Gravostyle Documentation

Legal notices -Translation of French original document - Version : 03/15

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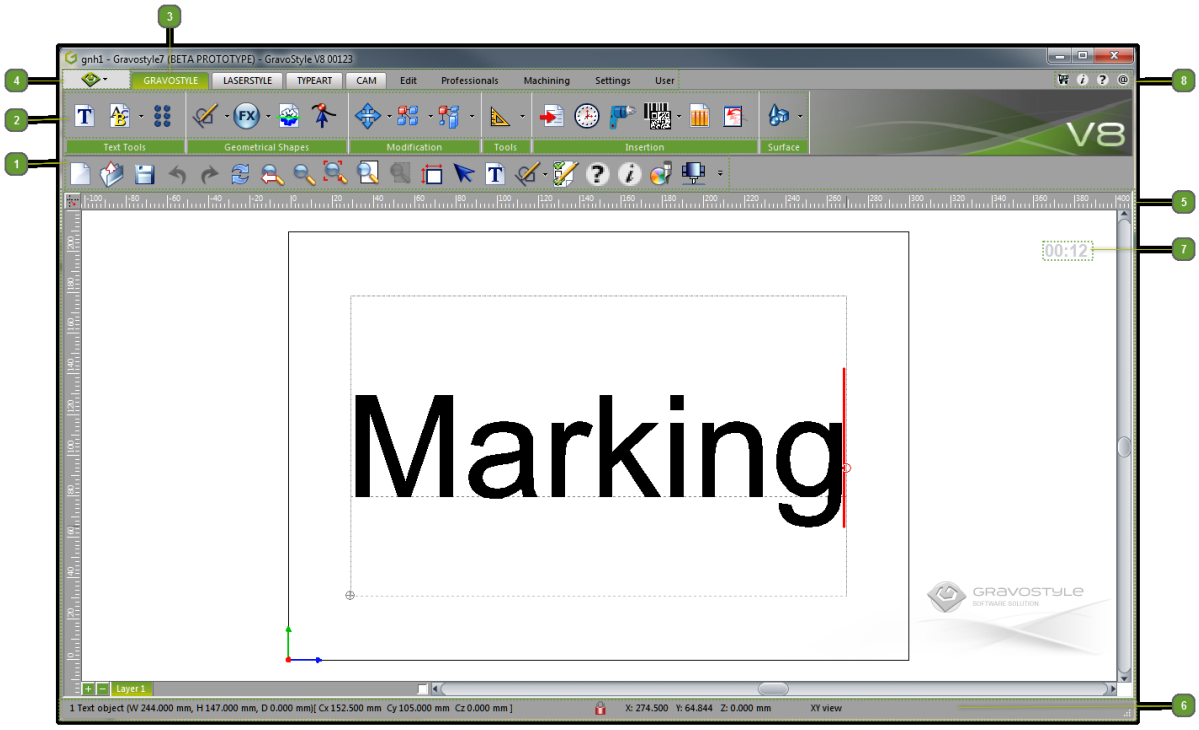
Welcome !

Gravostyle

Gravostyle: Guided tour

Mainframe

Click the picture for further information

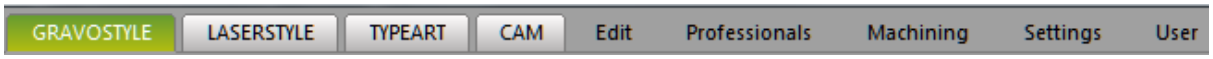


1 **Quick Access bar : common functions and tools to create and engrave a composition**

2 **Standard ribbon : functions and tools shared by Gravostyle et Laserstyle environments**

3

Tab bar



Click the tab in bar to enable the environment matching the machine that will carry out the engraving

GRAVOSTYLE Rotary engraving

LASERSTYLE Laser marking

CAM 2.5D machining

TYPEART 3D modeling

Click then the tab that gives access to the action to carry out

Edition

Vue

Engraving

Preferences

User

4 Homemenu

Windows standard commands

Click a menu command

Ctrl N **New composition**

Ctrl O **Opening a saved composition**

Ctrl S **Open from Filebrowser**

Saving current composition

Save as a different file format

Ctrl E **Exporting an object from composition to an third-part program**

Ctrl I **Scanning image**

Importing an external object into composition

Ctrl P **Print**

Print preview

Print settings

Information about current composition

Comments about current composition

User licence

Referring to Gravostyle Help

F10 **Customizing software**

Alt F4 **Close window and exit program**

5 **Workspace with text zone between margins**

When several document or program windows are open, locate Gravostyle window thanks to Gravograph logo shown in bottom right corner.

6 **Status bar : Information about the current action**

7 **Time spent for the current composition**

00:12

8 **Online shop and assistance**

Buying a Gravograph font online

User license

Referring to Gravostyle Help

Go to website

Gravostyle: Checking the PC configuration

Microprocessor	Quad Core
Frequency	2.7 GHz
RAM	4 GB
1 internal drive	6 GB free
1 disk drive	16X DVD-RW
Graphical card	NVIDIA or ATI Radeon DX10 compatible 1 Go
Moniteur SVGA	22'' - 1280 * 1024 pixels
USB Ports	7 ports free at least • Dongle • Machine 1 • Machine 2 • 1 mouse • 1 keyboard • 1 printer • 1 TWAIN scanner
Software environment	Windows 8 SP1 32/64 bits MS Internet Explorer 9 MSO Powerpoint 2013 Adobe Reader X Media Player

Uninstall Gravostyle software before setting up a new version.

1. Set the setup disk into PC drive. Wait that the setup panel displays.
   Double-click the drive when the panel does not open
2. **Click Remove in Setup wizard.**
   Next> Click.
3. Yes Click to delete program.
4. OK
5. Set up the new program version

Gravostyle: Using the program in Windows

Check that your Gravostyle dongle authorizes program exploitation.

Setting up

Click immediately the banner if you want to select the action to be executed.

Click Run Setup.exe to start program setup.

You are authorized to set up the program on several computers, but it only runs on the PC where the dongle is connected.

1. Set the disk into the internal drive of the PC
   A transparent banner at the right top corner of the screen indicates the setup is starting up.
2. Follow the instructions shown by the setup panel.
3. Right-click on Gravostyle folder. **Enable all the Authorizations to modify its contents.**
   a. Security Click tab.
   b. Everybody Click the User.
   c. **Click Full control in the Authorizations for Everybody.**
4. Check the date after starting program.
5. Make the machine ready to engrave
   Rotary
   Laser

You are ready for program quickstart.

Run

When the program thumbnail does not display in Startscreen:

a. Drag the pointer onto the top right corner of the screen
b. Click Search in Iconbar
c. Type 'gravostyle' or 'laserstyle' into search field
d. Click to start the action
e. Right-click the thumbnail among Results
f. Click Pin to Startscreen

Plug the dongle on a USB port of the PC. The key controls exploitation rights on Gravostyle (date and version of the last installation, program levels and options).

The program does not run, when the dongle is not recognized. Reinstall the Windows driver for the protection key.
Double-click file C:\Gravostyle??\Key\Hasp\HASPUserSetup.exe and follow instructions.

1. Press the key to display Startscreen
2. Click the thumbnail

or

1. Drag the pointer into the bottom left corner of the screen
2. Click when the Startscreen preview displays

3. Click the thumbnail in Startscreen

Quit

or

1. Right-click the thumbnail in Taskbar
2. Click Close window

Gravostyle: Checking the date when starting program

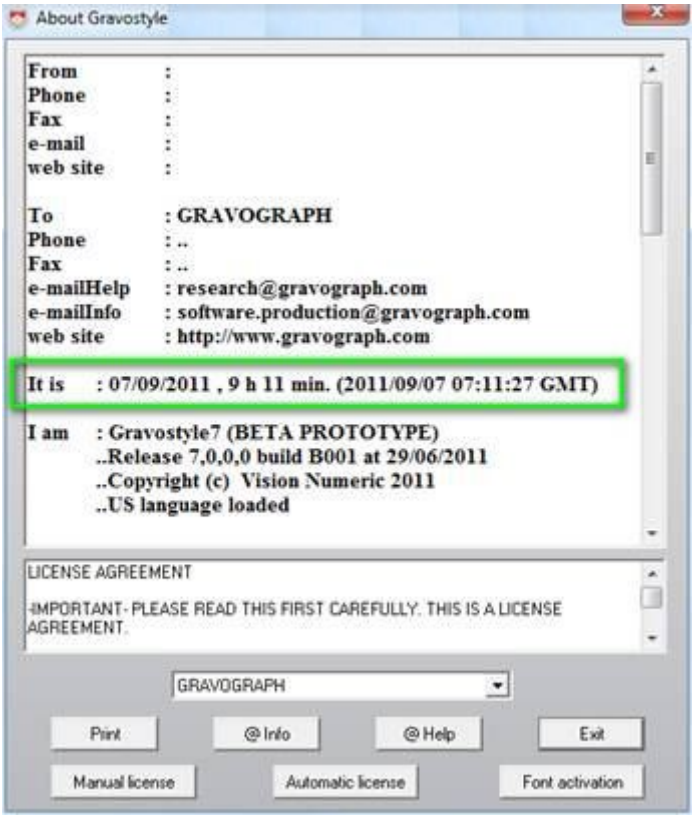
After PC reset further to Gravostyle setup, synchronize the dates and the hours between Windows and Gravostyle.

Run Internet Explorer which systematically sends to Windows the universal date and hour. Run Gravostyle

When you have no Internet access and when Gravostyle does not start, compare GMT dates/hours in About window.

- At the start of text, the first date **It is : is the date and hours of the PC.**
- At the end of text, the second one **LAST_T = is the date of Gravostyle last run.**

To make Gravostyle run, It is : date must newer than LAST_T= one.



Gravostyle: Checking the date when starting program

Problem that may occur

It is date : is older than the real date and hour.

Adjust in Control Panel as Administrator

LAST_T =? date is newer than the real date and hour.

Print Click. About file is saved as 'order.txt'. Close Word

Mail C:\Gravostyle7000\Exe\order.txt file to software.production@gravograph.com

Save to PC the *.luc file mailed to reset the date

When you receive by mail/fax/phone codes to reset the date, use the button Manual License

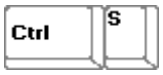
1. Automatic License Click in About window
2. Open the *.luc file
3. Close Click
4. Restart Gravostyle

Gravostyle: Quick Access bar

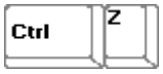
Group the commands often used into the Quick Access bar. Standard commands already feature in the bar you will cutomize.

New composition

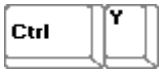
Open a saved composition



Save current composition



Undo action



Redo action

Redraw the whole composition

Back to previous zoom

Zoom zone

Zoom max. all the objects

Zoom material

What can I do in Material mode?

Use the mode to configure the composition (origin, orientation, surface, margins).

What can I do in Text mode?

Use the mode to place and to type lines of text into composition.

What can I do in Drawing mode?

Use the mode to draw geometrical shapes in the composition.

What can I do in Selection mode?

Use the mode to select and to manipulate objects set in composition.

Apply an engraving path

Configuring engraving

LASERSTYLE

Ctrl M

Apply a marking path

Configuring marking

Displaying Quick Access bar

1. Right-click the bar
2. Click

- **Display below ribbon** to set the bar under the current ribbon
- **Display above ribbon** to set the bar into titlebar

Customizing Quick Access bar

1. Click to Cutomize bar
2. Click an available command to delete or to add it
3. For further choice clik **More commands**

Adding command

1. Right-click the required button in the chosen ribbon
2. Add into Quick Access bar

Deleting command

1. Right-click the required button in Quick Access bar
2. Delete from Quick Access bar

Managing commands

Click to **Display Quick Access bar below current ribbon**

<< Delete Remove from list the selected command

Reset Restore standard commands

Personalize Assign a specific hotkey to a command

1. Right-click the Quick Access bar
2. Customize Quick Access bar
3. Click the required category of commands
4. Click a command in the list
5. Add >> Click to insert a command into the bar
6. Click to move a command upwards or downwards
7. OK

Gravostyle: Ribbons

Right-click the ribbon and tick the command Hide ribbon to scroll it up.

Click again the command to scroll down the ribbon.

GRAVOSTYLE LASERSTYLE

Adding text

Typing and setting text into composition

Using Advanced text functions (non-horizontal text, font editor, etc.)

Engraving for visually impaired or blind people according to their needs in personalization, signage or marking, in conformity with the standards applied in different countries

Working modes

Configuring material

Selection mode

Drawing mode

Vectorizing a bitmap image

Point mode

Editing objects

Effects

Aligning

Transforming

Duplicating

Measuring

Adding objects

Importing an external object into composition

Setting objects from standard library

Importing and setting one or more files into current composition

Setting markers into composition to drill fixing holes

Producing linear, circular or free-shaped dials or graduations

Producing a basic or an advanced barcode LASERSTYLE

Surface Wrapping/Projection GRAVOSTYLE

Edition: Standard actions on a selection of objects

Ctrl A	Select all the objects
	Freeze/Unfreeze selection
	Selection tools
Ctrl Z	Undo action
	History of cancellations
Ctrl Y	Redo action
	History of repetitions
Ctrl X	Cut
Ctrl C	Copy
Ctrl P	Paste
Del	Delete

Combine

Uncombine

Group

Ungroup

Handling objects

Snap mode

Filter selection

Redraw all

Quick redraw

Professionals

Producing a series of plates

Creating a series of plates by the autoinput of text over all the plates

Engraving a series of identical small plates onto a single motherplate

Nesting before cutting

Automatic distribution of to be cut objects that reduces material losses

Optimizing the cutting in relation to the distribution of objects the user made

Duplicating and cutting objects using magic copy

2.5D Shapes

Hollow out a female shape relative to a closed contour, then cut the male shape that will fit into as inlay

Seal

Marking and cutting rubber stamps

Using a bitmap image

Scanning

Retouching in Bitmap editor

Processing before engraving using PhotoStyle GRAVOSTYLE

Processing before lasering using PhotoLase LASERSTYLE

Cutting a vector graphic printed by a third-part program (Print&Cut)

Expert users only

Running an action using instructions from a script

Advanced properties of the selection

Engraving

Choosing engraving tool

Assigning a toolpath

Assigning a laserpath

Wysiwyre 2D rendering on material

Invoicing assistant

Ctrl M Configuring Rotary engraving

Configuring Laser marking

Settings

Make a machine ready to engrave

Rotary machine

Laser machine

F5 Config. mouse buttons

Choosing scanner

Fixing vectorizing settings

- 2D XY view
- 2D YZ vie<ww
- 2D XZ view
- 3D engraver view
- 3D ISO view

☐ View contour Order

F4 **View selection when handling**

F7

- ○ **View direction Arrow**
- ◉ **View contour Direction**
- ○ **View Contour color**
- ○ **View Surface color**

Gravostyle: Status bar

Status line	Information about the pointed zone, either the selection or the current operation
	Surface of workspace
Selection/Text/Draw/Point	Active working mode
XYZ	XYZ coordinates
View	View of composition
%	Zoom ratio
NUM	The indicator confirms that you can type figures using the keypad.

When you select one or several objects, the properties of the selection display in the status bar.

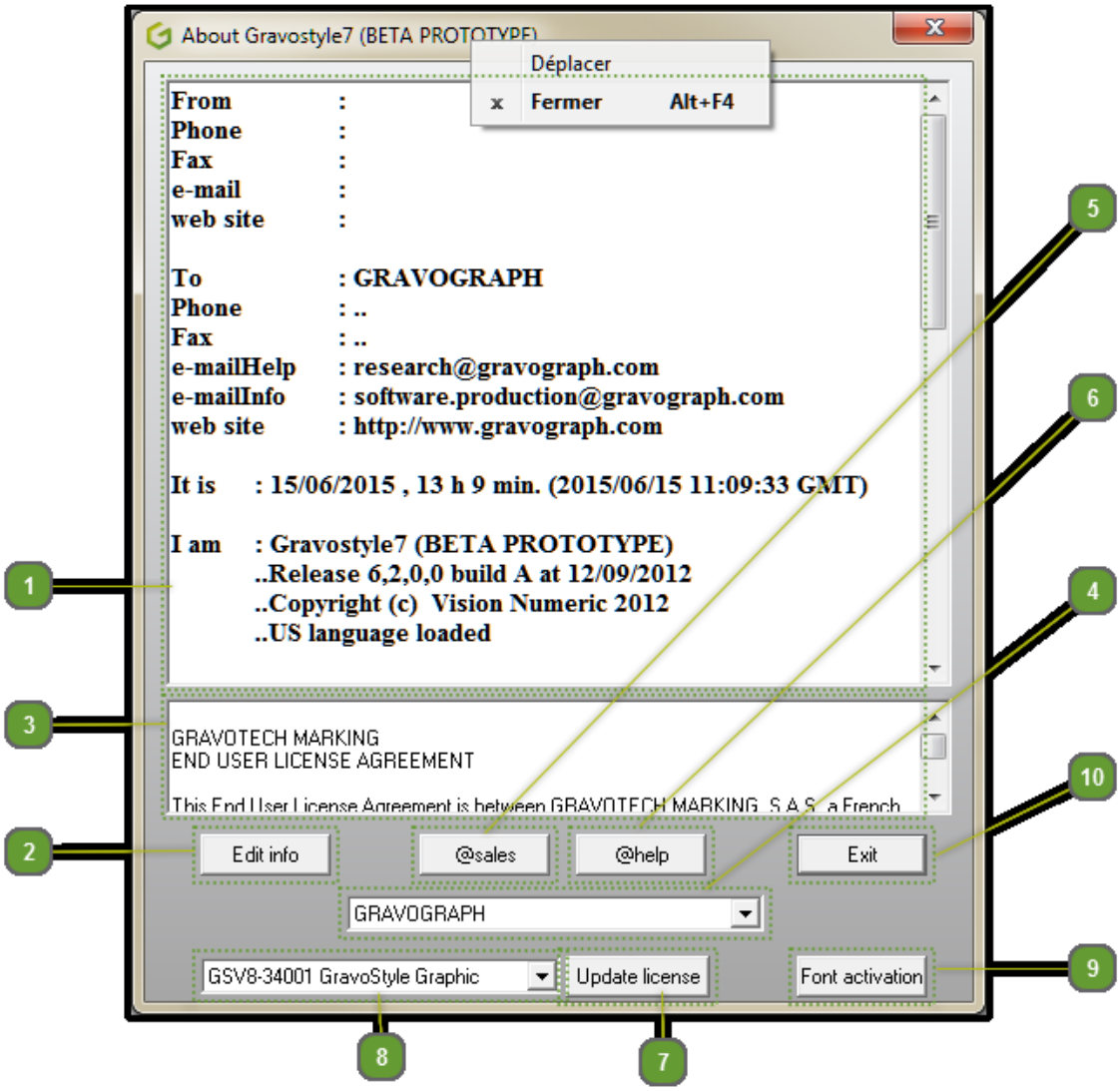
1 Curve object (W 14.245 mm, H 16.670 mm, D 0.000 mm)[Cx 17.117 mm Cy 25.173 mm Cz 0.000 mm]

Text/Curve/Composite/Image	Type of the selected object This informs you about the way you can edit the object. For a multiple selection, the definition is replaced by the number of objects (2 at least).
{W, H, D}	**Width, Height, Depth**
[Cx Cy Cz]	**Coordinates of the center** used to align, to deform or to move the object in workspace The data do not display for a multiple selection.

Gravostyle: User license

The window displays
- the description of the dongle, automatically attached to your message to identify the program version.
- the terms of the legal license which protects the exploitation of the program.

To meet your engraving needs, order the level or the option to enable in Gravostyle.



1 User Dongle License: About file

```
From        :
Phone       :
Fax         :
e-mail      :
web site    :

To          : GRAVOGRAPH
Phone       : ..
Fax         : ..
e-mailHelp  : research@gravograph.com
e-mailInfo  : software.production@gravograph.com
web site    : http://www.gravograph.com

It is   : 01/09/2011 , 11 h 18 min. (2011/09/01 09:18:54 GMT)

I am    : Gravostyle7 (BETA PROTOTYPE)
          ..Release 7,0,0,0 build B001 at 29/06/2011
          ..Copyright (c)  Vision Numeric 2011
          ..US language loaded
```

2 Edit Info Open About file in Word

Without Internet connection, type your request at the end of the document, print and fax it to Gravotech Marking dealer.

3 **User Exploitation License**

```
LICENSE AGREEMENT

-IMPORTANT- PLEASE READ THIS FIRST CAREFULLY. THIS IS A LICENSE
AGREEMENT.
```

4 GRAVOGRAPH **Geographic area where the Gravotech Marking dealer contacted via mail is**

Click the area.

Click the button matching the mailed request.

5 @sales **Request for sale information**

6 @ Help **Request for technical support**

7 Update License

8 **List of authorized licenses**

Click the required license

Update License Click and open the *.luc file mailed by softwareproduction service

9 Font activation Adding into Gravostyle a Gravograph font buyed on line

10 Exit Close window

Gravostyle: Programs/Upgrades

Gravostyle software range offers 3 engraving solutions.

EXPLORER	The program allows the composition and the engraving by rotary machines.
GRAVOSTYLE	You find essential functions to define the dimensions and the position of the plate, to type text and run a basic engraving. **To meet customer requirements and to widen your engraving skills make an upgrade.**
LASERSTYLE	The program allows composition and beam marking by laser machines. It has the standard functionalities of Gravostyle Graphic level and can be upgraded to 3D Laser one.
GRAVOSTYLE CAM LASERSTYLE CAM LASER TYPEART	The program authorizes the composition and the engraving • by rotary tool on machines rotary • by laser beam on machines laser **To work in the deliberate environment, click the tab associated .** ● the color of the program interface changes (windows, dialog boxes, menus). • the functions relative to the environment display in menus and toolbars. When you exit the program, the active environment is memorized to display on next starting up. **Gravostyle program progresses over 4 levels. Each level adds a set of features into the program.** • Discovery, standard contents • Industry • Graphic • 3D Dynamic
Upgrading software	• You want to engrave text, but also logos, plate series. Replace Explorer by a level of Gravostyle. • Your engraving equipment counts henceforth laser and rotary machines. To drive all the machines with a single program, replace Laserstyle Graphic by Gravostyle Graphic. • Order options which integrate Gravostyle program when requested in relation to the working level. **Order the upgrade adapted to your needs to Gravotech Marking distributor. Data required to enable the authorized option/level will be sent you back.**

Gravostyle: Need Help?

Consult About Windows topic if you are little familiar with this operating system. Configure the screen for a correct display.

Using Gravostyle Help

Read help online using flexible browser tools.	Gravostyle Help window displays Help homepage. 1. In TOC, click a folder to show or to hide its contents. Every folder gathers topics dealing with the same subject. 2. Click to display **the topic.**
Call out the Context help to get the description of a toolbar	Roll the pointer over a button in toolbar. Click to Display information about the button Display a preview of the matching function. Replay video
Call out the Context help to understand how to use a dialog box	Press the key. Instructions about the screen display.

Printing a help topic

1. Contents **Click tab.**
2. Click
   a folder
   a topic
3. **Click Print command.**
4. Click
   Print the topic selected to print only the displayed topic.
   Print the selected title and all the sub-topics to print all the topics of the folder.

Printing tables correctly

The operation can slow down the printing. Untick the option after printing.

1. Display **Options menu.**
2. Click **Internet Options.**
3. **Click Advanced tab.**
4. Click to **Print colors and background images when Printing.**
5. OK

Printing text such as it displays on screen

1. Display **Options menu.**
2. Click **Internet Options.**
3. Accessibility Click.
4. Untick all the options of the dialog box.
5. OK

Printing personalized header and footer

Restore standard header and footer after printing.

1. Run Internet Explorer.
2. **Click Layout in File menu.**
3. Copy-paste **&w&b&p / &P variables into Header** (title of the topic and rank in the total of printed pages).
4. Copy-paste **Gravostyle Help&b&d into footer** (Name of the Help and short date).
5. OK

Gravostyle: Quickstart

1. **Set up** program in Windows
2. Plug the dongle on an USB port of the PC.
3. Click icon on Desktop to run the program.
4. **Type your name in License owner dialog box.** You customize user rights on the program, the rights enabled by the dongle plugged on the PC.
5. Customize the program in F10 Options.
   a. **General**
   b. **Click your Unit of measure, then your Language.**
   c.
6. A message warns that the program has to restart to display in your language.
7. Exit and run the program.

Keep the dongle plugged on PC when you work with Gravostyle.

What are the main stages to produce the composition to engrave?

Creating composition	Create the composition from scratch or by inspiring you of an existing composition.
Configuring composition	When the composition and the plate have the same rectangular surface, we can talk indifferently about plate or composition. When the plate has a different shape or dimensions, configure the composition to adapt it to the profile of the plate.
Setting objects	Enrich the composition with text, geometrical forms or images.
Common tasks	Memorize these actions you will execute frequently during composition.
Engraving composition	Once ended, the composition must be engraved on the plate. Fix the parameters and the tools that operate in the execution of the engraving, then transfer the composition from the program towards the machine.
Need Help?	Available at any time, the electronic documentation offers a skilled and user-friendly assistance to work with the program.
Software assistance	Mail the Gravotech Marking distributor for any request about commercial information, either technical support or program upgrade.

Make a machine ready to engrave

Make a machine ready to engrave with Gravostyle

Setting up a Gravostyle driver into Windows

Any Gravostyle driver and its components installed in Windows are systematically deleted.

> Deleting current driver...

When the driver can't be deleted Windows reboots. Restart the full driver setup.

1. Power off and unplug machine(s) from PC.
2. Power on the PC. Let Windows operating system start
3. **Open a session as Administrator.**
4. Right-click on Gravostyle folder. **Enable all the Authorizations to modify its contents.**
   a. Security Click tab.
   b. Everybody Click the User.
   c. **Click Full control in the Authorizations for Everybody.**
5. Double-click Gravostyle folder.
6. In Driver folder double-click the file that sets up the driver for your machine:

GRAVOSTYLE Rotary machine

6. Set up GT Smartstream driver (release 3.xx and later).
7. **Link PC and engraving machine. Plug the cable connectors onto** the USB port of the machine and an USB port of the PC.
8. Add the machine into Explorer or Gravostyle program.

LASERSTYLE GANTRY machine

6. Set up L-Solution driver (release 5.xx and later).
7. **Link PC and engraving machine. Plug the cable connectors onto** the USB port of the machine and an USB port of the PC.
8. Add the machine into Gravostyle/Laserstyle (release 6 and later).

LASERSTYLE GALVO machine

6. Set up Gravotech Laser driver (release 1.25 and later).
7. Find the IP address of the machine.
8. Link PC and engraving machine.
9. Add the machine into Gravostyle/Laserstyle (release 6 and later).

Managing Gravograph machines set up

The machine you've set up gets active in the list of Machines. Close window

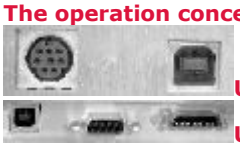
Setting properties in Gravostyle

Setting the properties in Windows

To run a machine from a non-Gravograph brand check that you have Graphic level and order the Post-processors for other tables option.

Make a rotary machine ready to engrave GRAVOSTYLE

The operation concerns rotary machines which rear face shows the connectors



UC_Sirius

UC_K2000

Setting up the driver

1. **Double-click the file .\Driver \GT_Smartstream\setup.exe**
   Follow the instructions shown by the setup wizard.
2. **Click the port used for the connection between PC and machine.**

Select the type of port for the communication with the machine
- (•) USB (is default)
- ( ) Other for COM port

Linking PC and machine

1. **Connect a single machine onto an USB port of the PC.** Power on the machine.

   > Connect the machine onto the port, power on

2. **The setup wizard checks the compatibility between the GT Smartstream driver and the machine firmware** program executing engraving instructions).
   • When they are **compatible the setup jumps to step 4.**
   • If need be, the firmware will be updated. The machine beeps twice when the operation is done.

   > Updating firmware

3. Power off the machine, then power on again.

   > Power off the machine
   > Power on the machine

4. **The machine is automatically detected as new device** on an USB port of the PC (scanner, printer, camera...).
   Click "Program correctly set up" in Program Compatibility wizard of Windows.
5. **Click Printers in Start menu.** Check that the machine displays as new printer
6. **Rename the printer** with the name of the machine.

Adding machine

1. Double-click the icon on Desktop to run the program.
2. GRAVOSTYLE
3. Machines window opens automatically when no machine has been added.
4. Click **Add a machine.**
5. Click the **machine type.**
6. Right-click the **exact machine name.**
7. **Click Add machine** in context menu.
8. In List of installed printers **click the printer with the exact machine name.**
9. Click in Configure output.
10. **Click in Machine Properties.**

Make a GANTRY machine ready to engrave LASERSTYLE

Setting up the driver

1. **Double-click the file .\DRIVER\LSolution\setup.exe**
   Follow the instructions shown by the setup wizard.
2. **Click the port used for the connection between PC and machine.**

Select the type of port for the communication with the machine
- (•) USB (is default and recommended)
- ( ) Other for COM/LPT port

Linking PC and machine

1. **Connect a single machine onto an USB port of the PC.** Power on the machine.

   > Connect the machine onto the port, power on

2. **The setup wizard checks the compatibility between the L-Solution driver and the machine firmware** (embedded program executing engraving instructions).
   • When they are **compatible the setup jumps to step 4.**
   • If need be, the firmware will be updated. The machine beeps twice when the operation is done.

   > Updating firmware

3. Power off the machine, then power on again.

   > Power off the machine
   > Power on the machine

4. **The machine is automatically detected as new device** on an USB port of the PC.
   Click **"Program correctly set up" in Program Compatibility wizard of Windows.**
5. **Click Printers in Start menu.** Check that the machine displays as new printer
6. **Rename the printer** with the name of the machine.

Adding a machine

1. **Double-click the icon on Desktop to run the program.**
2. LASERSTYLE
3. Machines window opens automatically when no machine has been added.
4. Click **Add a machine.**
5. Click the **machine type.**
6. Right-click the **exact machine name.**
7. **Click Add this machine** in context menu.
8. In List of installed printers **click the printer with the exact machine name.**
9. **Click in Configure output.**
10. **Set machine properties in Laser Installation.**
    a. Click the **Bridge fitted on the machine.**

    b. Click machine ports available **USB**
    c. **Click Laser power** (from 10Watts see plate at the machine back).
    d. (more information in manual attached)
11. OK
12. **In List of installed printers click the printer with the exact machine name.**
13. Click in Configure output.
14. **Click in Machine Properties.**

Make a GALVO machine ready to engrave LASERSTYLE

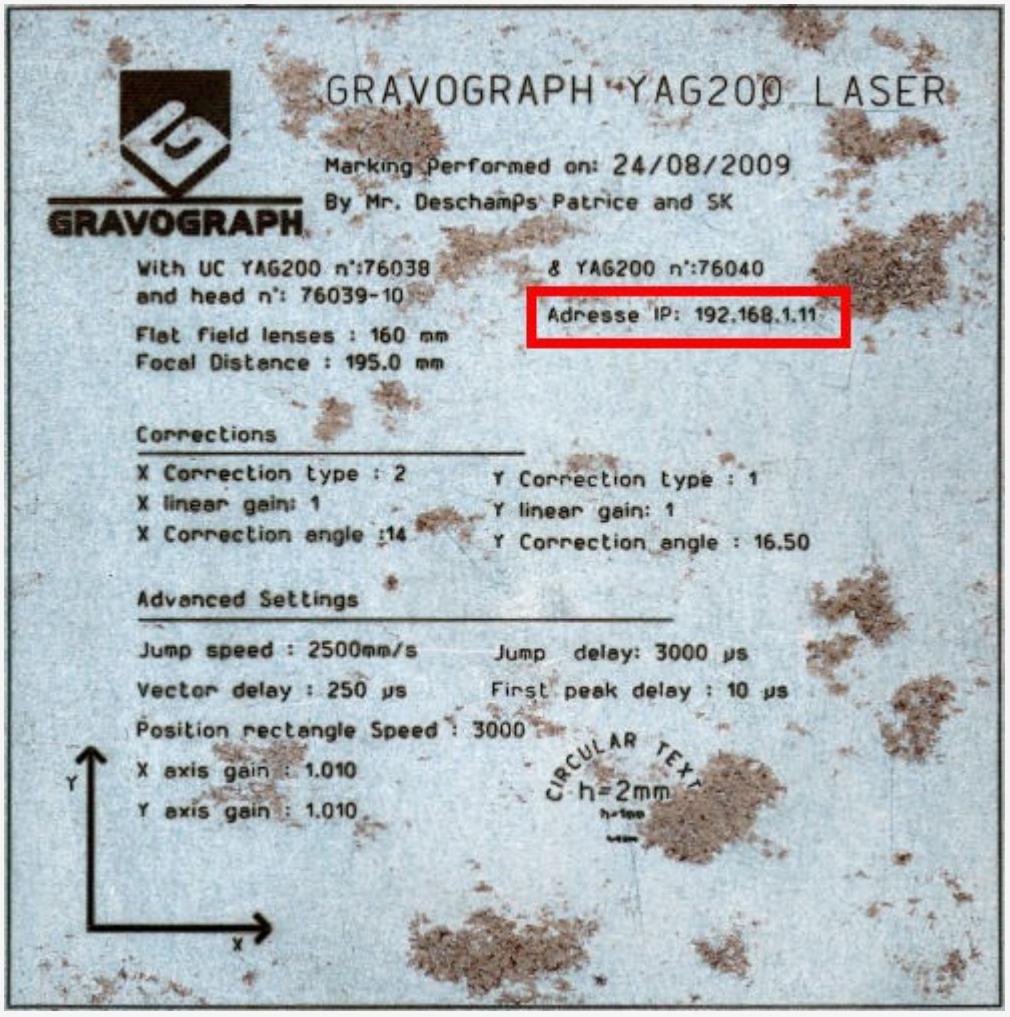
Plug the connectors of the RJ45 cable onto Ethernet port of the machine and onto Ethernet port of the PC.

Finding the IP address of the machine

It is necessary for data exchange between PC and machine managed by TCP/IP protocol.

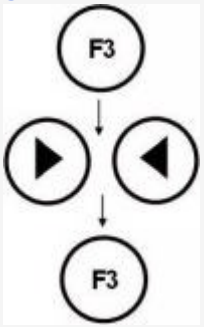
If a problem occurs during the operation call out the software support.

Note the IP address e.g. 192.168.1.11 engraved on machine plate.



When IP address is missing retrieve it using machine firmware (embedded program managing engraving instructions) or from Windows.

1. Press F3 key on the front face the UC to display **"Information system" menu.**
   The menu gives access to **two submenus.** Use arrows to browse from a menu to another one.
   The first menu contains general parameters (date, hour...).
   The second menu summarizes software UC/network configuration with IP address. These technical information will be mailed to the distributor or to the software support in case of problem.
2. Press F3 key to return to main menu.



Setting up the driver

Double-click the file .\Driver\Gravotech Laser\setup.exe
Follow the instructions shown by the setup wizard.

Linking PC and machine

1. **Click Printers** in Start menu.
2. **Right-click in Printer list.**
3. Click **Add printer in contextmenu.**

a. Click **Add local printer**

b. Click to **Use existing port:**

c. Click **IP address of the machine like "192.168.1.11 (TCP/IP standard port)".** Click Next>

4. Click **No** to avoid selecting the machine as default printer.
5. Click **Do not share this printer.**
6. Click **No** to avoid printing the test page.
7. Finish Click.
8. Finish Click. Check that the machine displays as new printer

Adding a machine

1. **Double-click the icon on Desktop to run the program.**
2. LASERSTYLE
3. Machines window opens automatically when no machine has been added.
4. Click **Add machine.**
5. Click the **type of the machine.**
6. Right-click the **exact machine name YAG or FIBER.**
7. **Click Add this machine** in contextmenu.
8. In List of installed printers **click Gravotech Laser.**
9. **Click in Configure output.**
10. **Click Focal choice in Installation dialog box** (from F160).
11. (more information in manual attached)
12. Exit Click

Target-machine: Managing in Gravostyle

Designate by default

Close When you close Machines dialog box, a message will ask if the engraving area of the default target machine become the default dimensions.

Yes Click to assign these dimensions to each blank composition.

1. Right-click a target machine.
2. **Set as default**

The default target machine gets active in Material dialog box.

Delete

Delete the Windows printer linked to the target machine.

1. Right-click a target machine.
2. **Delete**

Properties

Modifying target machine properties or editing post-processor contents are for skilled users only. Inadequate parameters or data can damage the engraving process.

1. Right-click a target machine.
2. **Properties**
3. Set the **Machine Properties provided by the post-processor of the target machine** regularly updated at the factory.

Name	Machine commercial brand
Dll	Name of the post-processor file More Accessing post-processor contents
Overall dimensions	Minimum and maximum engraving areas
Point standard	Position of the workspace origin and XYZ coordinates in engraving area
Axes	2D/3D/4D (or more) engraving reference according to mechanical capacities of the machine

GRAVOSTYLE Using an output different from Windows spooler

1. Output Click in **Machine Properties.**
2. **Click the output in Configure output.**
   In a file: you save the engraving data as a file into Draws folder for subsequent transfer to Rotary machine. Type the name of the current composition, followed by the extension . Uxx (xx is the number of the file created).
   Automatic files
3.

Target-machine: Managing in Windows

1. **Click Printers** in Start menu
2. **Right click the printer linked to the engraving machine**
3. **Click Properties** in contextmenu.

Enabling management rights on printers	a. Security Click tab. b. Everybody Click the user. c. **Click Authorizations for Everybody** **Printing** **Managing printers** **Managing documents**
Updating driver for a target machine	a. Advanced Click tab. b. New driver Click. c. Next> **Click in Add printer Wizard.** d. Have disk Click. e. Browse Click. f. **Double-click the file** **.DRIVER\GT Smartstream\GT_Smartstream.inf for rotary machine** **.DRIVER\LSolution\glaser.inf for Gantry machine** **.DRIVER\Gravotech Laser\GravotechLaser.inf for Galvo machine** g. OK h. Next> Click. i. Finish Click.
Selecting the type of data transferred to another machine	a. Advanced Click tab. b. Print Processor Click. c. **Click RAW** default data type.
Selecting the type of data transferred to a GALVO machine	a. Ports Click tab. b. Configure port Click to display the properties of the TCP/IP port. c. Protocol Click **RAW.** d. Check that the **port Number is 9100.** e. OK

4. Close Printer properties.
5. Close Print manager.

Finding the IP address of a GALVO machine

1. Click in Start menu to open DOS command.
2. **Type "ping"** command to get the IP address of the machine powered up and connected to PC.
3. **Note the IP address with 192.168.1.11 type** which follows the ping command.
4. Make the machine ready to engrave.

Connect an additional Gravograph machine

Before connecting a rotary machine and a laser machine both onto the same PC,

GRAVOSTYLE Make the rotary machine ready to engrave.

LASERSTYLE Make the laser machine ready to engrave.

Run MajFirmware.exe utility

To connect several machines the PC must have at least 4 free USB ports.

1. Connect only the additional machine on an USB port of the PC. Power on.
2. **Double-click the file .\Firmware\MajFirmware.exe from the disk used to set up the program.**

Differentiate two machines with the same name

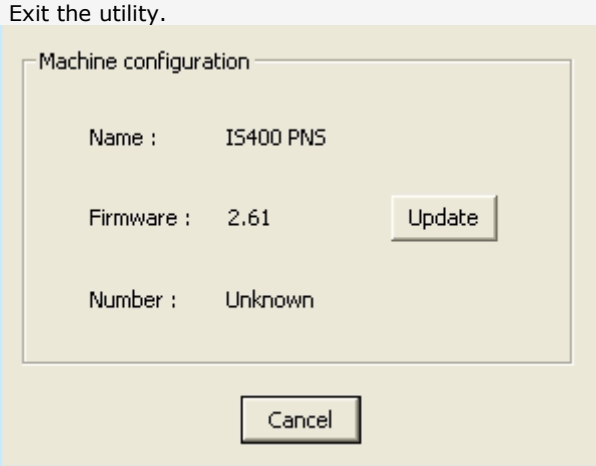
The additional machine has the name of a machine already connected to the PC.

1. Run MajFirmware.exe utility
2. Update Click opposite **Number parameter: type a different number for each additional machine.** Number 0 remains the number of the first machine set up.
3. Exit Click.

Update the firmware of the additional machine

When the driver for the additional machine is already set up in Windows, check that it is compatible with the machine firmware.

1. Run MajFirmware.exe utility
2. **Check Number parameter. Its value is**
   - **"Unknown": firmware and driver are not compatible.** Update the firmware.
   - a number: firmware and driver are compatible. Cancel Exit the utility.



3. Update Click opposite **Firmware parameter**
4. **Double-click the file to be sent to the machine to update the firmware.**

rotary only

.\FirmwareUC_Sirius\vp_prog.dos

rotary or laser

.\Firmware\UC_K2000\vp_prog.dos

5. Send file to machine Click. The machine beeps at the end of operation.
6. Exit Click.

Display composition

Composition: Display

Displaying a different composition closes the current composition.

New composition	Create an empty composition or from a model.
Open existing composition	Run a composition or a model designed and saved as Gravostyle file.
Save current composition	Save the composition onto disk • to modify it later. • to use it as model for new compositions.

Managing GNH files

1. **Open filebrowser.**

   Ctrl Shift O

2. Click where the required file is **(DRAWS is default).**
3. **Click**

   Gravostyle/Laserstyle (*.gnh) file type.

   a sorting mode (name, date, etc.).

   a view (thumbnails with preview, files with or without properties).

   Resize thumbnails
4. **Right-click the required GNH file**
5. **Click the operation to carry out** on the selected file and relative files (toolpath, Type Art surface, etc.)

Rename

Type the new name. Enter

Delete

Yes Click to confirm.

Copy/Paste
Cut/Paste

a. Copy or Cut

b. Click the spot where the file will be duplicated or moved.

c. Paste file

What types of file can be open and saved in Gravostyle?

		File types	Definition
✓	✓	**Gravostyle (*.gnh)**	Composition designed and saved as file in Gravostyle
✓	✓	**Gravostyle (*.vnm)**	Composition template created and saved in Gravostyle
✓	✓	**Gravostyle98 (*.vnd)**	Composition designed and saved as file in Gravostyle 98 program for Windows NT Arial Select each font that will replace the fonts missing to display text of the file open.
✓	✓	**Gravostyle (*.bak)**	Backup file to open in Gravostyle when matching *.gnh file is corrupted

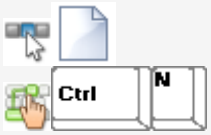
New composition

Save the new composition under a name different from "Untitled".

Blank composition

On each program starting up a blank composition displays automatically.

1. **Enable New command.**



2. Configure composition.

Creating from a template

The new composition is a copy of the selected model.
It contains all the objects placed in the basic model.
The default font replaces each police missing to display text.

1. **Open the model**
2. Click where the required file is **(MODELS is default).**
3. **Select file.**
   For a quicksearch, click in list, type the first character of the name.
   Point over its icon. Its name, its type, its size and its last saving date display.
4. **Click its name.**

Open an existing composition

Open a saved composition

File name displays in title bar.

Arial Click each font that replaces in Gravostyle a font missing to display the text of the imported file.

1. **Open file.**

   Ctrl O

2. Click where the required file is **(DRAWS is default).**

3. **Select GNH file.**
   For a quicksearch, click in list, type the first character of the name.
   Roll over its icon. Its name, its type, its size and its last saving date display.

4. **Click its name.**

Open a GNH file among the four last open

Click its name among Recent files in Homemenu.

Save composition

Save as composition

The composition is saved as **file under the same name with .gnh format**

☐Tick Save as VNX to save a copy of the file under neutral format.

☐Tick Save paths to keep existing CAM paths.

1. **Enable Save as command.**

2. Locate where the file will be saved **(DRAWS is default).**
3. Type Comments.
4. **Type composition Name.**
   • to replace an existing file, click its name in the list.
   • to save a new file, delete the "*" character and type a name different from those shown.
5. Save Click. File name displays in title bar.

Save as model

The model is saved from a copy of the current composition, **as file under the same name with .vnm format.**

1.
2. **Execute 2 - 5 steps in Save as composition procedure.**

Material mode

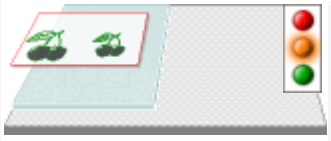
Working in Material mode

Active for each blank composition the mode is basically used to configure the composition according to the profile of the piece to be engraved.

Set specifications according to the constraints hereunder.

- Dimensions in relation to the surface, the volume and the shape of the piece (plate, non-rectangular shape, cylinder)
- Margins delimiting the engraving zone in composition
- Machine choice (max. engraving area, max. strokes and clearances)
- Engraving orientation (upside or reversed in relation to the material, 180° or 90° rotation)
- Engraving origin linked to the accessory used to clamp the piece on the machine (table, vice or cylinder engraving)
- Parameters for cylinder engraving (piece diameter, type of cylinder attachment)

1.
2. Key in dimensions and margins.
3. Set engraving properties.
4. Check that the composition configuration is correct. Read the comments posted in Info field.

	The configuration is correct. The composition (red frame) stays in engraving area (grey surface).
	The composition is physically outside the engraving area. However its surface does not exceed engraving area. Correct the orientation or the origin. Configure the composition • on cylinder if the machine is equipped with the adequate accessory. • on long plate.
	Engraving is impossible. The surface of the composition exceeds the engraving area, beyond height and length. Correct composition dimensions. Click a target-machine with a bigger engraving area.
max. Nb. plates	When you produce a Matrix series the value shows the total of elementary plates in engraving area.

The dynamic assistance helps you to optimize the composition configuration for safer machining.

- For example it indicates the max. number of plates in engraving area for Matrix series.

- It suggests solutions to correct possible composition overflows outside the engraving area (changing origin or orientation, choosing a machine with a larger engraving area, auto-activation of long plate mode).

Material and Engraving Wizard

A. Open Material window

B. **Click to open Material and Engraving Wizard.**

Restoring Material window

C. Let the wizard guide you to configure

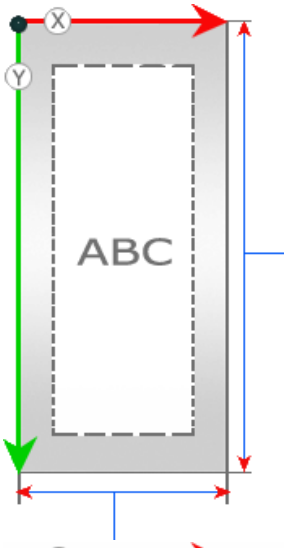
Plate engraving

Ring engraving

Bracelet engraving

D. **Click the mode to compute the engraving zone in object surface.**

Automatic



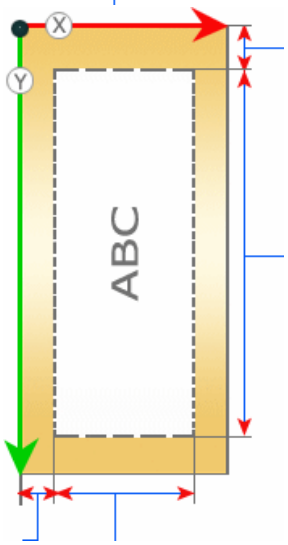
You view

- **X height and Y length of the object surface to engrave.**
- **the engravable zone delimited by a dotted frame.**

The proportional margins systematically centre the engravable zone inside object surface.

Click automatic mode to recenter the engravable zone inside object surface.

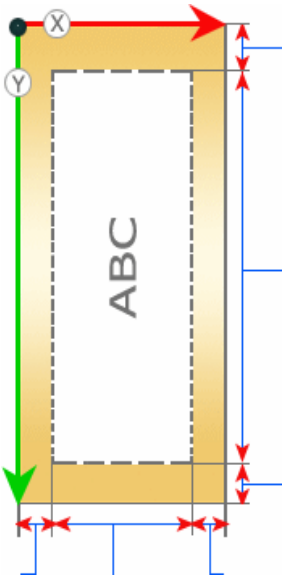
Centred



Key in the top or the left margin or one dimension of the engravable zone.

Margins and dimensions are recomputed to centre the engravable zone inside object surface.

Click centred mode to restore standard values.



Free

Key in a margin or a dimension of the engravable zone.

Margins and dimensions are recomputed to keep the engravable zone inside object surface.

You can bound and position the engravable zone inside object surface using Point&Shoot.

Engraving properties

Composition: Engraving properties

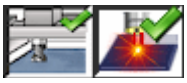
1. Click Engraving properties tab in Material.
2. Set the engraving properties below.
3. Check that the composition configuration is correct.

Click the active target machine which will engrave the current composition. The engraving area delimits the max. surface to engrave.

Cancel Click when there is none. Add the target machine. Click the new machine in Material.

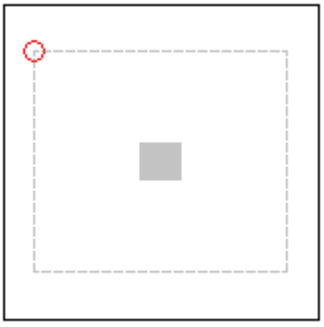
Click to enable ArtFoil hot stamping using M40 machine.

Click the engraving orientation: normal or rotated



Set the engraving origin: centre or top left corner

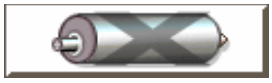
Tick to activate the restricted engraving zone when you select a GALVO machine



The restricted engraving zone allows to avoid, when in the contact of a thoughtful material, the laser beam raises upright and damages the machine.

The size of the restricted enraving zone varies with the used focal, its position depends on the engraving origin.

The restricted engraving zone materializes by a grey rectangle fixed in the composition surface and saved into job.



If need be set the parameters for

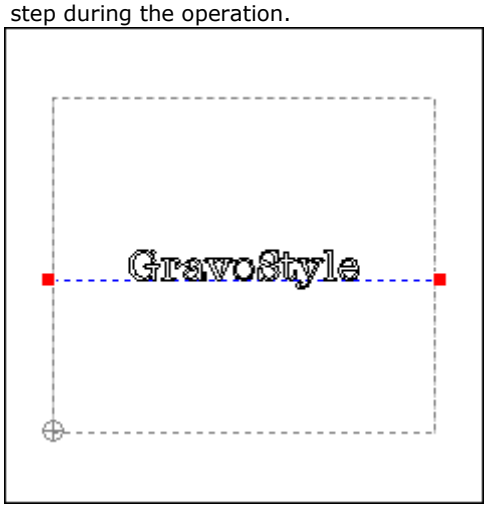
Engraving or GANTRY lasering on cylinder

GALVO lasering on cylinder

To engrave a ring using Jewel machine refer to instructions relative to this specific case of cylinder engraving.

Setting dimensions and margins

It is recommended to configure engraving using Material and engraving Wizard that will guide step-by-step during the operation.



The outer frame delimits the composition surface in accordance **with its dimensions.**
The dotted frame represents the margins that separate the zone reserved for the text from the border designed to clamp the plate.

You can customize the color of the composition and the margins.

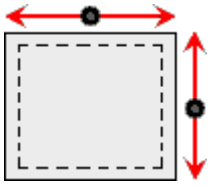
When the new dimensions/margins decrease the line length due to the text typed on, text will automatically be compressed.

You can Point&Shoot on plate the surface and the origin of the composition.

Click Dimensions and margins tab in Material window.

Material dimensions

When one dimension exceeds the height of the engraving area, the other must be less than the engraving area length (limit of tool motion along X axis).
A message will ask to confirm that dimensions selected are higher than engraving area dimensions.
Yes Click if you are configuring a composition on cylinder or on long plate.



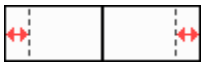
1. Key in the length at most equal to the length of the engraving area.
2. Key in the height at most equal to the length of the engraving area.
3. Key in the thickness at most equal to the depth of the engraving area.

Composition margins

When you set text in manual mode all the default margins are void.

Proportional margins

Click **Margins auto-correction.**



Left and right margins equal each 15% of the composition length.

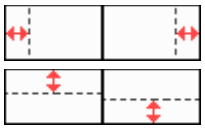
Top and bottom margins equal each 10% of the composition height.

Margins equal left margin

1. Click **Same margins.**
2. Key in left margin.

Different margins

1. Check that no box is clicked.
2. Key in each margin.



Distance between left and right margins must be between 0.01 mm and composition length.

Distance between top and bottom margins must be between 0.01 mm and composition height.

Customizing standard dimensions and margins

Standard dimensions equal
• the default target machine area.
• 1,000x1,000mm when not target machine has been created.

1. Material in F10 Options
2. Key in dimensions and margins as described above

Display a blank composition using latest default dimensions and margins.

Set composition origin

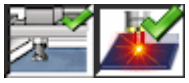
You can use Point&Shoot function to set machine the composition dimensions or origin.

1. Click Engraving properties tab in Material.
2. Select the origin depending on the composition location in engraving area (center or left). **Click a fixed or a floating origin.**

The composition origin will become floating when it does not match any fixed origins. This is the case when:
• The plate footprint does not allows to set it at the center or at the left corner of the engraving area.
• The composition position on the plate offsets its origin in relation to the center or the left corner of the engraving area.

Machine center

The composition origin matches the center of the engraving area. **This fixed origin is recommended to engrave using a self-centering vice. The accessory allows to center plates in engraving area.**



Machine left origin (is default)

The composition origin matches the top left corner of the engraving area. **This fixed origin is recommended to engrave plates at low pressure, or t-slot or clamping tables. This accessory allows to set the plate in top left corner of the engraving area.**

Floating center

Key in XY coordinates for the composition center. Default settings:
• X coordinate equals half the length of the engraving area.
• Y coordinate equals half the height of the engraving area.

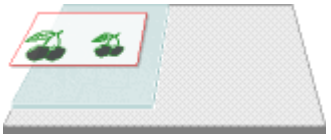
Floating left corner

Key in XY coordinates for the top left corner of the composition (default is zero).

You can click a floating origin only when the composition surface is less than the engraving area.
Check that the position of the floating origin does not push the composition outside the engraving area. If such overflow is detected during engraving transfer, a message will ask you to correct the XY coordinates of the floating origin.

Correct floating origin

The top left corner of the composition (red frame) remains within the engraving area (gray surface).
The plate (green surface) is fixed at the top left corner of the engraving area.



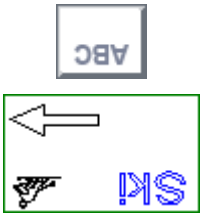
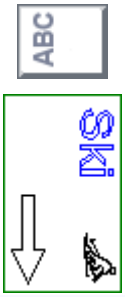
Incorrect floating origin

The top left corner of the composition is outside the engraving area.
Only the portion of the composition inside the engraving area will be engraved onto the plate.

Setting composition orientation

1. Click Engraving properties tab in Material.
2. **Click the orientation adapted to the material to engrave and to** composition dimensions.

Any orientation is available when composition dimensions are less than the height of the engraving area.

The other dimension will not exceed the height of the engraving area.	**Normal when composition length** is more than the height of the engraving area.		**90°-rotation when composition height is more the height of the engraving area.**	
Upside to engrave material surface				
Reversed to engrave in-depth materials with a transparent top layer (Gravoglas 2)				

Engraving or GANTRY lasering on cylinder

Refer to the manuals joined to machine and to cylinder attachment.

You can Point&Shoot on cylinder the surface and the origin of the composition.

1. Set dimensions and margins.

   When the height or the length of the composition is more than engraving area length, a message will ask to confirm that dimensions selected are more than engraving area.
   Yes **Click to configure the composition on cylinder.**

2. Click Engraving properties tab in Material.

3. **Click to enable cylinder engraving.**

4. Set parameters for cylinder engraving.

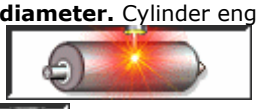
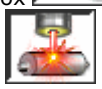
5. Set origin for cylinder engraving.

6. Click in Material dialog box

LASERSTYLE

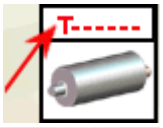
Parameters for GANTRY marking

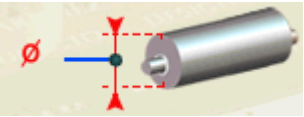
Key in cylinder diameter. Cylinder engraving is active

- in Material dialog box 
- in Laser dialog box 

GRAVOSTYLE

Parameters for Tool engraving

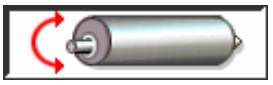




Click the engraving accessory

- **TC** for cylinder attachment
- **TS** for pen attachment
- Outer ring
- Inner ring

1. **Key in cylinder diameter between** min. and max. values accepted by the attachment selected.

2. Cylinder engraving is active 

TS TC The name of the active attachment will be displayed as a button in **Machining.**

Check the composition on cylinder in engraving preview.

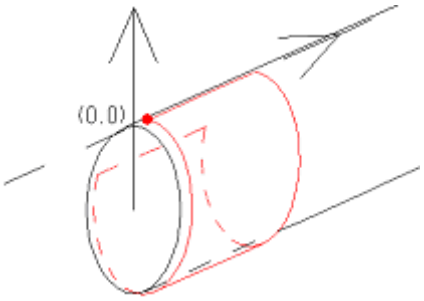
Setting origin for cylinder engraving

Composition origin is computed from cylinder origin, e.g. the left end of its symmetry axis.
X coordinate is composition width from cylinder left origin.
Y coordinate sets composition length around the surface of cylinder in rotation.

Click the origin relative to the composition location on cylinder

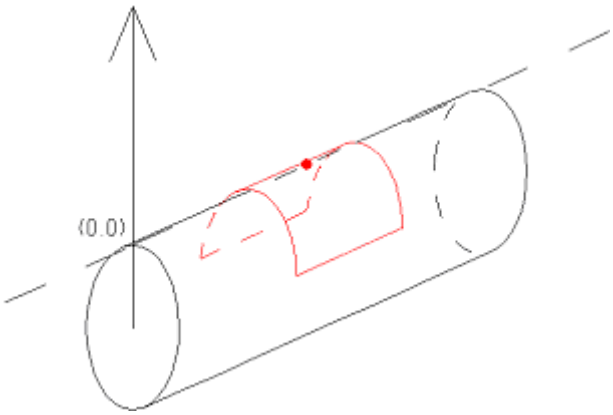
Left top corner (is default)

Composition origin is **the left extremity of cylinder symmetry axis.**



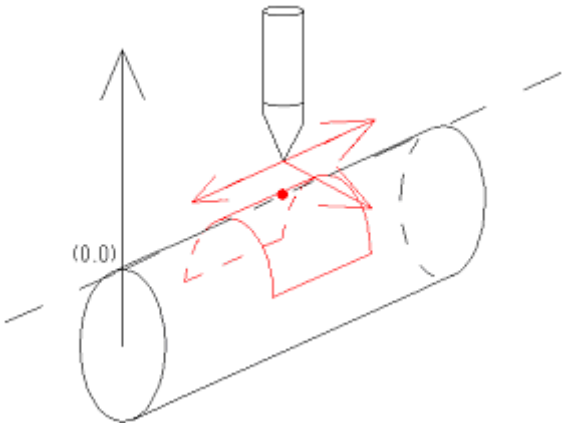
Centre

Composition origin is **the centre of cylinder symmetry axis. The fixed origin is recommended to engrave partly cylindrical items like a mug or a pen**



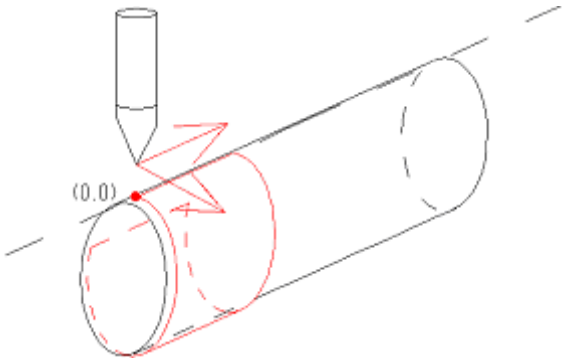
Floating centre

Key in XY coordinates of composition centre from cylinder left origin.
Default settings:
• X coordinate equals half the engraving area length.
• Y coordinate is zero



Floating left corner

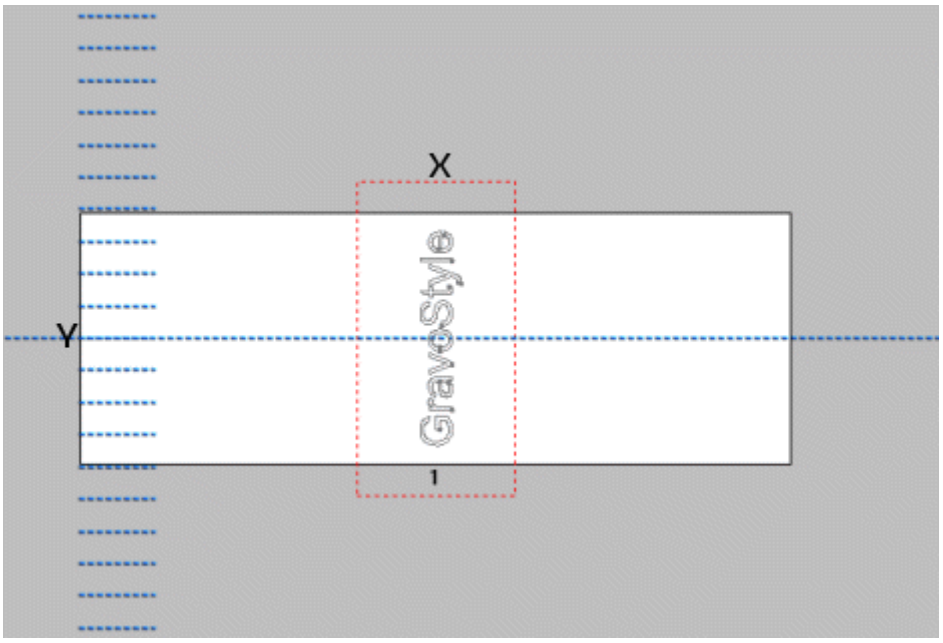
Key in XY coordinates of composition top left corner from cylinder left origin (default are 0, 0).



Checking composition on cylinder in engraving preview

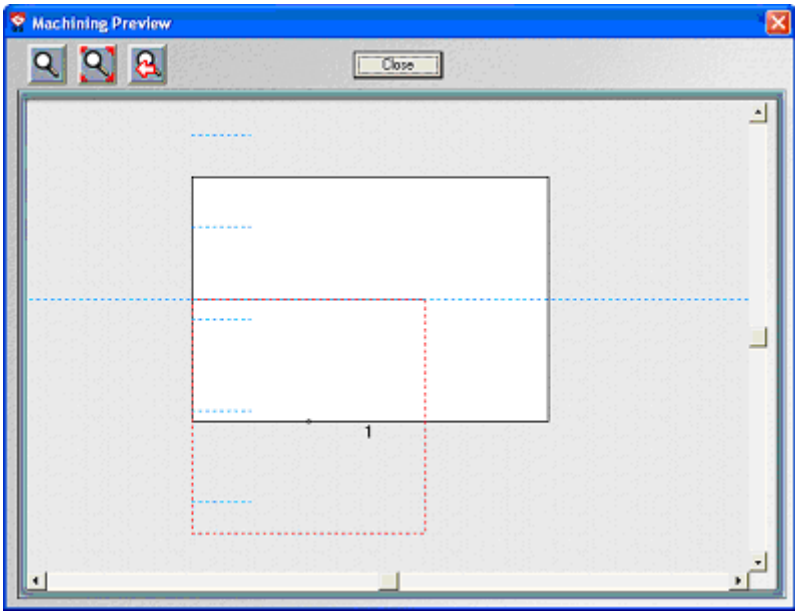
Preview Click in Machining dialog. **Following display in dotted blue**
- **the symmetry axis of the cylinder** which left end is centered on the engraving area height (Y coordinate).
- **the successive rotations** of the cylindrical item with a step calculated using item diameter.

Composition surface is red dotted.



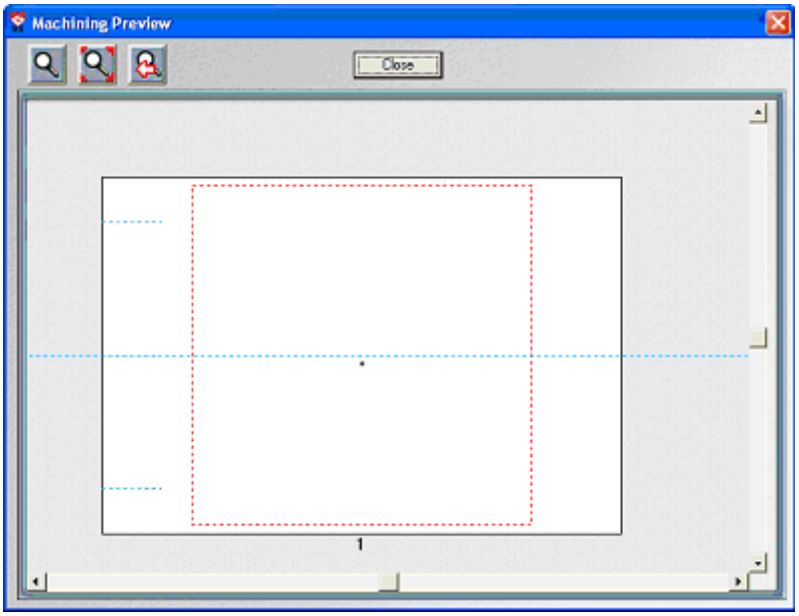
Top left corner on cylinder origin

The composition can overflow machine area when the origin is the left end of cylinder symmetry axis.

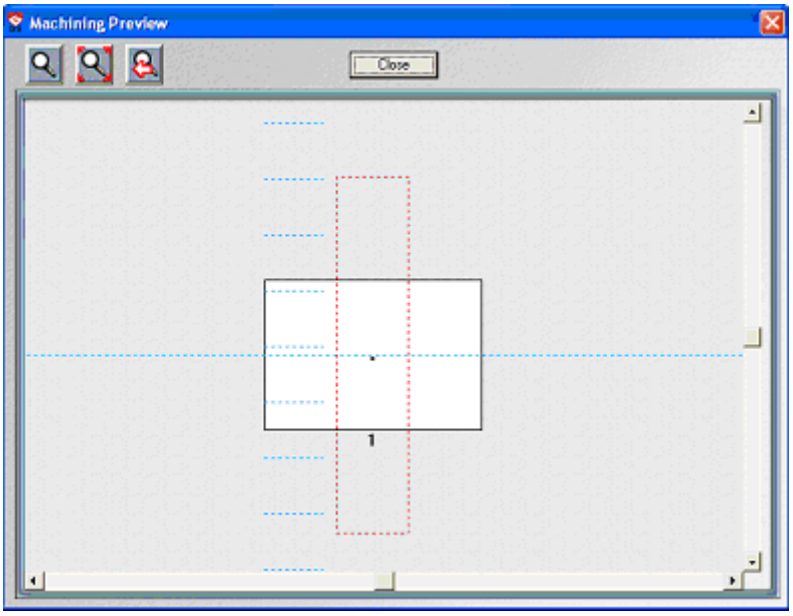


Centre of cylinder symmetry axis

The composition is centred on symmetry axis.



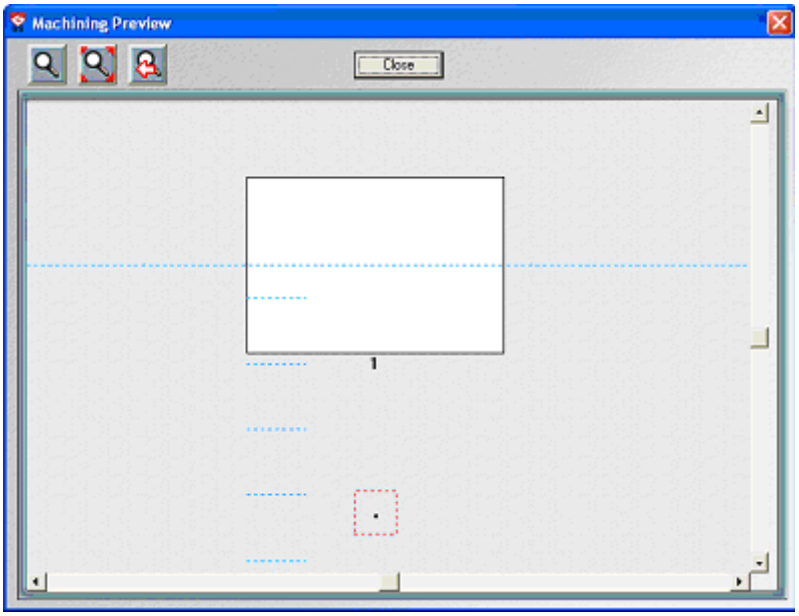
The composition overflows the machine area when one of its dimensions is more than machine area height. The cylinder can make several rotations so its surface gets engraved.



Floating centre from cylinder origin

Floating left corner from cylinder origin

A floating origin is recommended when the composition is outside machine area. The cylinder can rotate at least one round before engraving starts.

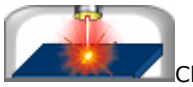
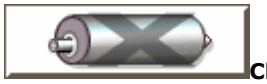


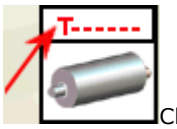
Engraving: GALVO lasering on cylinder LASERSTYLE

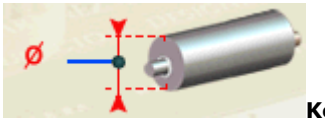
Refer to the manuals joined to machine and to cylinder attachment.

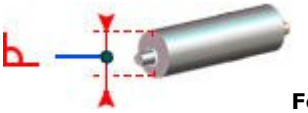
1. Set dimensions and margins.

   The length of the composition must be lower than the cylinder circumference.

2.  Click Engraving properties tab in Material.
3.  **Click to enable cylinder engraving.**
4. Set parameters for cylinder engraving.

a.  Click the engraving accessory

b.  **Key in cylinder diameter between** min. and max. values accepted by the attachment selected (400mm max.).

c.  **For the internal marking of a tube key in the angle of the cylinder attachment,** when the accessory is designed to tilt.

d. Cylinder engraving is enabled

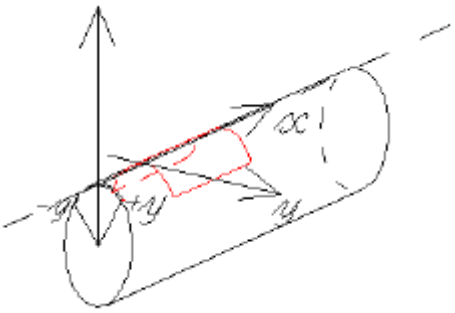
in Material dialog box.

in Laser window. Check the composition on cylinder in engraving preview.

5. Set origin for cylinder engraving.
6. Click in Material dialog box

Assigning a path for cylinder marking in indexed mode

The cylinder attachment turns the cylinder by partial rotations following successive Y coordinates. The laser beam marks the surface by vectors along XY axes, without cylinder motion. The cylinder dimensions set the maximum marking surface.



1.
2. Click color in Laser bar.
3. Click to assign it the path for cylinder marking.
4. Select an object or select text.
5. **Click the color of the bar that matches the path for cylinder marking in indexed mode.**

If need be speed up the rotation of the cylinder attachment.

In Laser window, key in a marking speed lower than

50mm/s for raster filling

10mm/s for vector plotting

Ring engraving using M20/10 Jewel machine GRAVOSTYLE

It is recommended to configure ring engraving using Material and engraving Wizard that will guide step-by-step during the operation.

Refer to the manual attached to machine.
Regarding to the short overall size of a ring, it is less easy to Point&Shoot dimensions or engraving origin.

1. Set dimensions and margins.

   Key in an height equal to ring width. 9mm is the max. width jaws can clamp for an inner engraving.

   When the composition length is more than the engraving area a message asks to confirm the value.
   Yes **Click to configure the composition on cylinder.**

2. Click Engraving properties tab in Material.
3. **Click machine.** If need be add the target machine.
4. Click to enable cylinder engraving.
5. Set parameters to engrave ring.

	Inner engraving	Outer engraving
a. **Click the engraving mode.**		
b. **Key in cylinder diameter between (13mm is default)**	**12.5 and 27mm**	**12.5 and 24mm**
c.		

6. Click engraving origin and orientation in Material dialog box. Click

	Inner engraving	Outer engraving
Orientation	**-90° reversed**	**-90° normal**
Origin	**right edge of ring X=0 and Y=0**	

7. Set objects to engrave into composition.
8. Ring **Engraving mode features as a button in Machining.** Set properties for tool engraving.

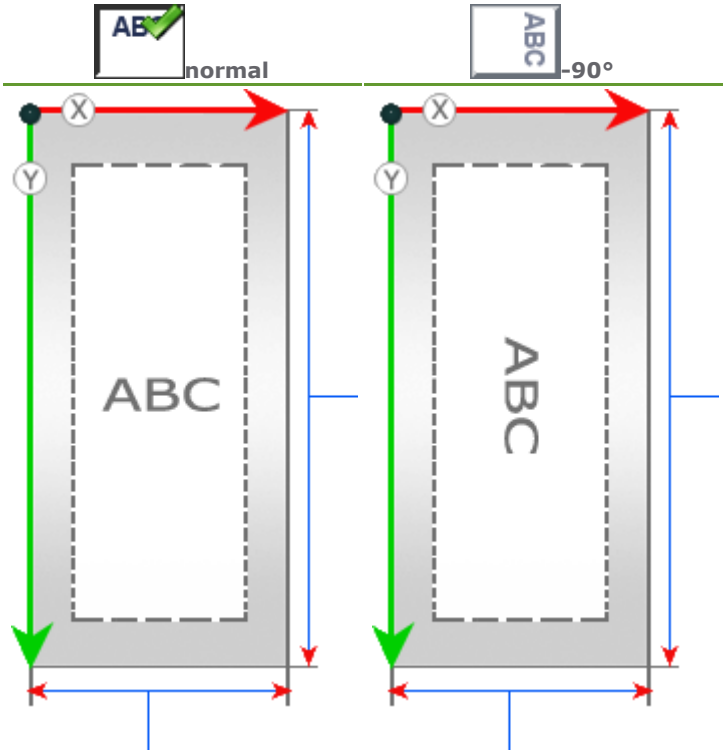
Systematically tick Auto Zref parameter.

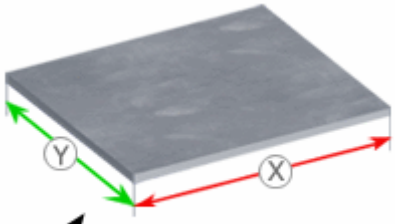
Key in

- a null depth to simulate engraving.
- **a depth higher than 0 to engrave material.**

Plate engraving using Wizard

1. Open Material and Engraving wizard
2. **Click Plate (thick rectangular material).**
3. **Key in plate width and height lower than the area of the active machine.**
4. Click machine Add target machine if need be.
5. **Click the Accessory that clamps the plate during engraving (vice, plate or table).**
6. **Click the engraving orientation on plate (normal is default).**

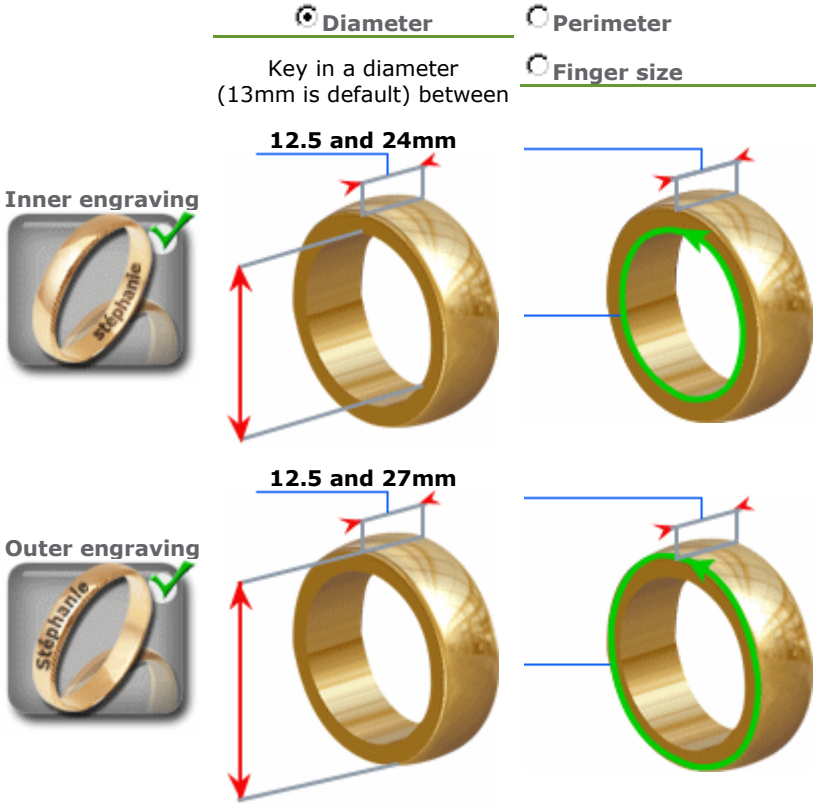




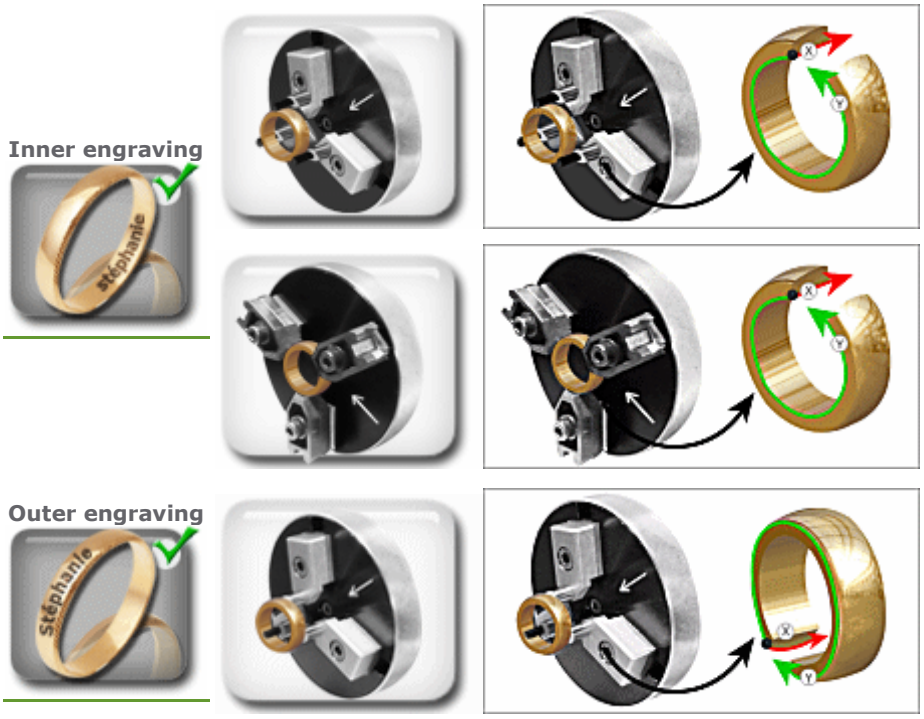
7. **Click the mode to compute the engravable zone in object surface.**

Ring engraving using Wizard GRAVOSTYLE

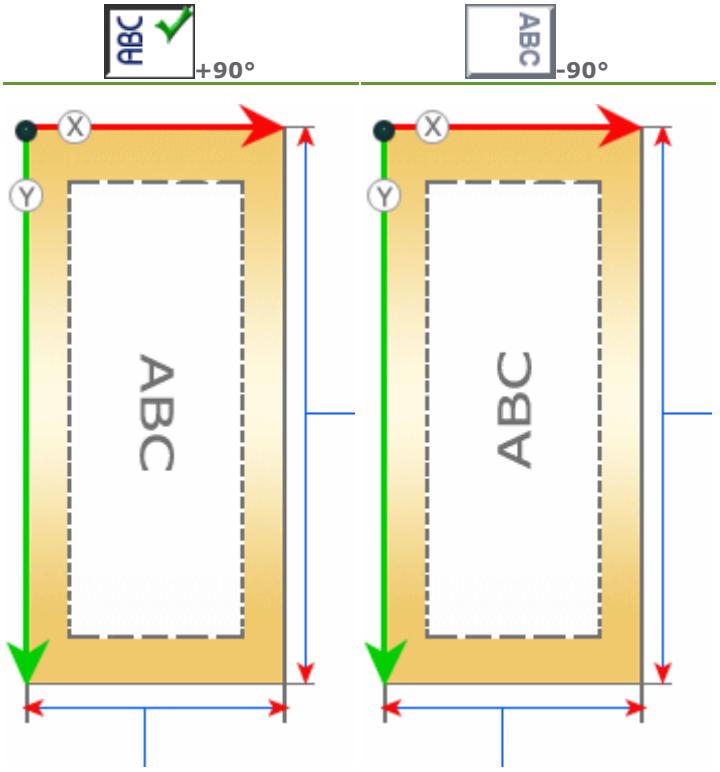
1. Open Material and Engraving wizard
2. Click Ring.
3. **Click the engraving position on ring (inner engraving is default).**
4. Set ring dimensions.
    a. **Key in the width.**
    b. **Click the second parameter. Key in the value.**



6. Click machine Add target machine if need be.
7. **Click the jaws that clamp the ring when engraving (alu jaws are default).**
   X height and Y length of the object surface display.



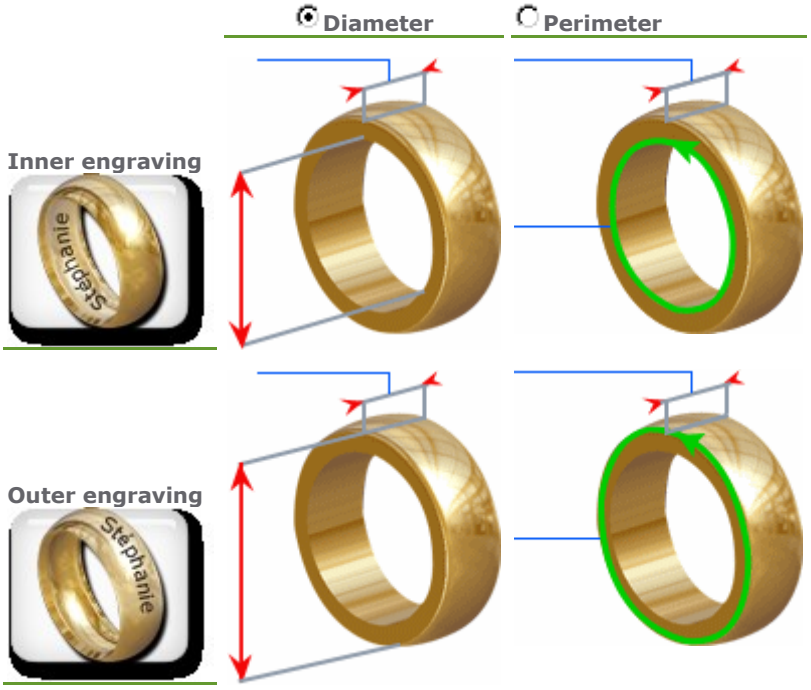
8. **Click the engraving orientation on ring (+90° is default).**



9. Click the mode to compute the engravable zone in object surface.

engraving Bracelet using Wizard GRAVOSTYLE

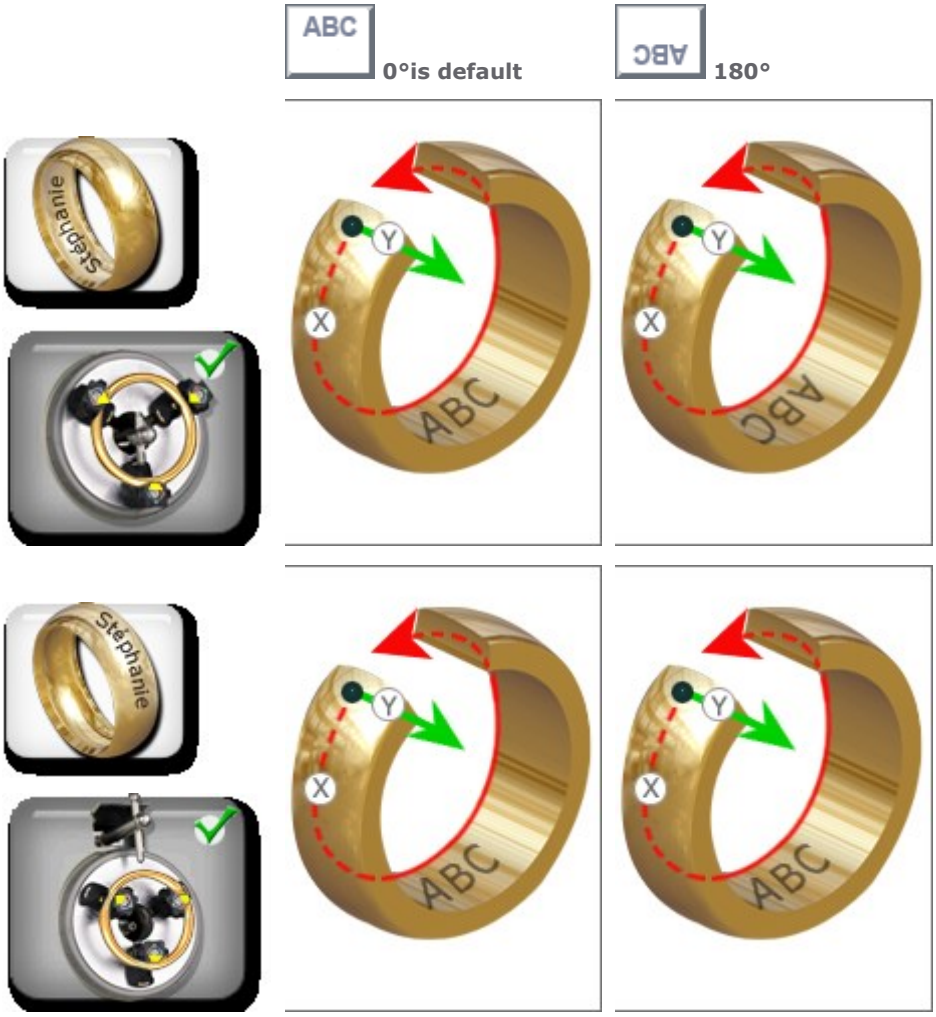
1. Open Material and Engraving wizard
2. Click Bracelet.
3. **Click the engraving position on object (inner engraving is default).**
4. Set object dimensions.
    a. **Key in the width (9mm is default).**
    b. **Click the second parameter. Key in the value.**



5. The machine is preselected Add target machine if need be.
The jaws that clamp the object when engraving are preselected.
X height **and** **Y length** of the object surface display.

6. **Click the engraving orientation on object.**

7. Click the mode to compute the engravable zone in object surface.



ArtFoil hot stamping using M40 machine

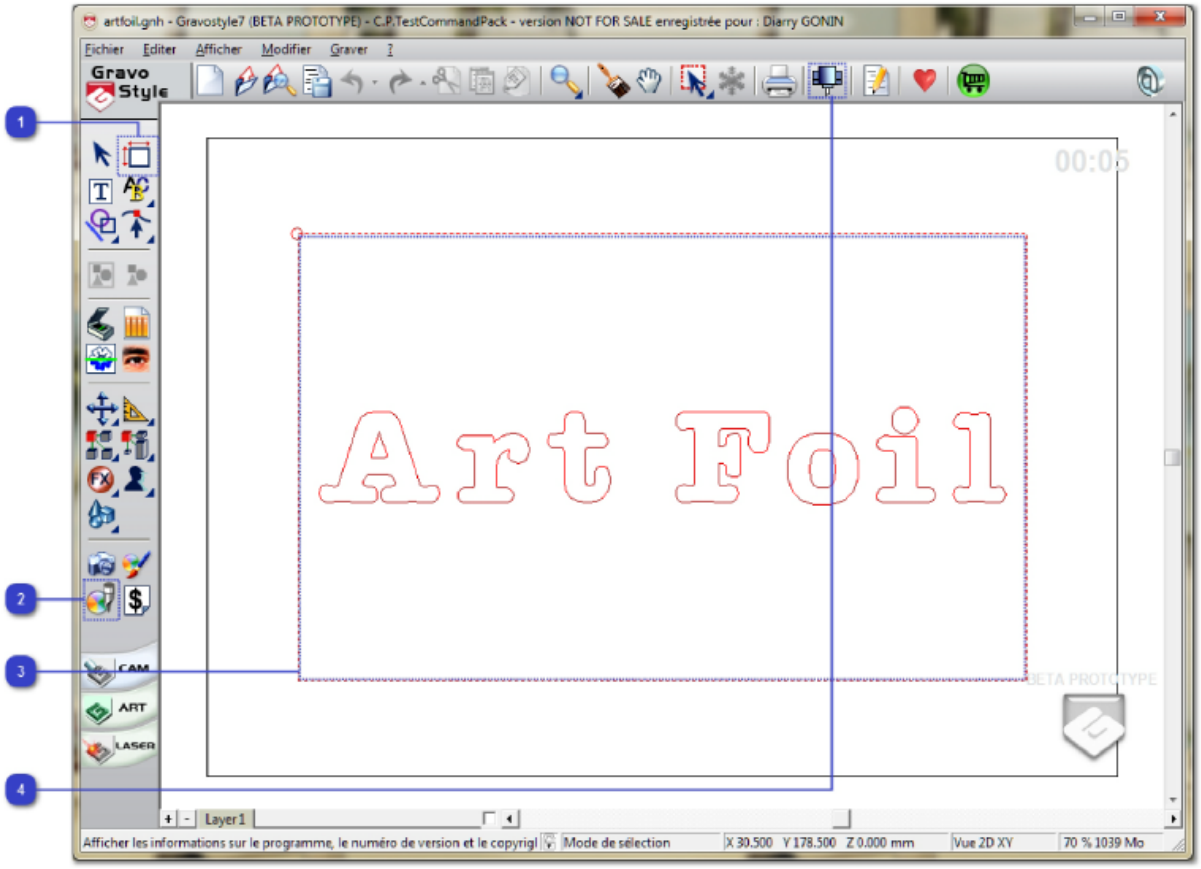
ArtFoil: Hot foil stamping GRAVOSTYLE

ArtFoil hot stamping transfers a matt or silvered color-film onto a semi-soft surface, for an esthetic and personalized relief render.

Mount the complete ArtFoil kit onto M40 machine (welding station with heating tip, roller of color sheet). Clamp in the vice the part to be hot stamped.

Thanks to Gravostyle software, realize the composition containing text and logos M40 machine will hot stamp onto the wished material (wood, leather or imitation, cardboard, plastic...).

Creating a composition to hot foil stamp using Gravostyle and M40 machine



Configuring the composition in Material mode

Further to dimensions and margins, set stamping parameters

Defining the hot stamping path

Assigning the ArtFoil path to the objects to be hot stamped

a. Set the text and the logos

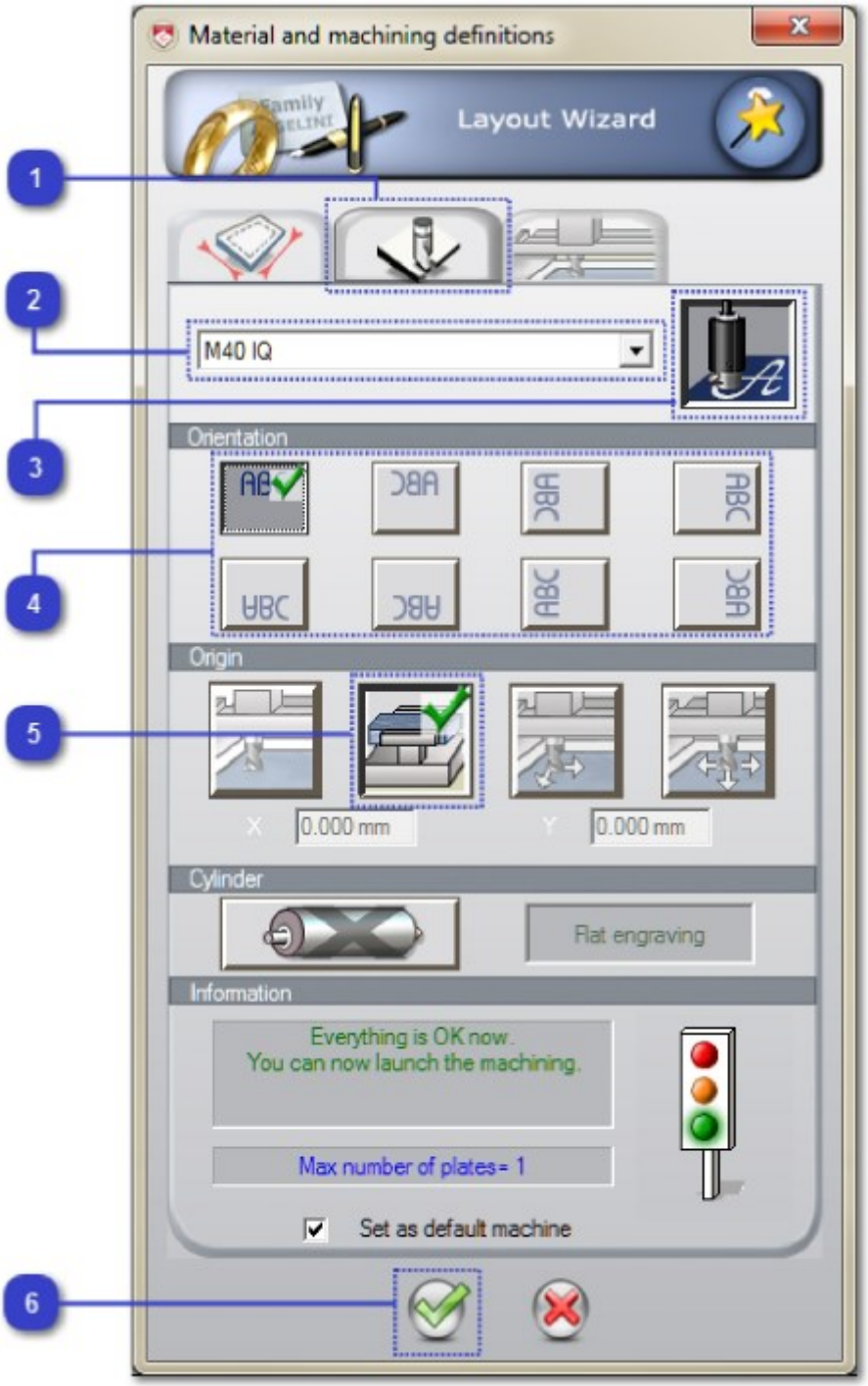
b. Select objects in the composition

c. Click to display the list of path Colors

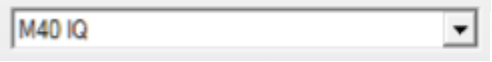
d. Click the color of ArtFoil path

4 Send to M40 machine

ArtFoil: Setting composition parameters



1 Click in Material window

2  **Click M40 to enable the machine**

3 **Click the button to enable the ArtFoil kit mounted on the machine**

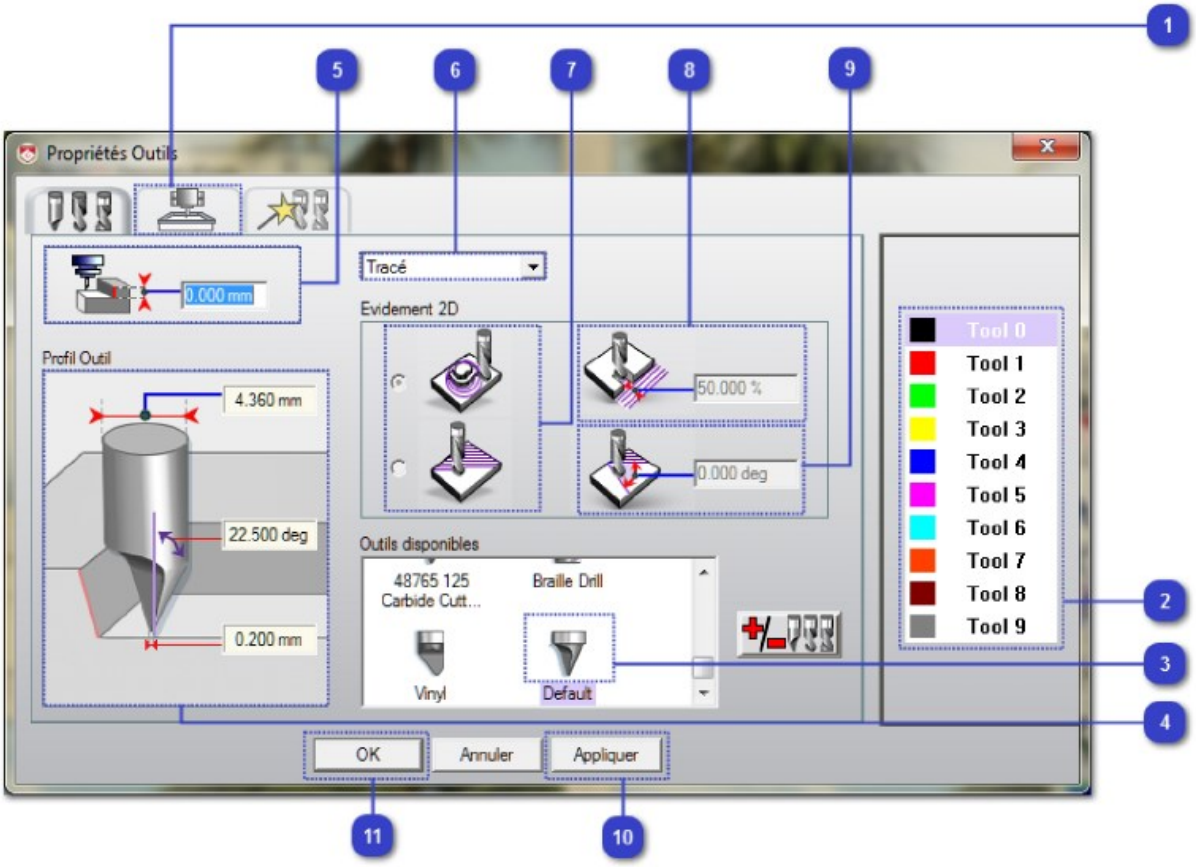
4 Click the stamping orientation on material

5 **Click Centre Vice accessory that clamps the part to be hot stamped (DEEP VICE)**

6 Click to validate the new parameters

Defining the hot stamping path

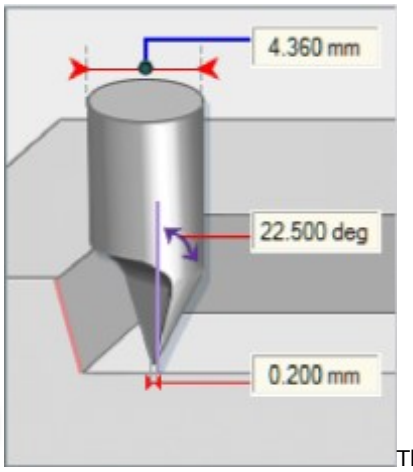
ArtFoil: Defining the hot stamping path



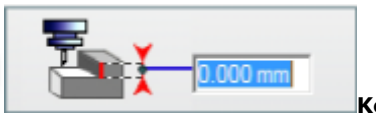
1 Click in Tool properties window

2 **Click the color of the ArtFoil path**

3 Check that the ArtFoil tool is preset

4 

The technical features of the tool display.

5 

Key in the hot stamping depth

6 **Click the hot stamping mode**

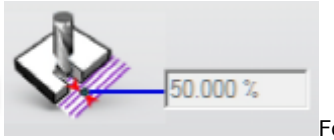
Plotting outer contours

2D Filling closed surfaces, then plotting outer contours. Set required values (7 to 9)

7
For a 2D filling, click

the rectilinear stamping

the concentric one (is default)

8 

For a 2D filling , key in the gap in percentage between 2 tool routes

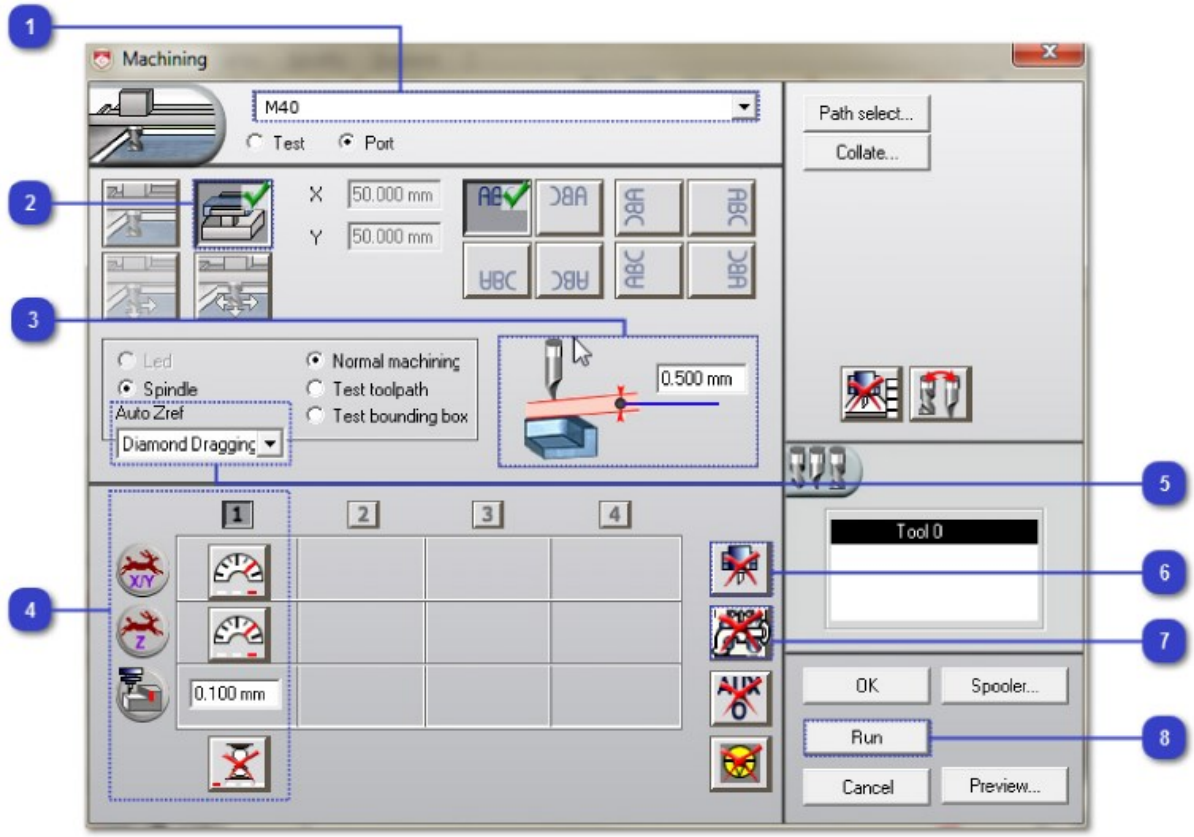
9

For a 2D filling rectilinear, key in a stamping angle between 0 and 90°

10 Apply Click to validate the new parameters and to proceed modifications

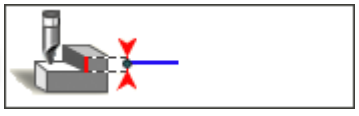
11 OK Click to assign ArtFoil path to the objects in the composition

ArtFoil: Setting the hot stamping properties



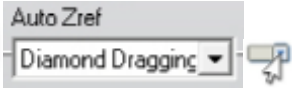
1 Check that the M40 machine fit with ArtFoil kit is active

2 Check that Centre Vice origin is active (Deep Vice)

3  **Key in a Z clearance equal to 0.2mm**

4

Key in the parameters matching the material (XY speeds equal to 0.10mm are default)

5 

Click the Auto Zref setting for ArtFoil stamping

6
Click to forbid spindle rotation during stamping

7
Click to disable lubrication

8

Click to transfer the composition to the machine

Common tasks

Common tasks

Zoom **Refresh**	Use these commands to improve the display size and quality of the composition.
Undo **Redo**	Every operation you make is memorized into program Undo/Redo memory. You can cancel or restore a series of operations to return to a precise stage of the composition.
Save	Save regularly the composition • to avoid an accidental loss of the work. • to keep the last modifications made.
Information	Update the information about current composition (comments, working time, etc.)
Print	Make a paper print as an engraving test or a pass to engrave.

Zoom/Refresh

Refresh

Further to numerous modifications the composition becomes illegible.

Refreshing the whole composition

Ctrl

Quickscroll in workspace

1.
2. Drag and drop the pointer to view a zone of the composition.

or

Use the central thumbwheel when it has been set for quickscrolling.

Zoom tools

Check **%** zoom ratio in status bar.

Zoom on zone

Drag and drop the pointer around the zone to be enlarged.

Previous Zoom

Display at previous size

Zoom max.

View all the objects in workspace

Zoom material

View the whole composition

Zoom selection

Select objects before clicking tool.

Zoom using right-click

1. Configure the right button for zoom.
2. Using the right button of the mouse
   - click to double the size of the image on screen.
   - double-click to display the workspace.

Undo/Redo an action

You have just made an error.

Cancel the action with Undo command.

Right-click when the button has been configured to run Undo command.

You cancel an action by mistake.

Restore it at once with Redo command.

Undo or redo several actions

Each action made in the program is saved in Undo/Redo History.

You can cancel or restore a series of actions to return to a precise stage of the composition.

Click Clear Undo/Redo History command to delete the list of saved actions.

a. Click to display the list of the actions.

b. Drag and drop the pointer onto actions to undo.

a. Click to display the list of the cancelled actions.

b. Drag and drop the pointer onto the actions to redo.

Managing cancellations

Fix the number of actions memorized in the History (50 is default).

Key in a Number of cancellations between 1 and 100 in General tab of F10 Options.

Key in a number equal to zero to memorize nothing and to disable the History.

Saving

Save regularly to keep the last modifications made in the composition.
If you lose the composition accidentally, the saving also allows to get back partially the job.

A message asks if the last modifications must be saved, each time
- **you create a new composition.**
- **you open a composition.**
- **you exit the program.**

Manual savings

Save systematically
- if you realize a long or complex composition.
- if you have to suspend the work.
- if you want to update the file corresponding with the last modifications.

If you have already saved the composition, the relative file is updated with the last modifications.
Otherwise save the composition.

Automatic backup

The function does not replace manual savings. Indeed, the last automatic backup does not correspond necessarily to the last modifications made in the composition.

The active composition is automatically saved every 20 minutes.
Adjust the frequency of automatic backup to space out or move closer to the savings.

You have just lost the composition.

Further to a power cut, a failure of the PC or an abnormality of functioning, you exit brutally the program.

How to get back the work thanks to the saving?

Run the program. A message suggests getting back the composition.

You saved just before exiting the program.

Cancel Click. Open the .gnh file relative to the composition.

You saved nothing.

The .bak file opens.
It is necessary to redo all the not saved operations.

Common: Information about current composition

Save composition to update information.

Working time

Check time spent on the production of a plate (hours/minutes/seconds).

00:18

Tick option in Display tab of F10 Options.

Displayed above on the right in Gravostyle window the timer resets automatically to zero for each new composition.

Notes about composition

POST IT

1.
2. Type comments about the current job (values, instructions, technical data).

   Line break Ctrl Enter
3. Click to close window.

Additional information

Information dialog box displays the working time and the comments about the composition as well as:

Creation date: first saving date of the file

Last update: last saving date

Author: type the name of the operator.

Customer: type the name of the addressee of the engraving.

Invoicing assistant

1. Select the lines of text to engrave.
2.
3. **Key in Plate Price and Character Price to obtain the Total Price.**

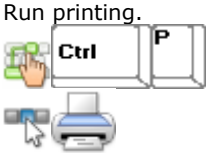
Nb Characters	Multiplied by the Character Price allows to calculate the Price of selected text
Total Price	Plate Price plus Price of selected text

4.

Printing composition

Before printing check that the PC and the printer are correctly connected and that the printer is powered up.

1. Run printing.



2. Set printing parameters.

Print range	Click ◉ **All** ○ **Selection:** objects selected ○ **Pages:** when the printing extends over several pages, type the number of the first **(From) and the last (to) pages.**
Print quality	☑ Click a value between the min. and max. resolution of the printer.
Size	Click ○ **Adjust to page:** printing fits to the dimensions of the page. ◉ **Scale:** printing is resized according to the keyed in percentage.
Position	◉ Click one of 5 available positions **Centre/Top/Bottom/Left/Right.**
Collate	Click the printing mode of layers. ◉ **All layers one page** ○ **Current layer** ○ **One layer one page** ○ **All printable layers one page** ○ **One printable layer one page**
Copies	Key in a number of copies included between 1 and 99. ☑ Tick **Collate to print copy by copy.**
☐ **Print to file**	a. Click to keep a printing file and to make a deferred printing. b. Save the printing as file under .prn format.
☐ **Mirror** ☐ **Border** ☐ **Path** ☐ **Scale**	If need be, click to print an inverted image to print a frame around the composition to print the access path to the spot of the matching GNH file to print the printing ratio
Setup	Configure the active printer if need be

3. Preview Click to display the print.

Print	Run printing
Previous page Next Page	Scroll pages
One page/Two pages	Display a double or a simple page
Zoom in Zoom out	Enlarge or reduce the view Click in the preview to increase or to reduce the display size.
Close	Close the print preview

4. Print Click.

Text mode

Working in Text mode

Each time you create a blank composition the mode becomes active. You can type text immediately.

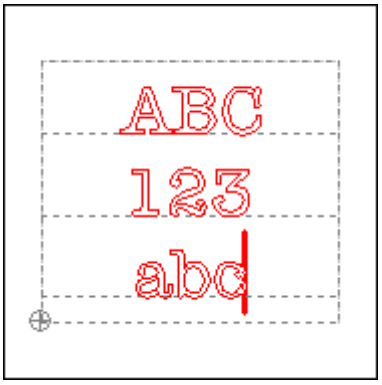
1. **Enable Text mode.**
   The Text ribbon displays. Use the pointer to select text to edit
2. Activate the mode you use to place the text.
3. For each line of text, set in Text bar or in Rapido
   - the parameters used to position it inside composition
   - the attributes that determine text appearance (underlined, italic, exponent, etc.)
4. Type text.

You can also run advanced Text functions (non-horizontal text, font editor, etc.).

Switching to Text mode selects automatically the whole text in the last modified Text object.

Setting text in auto/manual mode

Automatic mode (is default)



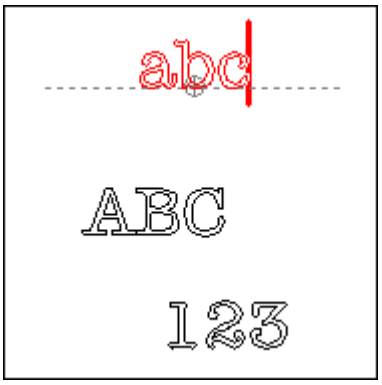
Work in automatic mode to quickly set horizontal text in composition.

Margins delimit the area reserved for lines of text systematically distributed and centered between margins.

When manual mode is active, automatic mode can no longer be restored.

Switching from automatic to manual mode converts each existing line of text into a separate Text object.

Manual mode



Enable manual mode
- to set inside composition different Text objects.
- to create non-horizontal text using Advanced text functions (text in an arc, vertical text, etc.).

Margins are zero. For each text object, use the mouse to set the line in composition or key in line parameters.

Click in Text ribbon

Click in Advanced text bar Abc

Yes Click to confirm the activation of the manual mode.

Gravostyle: Text ribbon

The bar displays common parameters and attributes used to place and to present a line of text.

Click back to the previous bar.

	Command	Text ribbon
	Click to use advanced functions in powerful Rapido bars.	
	Automatic/manual mode	
F3	Distance to left margin	
F2	Distance to top margin	
F5	Max. length available	
F12	Character height	
F4	Left/centre/right/full alignment	
F8	Italics text	
	Font	Arial
F10	Underlined text	
F11	Exponent text	
Ctrl +	Increase space between 2 characters	
Ctrl -	Decrease space between 2 characters	

Gravostyle: Rapido ribbon

A.

B. The bar displays advanced text attributes and line parameters.

Click back to the previous bar.

Basic attributes and parameters

Arial **Font**

Align

Height

Height

Italics/Slant

Mirror

Font

Advanced text attributes

Character rotation

Spacing

Underlined

Text from right to left

ABAB ab **Upper/Lowercase**

Exponent/Index

Position on baseline

Auto-kerning

Advanced line parameters

Distance to top margin

Distance to left margin

Max. available length

Line spacing

Auto. compression per line or over all lines

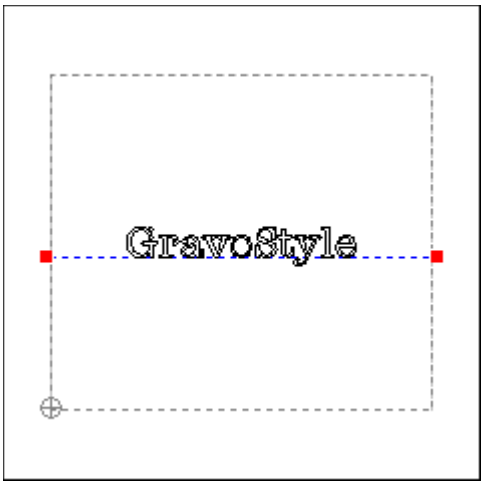
Styles

Position between margins

Positioning a textline

Line parameters define the position of a textline between margins.
Characters of a textline lay by default on a **horizontal baseline.**
The length of the baseline equals the distance between left and right margins:
• the left end is on left margin.
• the right end is on right margin.

• Current parameters apply to a new textline.
• To modify the parameters of an existing line, click the line first.
• When new parameters increase the length of the text typed in relation to the length of the baseline, text is automatically compressed.



Set basic line parameters in Text ribbon.

- **Text alignment**
- **Distance to left margin**
- **Max. available length**
- **Height**

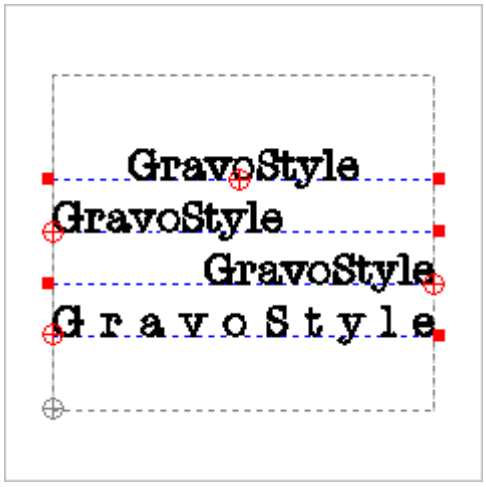
Set advanced line parameters in Rapido.

- **Distance to top margin**
- **Text position on baseline**
- **Line spacing**

Line parameters react differently whether you set textlines
in automatic mode.
or in manual mode.

Line parameters also apply to lines of text set on a non-horizontal baseline (text in arc, vertical text, etc.).

Align text on baseline



F4 line parameter shows the point of the baseline text is aligned onto (center is default).

Center: Text displays on both sides of the center of the baseline.

Left: Text is aligned on the left end of the baseline.

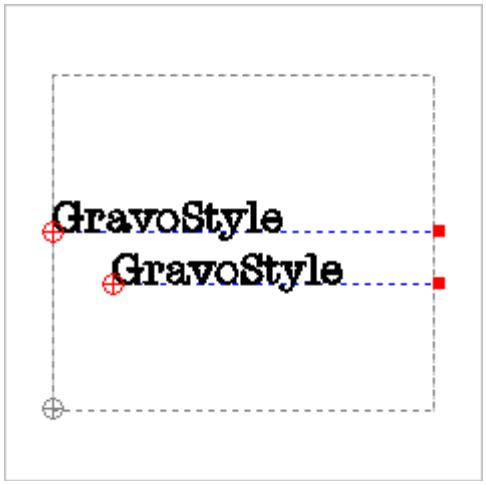
Right: Text is aligned on the right end of the baseline.

Full: Text stretches between the ends of the baseline.

Press until the matching button gets down in Text ribbon.

Click the alignment in green Rapido.

Set the distance between textline and left margin



F3 Line parameter locates F4 aligning point.

Changing F3 distance moves between left and right margins

the centre of the baseline

the left end of the baseline

the right end of the baseline

Key in F3 distance in Text ribbon

1. Click the mode to compute F3 distance
   from left margin (is default)
   from right margin
   from composition left edge
   from composition right edge
2. Key in a value between the left margin and the distance from right margin to composition left edge.

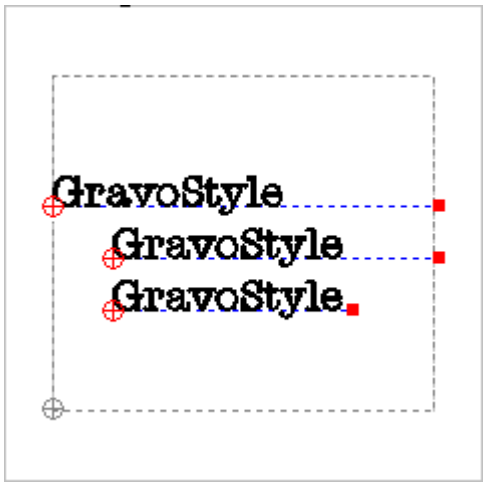
Setting F3 distance in composition

Key in X coordinate for the aligning point.

or

1. Display rulers.
2. Using the shifting index displayed in horizontal ruler, click the position of the aligning point. X coordinate displays in status bar.

Set max. available length on textline



F5 line parameter displays the length of the baseline e.g. the maximum available length to type text on.
The value is recalculated depending on F3 distance. Changing max. available length moves

the ends of the baseline in relation to the center

the right end in relation to the left end

the left end in relation to the right end

Key in F5 length in Text ribbon or in Rapido

Key in an F5 length at most equal to default length.

Forcing auto-compression

Automatic compression occurs as soon as the length of the typed text exceeds the length of the baseline. This is indicated by a beep sound and a negative coefficient displayed in **red.**

The default coefficient is zero. The variation in character width and spacing is proportional to text height.

1. Select lines of text.
2. In Rapido click the compression mode.

Compression per line (is default)
The autocompression coefficient remains specific to each line of text.

Compression all lines equal
The max. autocompression coefficient applies to all lines.

Set the height of a textline

F12 parameter is measured from baseline to character top. The default F12 is 10 mm.
The feet of lowercase letters placed beneath baseline are generally ignored.

As character height can change, text height equals the height of the highest uppercase character.

Key in F12 height in Text ribbon or in Rapido Vert

F12 Key in a value between 0.01 mm and the available height. Enter

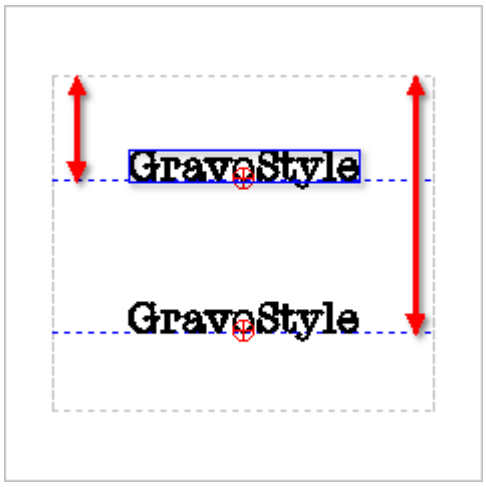
The available height is the space between top and bottom margins, minus the heights of existing lines.

The available height is the distance from baseline to top margin.

Customizing standard height

1. **Click Text attributes** tab in F10 Options.
2. Key in a value between 0.01 mm and the available height. Enter

Set the distance between textline and top margin



F2 line parameter locates F4 aligning point between bottom and top margins.

Default F2 value equals F2 distance of the previous line plus the gap produced by proportional line spacing.

Enable manual mode.

Key in F2 distance in Text bar

1. Click the mode to compute F2 distance
   from top margin (is default)
   from bottom margin
   from composition top edge
   from composition bottom edge
2. Key in a distance between baseline and top margin equal at least to line height.

Setting F2 distance in composition

Key in Y coordinate for the aligning point.

or

1. Display rulers.
2. Using the shifting index displayed in vertical ruler, click the position of the aligning point. Y coordinate displays in status bar.

Set text on baseline

The default text setting is on baseline. Offset between baseline and text is null.

Click the position required in yellow Rapido.

Text on baseline

Text under baseline

Key in a coefficient between -100% and +100% to get an offset proportional to line height.

Setting line spacing in a paragraph

Set the distance between the baselines for consecutive lines of text.

1. Click a line spacing mode in Rapido.
2. Key in line spacing value.

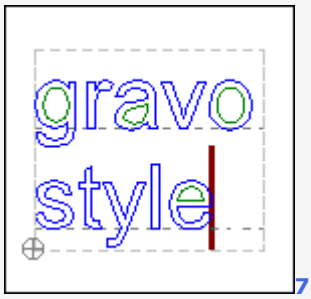
A too low coefficient can cause overlapping between the feet of lowercase letters set beneath baseline and the text of the next line.

The line spacing coefficient can be reduced to free up the space required for a new line.

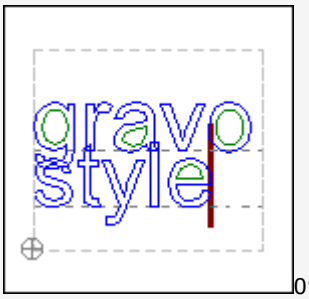
Proportional line spacing (is default)

Line spacing is proportional to the average height of two consecutive lines. The default line spacing coefficient is 75%.

In Rapido key in a line spacing coefficient between 0 and 400%.



75%



0%

Constant line spacing

Line spacing is a fixed distance by default equal to 75% of the height of the first line.

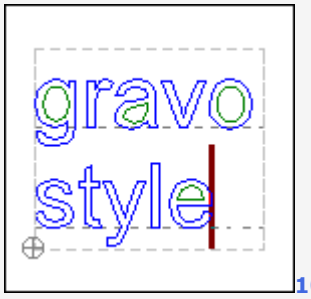
In Rapido key in a value less than the distance between top and bottom margins.

Typographic line spacing

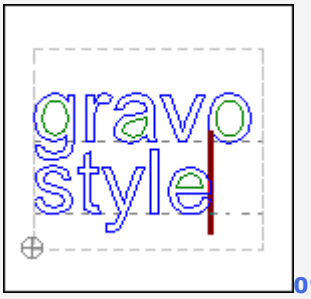
Line spacing is proportional to the average height of two consecutive lines. The default line spacing coefficient is 100%.

Adapted to True Type fonts the mode avoids the overlapping between 2 consecutive lines. Line spacing computing takes into account the actual character height (including ascenders and descenders).

In Rapido key in a line spacing coefficient between 0 and 400%.



100%



0%

Type

Type text

The red vertical cursor shows your position in text.

- **Typing characters**
- **Moving in text - Selecting text**
- **Editing text**
- Spell checking
- Inserting date and time

Using text from an external document

No need to type into composition. But remember to reapply text attributes.

1. In word processor open the document that contains the text to recover.
2. Select and copy the text.
3. Click the composition.
4. Click where you want to insert the text selected
5. Paste the text.

Text: Typing characters using Azerty keyboard

Intuitive text typing	1. **Enable Intuitive text typing** in Spell checking tab of F10 Options. 2. Type the 3 first characters of a word, the first one always lowercase. 3. **Click the word to display from Suggestion list.** Enter
Text Balloon The balloon zooms in the text you are typing.	1. **Click Text attributes tab in F10** Options. 2. **Ask to display Bubble time for a period** • between 1 and 6,000 ms. • equal to 0 to disable the zoom.
Type right to left	To enable the function click in Rapido a
Inserting using mouse	1. Display the contents of the current font. Click in Rapido 2. Click a character. 3. Insert Click.
Typing uppercase	Shift Key down type character.
Enable uppercase mode Press key again to type in lowercase mode.	Caps Lock
Enable figures from numeric keypad Press key again to disable the function.	Num Lock
Typing a character in top left corner of a key	Shift Key down type character.
Typing a character in bottom right corner of a key	Alt Gr Key down type character.
Typing an accented character	Type the accent and then the character. For example: to type ö, Shift " ' then O
Typing a tab	Tab Non-engraved character

Moving in/Selecting text

Moving pointer

Using mouse	Click the new position for the pointer (distinct line of text, start of line, end of line, between two characters).
from one character to another	← →
from one line to another	↓ ↑
to the start of the line	Home
to the end of the line	End
to the start of a Text object	Ctrl Home
to the end of a Text object	Ctrl End

Selecting text

Set the pointer at the start of the selection.

Selected text is red on gray-highlighted to prevent confusion with text that has been assigned the **red path color.**

Select a word

Double-click that word.

Select a series of characters

Drag and drop text pointer from the first to the last character.

The selection can extend over several lines.

Select the character preceding the pointer	Shift Key down type ←
Select the character that follows the pointer	Shift Key down type →
Select all the characters preceding the pointer	Shift Key down type Home
Select all the characters that follow the pointer	Shift Key down type End

Editing text

Set pointer where you want to edit the text.

Inserting text	Abc
Inserting a line inside or at the end of a paragraph	Enter
Deleting the character before the pointer	Del
Deleting the character behind the pointer	Bs
Unknown character	1. Delete the character. The key or the hotkey typed does not match any character in selected font. 2. Display font contents. 3. If the current font contains the required character, click the character to insert into text. Otherwise select another font.

Select the text when a series of characters are to be edited (word, line).

Replacing selected text	Type new text.
Copying/Cutting	1. Copy selection. 2. Click where you want to duplicate selection. 3. Paste selection.
Cutting/Pasting	1. Cut selection. 2. Click where you want to move selection. 3. Paste selection.
Delete	**Click Delete** in Edit menu. Del Press key.

Text: Search/Replace

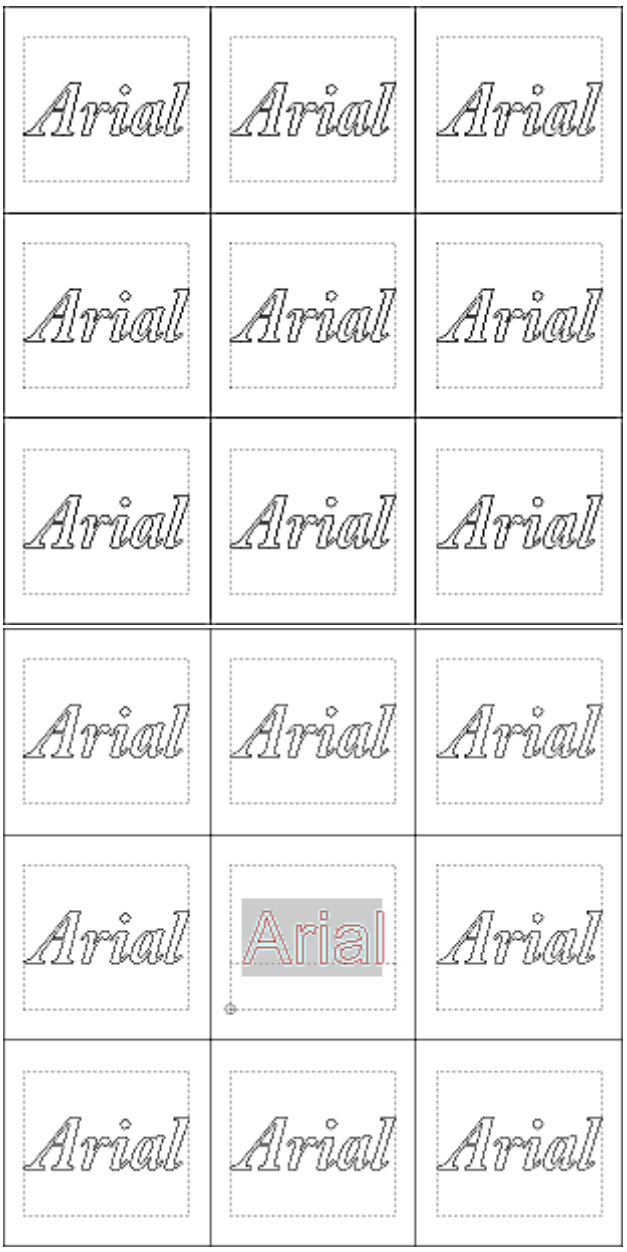
1. If need be select text to replace.
2. Click in Advanced text bar
3. **Click each searching criteria in.**

Search/Replace Text	1. Type text to search. 2. Type the text that will replace it. 3. If need be click a searching condition. **Respect case** or upper/lowercase in text **Whole words** but no expression
Search/Replace text Height	1. Select the text height to search. **Key in value.** **Click to Replace all text sizes** 2. Key in the new text height.
Search/Replace Font	1. Select the font to replace. **Click a font.** **Click to Replace all the fonts** 2. Click the font that will be used to display text.
Search/Replace Compression	a. Tick to apply the same compression ratio to all text lines. b. Enable the compression mode **A**utomatic mode: the highest compression ration is active Manuel mode: key in value
Apply modifications	Click to select text lines concerned by Searching/Replacing. **Selection** **Current layer** **All layers (is default)**

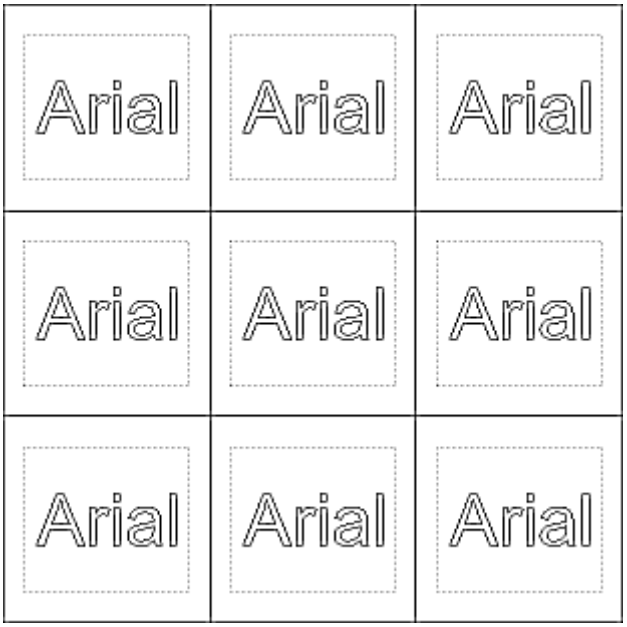
4. The function gets powerful to replace text in

- text in columns. Click in Text mode in the cell which text is to replace.
- text from Magic copy.
- exclusively static Matrix series.

Double-click in the elementary plate which text is to replace.



Without selection text will be replaced inside each plate.



Using Spell checker

1. Spell checking tab of F10 Options.
2. **Dictionary used to correct text.**
3. I**ntuitive text typing**
4.
5. Select text to check.
6. Click in Advanced text bar

Spelling dialog box opens when an error is found. Each unknown word displays in **Not in the dictionary field. Click**

Ignore	Skip the correction
Add	Add the new word into dictionary
Change to	Replace the unknown word with the word in **Change: field** Type the correct word. Click a word from the list of **Suggestions.**
Suggestion	Display a new list of suggestions
Cancel	Close dialog box

Text: Insert date or time

1. Click in text where you want to insert date or time
2. Fix variable attributes.
3. Click in Professionals bar
4. **Click Date & Time**
5. **Click Date or Time to insert a variable updated**
   • when you send the composition to engraving.
   • when you display the engraving preview.
6. The date or the time displays between **|$???| characters according to Windows regional and linguistic Options**
   If need be type the characters that format DATE or TIME after variable name.
7. **Click in Professionals bar**
8. **Click the rank of the plate you want to Show state** (type number 1 for a single plate).

Formatting DATE variable	
Day	'd' day number without 0 heading (1, 2, 25 …)
	'dd' day number starting with 0 (01, 02, 25…)
	'ddd' day name reduced to 3 characters
	'dddd' full day name
Month	'M' month number without 0 heading (1, 2, 12)
	'MM' month number starting with 0 (01, 02, 12)
	'MMM' month reduced to 3 characters
	'MMMM' full month name
Year	'y' last two figures of the year without 0 heading (9 is 2009)
	'yy' last two figures of the year starting with 0 (09 is 2009)
	'yyyy' full year number
Formatting TIME variable	
Hour	'h' hour without 0 heading over 12 hours (5:00 is 5, 17:00 is 5)
	'hh' hour starting with 0 over 12 hours (5:00 is 05, 17:00 is 05)
	'H' hour without 0 heading over 24 hours (5:00 is 5, 17:00 is 17)
	'HH' hour starting with 0 over 12 hours (5:00 is 05, 17:00 is 05)
Minutes	'm' minutes without 0 heading (5:2)
	'mm' minutes starting with 0 (5:02)
Seconds	's' seconds without 0 heading (5:0:5)
	'ss' seconds starting with 0 (5:0:05)
Symbol	't' First character of the symbol before noon and after noon
	'tt' Full text of the symbol before noon and after noon

Appearance

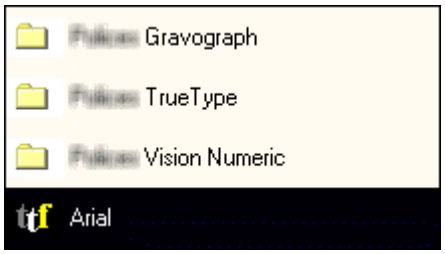
Set text appearance

Text attributes set the appearance of the characters.
You can apply certain attributes to some characters in the same line of text.
• Current attributes apply to the text typed afterward.
• Select existing text to modify attributes.
• When new attributes increase the length of the typed text in relation to baseline text is automatically compressed.

Apply basic attributes from Text ribbon.	**Font** **Exponent text** **Underlined text** **Italics text**
Set advanced attributes in Rapido.	**Character width** **Character spacing** **Character rotation** **Index text** **Upper/Lowercase** **Auto-kerning**
Apply a style.	**Combine different text attributes to save and to apply styles shared by several lines of text.**

Font

Selecting active font



1. Click to display the font menu in Text ribbon.
2. **Click the folder** the required font belongs to.
3. **Click a font** in alphalist (for a quicksearch click in list, type the first character name).
4. **Click to display the characters of the font.**
5. Close Click to close.

Gravograph

Designed for engraving Gravograph characters are made of open contours.

Gravograph fonts gather available international characters.

When the menu does not contain the required font install a Gravograph font.

True Type

True Type characters are made of contours closed around surfaces to fill in when engraving.

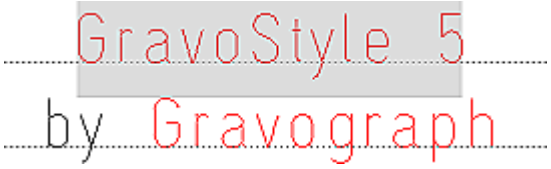
Vision Numeric

Asian fonts for the Republic of China, Japan and Korea

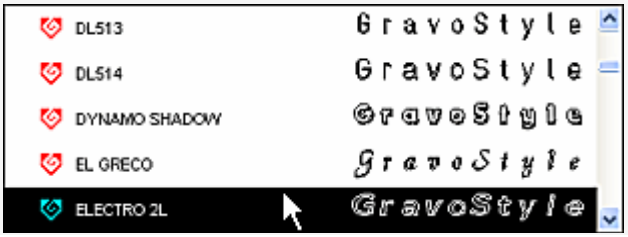
Choosing a font when you type text

By default, the first nine characters display opposite the font name. When the option is active the text typed in F10 Options displays as sample.

The text displays as example for each font that contains the selected characters.



1. **Sample in Font list tab** of F10 Options
2.
3. Select the text.
4. Click a font.



Contents of the current font

The symbol shows that a font is online purchasable in Gravotech e-shop. The characters of the font are visible without being able to be typed into text.

1. Click in Rapido.

   If need be click another font
2. Select the category of characters to display **(Latin is default).**
   Categories displayed belong to Unicode character classification.
3. Point a character to zoom.
4. Double-click a character to insert into text.
5. Close Click.

Customizing standard font

Active for each blank composition the standard font displays at the end of font men.
It replaces the fonts missing to display text when opening composition.

1. **Text Attributes in** F10 Options
2. Arial Click a font.
3.

Customizing font menu

1. Font list of F10 Options
2. Click to display a **Sample opposite each font name.**
3. Type the text used as sample.
4. Click the option
   Last fonts used. Key in a Number of fonts between 1 and 5.
   Favorite fonts to display a set of fonts regularly used.
   Click each font (for a quicksearch click in list and type the first character name).
5.

Other text attributes

Underlined text

Click in Text ribbon.

Customize underlining position

Underlining stroke is set under baseline at a distance proportional to text height.
The standard distance between baseline and underlining stroke is null.

1. Click in Rapido.
2. Key in an angle between -250% and +250%. Enter

Exponent/index text

Exponent attribute cancels automatically Index attribute and vice-versa.

Click in Text ribbon or in Rapido.

Click in Rapido.

F8 Press key.

Customize standard exponent/index text

The standard height of exponent/index text equals 50% of F12 value keyed in.

The standard distance between baseline and exponent/index text equals 50% of text height.

1. **Text Attributes in** F10 Options
2. Key in a coefficient at most equal to 100%.
3. Key in a coefficient between
   0% and 100%
   -100 and 0%

Character spacing

Character spacing is proportional to text height. The standard coefficient is 100%.

1. Click in Rapido.
2. Key in an coefficient between 0% and 500%. Validate.

Character Rotation

In Rapido key in an angle between 0° and 360°. Enter

Customize standard rotation angle

The standard rotation angle is null. Each character is vertical on baseline.

1. **Text Attributes in** F10 Options
2. Key in an angle between 0° and 360°. Enter

Upper/Lowercase

Click lettercase in Rapido.

Rapido	lowercase
RAPIDO	Small CAPS
RAPIDO	UPPERCASE

Italics/slant text

Rapido Rapido

Click in Text ribbon.

Press key.

Modify slope angle

The standard text slope is 15°.

1. Click in Rapido.
2. Key in an angle between -80° and +80°.

Customize standard slope

1. **Text Attributes in** F10 Options
2. Key in an angle between -80° and +80°.

Character width

Rapido Rapido

In Rapido key in a coefficient between -1000% and +1000%.

Customize standard width

Character width is proportional to text height. The standard coefficient is 100%.

1. **Text Attributes in** F10 Options.
2. Key in a coefficient between -1000% and +1000%.

Mirror text

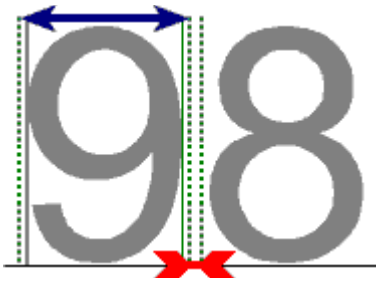
Apply attribute before typing text

1. Click in Rapido.
2. Abc

How to restore normal text?

In green Rapido key in a coefficient equal to 100%.

Auto-kerning between characters



Each font has a standard auto-kerning table setting the space per character pair.
The space between two characters depends
• on the width and the left and right spaces apart each character (blue distance).
• on the space created using auto.or manual kerning (red distance)

Auto-kerning

The button is grayed when different kerning modes are active in the same textline.

1. Select the text which spacing you want to correct.
2. In Rapido click as often as needed to select the kerning mode.
   Each button with a red point enables auto-kerning.
3.

GRAVOSTYLE **Apply auto-kerning**

GRAVOSTYLE **Remove auto-kerning**

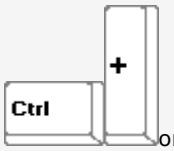
GRAVOSTYLE **Apply auto-kerning and remove left and right spaces apart character**
The mode allows to link characters in particular jewelry fonts (Vanessa for example).

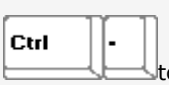
GRAVOSTYLE **Remove auto-kerning and left and right spaces apart character**

G R A V O S T Y L E
MMMMMMMMMMM **Apply fixed dimensions calculated on M capital**
The mode allows to align characters vertically between 2 consecutive lines of text.

Spacing 2 characters using hotkey (manual kerning proportional to first character height)

Text ribbon displays the final number of added or deleted spaces.

1. Select the character you want to correct the spacing with the next character.
2. Type 

or 

to add or to delete as many spaces as Control +/- number keyed in Text attributes of F10 Options.

Styles

A.

B.

Add a style	1. Set all the text attributes you want to apply. 2. Type the name of the style into the input field. 3.
Apply a style	The last style used is active. 1. Click the style. 2.
Apply current style	1. Select the text that has the style to apply. 2. 3. Drag the pointer onto the text you want to change the style. Click again to disable the current style.
Delete a style	1. Click the style. 2.

Advanced text

Using Advanced text functions

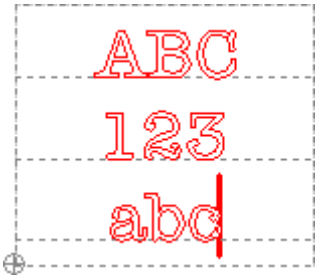
1. Hide or show **Advanced text bar.**

   You work automatically in Text mode.
2. Click a function in bar.
3. Yes Click to confirm text setting in manual mode.

Free horizontal text **Text in rectangle** **Drawing a rectangle for text using Point&Shoot** **Text on angle/diagonal** **Vertical text** **Text on curve** **Text on arc** **Text in columns**	The functions give new line parameters that allow to set text on a non-horizontal baseline. To modify the parameters of an existing line, click it first.
Convert into curves	The function converts text into geometrical shapes.
Font editor	The option allows to create your own polices from a standard Gravograph police or from a set of logos.
Spell checker	When text is typed ask the checker to search typing errors. If it detects a possible fault you can correct it then pursue the check.
Search/Replace	Replace the selected text or its appearance.

Abc Setting text in a rectangle

Type text inside a rectangle which dimensions you define.



Line parameters are computed in relation to rectangle borders without considering the composition.

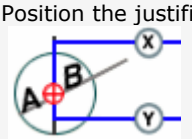
1. Click in Advanced text bar Abc
2. Yes Click to confirm text setting in manual mode.
3. Draw the rectangle.
   Drag and drop the pointer when the shape has the required size and position.
   F2 Open Rectangle.
   a. **Click the position of the gravity centre.**
   b. X Y **Key in the coordinates of the gravity centre in workspace.**
   c. **Key in the height and the width of the rectangle.**
4. Abc You obtain a Text object made of a paragraph.

Setting text in angle/diagonal

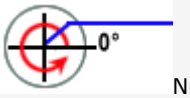
New line of text

To select text drag and drop text pointer along baseline slope.

1. Click in Advanced text bar
2. Yes Click to confirm text setting in manual mode.
3. Position the justification point.



   1. Key in X coordinate between bottom and top margins. The value displays as F3 distance.
   2. Key in Y coordinate between left and right margins. The value displays as F2 distance.
4. Key in an angle between -180° et +180°.



   Null by default, the parameter gives the direction and the end of the baseline.
5. Click text orientation.

   Tilt text following the same angle

   Restore horizontal text
6.
7. You obtain a Text object made of a paragraph.

Cancel in angle/diagonal writing

1. Click a line of text in angle/diagonal.
2. Click in Advanced text bar
3. Key in an angle equal 0 in Text in angle/diagonal dialog box.
4.

Other parameters in Text ribbon

Ends of the baseline are by default on the margins that cut the line.

Justify text

Text is centred on baseline.

against left end.

against right end.

F3 Distance

X coordinate of justification point

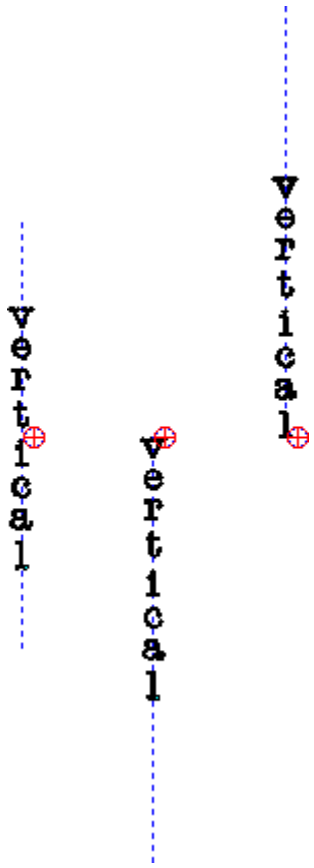
F2 Distance

Y coordinate of justification point

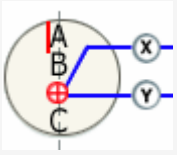
F5 Length	Modify the parameter to move the ends of baseline the right end the left end
F12 Height	Check that the line height remains lower than the distance between the baseline and the closest margin.

Setting vertical text

New line of text



1. Click in Advanced text bar
2. Yes Click to confirm text setting in manual mode.
3. Position the justification point.



   1. Key in X coordinate between left and right margins. The value displays as F3 distance.
   2. Key in Y coordinate between bottom and top margins. The value displays as F2 distance.
4.
5. You obtain a Text object made of a paragraph.

To select text drag and drop text pointer downwards.

Other parameters in Text ribbon

Baseline ends by default on bottom and top margins.

Justify vertical text

Text is centred on baseline.

against top end.

against bottom end.

F3 Distance

X coordinate of justification point

F2 Distance

Y coordinate of justification point

F5 Length

Modify the parameter to move

baseline ends

the bottom end

the top end

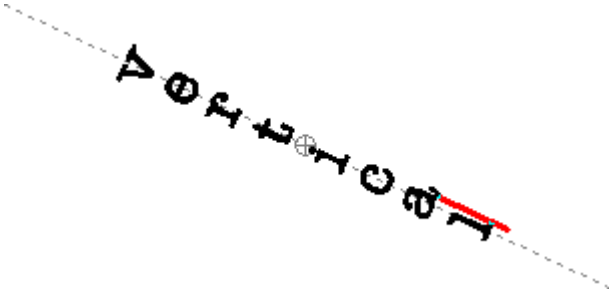
F12 Height

Check that the value remains lower than the length available on baseline in relation to the heights of typed characters.

How to set vertical text on a non-vertical baseline?

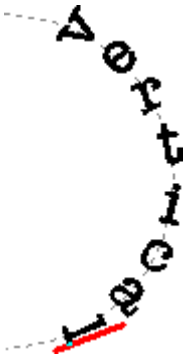
Click a line of vertical text.

Slant baseline



1. Click in Advanced text bar
2. Key in an angle between -180° et +180° in Text in angle/diagonal .
3. The baseline rotates, the text remains vertical.

Baseline in arc



1. Click in Advanced text bar
2. Set the parameters for text on arc in Arc.
3. The text remains vertical in relation to the baseline.

Setting text on curve

You obtain a Text object made of a single line.

To select text drag and drop text pointer along baseline.

If you edit the shape the text will follow the new lines.

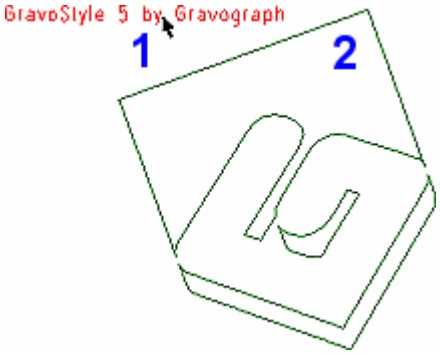
1. Draw the shape used as baseline (curve, rectangle, ellipse).
2. Check that the contour direction matches the display expected for the text. Invert direction if need be.

On a closed contour drawn clockwise the text displays outside clockwise.

On an anticlockwise closed contour the text displays inside in opposite direction.

On open contour the text displays from start point to end point.

Existing line of text

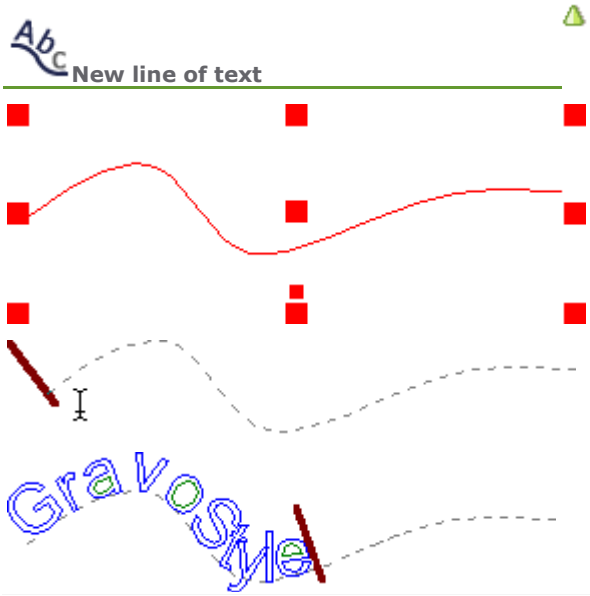


1. Enable manual mode.
2.
3. Ctrl Key down click the line of text, then the contour the text will follow.
4. Stick the text onto baseline

   Click in Advanced text bar The baseline displays dotted.

   Ctrl Key down click The initial contour is safe.

New line of text



1. Click in Advanced text bar
2. Yes Click to confirm text setting in manual mode.
3. Click the baseline that displays dotted.
4. Abc

Justify the text

Click the justification in Text bar or in Rapido.

- **on open contour**
  against left end of the contour
  against the right end of the contour
  centered on contour
- **on closed contour**
  left-side of the start point
  right-side of the start point
  centered on top opposite to the start point

Moving text along curve

Text position is free and no longer depends on the justification.

If you align text you cancel the free setting of text along curve.

1. Click a line of text on curve.
2. Click in Advanced text bar
   Shift Key down, click the tool to handle a copy of the selection that remains safe.
3. