

DFS TOOLS 12.0



USER MANUAL

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ESKO*

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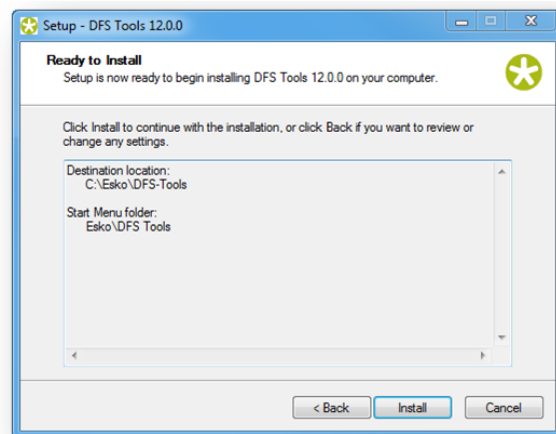
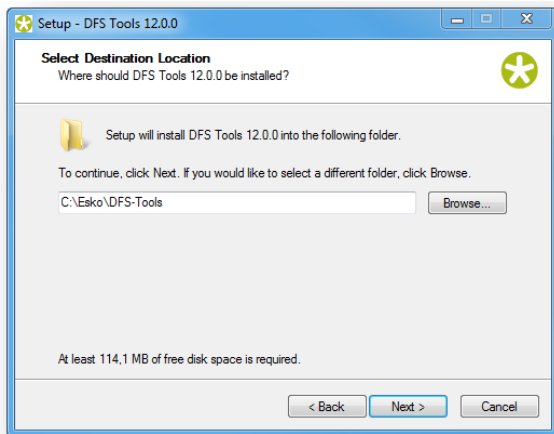
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1 Installation

The installation must be carried out as administrator on the local computer (not domain). User rights are usually restricted when logged on to a domain.

After inserting the CD, the start screen is automatically displayed. If the start screen is not displayed, then start the "**setup.exe**" file in the root directory of the CD.

The installation starts with a selection of the installation directory and the dialog language.



2 Introduction

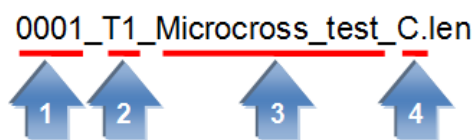
The "DFS Tools" contain the five modules **"Staggered Cut"**, **"Line Editor"**, **"Microcross"**, **"Centerline"** and **"Digital Video Drill"** which add additional information to the image files for cutting, drilling or drawing on the Kongsberg table. This information can be saved directly in the image data using the respective module or it is applied automatically in the "Merger" using a template function.

The "Merger" of the DFS requires an according license. The **"Line Editor"** is included in the **"Staggered Cut"** license.

2.1 Automatically Using Templates in the "Merger"

The "Merger" applies the module templates **"Centerline"** and **"Microcross"** automatically when loading, if the respective license is available.

In order to assign the loaded image to a template, the following name policy must be applied:

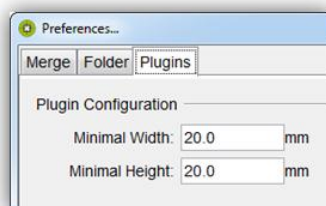


1. consecutive job number or customer number
2. template name
3. job name
4. colour name

The dimensions of the image must comply with those of the template, and the name segments must be divided by an underscore.

2.2 Minimum Image Size in the "Merger"

Images with **"Centerline"** and **"Microcross"** information are cut automatically. The image size can be limited under "Edit – Preferences", tab "Plugins" to a minimum value:

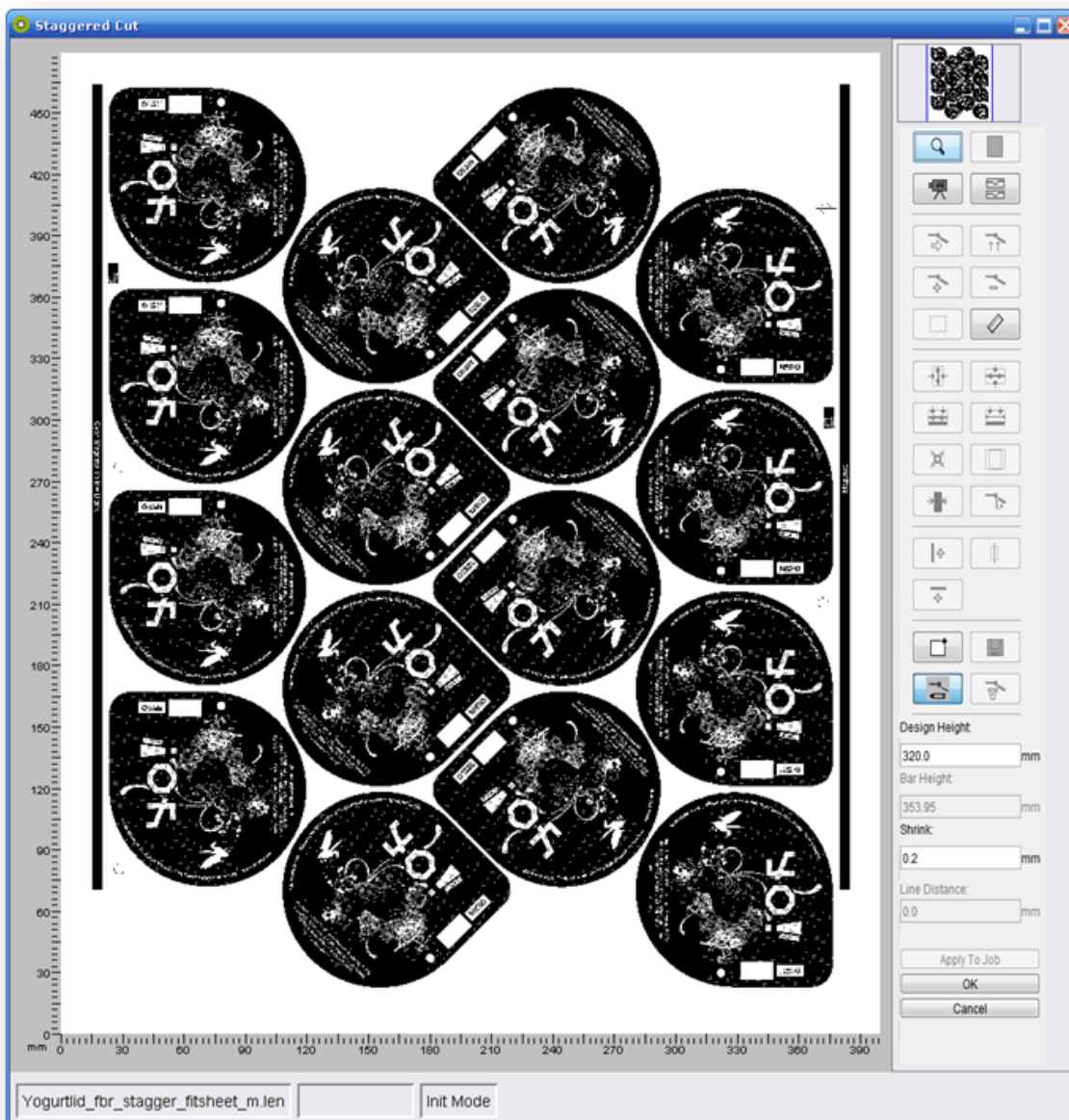


3 "Staggered Cut"

The **"Staggered Cut"** module used to edit image files can be found in the Windows Start Menu under "ESKO – DFS Tools" or "ESKO – Digital Flexo Suite – DFS Tools".

Cutting lines created by Plato cannot be edited with the "Staggered Cut" module.

LEN or TIF files are loaded using "File – Load Image". TIF files are converted automatically to LEN files so that additional information can be saved.



3.1 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. Using the arrow keys on the keyboard, 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.



opens the **"Digital Video Drill"** module.



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 bars 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 a 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".

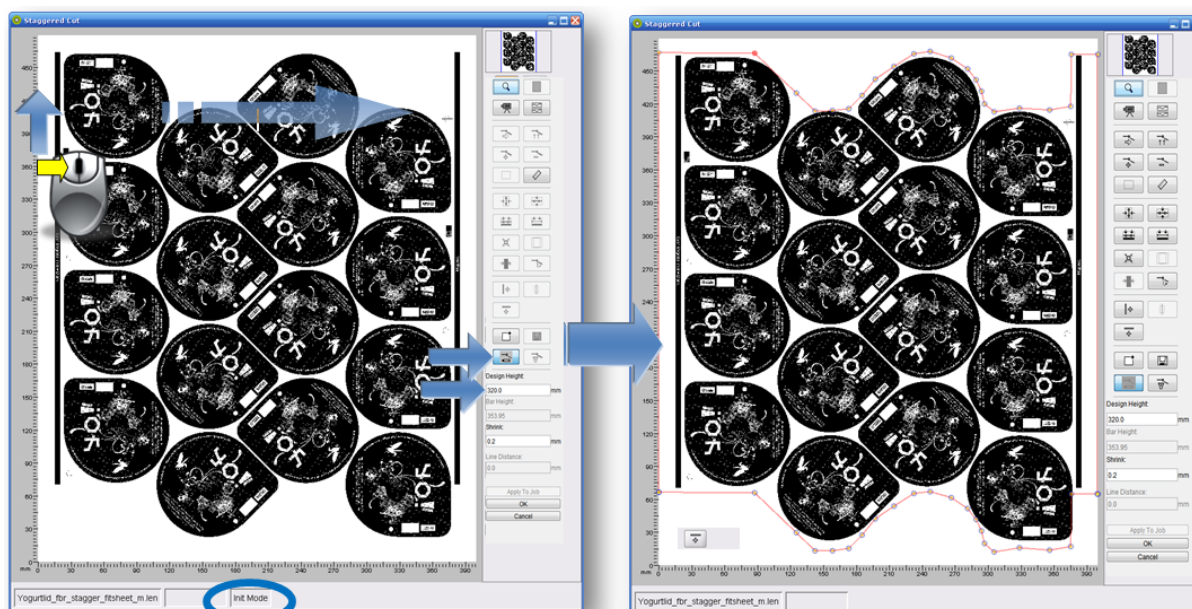
"**OK**" applies the cut contour.

"**Cancel**" cancels the editing process.

3.2 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.



