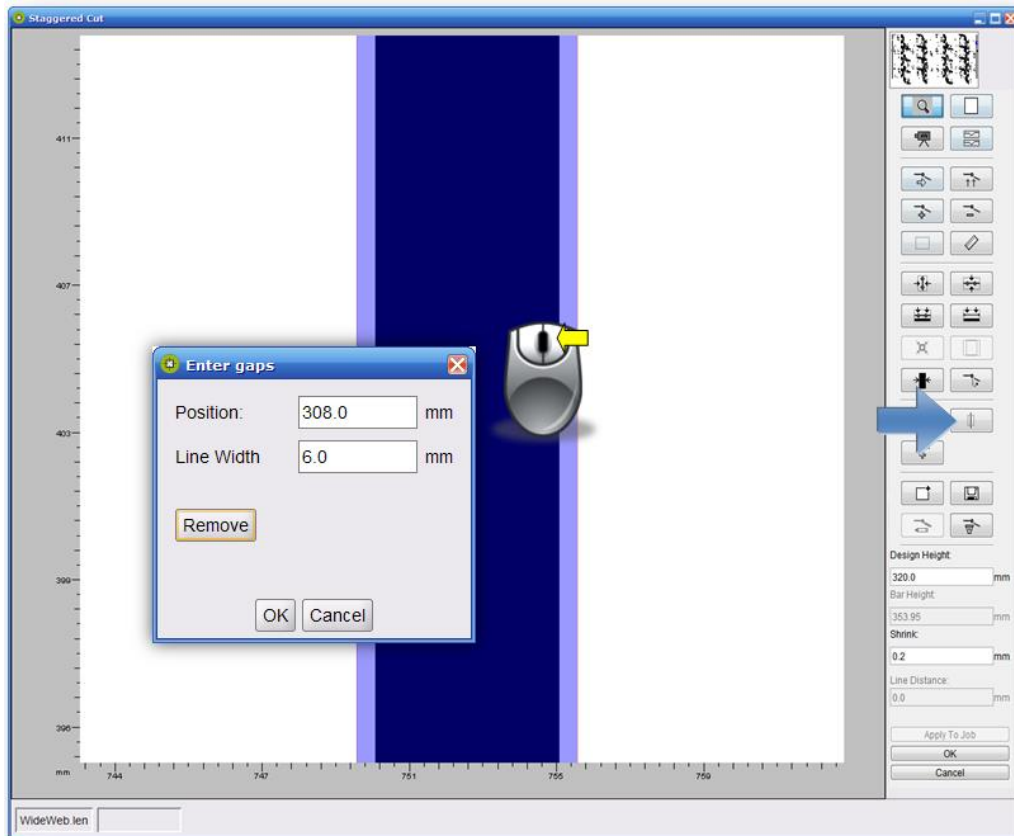
When a line width of "0" is entered, only one line is created. When "2" or more is entered, two lines will be inserted having this distance.



## Creating Lines Automatically



detects the desired position for the vertical cutting line automatically. The section containing the object must be enlarged beforehand.



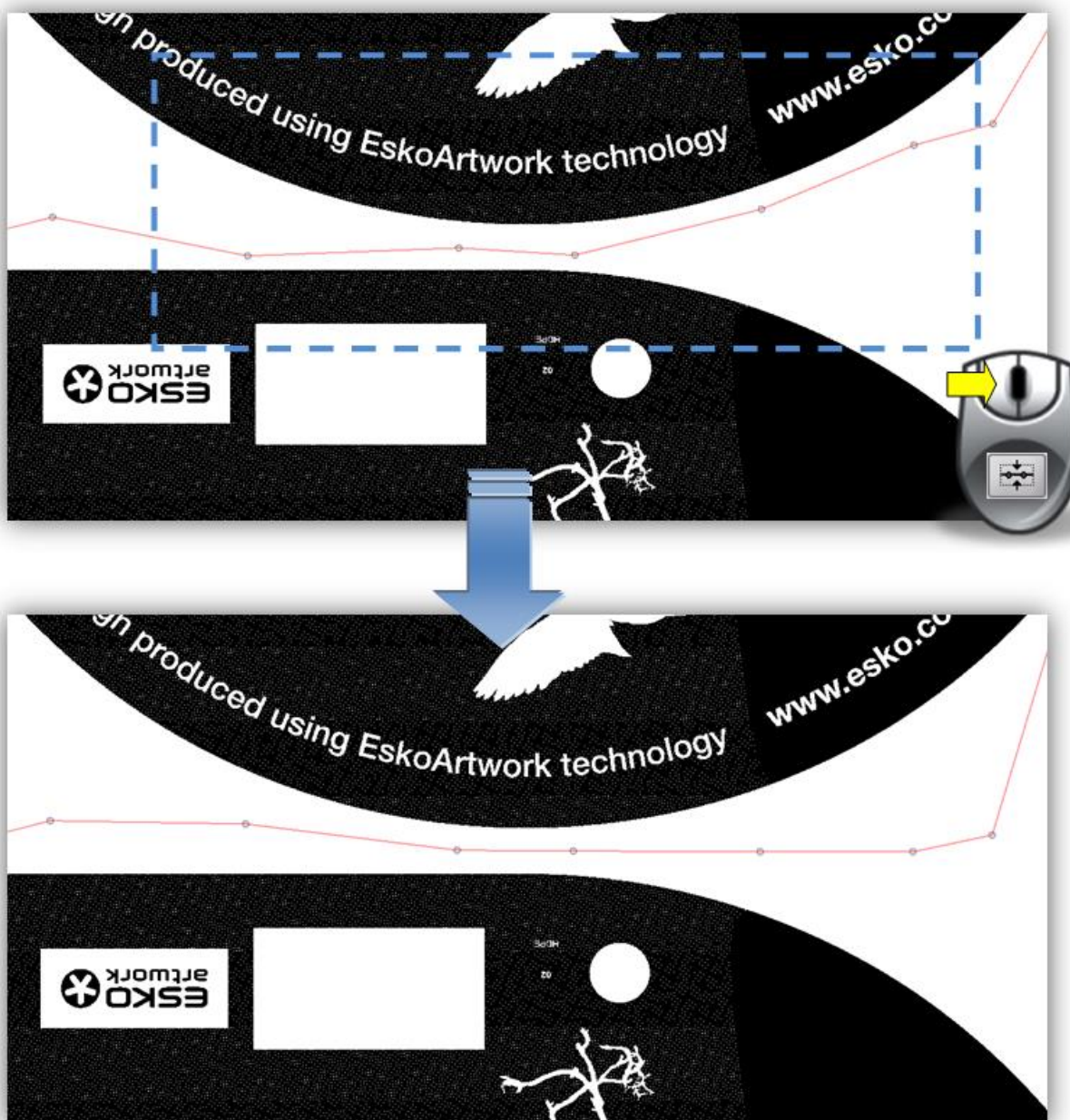
The width of the first detected object is automatically used as line width for all vertical cutting lines. If not requested, the line width can be changed by right-clicking the vertical line.



## Centring Points

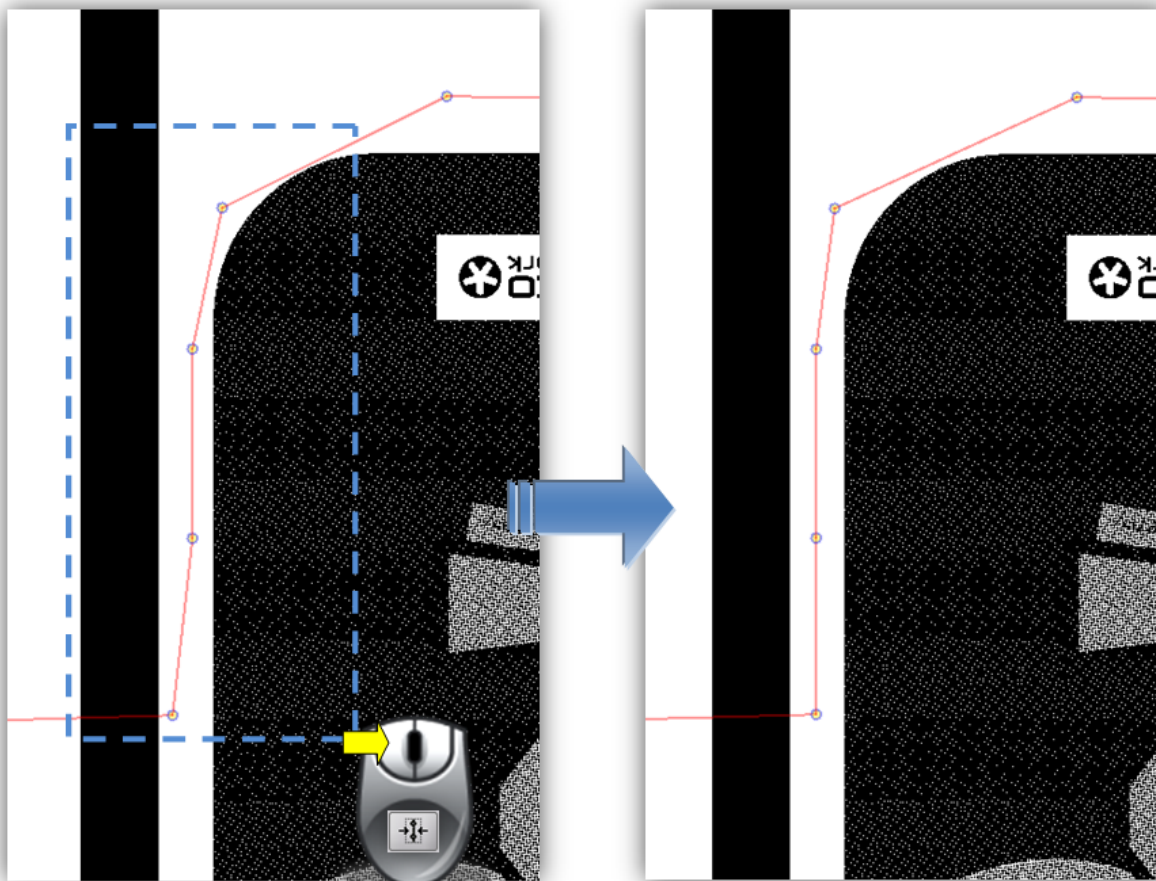


centres the points horizontally between two objects. A frame can be pulled around the relevant points using the left mouse button (hold pressed and pull). If there is no graphic object on one side (top or bottom), the frame is used as border:





centres the points vertically between two objects.



## Applying the Cutting Line to the Entire Job

After creating the cutting line, the "Apply To Job" button can be used to automatically transfer the cutting line to the entire job. To this end, the other separations must already have been loaded into the merger:

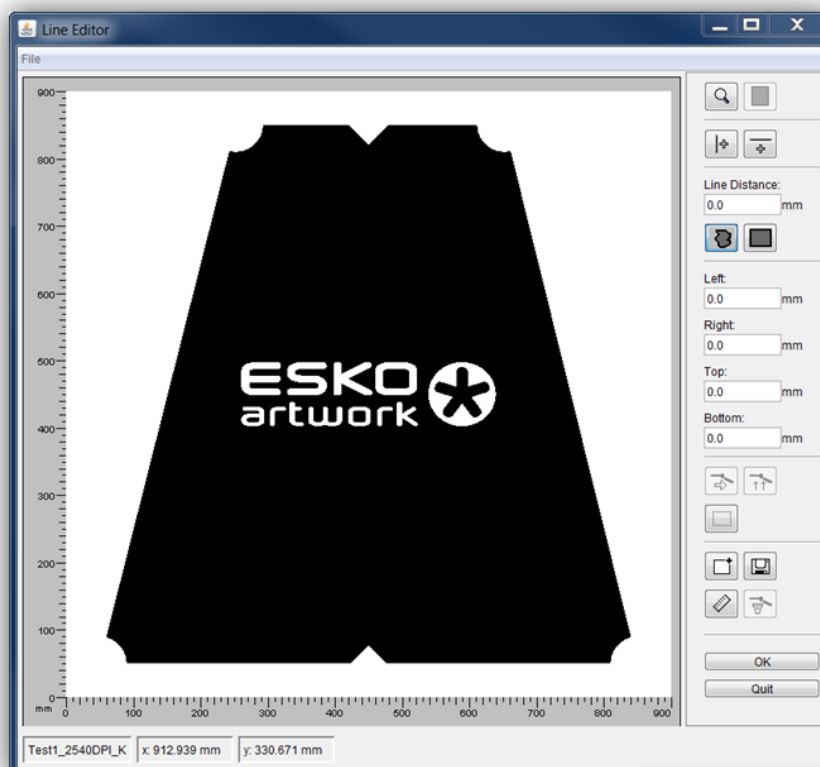


## "Line Editor" (Staggered Cut License)



opens a new window in which the cutting lines can be created manually.

Cutting lines created by Plato cannot be edited with the "Line Editor" in the Digital Flexo Suite.



Individual sections of the image can be enlarged with a square magnifier by using the mouse wheel or by holding down the left mouse button and pulling the mouse across the section of interest. Using the arrow keys on the keyboard or the right mouse button, the image section can be moved in the desired direction. The image section can be zoomed out by pressing "Ctrl" and the left mouse button.



displays the entire image.



activates the setting of lines using the left mouse button.



activates the contour recognition feature using the left mouse button.



automatically creates a square around the objects in the visible area.



marks a line, so that it can be deleted.



marks a line, so that it can be moved.



marks several objects, so that they can be deleted.



loads a stored template.



saves the information in a template.



The distance between two positions in the image can be measured by pressing and holding the left mouse button down.



deletes the information.

## Using Masks

---

The software does not recognise halftone screen areas as a contour. To write the corresponding cut contour into a file with halftone screen areas, a file with a solid area is required for each job or ink. The file with a solid area is loaded and edited using the "Line Editor".

When pressing "OK", the information is additionally written into the desired file with the halftone screen areas provided that "**FREECUT**" is used in the file name as follows.

### Applying a Mask to the Entire Job:

---

**Mask:** Job Name\_***FREECUT***.len

Ink 1:job name\_ink1.len

Ink 2:job name\_ink2.len

### Applying a Mask to One Ink Only:

---

**Mask 1:** Job Name\_Ink1\_***FREECUT***.len

Ink 1:job name\_ink1.len

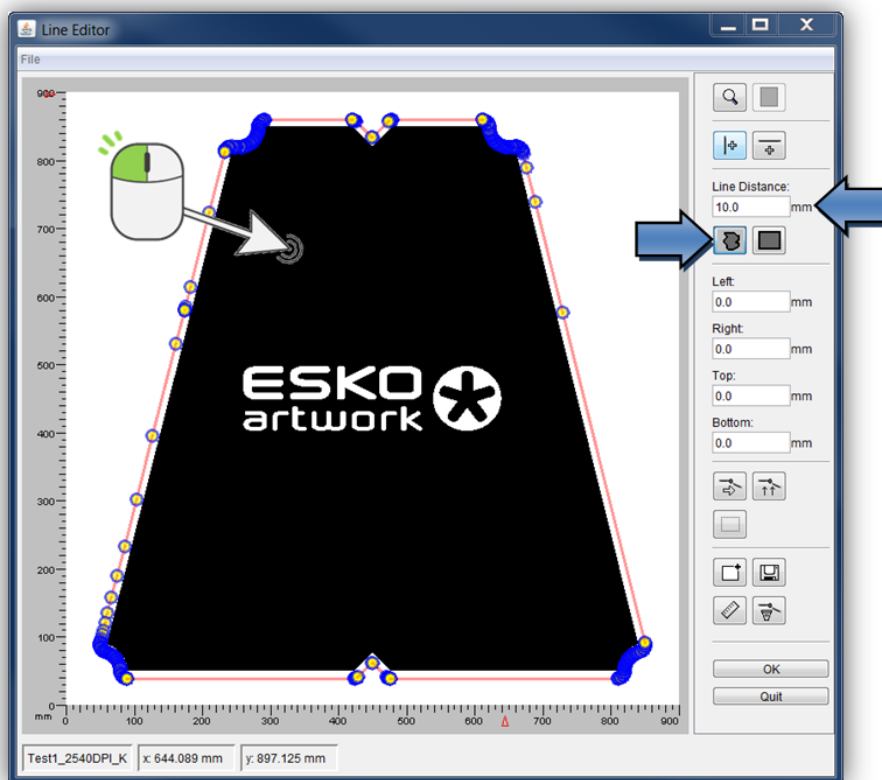
**Mask 2:** Job Name\_Ink2\_***FREECUT***.len

Ink 2:job name\_ink2.len

## Contour Recognition

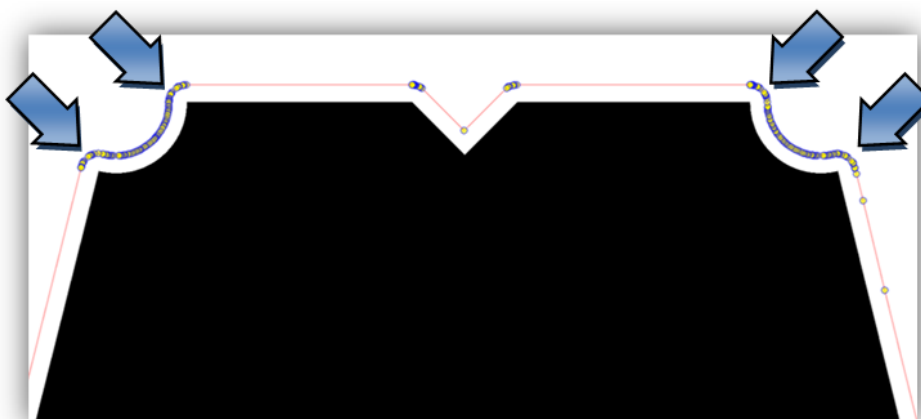


activates contour recognition. Left-clicking selects the desired contour.



The first black-to-white change to the left of the selected mouse position is used as the starting point for the contour.

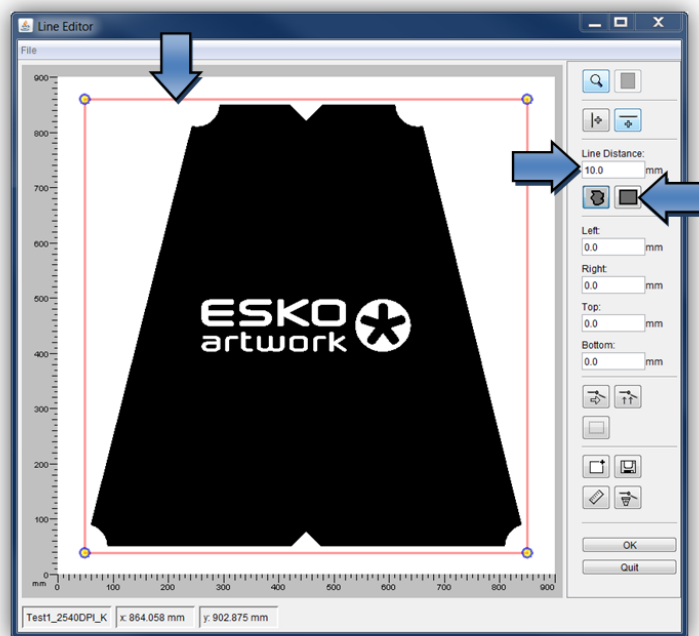
The distance to the selected contour can be set in the "Line Distance" field. To maintain this distance, the corners receive a round contour:



## Creating Rectangles

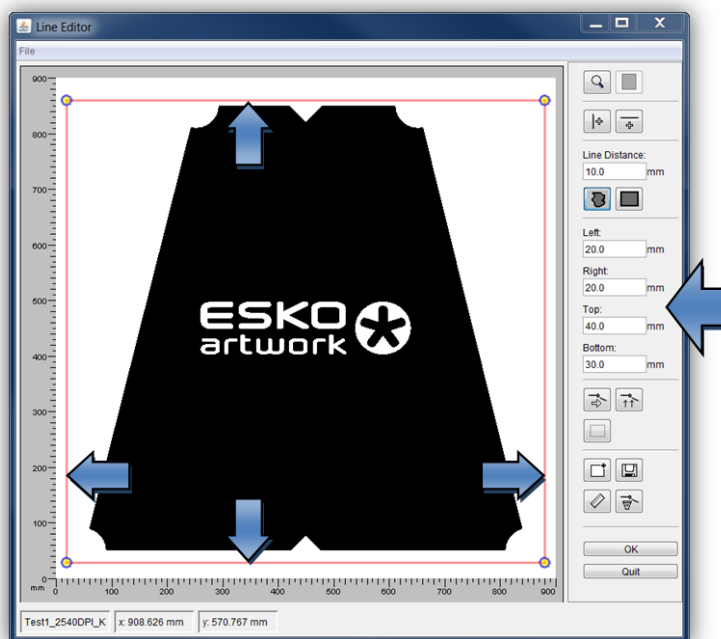


Automatically creates a square around the objects in the visible area when left-clicking this option:



The distance to the selected contour can be set in the "Line Distance" field.

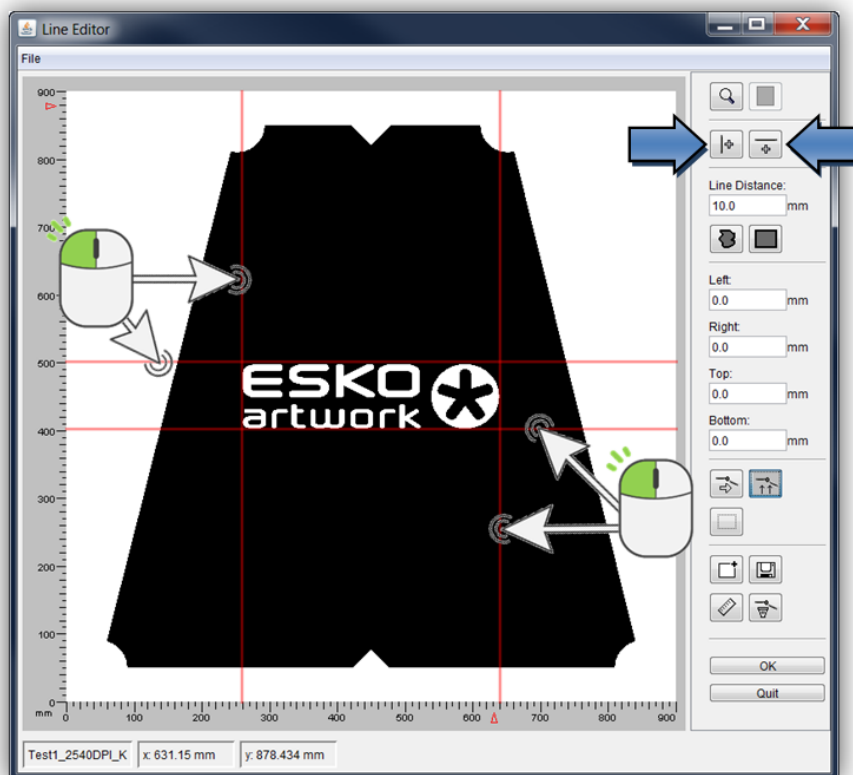
Alternatively, a square can be created across the entire distance from the image border:



## Creating Lines



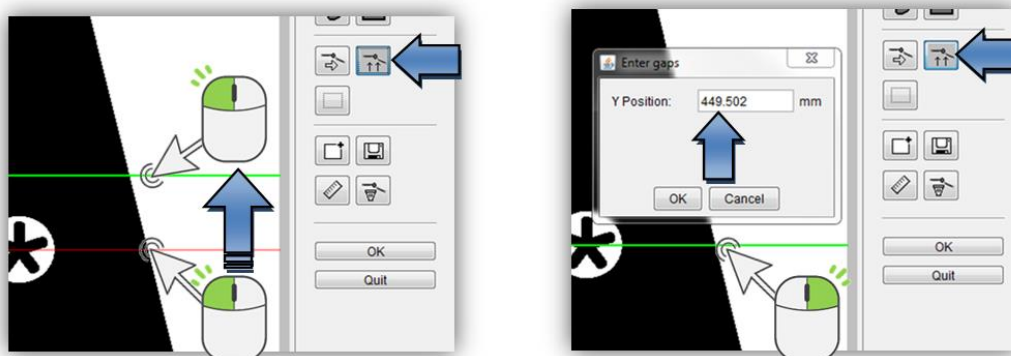
creates vertical and horizontal lines across the entire image height or image width using the left mouse button.



## Moving Lines



marks a line, so that it can be moved.



The line can be moved manually using the left mouse button.

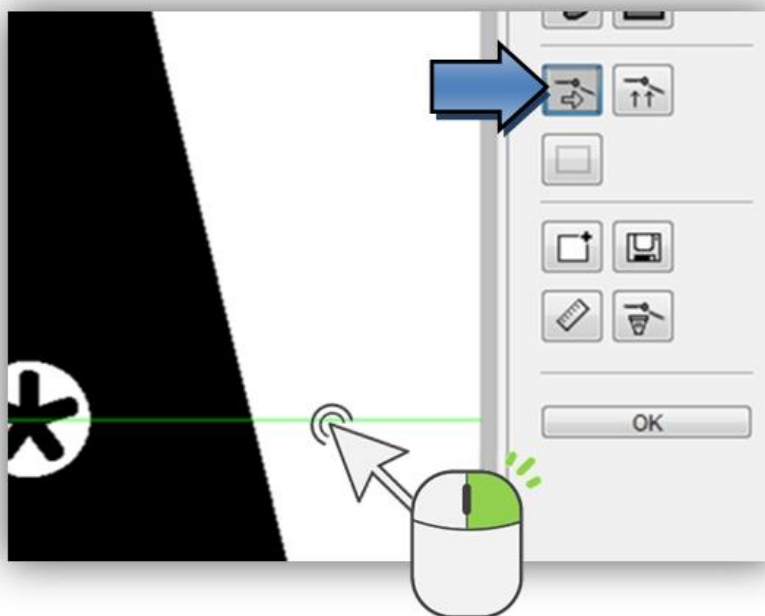
Right-clicking opens a new window in which the new position can be entered.

## Deleting Lines

---



activates the marking function. You can mark a line with the left mouse button and delete it using the "Delete" key on the keyboard.



## Deleting Several Objects

---



marks several objects, so that they can be deleted.

By pressing and holding the left mouse button, a rectangle is pulled across the desired objects. Then use the "Delete" key on the keyboard to delete them.

You cannot delete individual lines from the contour recognition and from the rectangles. The whole object is selected when marking it.

## Creating a Template

---



saves the information in a template.



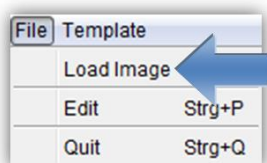
## Loading a Template



loads a previously saved template. In case the dimensions of the image are correct, the information is applied to the loaded job.

## Loading an Image

The menu item "File – Load Image" shows the dialogue "Load":

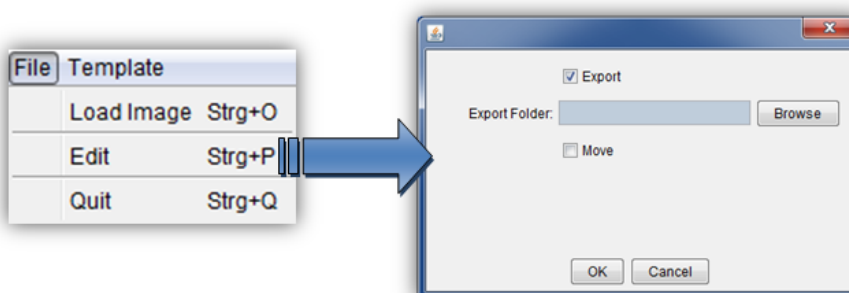


## Saving Information

After all lines have been set, the information is written into the LEN files with "OK".

## Exporting Finished Files

When the option "**Export**" is activated, the job is copied or moved to the output folder automatically.



In the "**File – Edit**" menu under "**Export Folder**", the path of the output directory is specified where the files are copied to.

Using the option "**Move**", you can move the files into the output folder.

## PlatePatcher

---



opens the PlatePatcher in a new window.

The PlatePatcher automatically searches the LEN or TIF files for free areas to cut out the remaining image content. Depending on the output device, the relevant files will be created for subsequent mounting.

For digital mounting, a camera and a mounting file are used to mount the plate pieces with mounting marks on the mounting film. The accuracy is very high.

For analogue mounting, a printout or mounting pins are used to manually mount the plate pieces on the mounting film. The accuracy is low.

### Digital output devices:

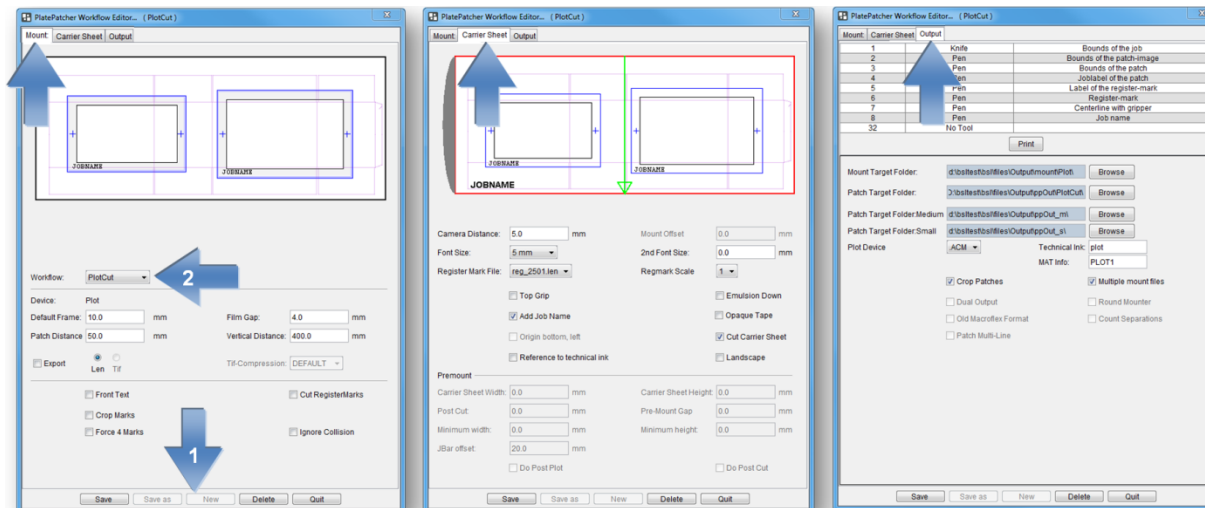
- **"AV Optimount"**  
round mounting and flat mounting possible
- **"AV-Famm"**  
support for FAMM Round and FAMM Flat
- **"Macroflex"**  
flat mounting
- **"Heaford"**  
flat mounting
- **"PreMount" on CDI**  
flat mounting - exposure of the plate pieces on the CDI

### Analogue output devices:

- **"ACM-PLOT"**  
cutting and labelling of mounting film
- **"EPS-PLOT"**  
film labelling
- **"Drill"**  
drilling holes into the mounting film and the plate pieces
- **"Bieffebi"**  
labelling of film and camera control

## Setting the PlatePatcher Options

Templates are created for the PlatePatcher options by calling up the "PlatePatcher Workflow Editor..." under "Edit":



For each mode, the "PlatePatcher Workflow Editor" shows a preview with the currently set values. Irrespective of the output, an ACM file is generated so that the mounting film on the Kongsberg table can be cut and labelled.

On either side, different values are set:

"Mount": setting of the output device

"Carrier Sheet": setting of the mounting film

"Output": setting of the file output

## Adding Settings

By selecting "New" (1), a new window appears in which you can enter a name for this setting. "OK" confirms the input. The new setting is automatically selected.

Adjust the required settings and save them by pressing "Save" (1).

## Changing Settings

Select the setting (2) and change it. Press "Save" (1) to save the setting.

To not lose existing settings, the new settings can be renamed by pressing "Save as" (1).

## Deleting Settings

Select the setting (1) and delete it by pressing "Delete".

## Possible Settings

Each mounting device can be adjusted individually. Before starting the device for production, these properties must be set and checked during a test mounting. For this purpose, a job which is unsymmetrical in X and Y direction is to be used.

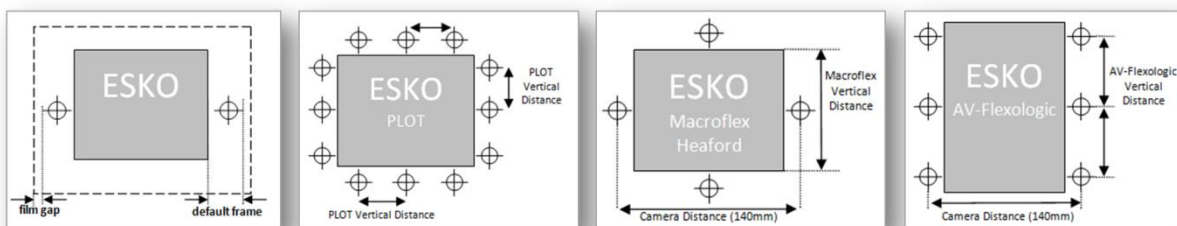
### Mount:

**"Default Frame"**: Minimum distance between the "patch" and the border of the created image. If this is set too small, a collision can occur during automatic grouping.

**"Film Gap"**: Distance between the register mark and the border of the image clip. This area is also used for subsequent cuts using the 45° knife.

**"Patch Distance"**: Defines the distance between two image elements by compiling them automatically in one grouping. Elements with a larger distance are separated.

**"Vertical Distance"**: Height above which additional register marks are added to the patch.



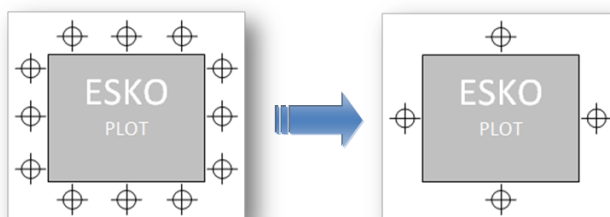
**"Export - LEN / TIF"**: The resulting images are exported directly into directories instead of transmitting them to the Merger. An extra licence is required to output TIFs.

**"Front Text"**: The patch label is not exposed together with the plate but carved into the frame area using the knife on the Kongsberg table. This labelling needs not to be removed afterwards.

**"Cut RegisterMarks"**: For Plot output, the register marks can be carved with the knife. This way, is not necessary to remove the marks later on.

**"Crop Marks"**: Adds guides to the corners of each output file which can be used for manual cropping.

**"Force 4 Marks"**: Always creates four marks in Plot&Cut mode.



**"Ignore Collision"**: Writes register marks even if they overlap with image data. In this case, the marks should be manually moved to a position where they will not interfere later when printing the image.

## Carrier Sheet:

**"Camera Distance"**: Determines the minimum camera distance for the selected mounting device. A higher value creates wider patches.

**"Mount Offset"**: With AV Optimount, an upper and lower image border is inserted in the grouping window. This is required when register marks must be positioned above or below the image. The entire co-ordinate plane is moved by this value, which results in a difference to the original gripper distance during the mounting.

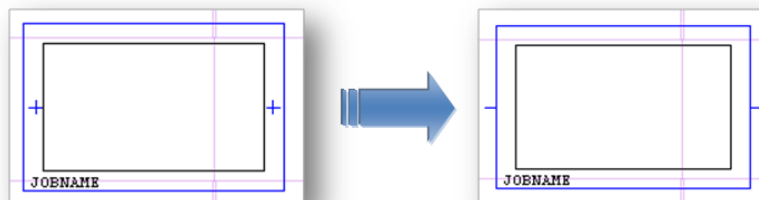
**"Font Size"**: Size of the texts on the mounting film.

**"2nd Font Size"**: Size of the job name. With the setting "0", "Font Size" is used.

**"Register Mark File"**: You can select the mounting marks from a list. An overview can be found in the appendix.

**"Regmark Scale"**: Enlarges the mounting marks on the mounting film significantly.

**"Opaque Tape"**: Creates lines on the mounting film outside the image file in Plot&Cut mode so that it can be mounted more easily. This option should be used in combination with "Force 4 Marks"!



**"Top Grip"**: Mirrors the output coordinates in the circumference direction. This option has to be activated when the image data is mirrored after patching, which is the case with some other types of CtP exposure units.

**"Emulsion down"**: Rotates the output coordinates by 180°.

**"Add Job Name"**: Automatically inserts the file name under each output file.

**"Origin Bottom Left"**: Places the origin of the coordinates at the bottom left when using Macroflex. The mounting is usually performed from the middle. In this case this option must not be activated.

**"Cut Carrier Sheet"**: Automatically cuts the mounting film on the Kongsberg table after the register marks or mounting holes and the carton cut have been drawn. Depending on the plate distortion, the gripper distance and the height of the mounting film are automatically counted back.

**"Reference to technical ink":** When activated, the centerline, and for Macroflex also the baseline, is related to the cut.

**"Landscape":** The ACM file for the Kongsberg table is 90° rotated. This is necessary to, for example, cut a 4260 plate on an XL 20 table.

### Style - Premount

**"Carrier Sheet Width" and "Carrier Sheet Height":** Specifies the desired output format of the mounting film for the PreMount output (see "PreMount").

**"Post Cut":** Distance between the finishing cut and the edge of the plate piece for PreMount. The value "-5" is also suitable for thick plates. The finishing cut removes the edge around the patch which was created during UV exposure.

**"Pre-Mount Gap":** Enlarges image sections in the mask for plate mounting when using PreMount.

**"Minimum Width" and "Minimum Height":** Enlarges small plate pieces to this minimum size for "PreMount" output.

**"JBar offset":** With "PreMount" output, the mounting film is labelled. This value indicates the distance of this label from the lower edge of the mounting film, so it will not be covered by the mounting rail.

**"Do Post Plot":** If available, the carton cut for PreMount can be subsequently written onto the film. It is not written on the mounted plates.

**"Do Post Cut":** The UV exposure creates an elevated edge around each "patch". This edge is removed in the last step using the 45° knife. The unexposed plates are cut using the straight knife.

If this option is deactivated, a mask is automatically created for the UV exposure. The unexposed plates are then cut using the 45° knife.

### Output:

**"Mount Target Folder":** Is the folder where the mounting file is stored.

**"Patch Target Folder":** Is the folder where the plate pieces are stored when "Export" is selected.

**"Plot Device":** Sets the output format for the plotter. ACM is always available for the output on the Kongsberg table. EPS output requires an extra license.

**"Technical Ink":** In order to be able to identify the technical ink (carton cut) at a later stage, the designation must be determined according to the file name (for example, filename\_PLOT).

**"Mat Info":** As an option, the name of the XL-Guide "Job Setups" which will be automatically loaded on the Kongsberg table can be entered in this field.

**"Crop Patches"**: If areas are grouped in different separations in multi patch mode, the resulting patches are reduced to the required size. If this function is deactivated, patches of the same size are created.

**"Multiple mount files"**: Creates a coordinate file for each separation. If this function is deactivated, all coordinates are written into one file.

**"Dual Output"**: When this option is activated, an additional Heaford mounting file is created for the Macroflex output and the AV output.

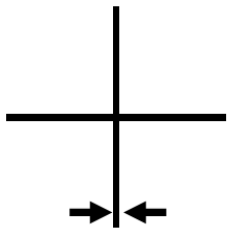
**"Round Mounter"**: For AV Optimount, the coordinate file is counted back to 100%. The distortion values are entered on the mounting device.

**"Old Macroflex Format"**: Writes the DHM file for older versions of Macroflex without line break.

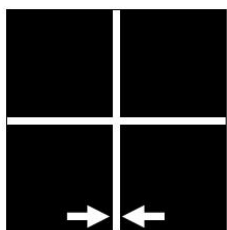
**"Count Separations"**: Enumerates the separations in the Macroflex output file.

**"Patch Multi-Line"**: Creates three lines in the Macroflex output file for each patch. In this way, the upper and lower register marks can be used even with older Macroflex models (see "Vertical Distance").

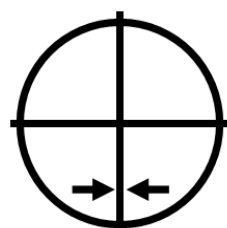
## Register and Mounting Marks for PlatePatcher



reg_2501	2,5 mm x 2,5 mm	0,5 mm
reg_501	5 mm x 5 mm	0,2 mm
reg_501	5 mm x 5 mm	0,3 mm



reg_5010_Negativ	5 mm x 5 mm	→← 0,1 mm
reg_10010_Negativ	10 mm x 10 mm	→← 0,1 mm



reg_502_c	5 mm x 5 mm	→← 0,2 mm
reg_503_c	5 mm x 5 mm	→← 0,3 mm



reg_5010_M	5 mm x 5 mm	↔ 0,1 mm
reg_5020_M	5 mm x 5 mm	↔ 0,2 mm

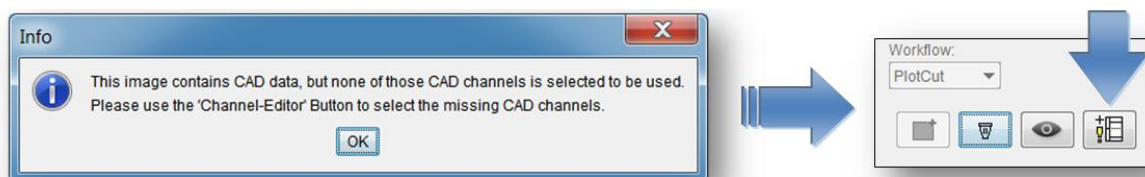


## Selecting Technical Inks

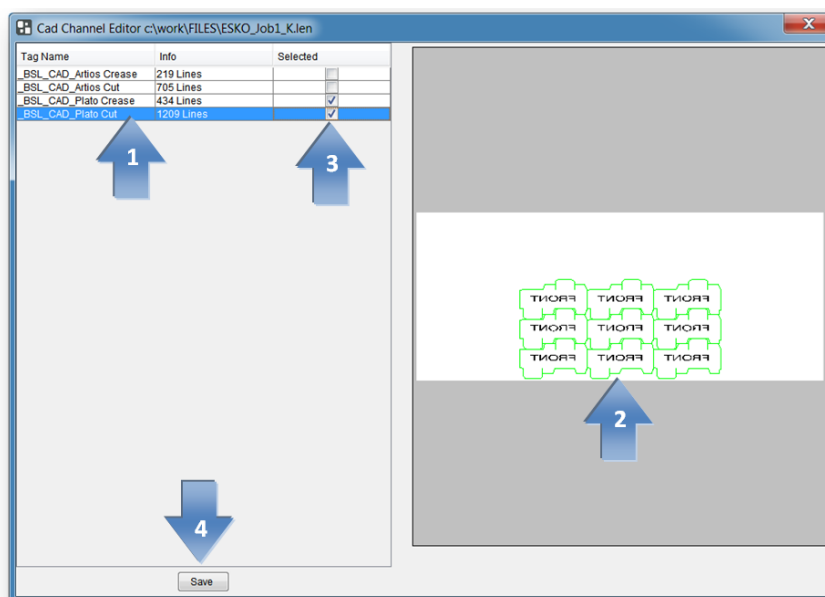
Since the Esko Automaton Engine 12, LEN files can be provided with the technical ink. The CF2 file is no longer used in this case.

Depending on the application, the name of the technical ink may be different or several technical inks may exist. For this reason, one or more technical inks can be selected.

When a job is loaded in the PlatePatcher, the LEN files are searched for technical inks and a warning message appears if an unregistered ink is included.



The "Channel-Editor" displays the currently selected file with the included technical inks:



A left mouse click on the CAD channel (1) updates the display (2).

In the "Selected" (3) area, the desired CAD channels can be selected; this selection is then saved in the selected PlatePatcher setting using "Save" (4). Different technical inks can be assigned to each PlatePatcher setting.

## Editing a Job

Independent of the mounting machine, patching is always carried out in the same sequence.

The following job "GaelicGhost" with 4 inks plus the technical ink and the CF2 file of ArtiosCAD for the carton cut is used to explain the *patching* of image data.

**The PlatePatcher requires the job data in the mounting alignment.**

The file names are used to assign the technical ink and the CF2 file to the job. As with the Merger, the names may not include special characters. The ink designation may not include spaces or underscores:

**Job:**

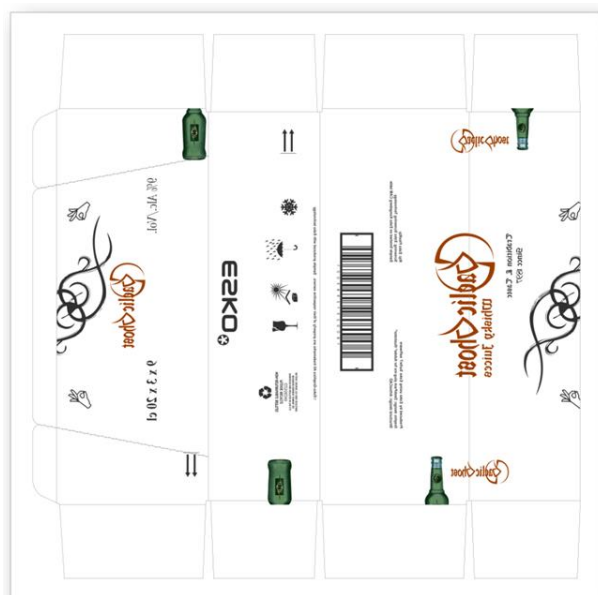
GaelicGhost\_c.len - GaelicGhost\_k.len - GaelicGhost\_y.len- GaelicGhost\_1605.len

**Technical Ink:**

GaelicGhost\_PLOT.len

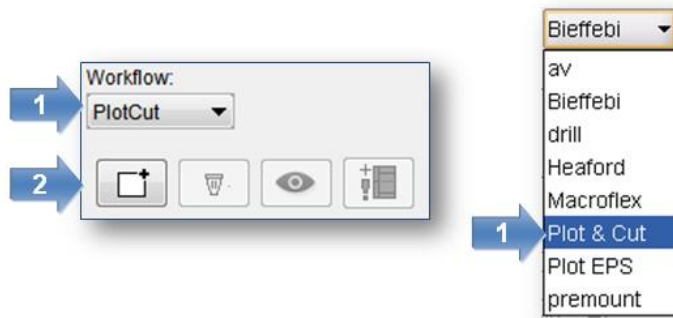
**CF2 file:**

GaelicGhost.cf2



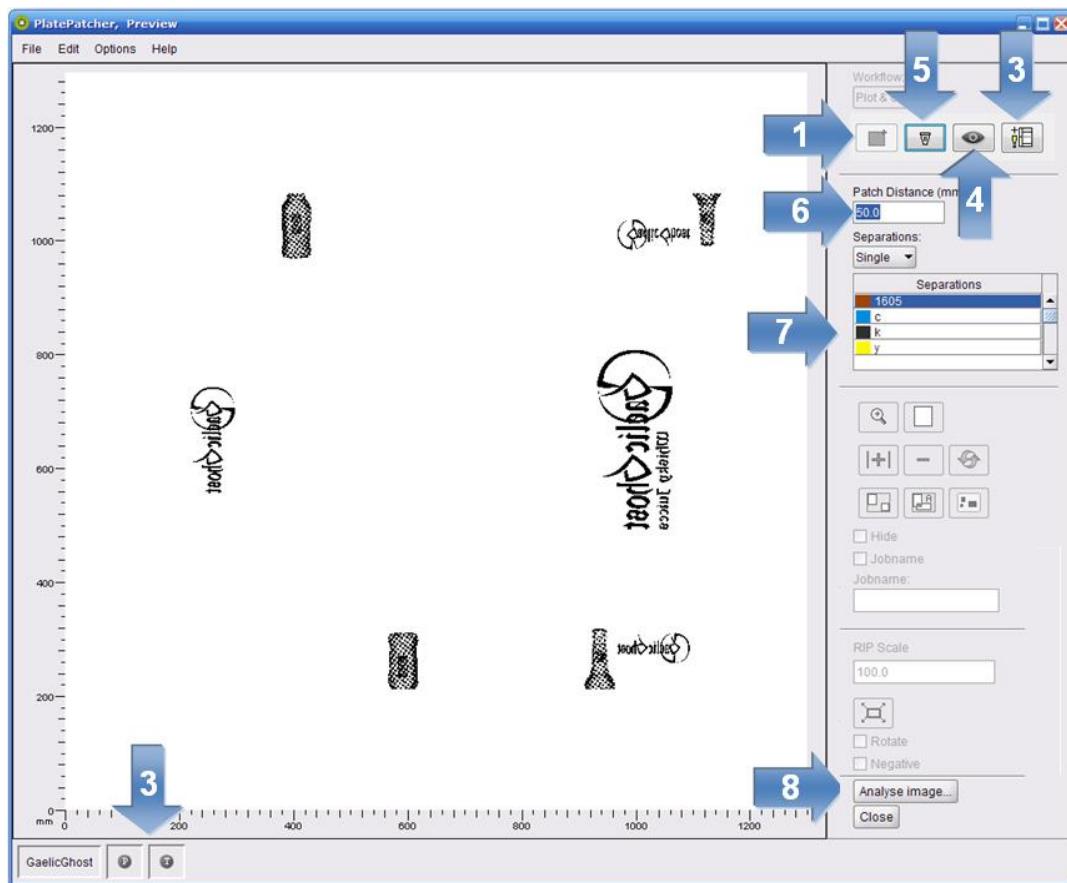
The start occurs in "Preview" mode. The Merger remains in the background but cannot be used.

- 1 Selecting the mounting settings:



## 2 Load the job.

Select only one separation, then confirm it with "OK" or double-click the file to load it. The other separations and control files are automatically copied into the working directory and displayed.



## 3 Check if the technical ink (P) and the CF2 file (T) were loaded. If these files are missing contrary to expectations, check the file names.

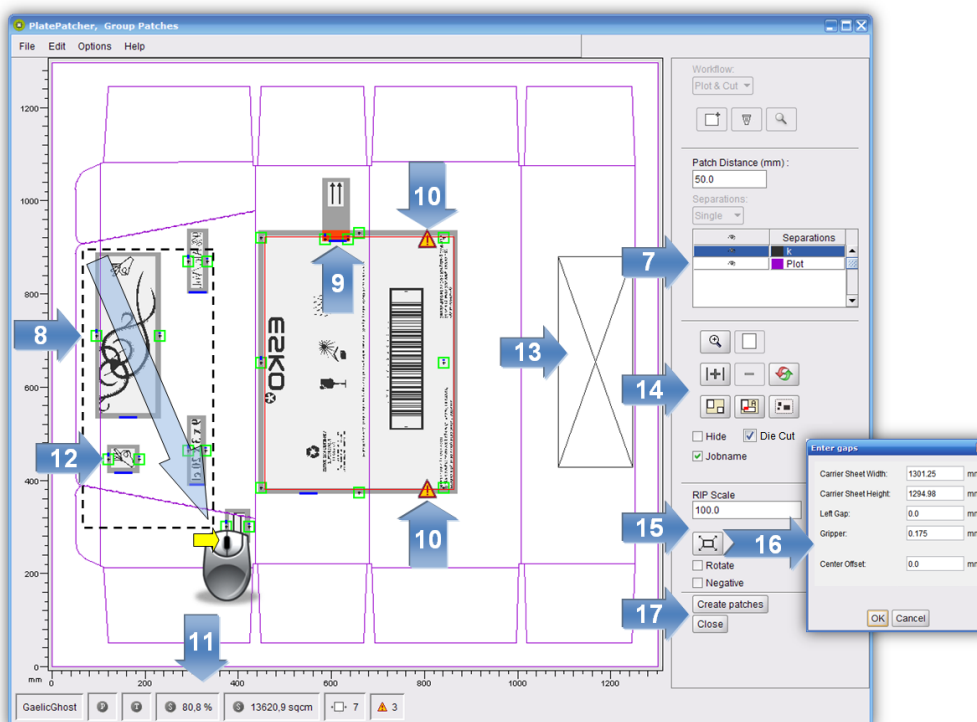


In some cases, no CF2 file is required since the cutting file is already included in the LEN file. If an error message is displayed, the technical colour is to be added as described previously.

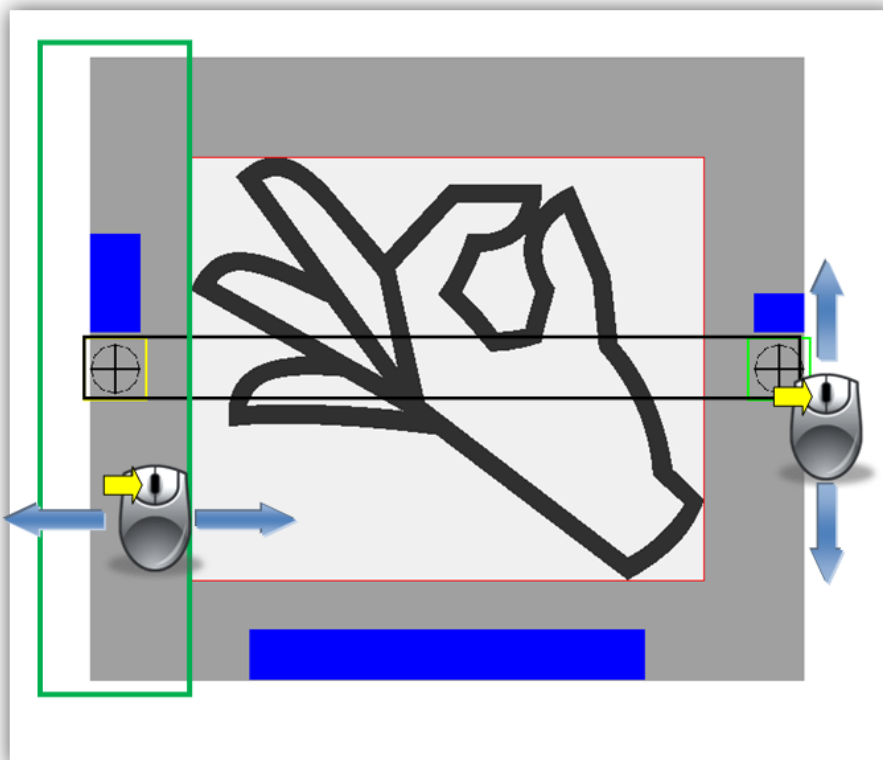


- 4 By selecting "View...", the entire job is opened in the "Bitmap-Viewer".
- 5 Clicking on "Clear" removes the images from the display, the options can then be selected again. This step does not delete any data on the storage medium.
- 6 Under "Separations", the "Single" option is to be selected to patch single separations. "Patch Distance" defines the distance between two image elements by compiling them automatically in one grouping. Elements with a larger distance are separated.
- 7 Select the separation. A preview is displayed in the main window.
- 8 By selecting "Analyse image", the image is analysed and displayed in the grouping window. You can also start the analysing process by double-clicking the respective separation.

"Close" closes the PlatePatcher.



- 7 Clicking on the eye next to the ink in the table activates or deactivates the display.
- 8 Several patches can be selected by pressing the "Ctrl" button and the left mouse button simultaneously and then grouped by clicking on "Group" (12) or "g".  
Alternatively, you can also use the left mouse button to pull a lasso around several "patches".  
Press Ctrl + a to mark all plate pieces.
- 9 Overlaying plate pieces are marked in red and listed in the information display (11).
- 10 Collisions of mounting marks with image data are highlighted with an exclamation mark. The patches can be created but the mounting marks will not be drawn in order to not change the image content.
- 11 The information field displays the area saved in cm<sup>2</sup> and as a percentage, the number of plate pieces and the errors caused by overlapping plate pieces or mounting marks.
- 12 Marks can subsequently be moved. Clicking on the mounting mark once changes the colour to yellow and a green frame is shown. The mark can be move horizontally by holding down the left mouse button in the green frame.



Another click on the yellow mark changes the colour to red. The mark can now be moved vertically with the left mouse button pressed on the mark. The opposite mark is automatically moved simultaneously.

- 13 Hidden elements are marked with a cross.
- 14 The arrangement of the plate pieces and the number of register marks can be changed as follows:



groups the plate pieces or ungroups them.



automatically inserts an additional mounting mark between the marks in the centre. To this end, the plate piece must be marked.



inserts an additional drill hole at any position.

After actuating this button, you can select the position by clicking the left mouse button.



removes the selected register mark.



sets the mounting marks for the marked patch back to their original positions.



analyses the currently selected patch with the reset "Patch Distance".



cuts a large plate piece. After selecting the plate piece, this icon is activated. Then left-click the desired cut position within this plate piece. Cutting is not possible in the frame areas.



automatically removes all overlays.



activates the zoom function.

Press and hold the left mouse button to select an area to be zoomed in.

As an alternative, you can use the mouse wheel.



displays the entire image.

*"Jobname"* is used to add the file name to the lower border of the patch.

*"Hide"* or *"x"* hides one or more marked patches. This option can be used to hide unnecessary elements.

*"Dye Cut"* activates or deactivates the output of the technical ink

- 15 The distortion "*Rip Scale*" is automatically read from the LEN file. For TIF files or if the distortion information is missing, the distortion is calculated based on the size difference between the CF2 file and the technical ink of the distortion. If the information is indefinite, 100.0 is displayed as value but can be changed manually.

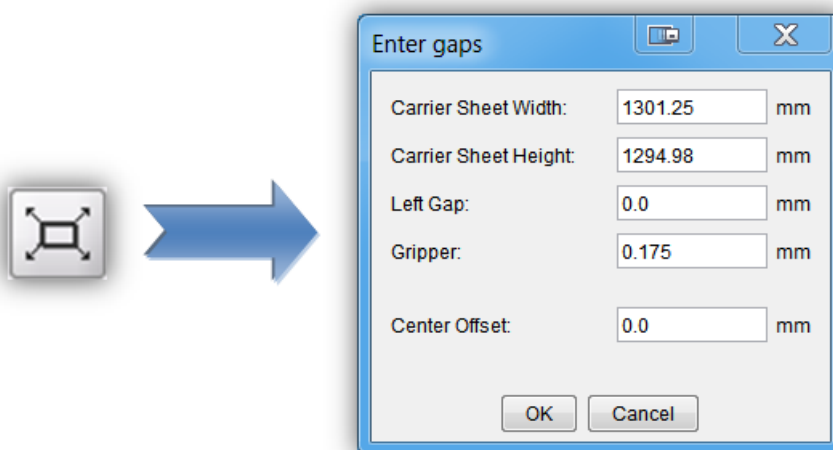
With some mounting devices, "*Mount Scale*" can be used to scale the output file. This is not possible if "*Cut Mylar*" was selected in the PlatePatcher settings.

"Rotate" rotates all output files by 90°.

"Negative" inverts all output files for film exposure units because negative images cannot be edited in PlatePatcher.

The settings "*Negative*" and "*Rotate*" can only be changed in the first separation and are then valid for the entire job.

- 16 The size of the mounting film can be changed as follows:



The position of the image data can only be set for "*PreMount*" and "*Plot&Cut*" output.

If these values are not changed, the size of the loaded image file will be used. Depending on the settings, the plate distortion will be taken into account.

The image file is automatically positioned in the centre. As soon as the "*Mylar Width*" is changed, the gap between the image and the left film side is calculated anew in the "*Left Gap*" field.

The centerline, which will be drawn at a later time, can be moved in the "*Center Offset*" field.

The automatically calculated gripper distance can be changed in the "*Gripper*" field. This requires consultation with the design department.

- 17 "*Create Patches*" cancels the grouping. The requested files are created and transmitted to the merger or a directory. This process may take several minutes, depending on the complexity. Collisions of register marks with image elements and overlays are displayed in a corresponding message window. In general, no image data is overwritten.

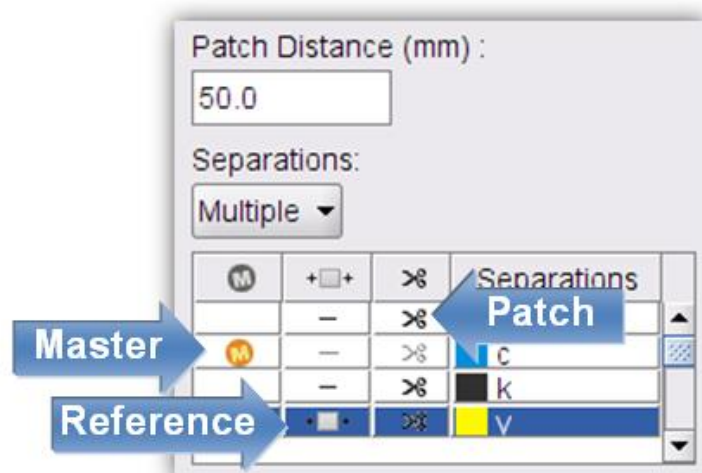
"Close" closes the grouping view without creating files.

All separations are edited in sequence. Select the next separation (5) and repeat the process. Mounting files are always updated when data is created so that all required data is available at the end.

## Multi Patch Mode

All separations are displayed and edited together. The selected base separation "*Master*" is not cut and includes the register marks of all other separations after editing. All other separations are based on this base separation on the mounting device at a later time.

If "*Multiple*" is selected, the table with the separations extends:



"*Master*" selects the base separation from the loaded job. The master must still have sufficient free space to allow the register marks of the other separations to be placed.

"*Reference*" selects a separation which is not to be cut. For mounting, mounting marks are placed to the left and the right of the image.

"*Patch*" displays the separations which will be analysed.

Set the "*Patch Distance*" and open the grouping window by selecting "*Analyse image...*".

The same editing options as in the "Single Patch Mode" are available.

As opposed to "*single patching*", collisions can now also occur on the "*Master*". As the separations are still mounted separately, overlays between different separations no longer occur.

Showing and hiding separations facilitates keeping an overview in the event of complex jobs. The reference separation is labelled "*ref*", the master separation "*Master*".

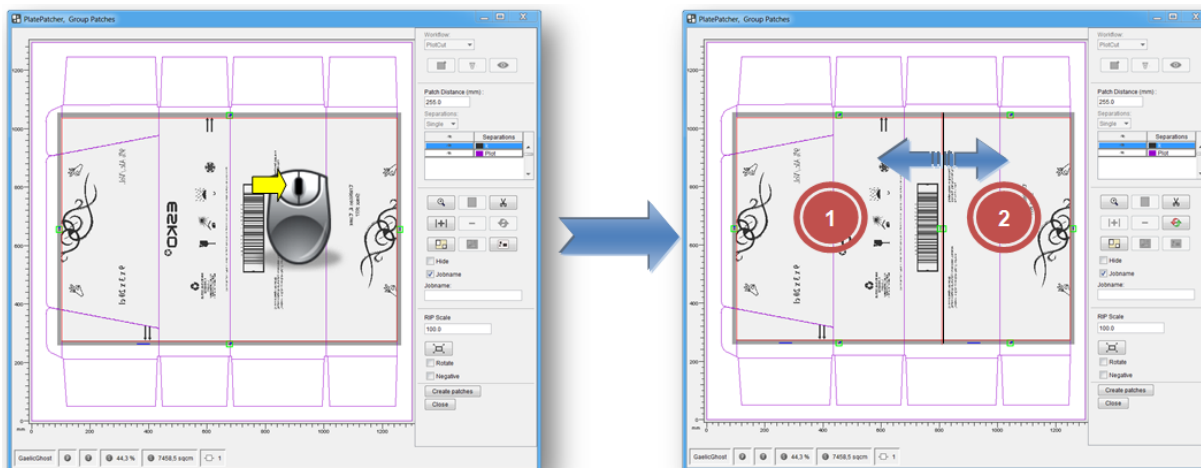


## Cutting Large Plate Pieces



cuts a large plate piece.

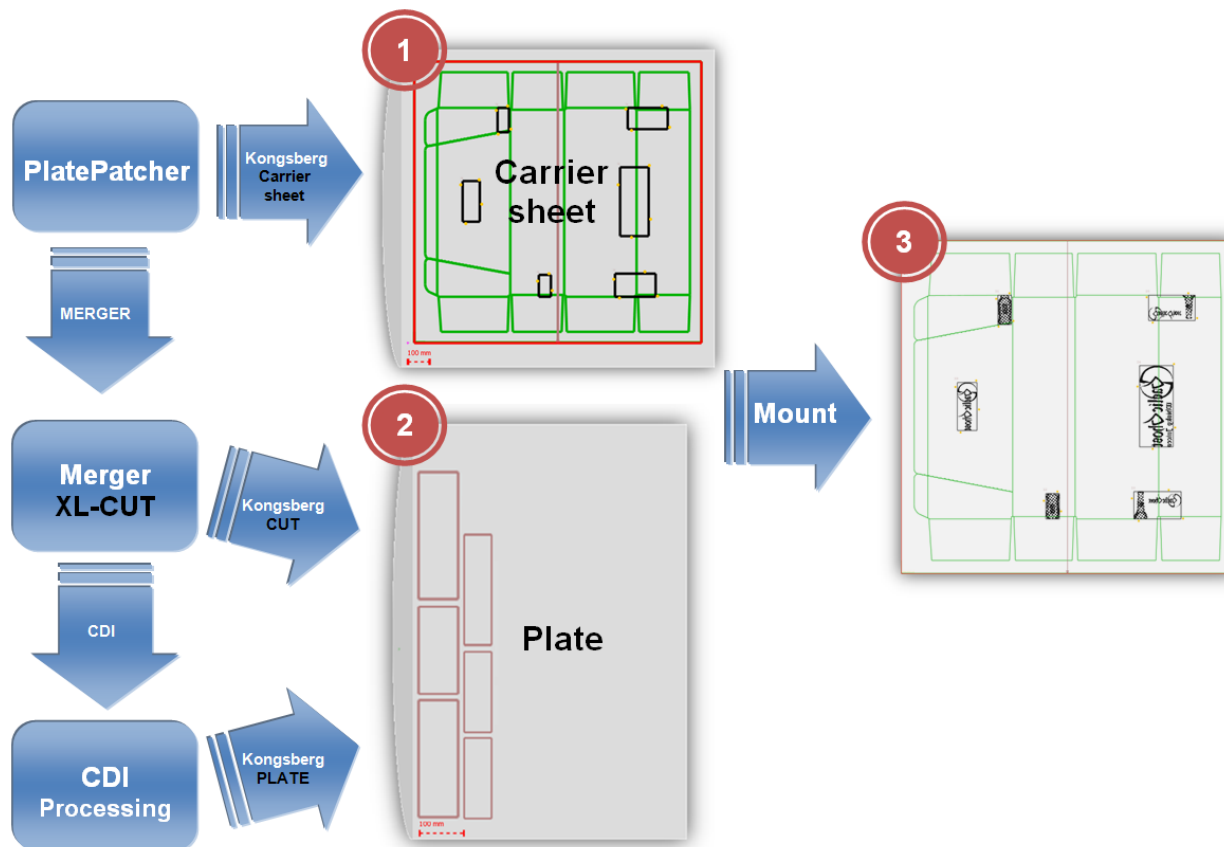
After selecting the plate piece, this icon is activated. Then left-click the desired cut position within this plate piece. Cutting is not possible in the frame areas.



New positioning marks are added to each side apart from the seam. To manually undercut this seam, the two plate pieces overlap. In addition, a mark is added to the top and the bottom of the seam which can be used for manual cutting.

## "Plot & Cut" - "Drill"

For "Plot" or "Drill" mounting, the PlatePatcher creates an ACM file for each separation for the Kongsberg table. These ACM files include data for labelling, drilling and cutting the mounting film.



The carton cut, the mounting marks and the guides are drawn first. Then the mounting film is cut to the required size. For the "Drill" output, holes will be drilled beforehand.

As of version 10.0, the output size of the mounting film for the "Plot & Cut" output is no longer determined by the size of the image data. For the "Drill" output, the LEN file and the film size must still be identical.

The option *"Cut Mylar"* must be selected in the settings. This prevents the elements to be placed outside the mounting film.

In addition, the plate distortion for the gripper distance (2) and for the mounting film height (1) are counted back to 100%. The calculated plate distortion should be checked in the grouping window of the PlatePatcher.

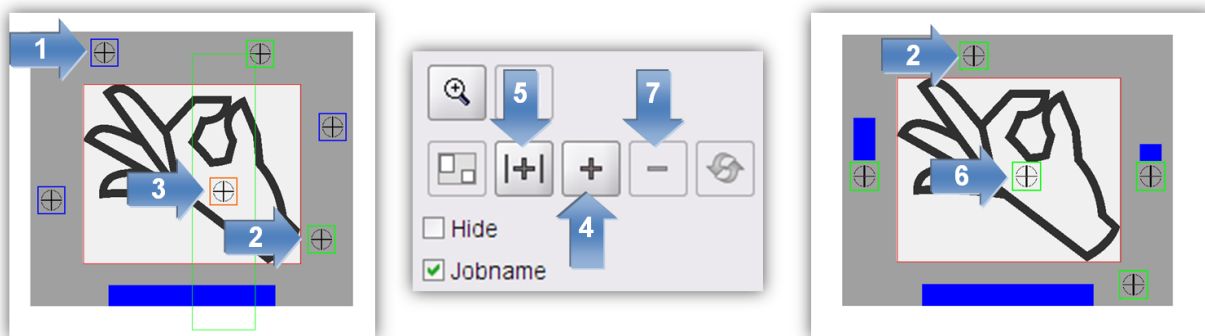
The centerline refers to the centre of the loaded image, except if the option *"Use Cut"* is active. In this case, the centerline refers to the cut.

Green drill holes (2 & 3) can be moved in all directions in the green frame by pressing and holding down the left mouse button and deleted by selecting *"Remove"*. Additional mounting marks in the frame can only be moved to a certain extent.

The frame is automatically filled with drill holes or mounting marks (2). The parameter "Vertical Distance" determines the distance.

Drill holes can be added subsequently at any position (3). For this purpose, select icon 4 and left-click on the position of the new drill hole.

Additional mounting marks can only be added between the two marks in the centre of a patch (6). To this end, mark the patch and click on icon 5. Marked holes can be removed by clicking icon 7.



In order to mount the plate pieces, additional drilling information is added to the LEN files so that the Merger can transmit the drill holes to the Kongsberg when sending the plate job. The option XL CUT must be activated. Each plate piece will have its own drilling pattern in order to avoid confusion during the mounting of the plates. Depending on the size, three or four holes will be drilled. These hole positions cannot be moved in the PlatePatcher.

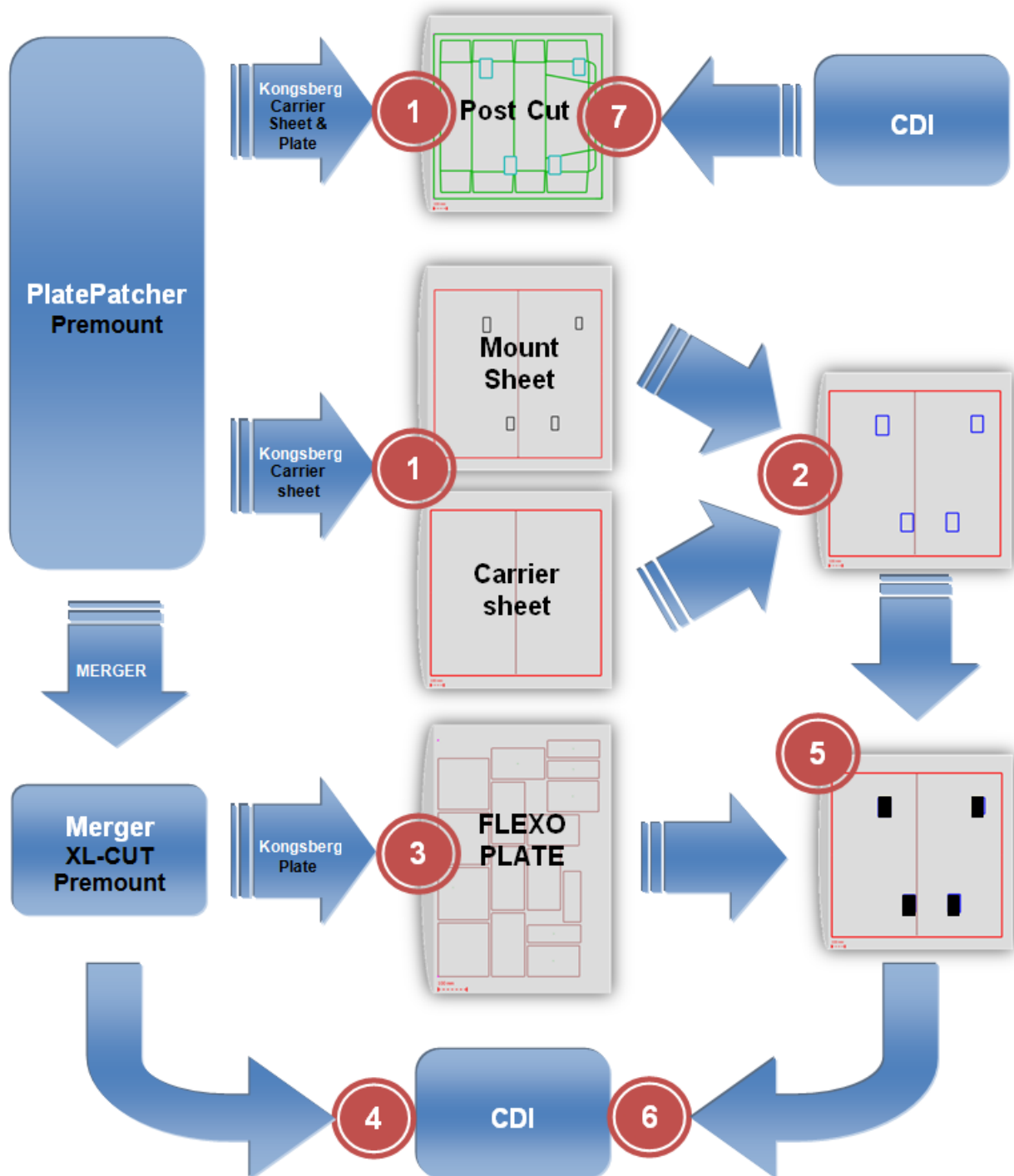
Blue drill holes are automatically added (1). These holes cannot be changed in order to avoid confusion during the mounting.

The number of possible positions of the holes is defined by the hole size and the frame around the plate pieces. If too many small plate pieces were created, it is possible that there are not enough positions for all of them. A message window is displayed. In this case, either the frame or the plate pieces must be enlarged by grouping.

Setting-up the drill hole size must be carried out by a service technician at the location. The "Flexo Drill Toolkit" is required for the Kongsberg table.

## "PreMount": Mounting with the CDI

For "PreMount" mounting, the PlatePatcher creates plate pieces which are cut out of the unexposed plate. These will be positioned on the mounting film which will then be mounted in the CDI. The mounting accuracy is very high.



- 1 Processing the image data in the PlatePatcher and output of the corresponding LEN files to the "Merger" or a folder. For each separation, an ACM file containing the cutting and mounting information will be output.

If the carton cut is to be drawn subsequently, the plate pieces are to be edited using the 45° knife or the mounting film is to be cut to the desired size, an ACM file with the "\_POST" extension will be created for each separation in addition. This file is used to edit the finished mounting film again just before delivery.

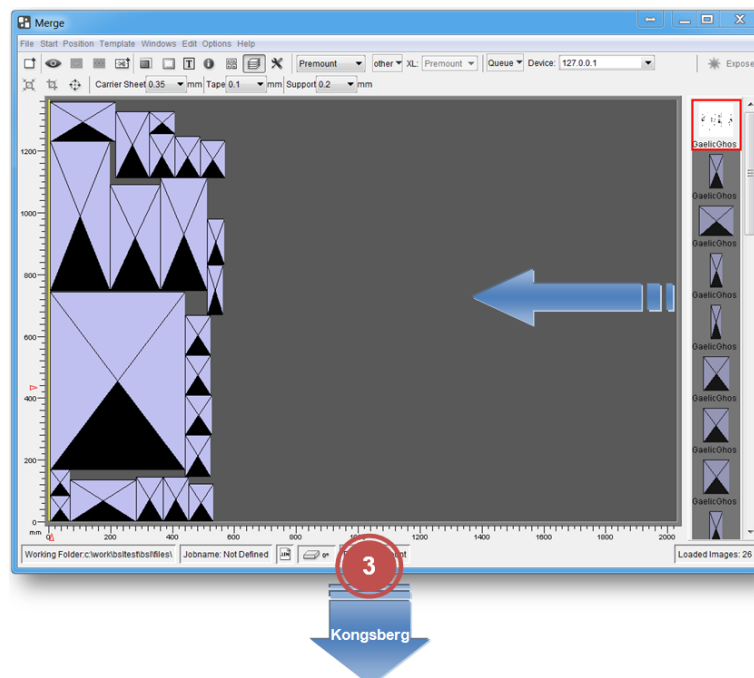
If "Do Post Cut" is deactivated, a mask with the extension "\_Mask" is created and used to cover the edges for the UV exposure after imaging. This prevents the formation of an elevated edge.

- 2 Drawing information for mounting and cutting the films. The film placed on the Kongsberg table should always be a little larger than the desired size.

The 2-point registration is also used in this case so that the width of the mounting film is displayed right at the beginning.

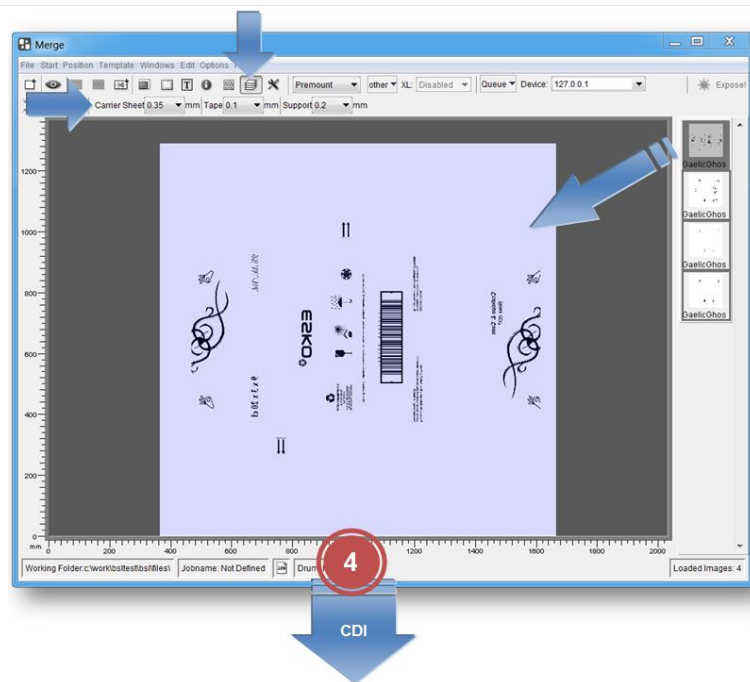
Due to patent restrictions, the positions of the plate pieces must not be drawn on the mounting film. These positions are drawn on another film and then placed under the mounting film to mount the plate pieces. The individual channels are selected on the Kongsberg table.

- 3 Sending the plate pieces for cutting the unexposed plates on the Kongsberg table. Nothing is sent to the CDI. For this purpose, the PreMount drum must be selected which has been set up by an ESKO technician.



The plate pieces are labelled at the top for subsequent mounting.

- 4 Sending the "Master" file to the CDI. The file is automatically centred and positioned with the desired gripper distance. For this purpose, the PreMount drum must be selected.



In addition, the thickness of the adhesive tape, the mounting film (Mylar) and the support must be entered.

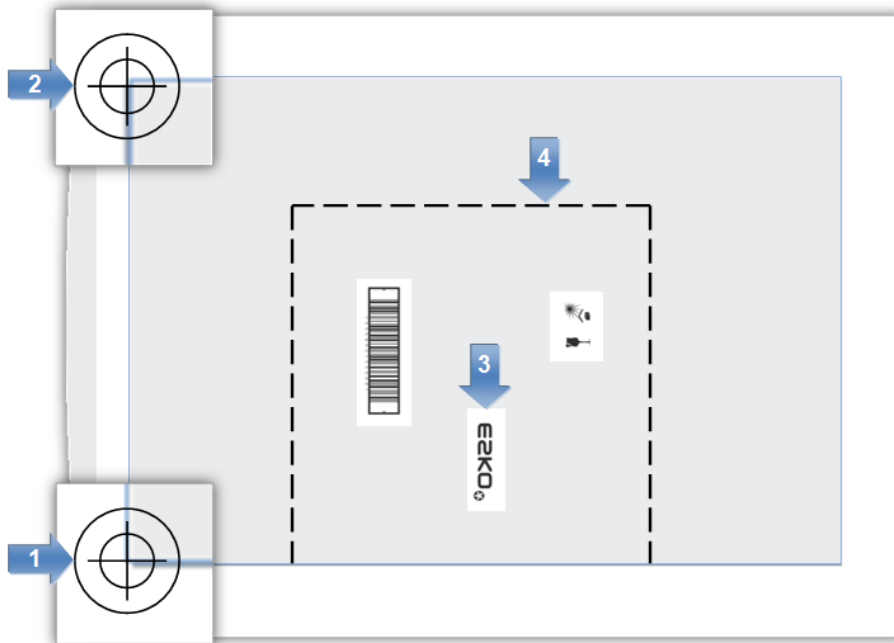
Since the thickness change is known now, the plate type in use can be used as for normal jobs.

- 5 Positioning the unexposed plate pieces on the mounting film.
- 6 Mounting the mounting film on the CDI. The start position is preset.
- 7 The finished mounting film can be cut to the desired size shortly before delivery.

The "\_POST" file is loaded and the two corners of the mounting film (1 + 2) are registered using the camera. This accuracy is very important in case the mounting film is cut to the correct size afterwards (4).

If the plate pieces are not masked during the main exposure, the exposed edges can be removed in this last step using the 45° knife (3).

In addition, the carton cut can be drawn. In this case, the carton cut is not drawn onto the mounted plate pieces.



## Recommended Working Mode

The mounting effort on the CDI is minimised if the mounting film is always cut to the entire drum size (50 x 80: 2,030 mm x 1,270 mm).

In order to save mounting film and minimise the washer time, the entire circumference can be used optionally. This is obtained by setting the width of the mounting film to "0".

If it is not required to trim the finished mounting film, the unexposed plates should be cut using the 45° knife and the edges should be masked before the exposure using adhesive tape. For this purpose, a "*Film Gap*" must be entered in the PlatePatcher corresponding to the thickest plate. Otherwise, the data of the unexposed plates cannot be used in the Merger using the 45° knife.

The speed of the 45° knife should be set to "5" when cutting the unexposed plates. In addition, a good vacuum is required. When small plate pieces are concerned, at least one side should be taped.

If it is not required to mask the edges, the unexposed plates should be cut using the straight knife so that the exposed edge can be removed afterwards using the 45° knife.

In general, it is recommended to leave a margin around each plate piece of at least 15 mm. The thinner this margin, the more accurate the plate pieces must be positioned on the mounting film.

## Macroflex

All coordinates of the Macroflex output refer to the loaded image. When a cutting file is available, the "*Use Cut*" option can be activated. When activated, all coordinates refer to the baseline and to the position of the cut.

## AV-Optimount

To be able to place registry crosses underneath or above the image, a lower or upper edge is required respectively. This edge is set up with "Mount Offset" as described in the mounting settings.

This creates an offset in circumferential direction which has to be subtracted from the desired gripper distance (black area) for the mounting:

### Example:

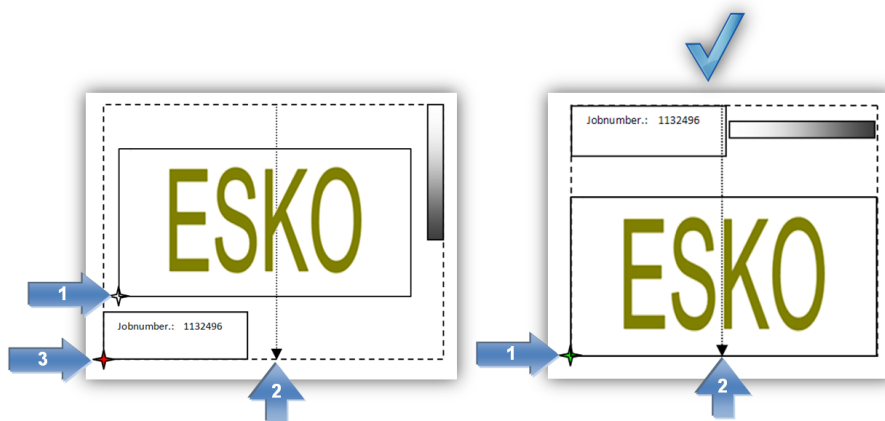
"Mount Offset": 20mm

Desired black area: 100 mm

Required offset: **80 mm** (100 mm – 20 mm)

## Zero Point for AV Optimount, Macroflex and Heaford

The PlatePatcher places the zero point in the bottom left corner of the ripped LEN or TIF file or the cut. If, in addition, job information and screen wedges are set in the customer's job, an offset to the desired zero point is created in the X and Y directions. In most cases, this offset is varies, which may lead to incorrect mounting.



The required zero point (1) is moved in the wrong design (3). In addition, the screen wedge outside the image width displaces the mounting centre (2). This can be avoided by extending the image symmetrically to both sides.

## Loading TIF Files

TIF files are normally read from left to right. Because of the technical requirements of imaging, Digital Flexo Suite read TIF files in from the bottom to the top. This rotates the display accordingly:





The alignment of the images in PlatePatcher has to match the alignment in mounting. The image has to be rotated  $90^\circ$  in the design for exporting.

## Writing TIF Files

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TIF files can be exported directly from PlatePatcher using the TIF export function. The TIF data is exported with the alignment as described in the previous chapter which results in a rotated display in other programmes.

The software of some of the CTP exposure units available on the market displays the TIF data with the same alignment as in the design, even though the data must be read from the bottom to the top for exposure.

This is caused by the different alignment between drum and image. The Merger assumes that the height corresponds to the circumference of the drum and the width corresponds to the width of the drum. The drum may be shown rotated by  $90^\circ$  in the displays of other CTP exposure units.

## Using PlatePatcher LEN and LENX files in Device Manager

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The output files from the PlatePatcher can be set in Device Manager so that they are sent to the CDIs automatically.

The LEN or LENX files must be output to a folder on the Device Manager via the "Export" function in the "PlatePatcher Workflow Editor".

As the PlatePatcher does not have any information about the plate material being used, a dedicated PlatePatcher workflow with different output folders must be created for each plate type.

## Output Directories

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In order to output mounting and preview files, the PlatePatcher needs pre-defined directories.

The mounting settings can be called up under "*Options – Preferences – Folder*" in the "Merger".

The PlatePatcher options provide more settings.

## Job information

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For every job, an HTML file with the original file name is saved in the "*Patcher Redo*" directory. All important information concerning the job is stored in that directory. The output directory "d:\files\output\PatcherRedo" is preset.

## Loading Images via "*Drag & Drop*"

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Image files (LEN and TIF) can directly be dragged into the "PlatePatcher" from the Windows Explorer or from the "Len Explorer". First, the data is copied into the working directory, then it is loaded.

## Connection to the "Device Manager"

The "Device Manager" is part of the "Automation Engine 16". As soon as the Merger is connected to the "Device Manager", the "Merge Queues" are displayed and LEN files can be loaded and jobs can be sent to the CDI via the "Device Manager".

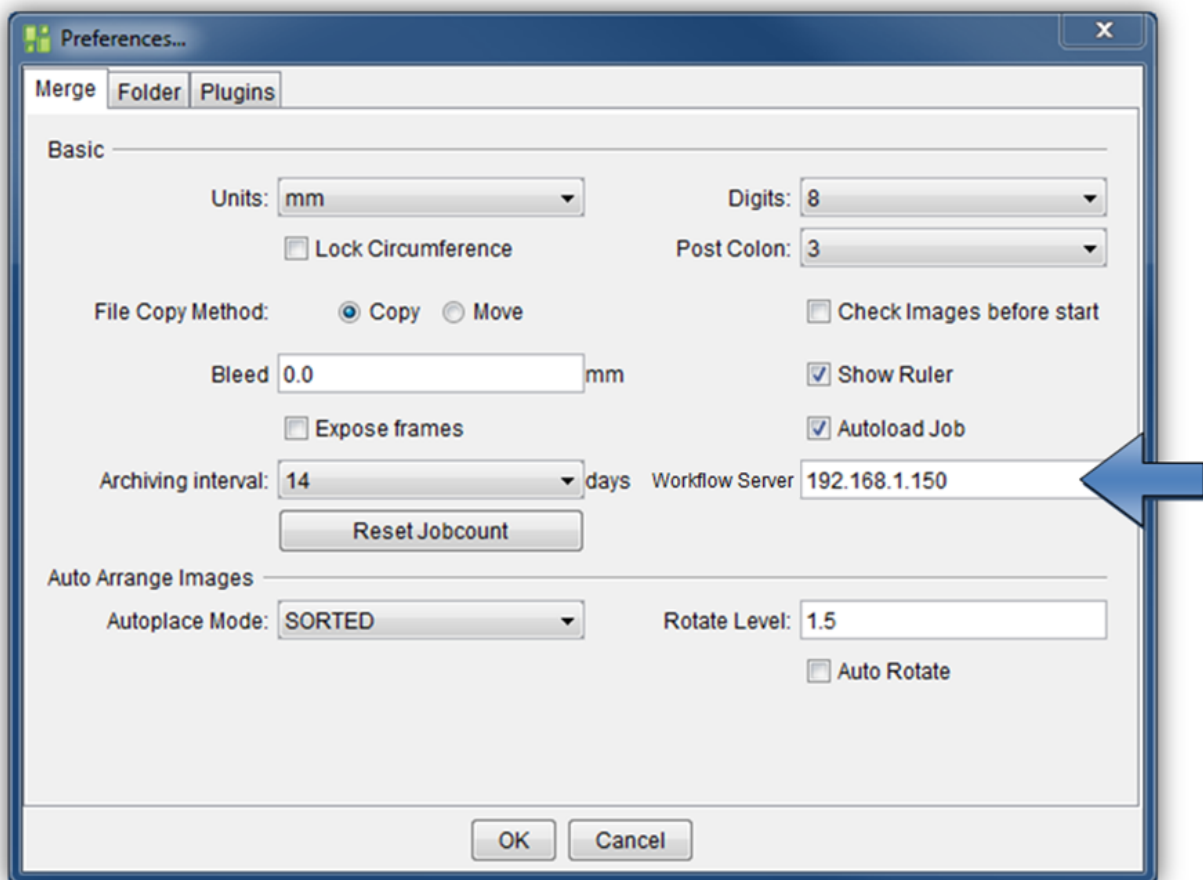
The CDIs are connected in the Device Manager and the corresponding plate lists and functions are read.

LED files are stored in the "Merge Queues". Each queue must be assigned to a plate entry.

A queue can contain various "Image Groups". One Image Group comprises images, which can be used together. This depends on the resolution of the exposure technology, such as Pixel+ or Full HD Flexo.

## Setting up the "Device Manager" Connection

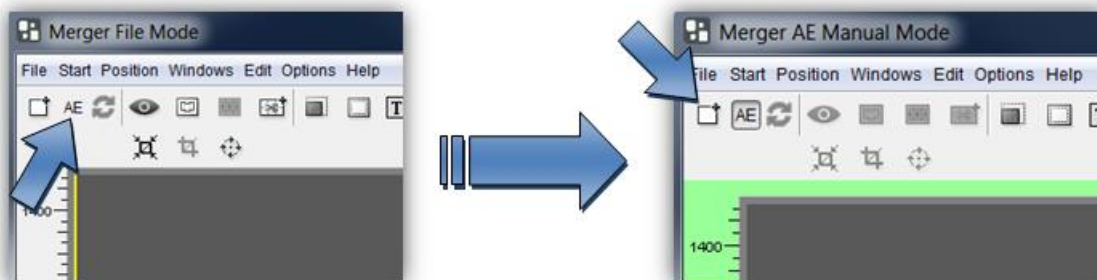
The computer name or the IP address of the "Device Manager" is entered in the "Merger" options "**Options – Preferences**" in the "**Workflow-Server**" field.



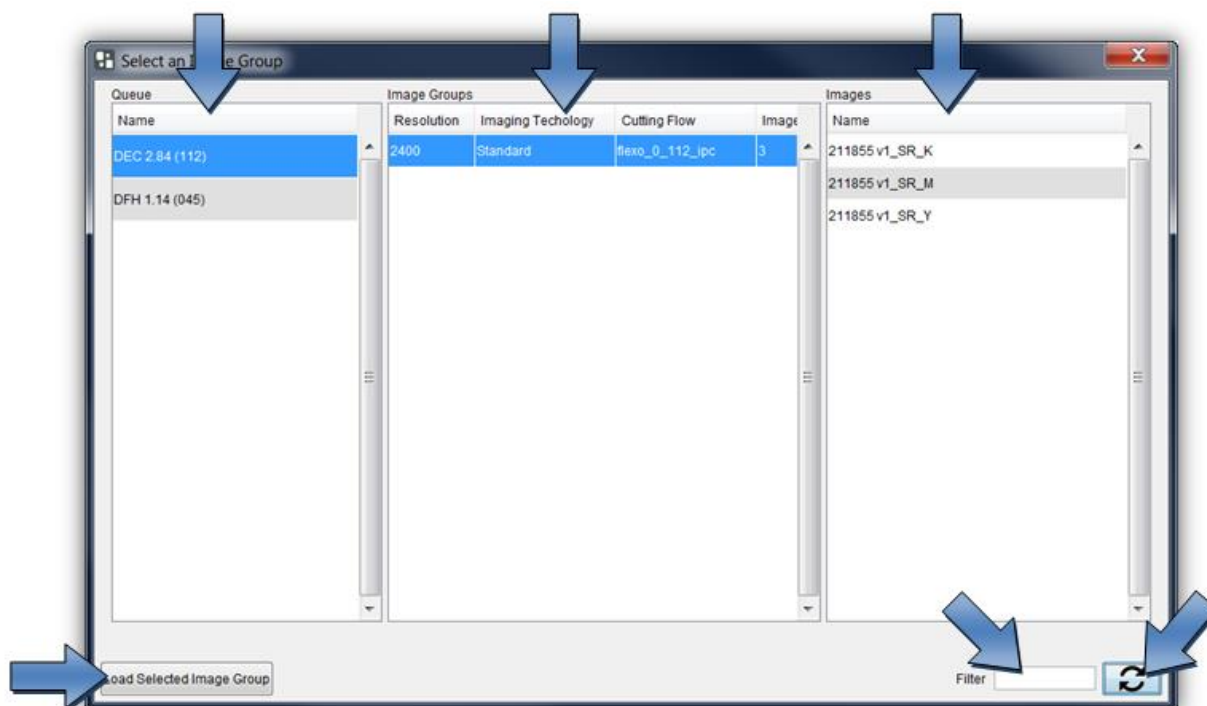
The Merger must be restarted for the Workflow-Server to connect.

## Loading the LEN Data from the "Device Manager"

As soon as the Merger has connected to the "Device Manager", the window colour of the Merger will change and the window name will change from "Merger File Mode" to "Merger AE Manual Mode".



Pressing the button for the load dialogue displays the predefined Device Manager queues ("Merge Queues").

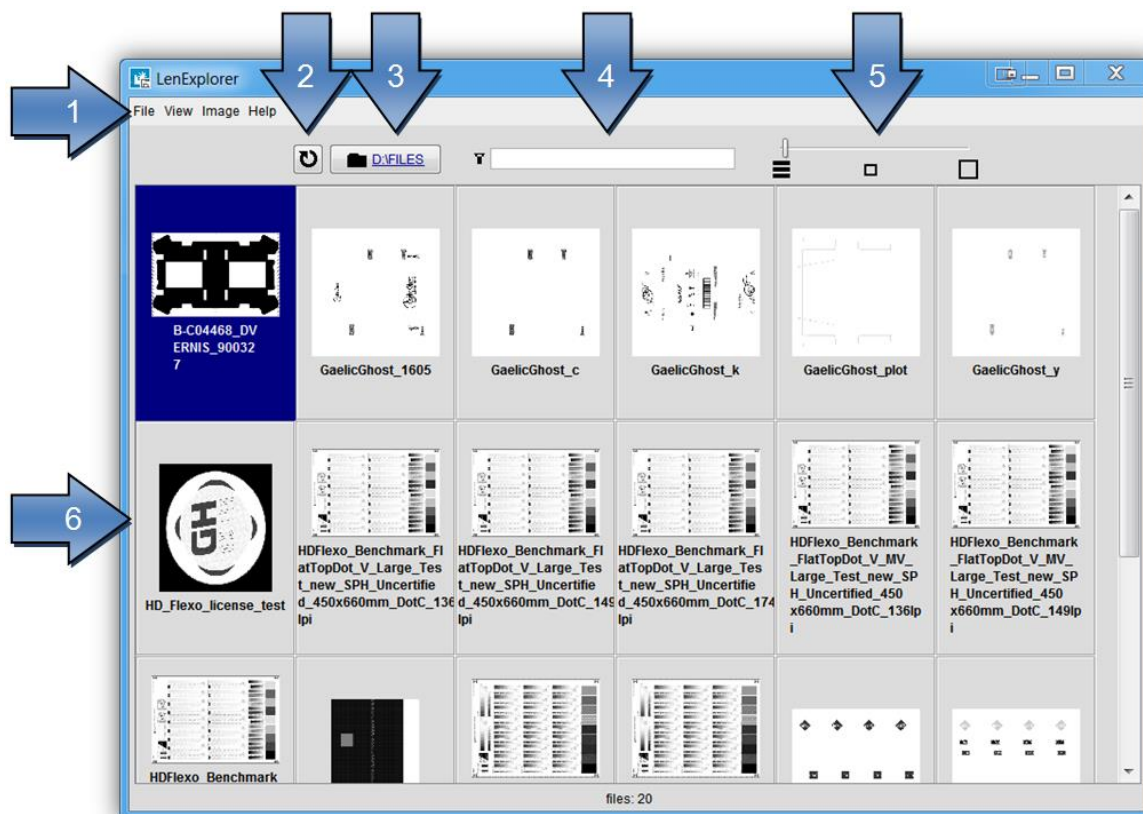


"Load Selected Image Group" loads the selected Image Group. The LEN data contained per Image Group are displayed under "Images".

The complete list can be filtered according to certain image names at the bottom right.

## DFS Explorer

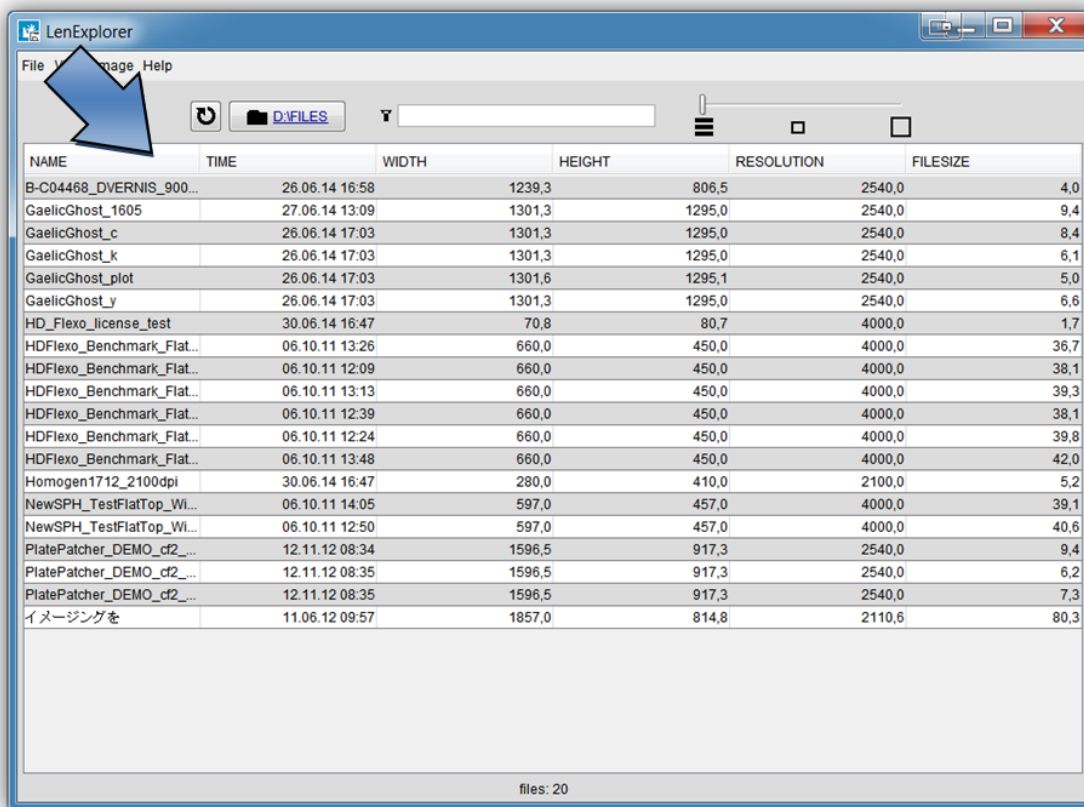
The "Len Explorer" is an add-on product used to display LEN, TIFF and ACM files. In addition, LEN and TIF files can be directly drawn from the "DFS Explorer" into the Merger or the PlatePatcher via drag & drop.



- 1 menus for additional functions
- 2 file reread
- 3 display and selection of the folder
- 4 display filter
- 5 Changing the View
- 6 file preview

## Changing the View

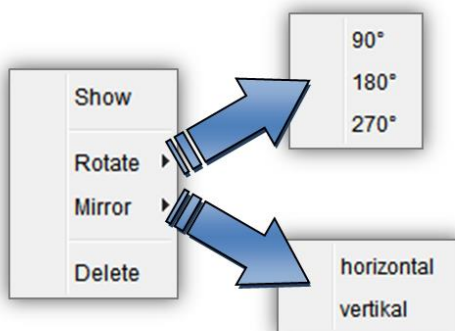
The slider can be used to change the view from detail (far left) to large preview (far right).



In the detailed view, a left mouse click on the respective field sorts the table by name, date, width, height, resolution or file size.

## Rotating, Mirroring and Deleting Files

In the DFS Explorer, several files can be selected and rotated, mirrored or deleted with a right mouse click.



## Displaying Data

Double-clicking the file opens the Bitmap viewer for LEN or TIFF files and the DFS-Viewer for ACM files.

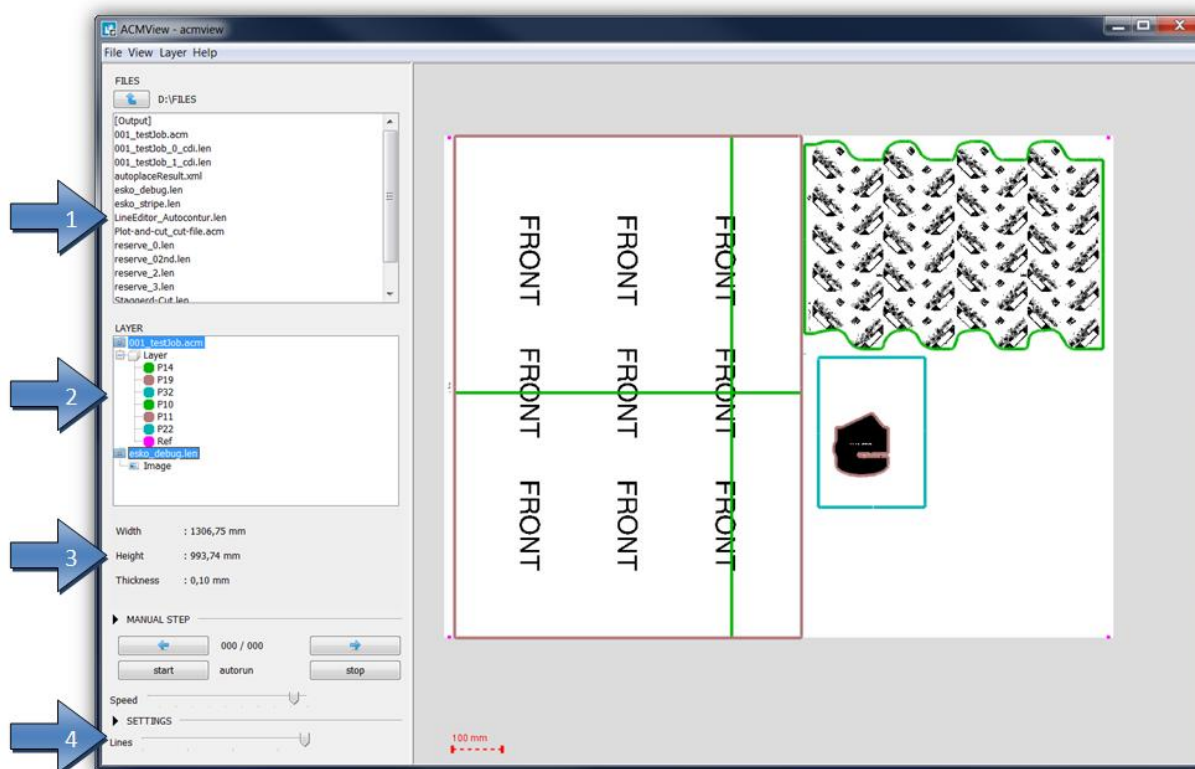
## DFS-Viewer

This program is used to display and control the output files which were created by using the Digital Flexo Suite. In addition, LEN files are displayed with the cuts (Staggered Cut, Line Editor, etc.) that they contain.

After the Digital Flexo Suite installation, all output files are automatically linked to the "DFS-Viewer".

## Simulation in DFS Merger

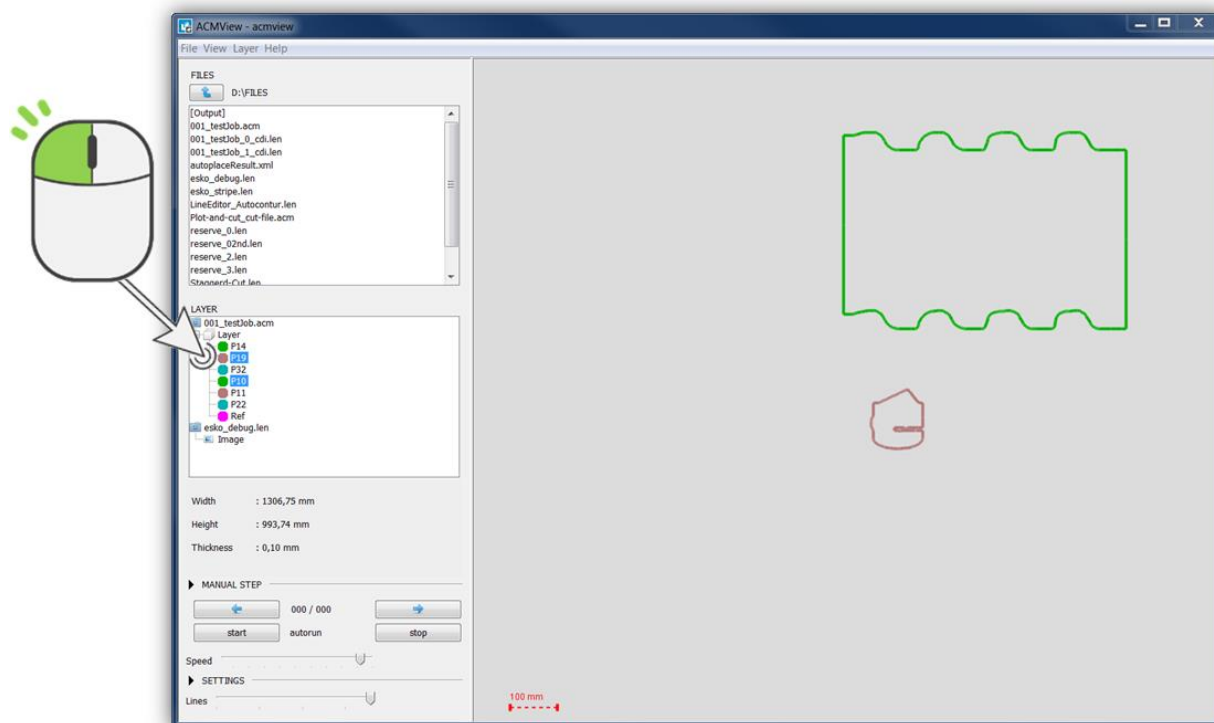
Simulation of the cutting job is started in the "Merger" with Ctrl+R. All output files are generated and superimposed on top of one another in the DFS-Viewer:



- 1 Content of the active directory
- 2 Loaded files with the cut contours they contain
- 3 Information on the loaded files
- 4 Adjustable line thicknesses

## Displaying Individual Cutting Channels

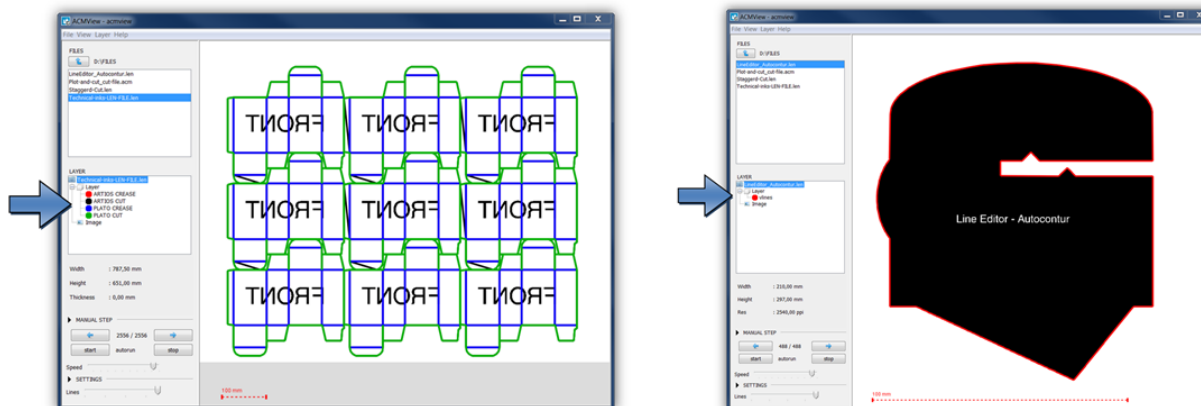
An individual cutting channel can be selected for display in the "LAYER" section. Additionally holding down the Ctrl button on the keyboard allows multiple channels to be selected:



The LEN file is displayed with the selection "Image".

## Displaying LEN Files

When the DFS-Viewer is opened, the LEN files can also be displayed. Cutting information is stored in some LEN files, which is displayed under "LAYER":

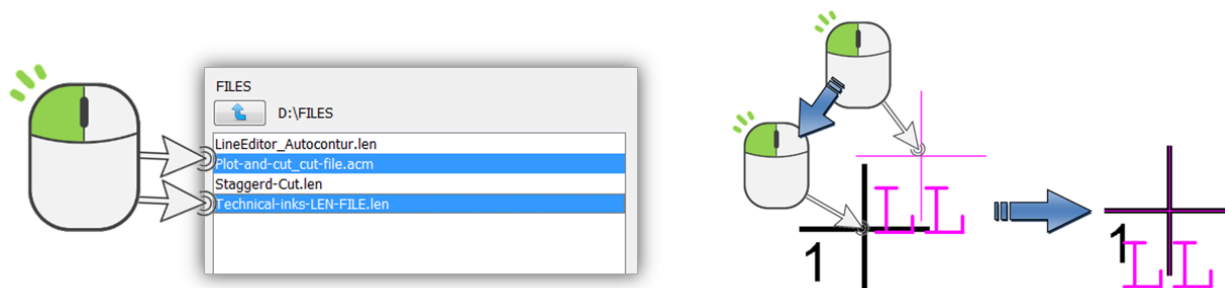




## Overlaying Multiple Files

By holding down the "Ctrl" button on the keyboard, multiple files can be displayed at the same time in the active directory.

LEN files from the Merger which were created with a cutting file contain a minimum of two register marks. In order to verify the correct cut, the correct register must first be checked.

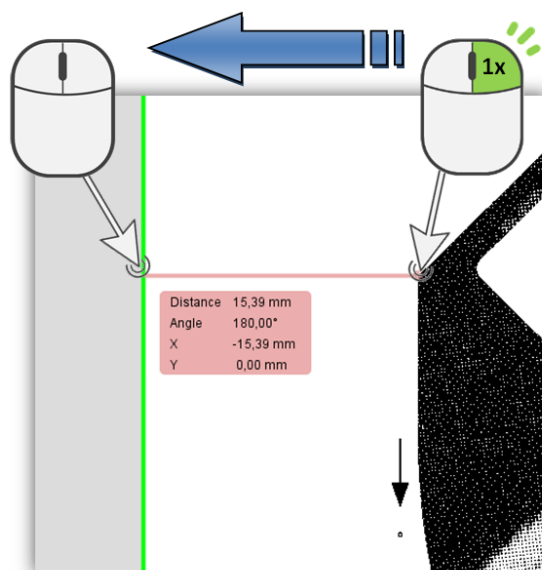


By holding the "Ctrl" button on the keyboard, you can move the contour of the ACM with the left mouse button until both register marks are above each other. Only the cutting file is moved.

## Enlarging, Moving and Measuring

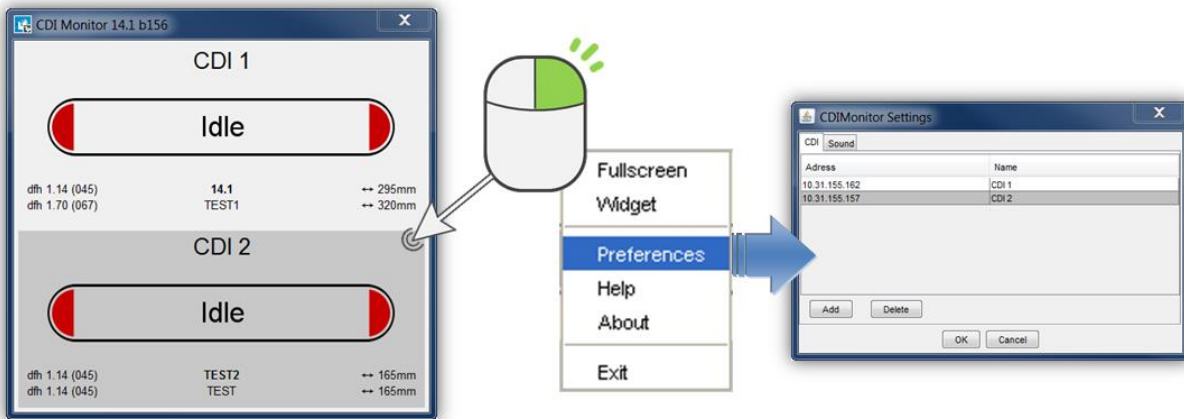
The display can be enlarged and reduced with the mouse wheel. Holding down the left-hand mouse button moves the content.

The measuring function is activated by pressing the right-hand mouse button at the point to be measured. The distance and angle to the current mouse position are now displayed permanently.



## CDI Monitor

The CDI monitor displays the current job, the status and the remaining time for the current imaging processes of the CDIs in the network: In addition, the next jobs are also displayed with the width:



The CDI status is displayed with the following colours:

- grey: CDI or service is not activated
- red: CDI is activated and is waiting for jobs
- green: CDI is exposing a plate – the remaining time is displayed.

The CDI list of the Digital Flexo Suite is used automatically. Right-click on the CDI monitor to change CDI list under "Preferences".

"Fullscreen" displays the monitor as full screen. "Widget" removes borders and the monitor will always be displayed in the foreground.

## Support

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Contact information can be found on [www.esko.com](http://www.esko.com).