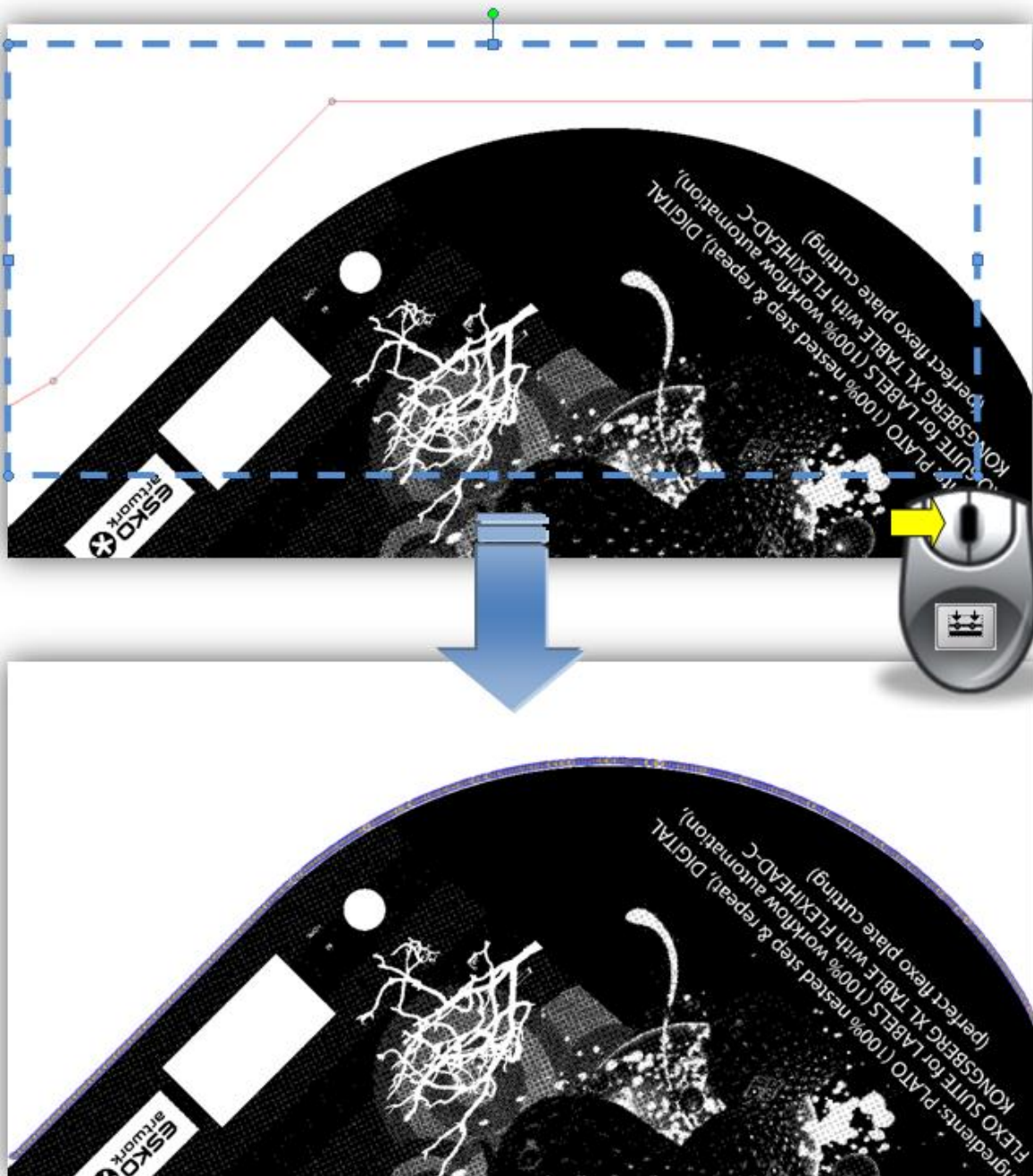
The contour can only be further edited when the line was created for the entire width.

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

3.3 Adapting Points to the Object Contour



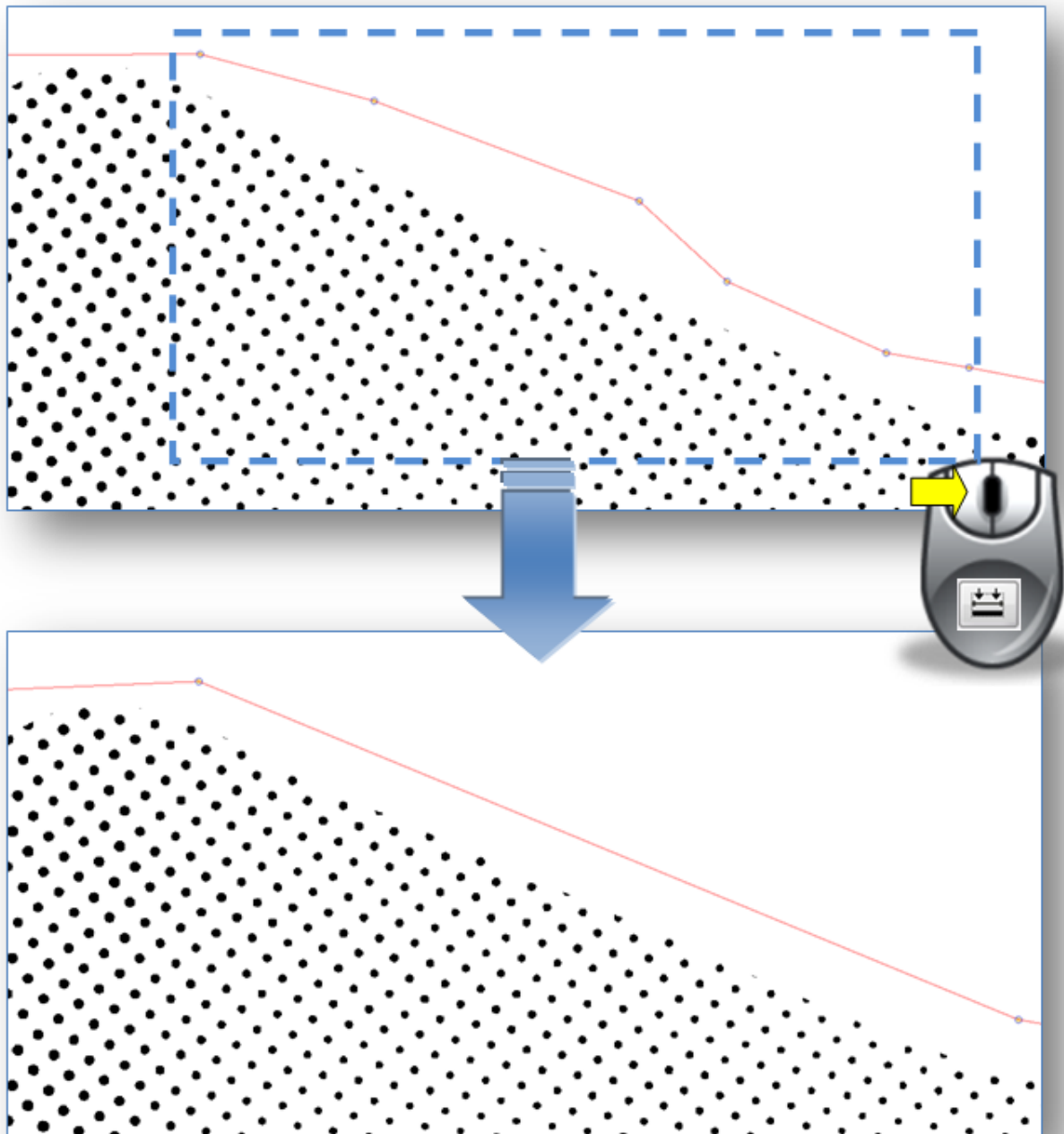
adapts the points to the upper object contour. To this end, a frame is drawn around the desired area by pressing and holding the left mouse button down. The distance to the object contour can be set using "*Line Distance*". If negative values are entered, the cutting line will be drawn in the design.



3.4 Creating a Line at the Object Contour



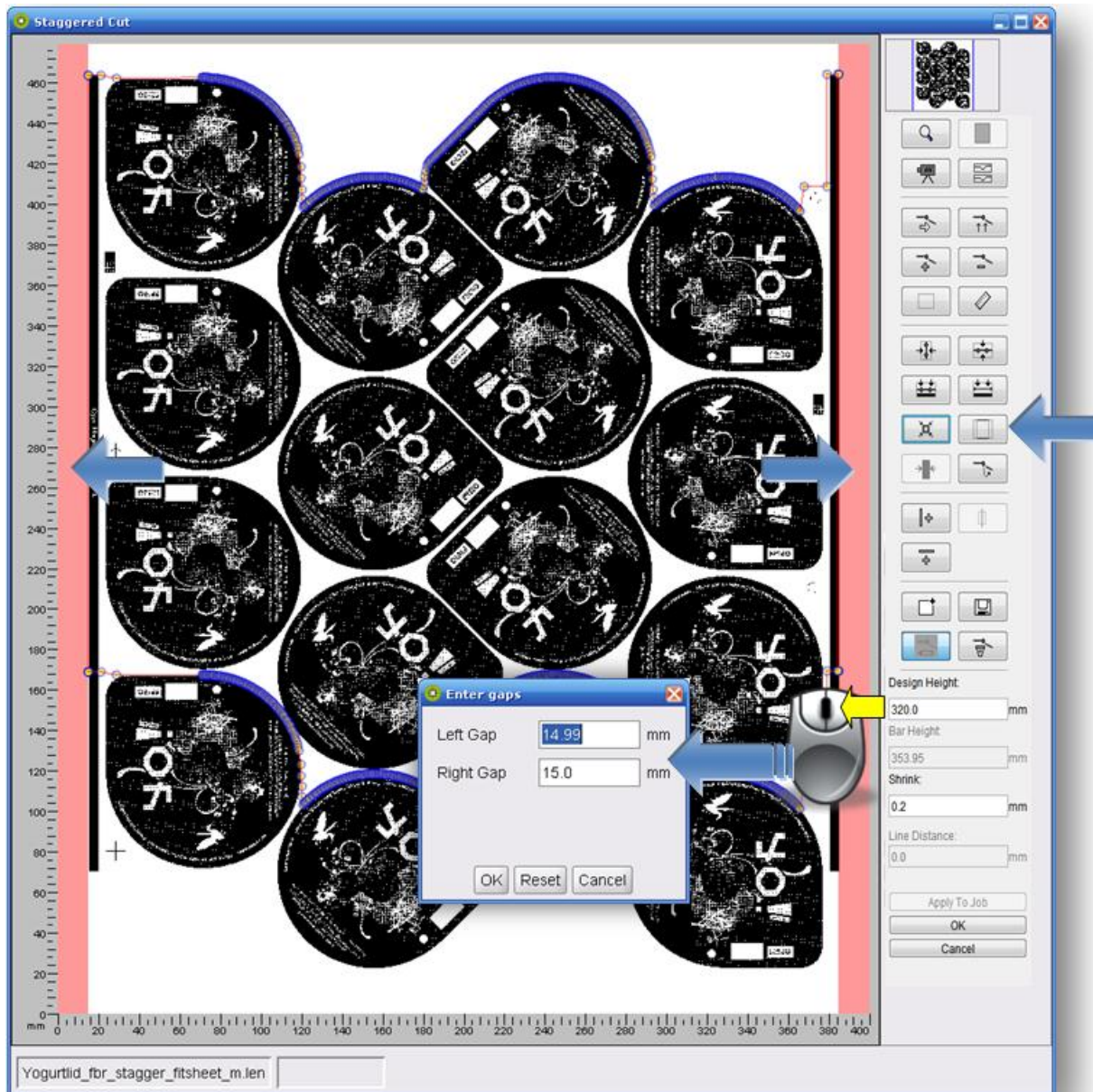
creates a line at the upper object contour. To this end, a frame is drawn around the desired area by pressing and holding the left mouse button down. The distance to the object contour can be set using "*Line Distance*". If negative values are entered, the cutting line will be drawn in the design.



3.5 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.

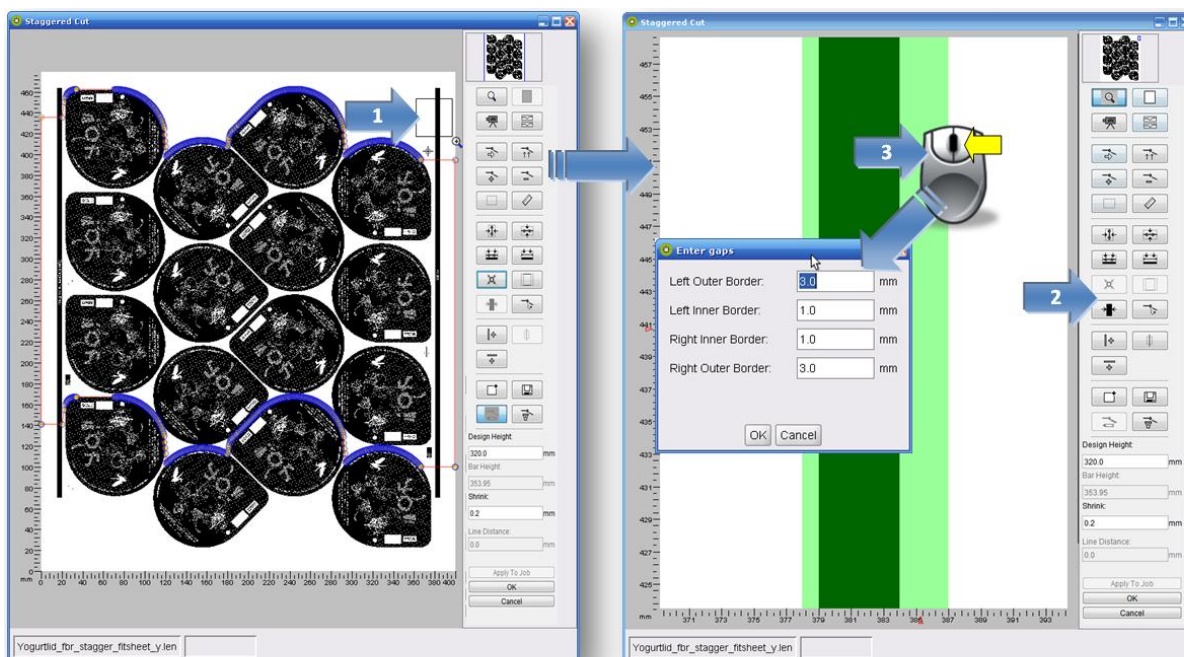
"Reset" removes the frame.

"Cancel" cancels this change.

3.6 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.



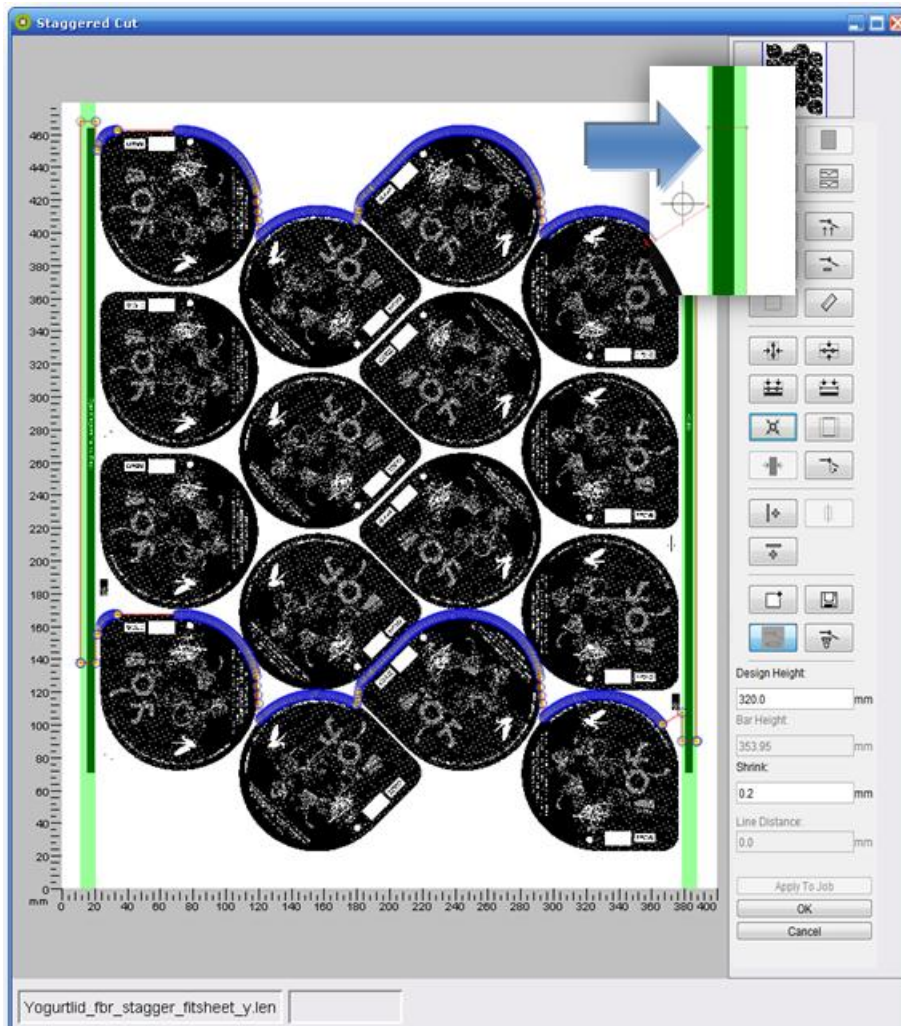
- 1 Enlarge the bear bars until no other elements are visible.
- 2 By left-clicking on the icon for automatic detection, the image section is analysed and the detected area is displayed in green.
- 3 By right-clicking on the green area, a new window is opened in which the width of the bear bar can be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



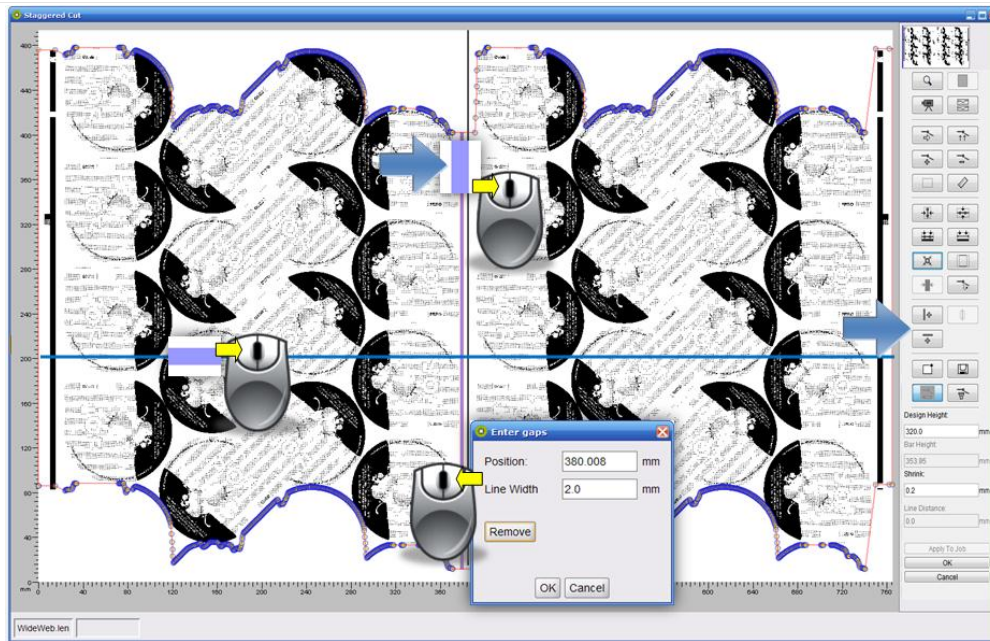
3.7 Creating Vertical and Horizontal Lines



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

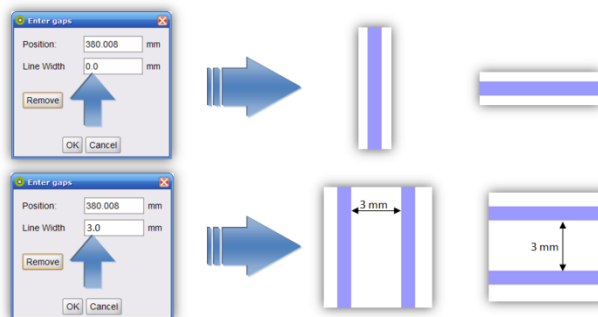


creates a horizontal line at the mouse position.



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

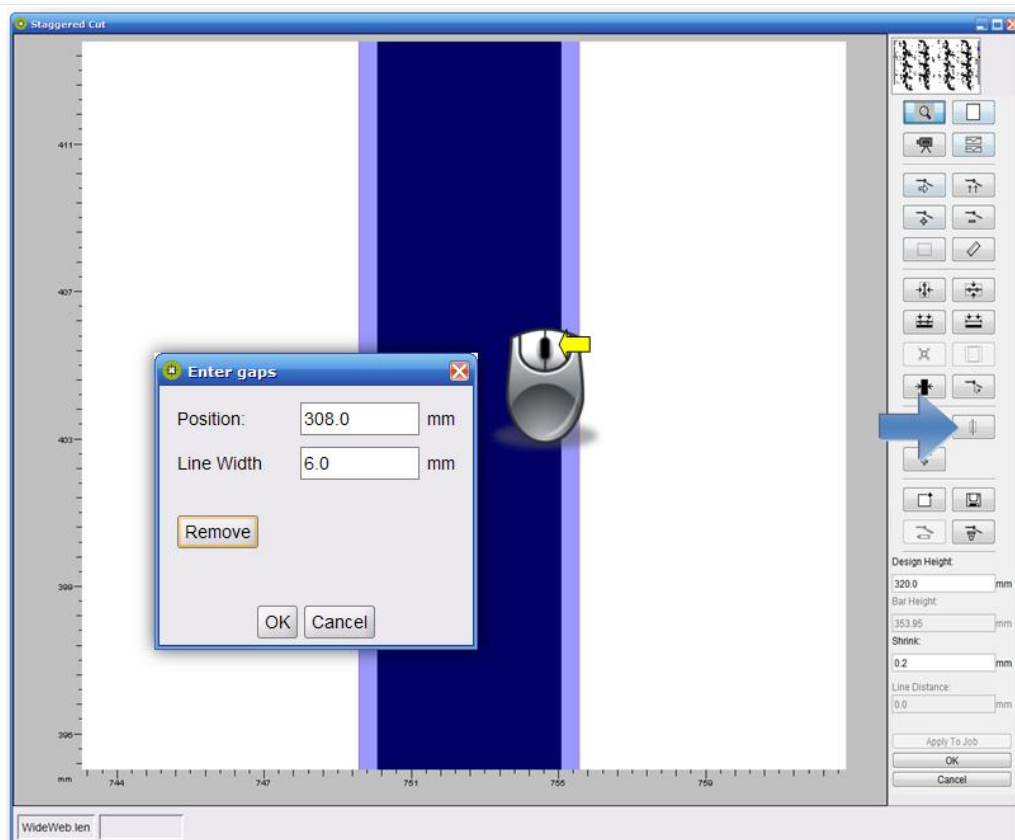
When a line width of *"0"* is entered, only one line is created. When *"2"* or more is entered, two lines will be inserted having this distance.



3.8 Creating Lines Automatically



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

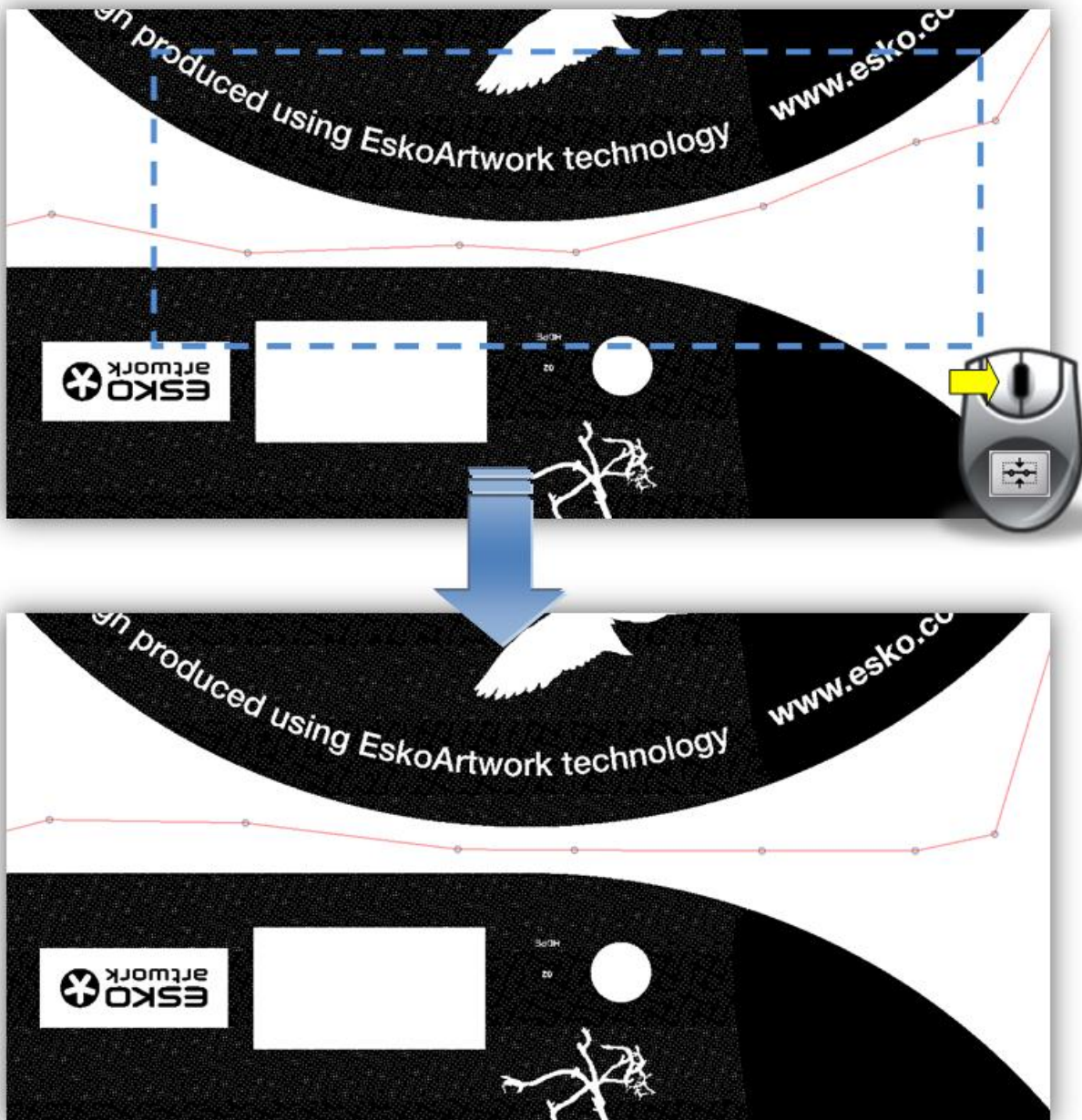


The width of the first detected object is automatically used as line width for all vertical cutting lines. If not requested, the line width can be changed by right-clicking the vertical line.

3.9 Centring Points

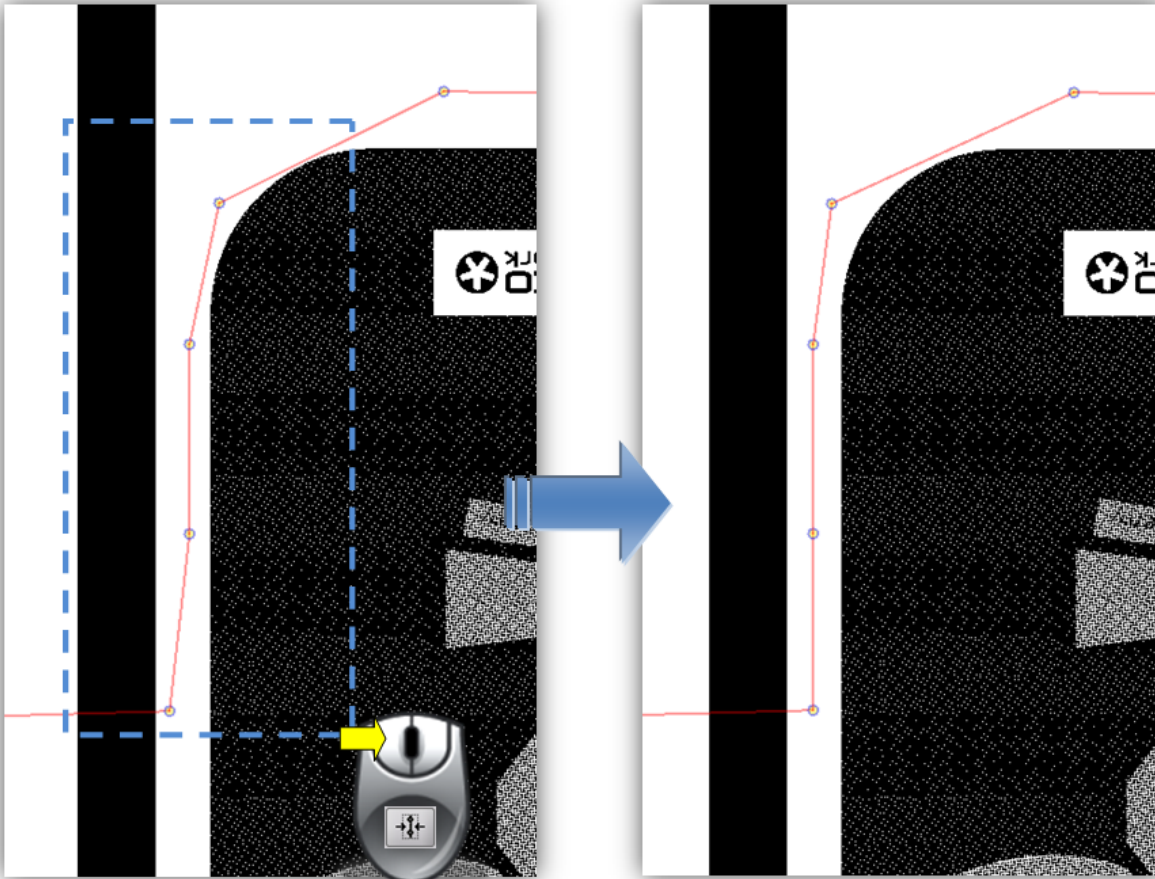


centres the points horizontally between two objects. A frame can be pulled around the relevant points using the left mouse button (hold pressed and pull). If there is no graphic object on one side (top or bottom), the frame is used as border:





centres the points vertically between two objects.



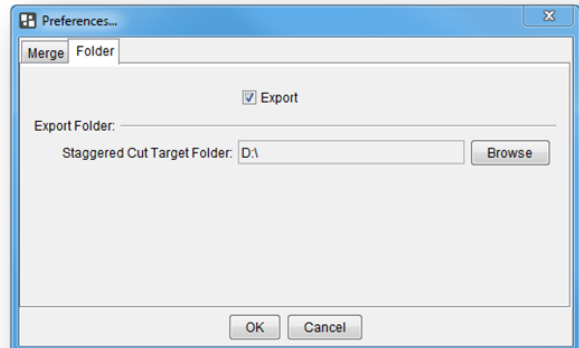
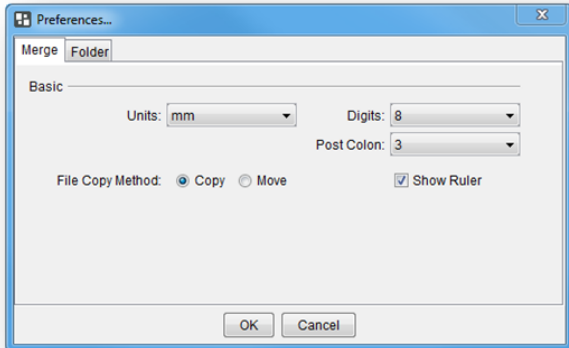
3.10 Applying the Cutting Line to the Entire Job

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":



3.11 Export Finished Files

The options are set in the **"File – Preferences"** menu.



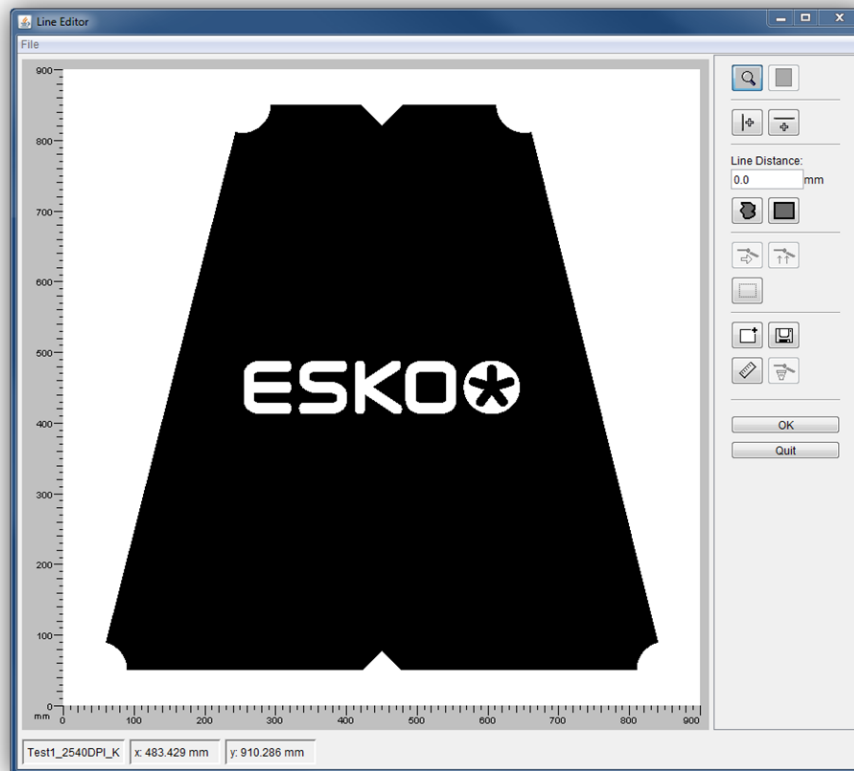
When **"Export"** is activated, the job is copied or moved automatically to the output folder.

Using the **"Move"** option for **"File Copy Method"**, you can move the files into the output folder.

4 "Line Editor"

The "Line Editor" module used to edit image files can be found in the Windows Start Menu under "ESKO – DFS Tools" or "ESKO – Digital Flexo Suite – DFS Tools".

The "Load" dialogue is shown after start-up. TIF files are converted automatically to LEN files so that additional information can be saved.



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 rectangle around the objects in the visible area.



marks a line so it can be deleted.



marks a line so it can be moved.



marks several objects so 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.

4.1 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.

4.1.1 Applying a Mask to the Entire Job:

Mask: jobname_**FREECUT**.len

Ink 1: jobname_ink1.len

Ink 2: jobname_ink2.len

4.1.2 Applying a Mask to One Ink Only:

Mask 1: jobname_ink1_**FREECUT**.len

Ink 1: jobname_ink1.len

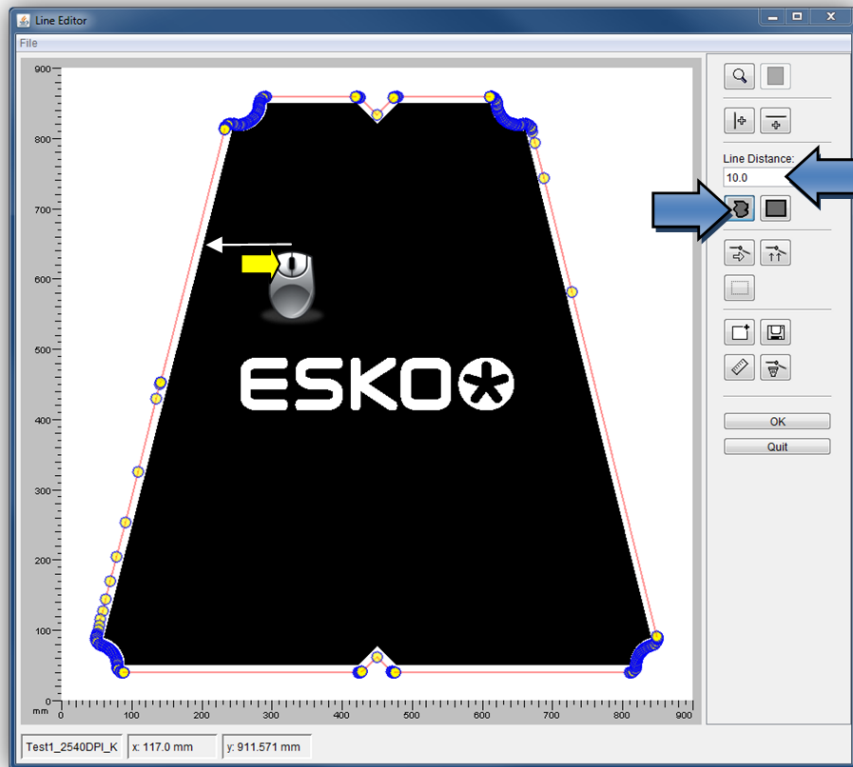
Mask 2: jobname_ink2_**FREECUT**.len

Ink 2: jobname_ink2.len

4.2 Contour Recognition

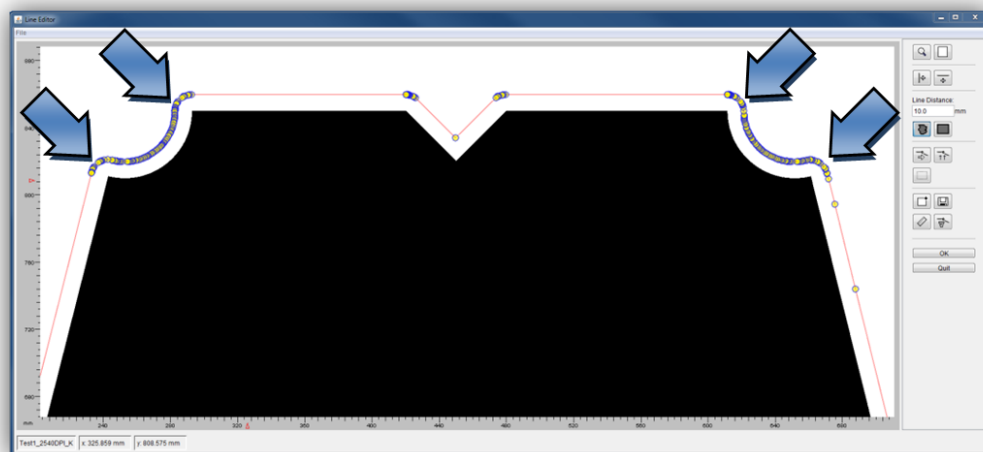


activates the contour recognition feature. Left-clicking selects the desired contour.



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

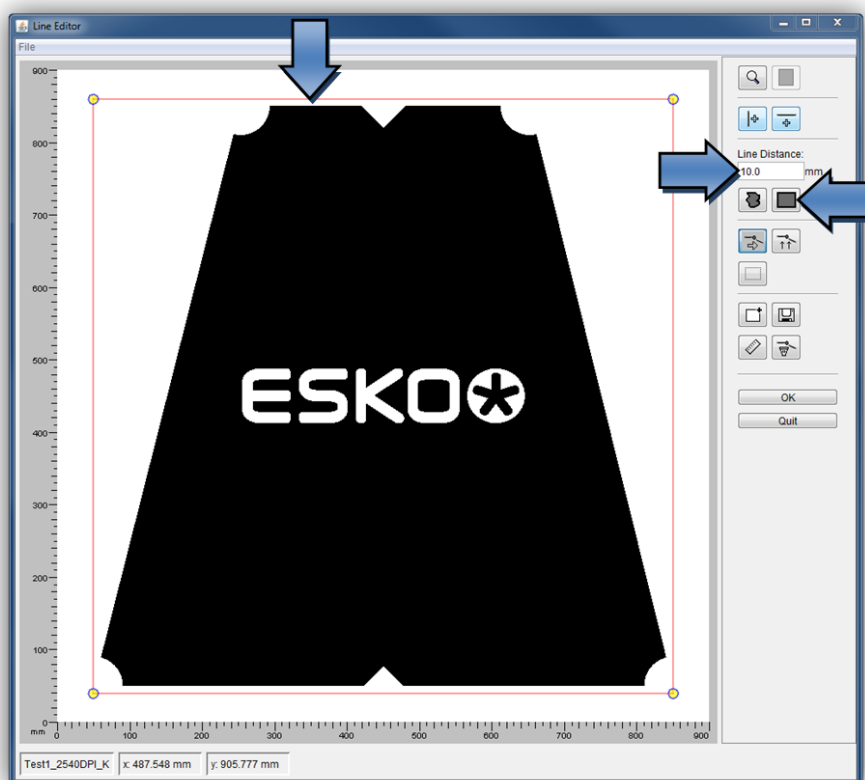
The distance to the selected contour can be set in the "Line Distance" field. To maintain this distance, the corners receive a round contour:



4.3 Creating Rectangles



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

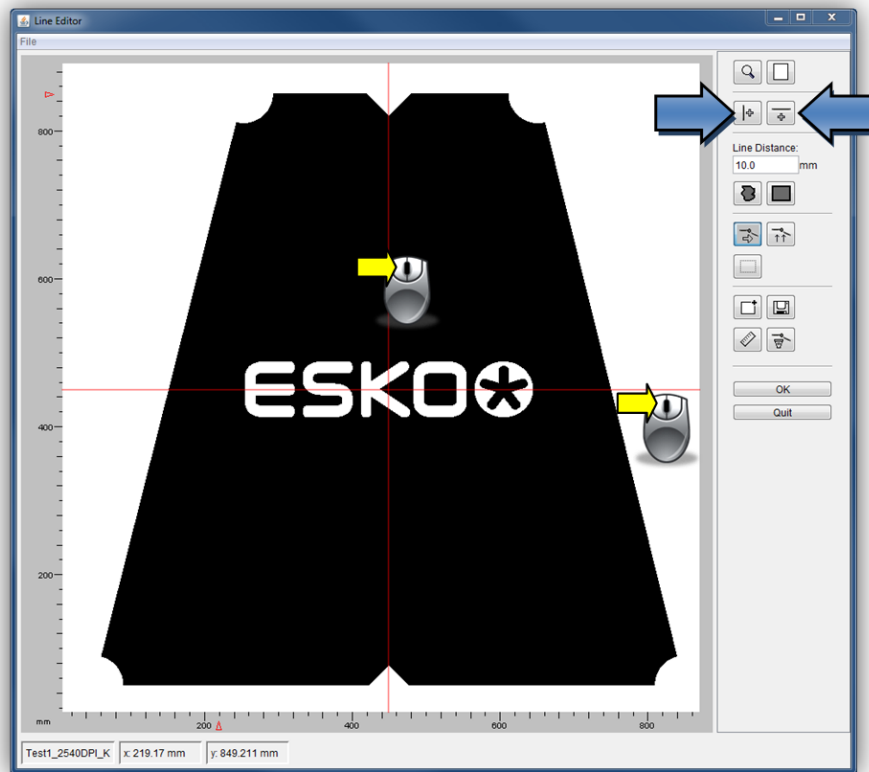


The distance to the selected contour can be set in the "*Line Distance*" field.

4.4 Creating Lines



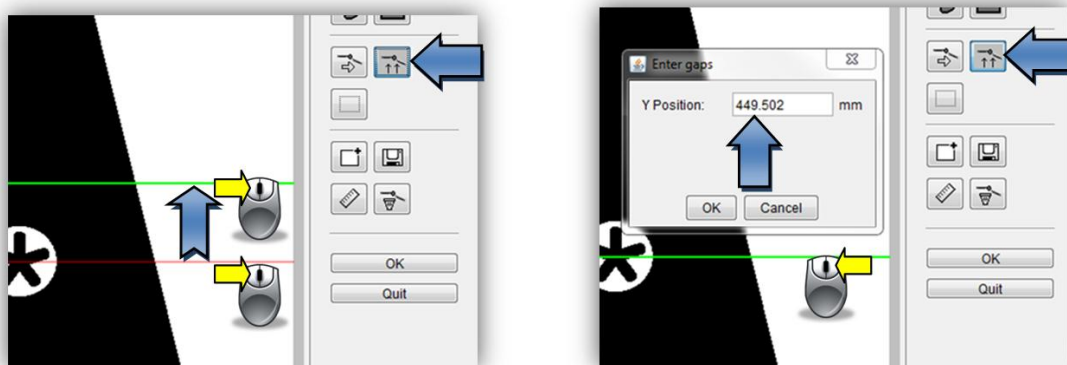
creates vertical and horizontal lines across the entire image height or image width using the left mouse button.



4.4.1 Moving Lines



marks a line so it can be moved.



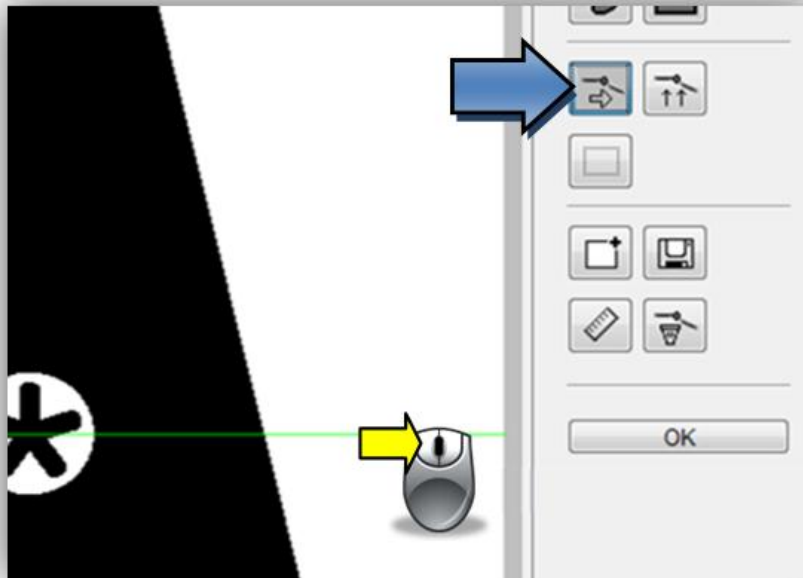
The line can be moved manually using the left mouse button.

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

4.4.2 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.



4.5 Deleting Several Objects



marks several objects so 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.

4.6 Creating a Template



saves the information in a template.

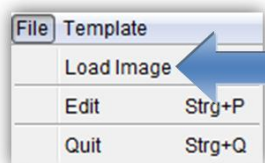
4.7 Loading a Template



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

4.8 Loading an Image

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

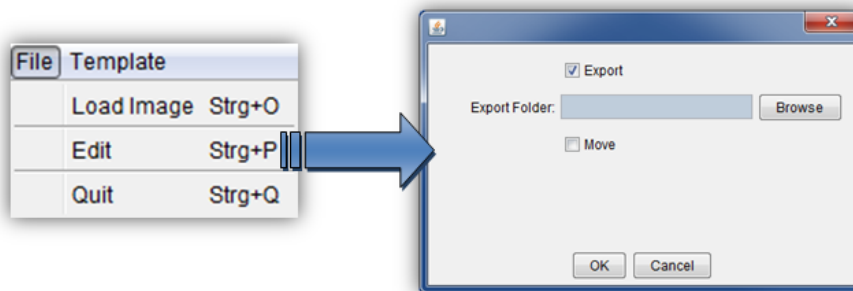


4.9 Saving Information

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

4.10 Export Finished Files

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



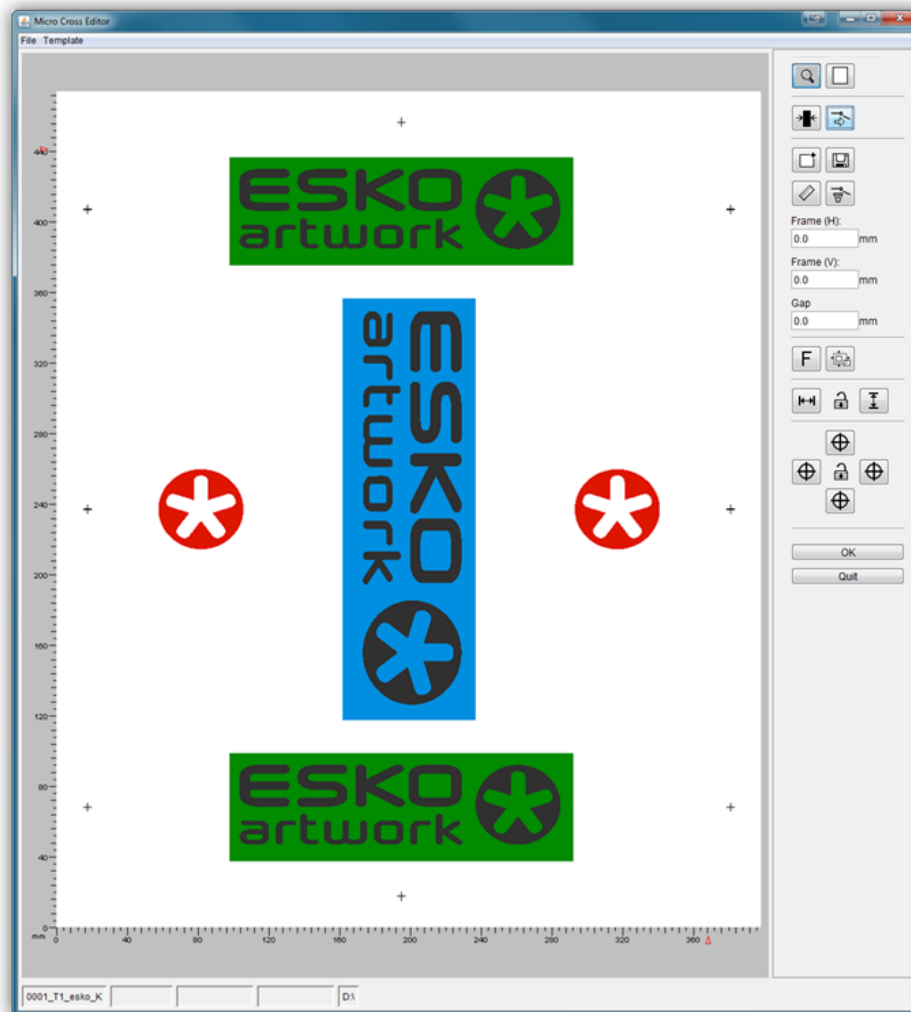
In the "**File – Edit**" menu under "**Export Folder**", the path of the output directory is specified where the files are copied to.

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

5 "Microcross"

The **"Microcross Editor"** module used to edit image files can be found in the Windows Start Menu under "ESKO – DFS Tools" or "ESKO – Digital Flexo Suite – DFS Tools".

The "Load" dialogue is shown after start-up. All colours of a job are loaded. TIF files are converted automatically to LEN files so that additional information can be saved.



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.



detects the microcross. This function can only be used if only the microcross is visible on the screen due to enlargement.



is used to mark a microcross to 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.



Editing the front side. The "Frame" must be at least as large as the "Microcross".



Editing the back side. No frame required.



Image elements outside the microcrosses are removed.



Prevents cutting the image so that the microcrosses can also be set within the image.



All images contained in this job have the same width.



All images contained in this job have the same height.



Prevents optimising the microcross position for the respective side.

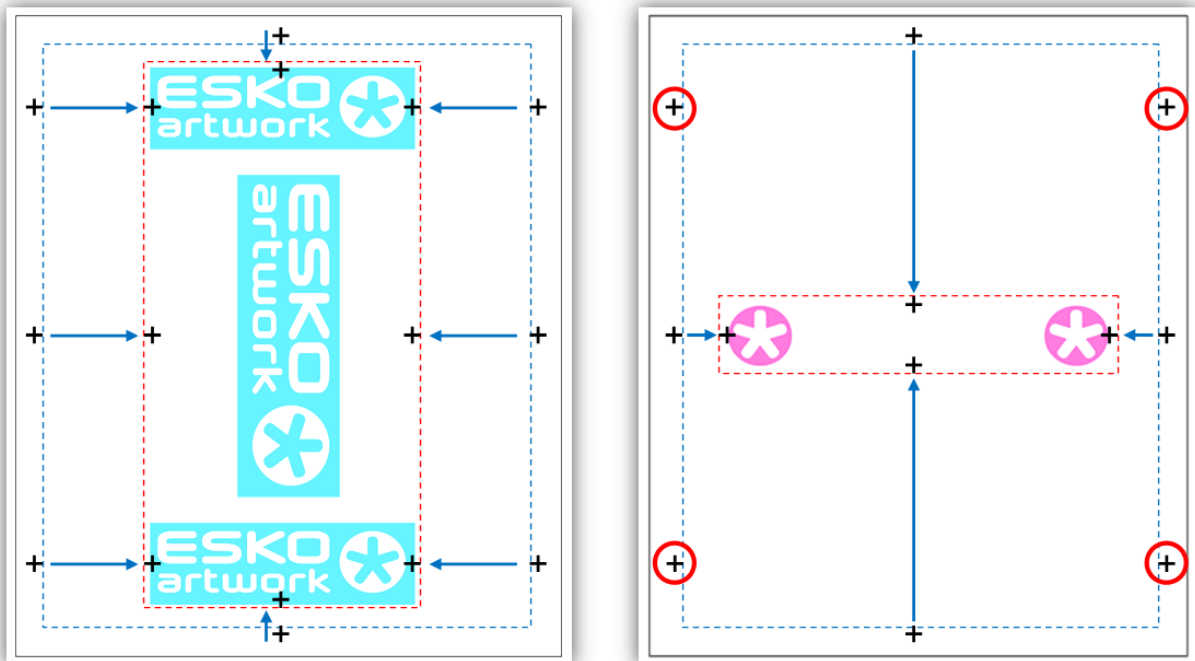
5.1 Automatic Cropping in the "Merger"

All LEN files which contain microcrosses or can be assigned to a template are automatically cropped during the loading process provided that this option is not deactivated.



Prevents cutting the image so that the microcrosses can also be set within the image.

For cropping, only the area within the detected microcross is used. Everything outside this area will be cropped.




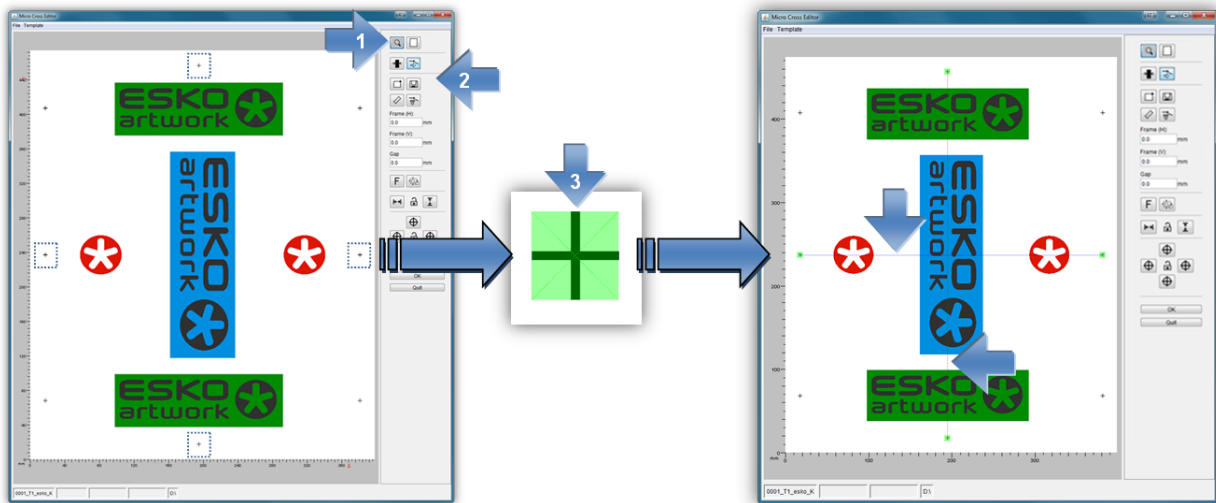
The area is cropped to the image and the borders are added as mentioned before in the microcross module. Then, the microcrosses are moved towards the image in the new area.

Unnecessary microcross pairs outside the new image area are removed. But at least always one microcross pair per axis remains.

5.2 Detecting Microcrosses

Microcross pairs are always detected. They must be located on the same horizontal or vertical axis:

1. Enlargement of area until only the first microcross is visible.
2. Detection of microcross with . The area is marked green.
3. Repeat process for second microcross. Both crosses are linked by a line.
4. Repeat steps 1 – 3 for the next microcross pairs.



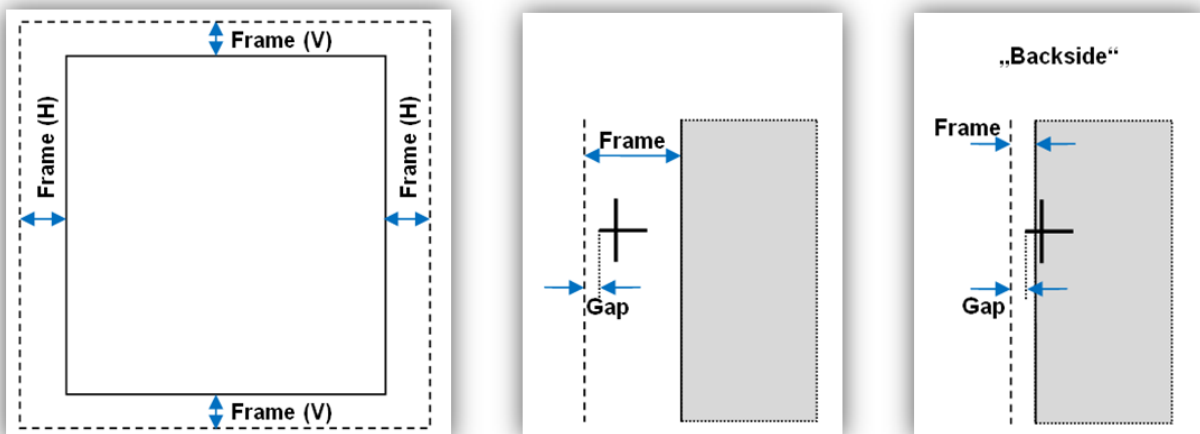
5.3 Deleting Microcrosses



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

5.4 Frame and Microcross Distance

You can set the distance of the image content to the cutting line with **"Frame (H)"** and **"Frame (V)"**.



The parameter **"Gap"** crops the microcross at the outside in order to maintain the selected distance from the cutting line. Only half the size of the microcross is permitted at the most.

When editing the front side of the plate, the frame must at least correspond to the size of the microcross.

5.5 Creating Microcrosses on the Back Side



activates the editing process for the back side. In this case, no frame is required.

5.6 Fixed Image Size

Every separation is optimised to match the image content resulting in different image sizes.



This optimisation feature can be deactivated for the height and width separately. Depending on the settings, all separations have the same height or width.

5.7 Fixed Cross Positions

When loading them into the "Merger", the crosses are automatically moved towards the motif of the image to save plate material. This behaviour can be disabled for each side separately:



5.8 Microcrosses within the Image



Prevents cutting the image so that the microcrosses can also be set within the image.

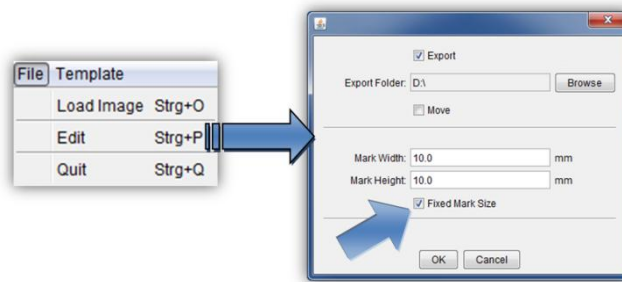
5.8.1 Creating a Template



saves the information in a template. The "Merger" uses this to apply the information automatically.

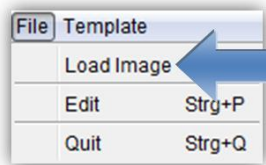
5.9 Fixed Cross Size

If the detected microcrosses do not have the desired size, the size resp. width and height can be set under **"File – Edit"** using the options **"Mark Width"** and **"Mark Height"**. **"Fixed Mark Size"** activates this option.



5.10 Loading a Job

The menu item "File – Load Image" shows the "Load" dialogue which loads all colours of a job just like during a restart of the module.

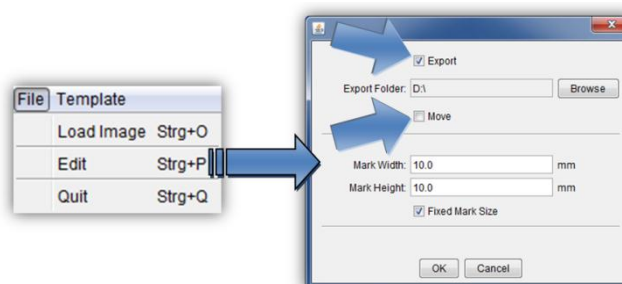


5.10.1 Saving Information

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

5.10.2 Export Finished Files

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



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

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

5.11 Loading a Template

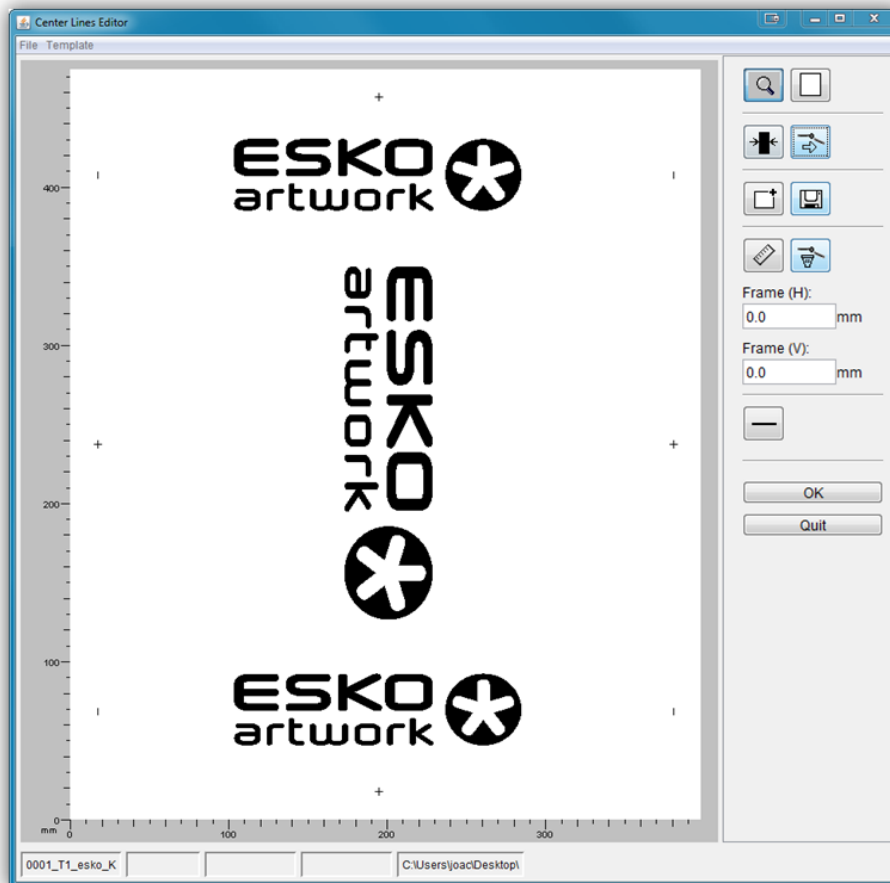


loads a previously saved template. In case the dimensions of the image are correct, the information is applied to the loaded job.

6 "Centerline"

The **"Centerline Editor"** module used to edit image files can be found in the Windows Start Menu under "ESKO – DFS Tools" or "ESKO – Digital Flexo Suite – DFS Tools".

The "Load" dialogue is shown after start-up. TIF files are converted automatically to LEN files so that additional information can be saved.



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.



detects the mark. This function can only be used if only the mark is visible on the screen due to enlargement.



marks a mark so it 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.



creates long lines across the entire image width or image height.

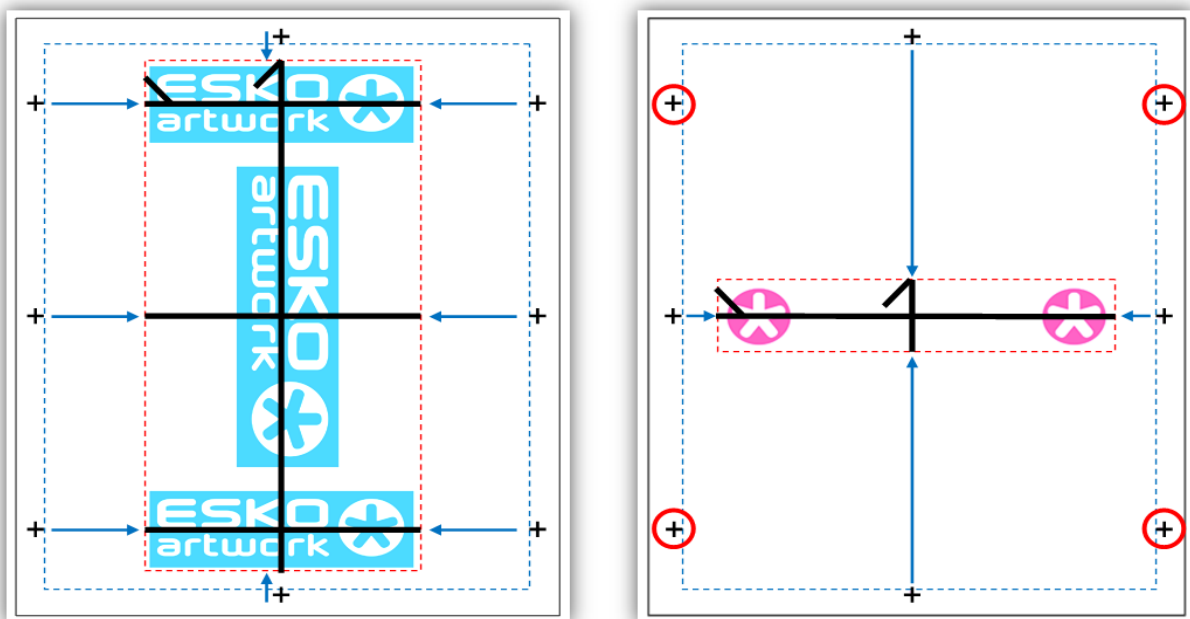


creates short lines at the image borders. This is necessary when the image is carved in addition.

6.1 Automatic Cropping in the "Merger"

All LEN files which contain "**Centerline**" information or which can be assigned to a template are automatically cropped during the loading process.

For cropping, only the area within the detected marks is used. Everything outside this area will be cropped.

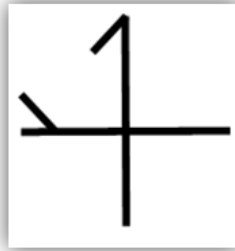


The area is cropped to the image and the borders are added as mentioned before in the "**Centerline**" module. Then, the lines are moved towards the image in the new area.

Unnecessary microcross pairs outside the new image area are not taken into account. But at least one mark pair per axis always remains.

6.2 Guide for Mounting

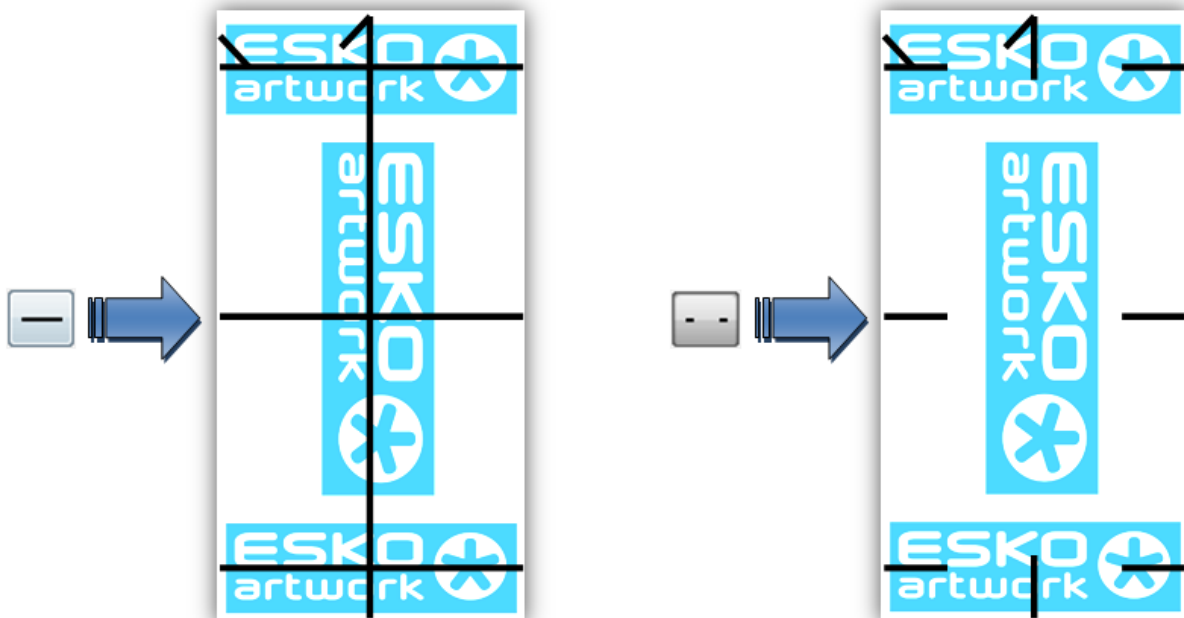
The left and upper side of the plate are marked by special markings.



6.3 Shortened Lines




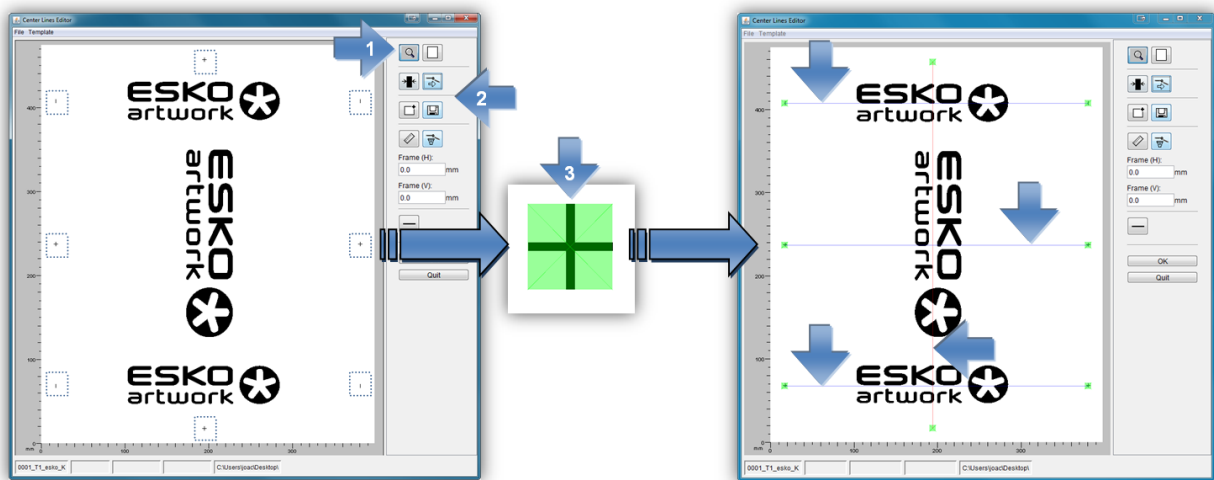
When, in addition, the lines are carved using the *"Kiss Cut Tool"*, they will still be visible after cleaning the plates. To prevent the plate film from becoming unstable, the lines can be output shorter:



6.4 Detecting Marks

Mark pairs are always detected. They must be located on the same horizontal or vertical axis:

1. Enlargement of area until only the first mark is visible.
2. Detection of mark with . The area is marked green.
3. Repeat process for second mark. Both crosses are linked by a line.
4. Repeat steps 1 – 3 for the next mark pairs.



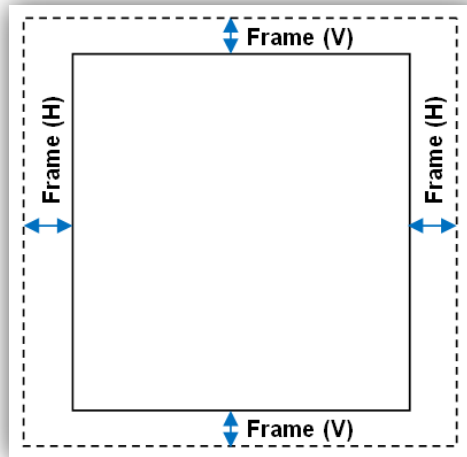
6.5 Deleting Marks



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

6.6 Frame

You can set the distance of the image content to the cutting line with "**Frame (H)**" and "**Frame (V)**".



6.7 Creating a Template



saves the information in a template. The "Merger" uses this to apply the information automatically.

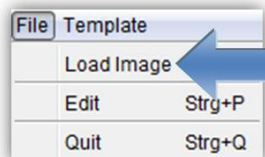
6.8 Loading a Template



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

6.9 Loading an Image

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



6.10 Saving Information

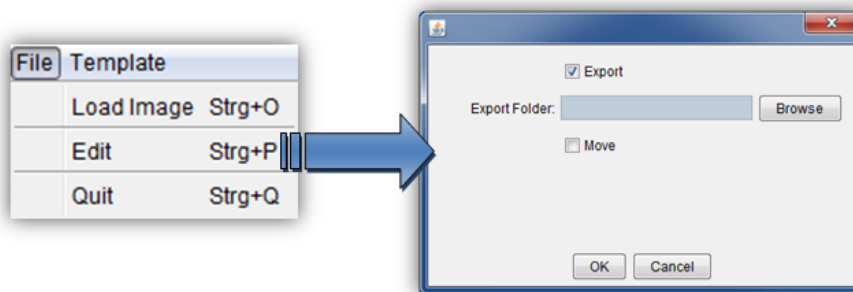
After all lines have been set, the information is written into the LEN files with "OK".

6.11 Saving Information in All Colours

After all lines have been created, the information is written in all colours of the job using "Apply to Job" if they are located in the same directory as the loaded colour.

6.12 Export Finished Files

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



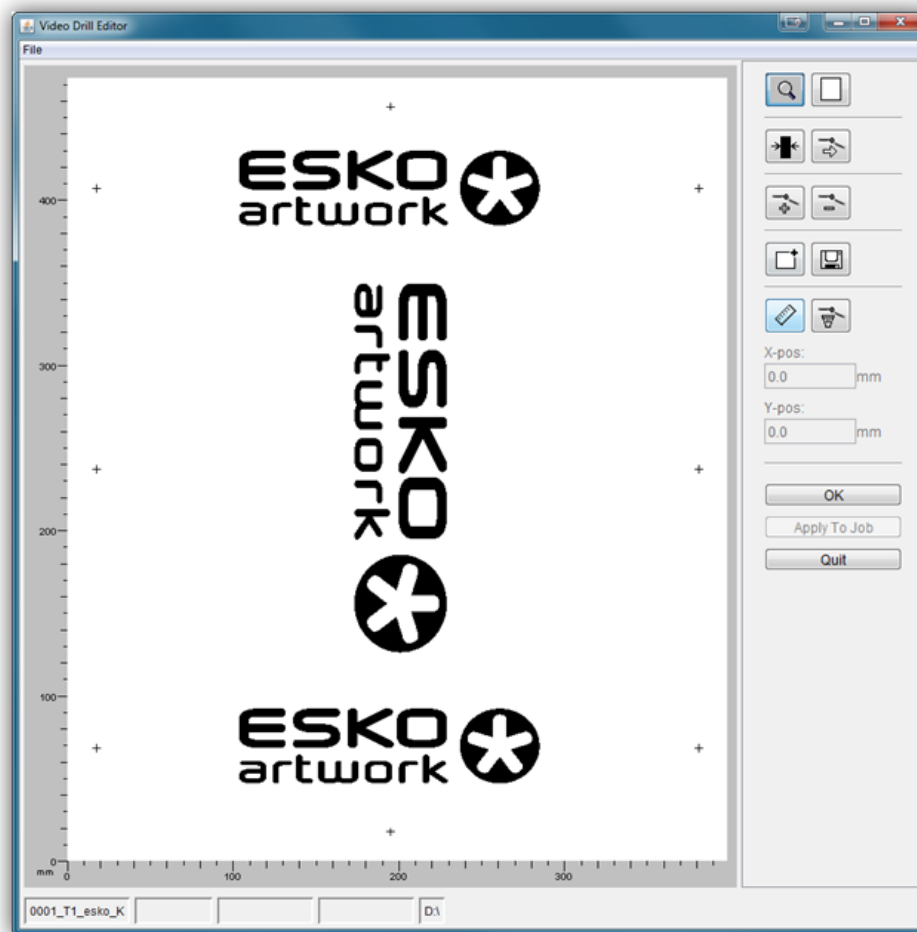
In the **"File – Edit"** menu under **"Export Folder"**, the path of the output directory is specified where the files are copied to.

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

7 "Digital Video Drill"

The **"Digital Video Drill Editor"** module used to edit image files can be found in the Windows Start Menu under "ESKO – DFS Tools" or "ESKO – Digital Flexo Suite – DFS Tools".

The "Load" dialogue is shown after start-up. TIF files are converted automatically to LEN files so that additional information can be saved.



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.



detects the mark. This function can only be used if only the mark is visible on the screen due to enlargement.



marks a mark so it can be deleted or moved.



adds a new drill hole.



deletes a drill hole.



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.

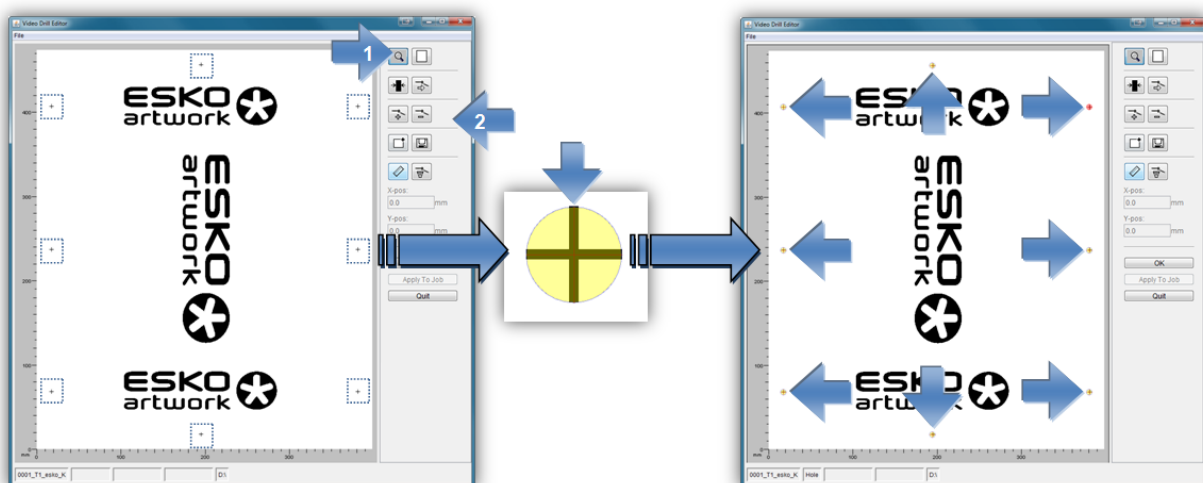


deletes the information.

7.1 Detecting Marks

Drill holes can be set manually or detected automatically based on marks:

1. Enlargement of area until only mark is visible.
2. Detection of mark with . The area is marked green.
3. Repeat process for other marks.



7.2 Manually Setting Drill Holes



activates the insertion of drill holes using the left mouse button. The position of the drill hole is shown in the fields "**X-pos:**" and "**Y-pos**".

7.3 Moving Drill Holes



activates the "Move" function. The drill hole can be marked with the left mouse button and then moved by holding the left mouse button.

The position of the drill hole is shown in the fields "**X-pos:**" and "**Y-pos**". Additionally, the position can be entered manually in these fields and set by pressing the "**Enter**" button.

7.4 Deleting Drill Holes



activates the "Delete" function. You can delete previously set drill holes with the left mouse button.

7.5 Creating a Template



saves the information in a template. The "Merger" uses this to apply the information automatically.

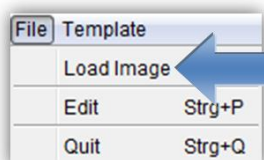
7.6 Loading a Template



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

7.7 Loading an Image

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



7.8 Saving Information

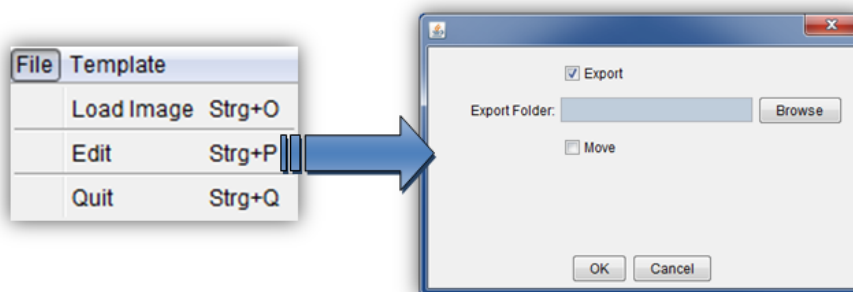
After all drill holes have been set, the information is written into the LEN file by pressing "OK".

7.9 Saving Information in All Colours

After all drill holes have been created, the information is written in all colours of the job using "Apply To Job" if they are located in the same directory as the loaded colour.

7.10 Export Finished Files

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



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

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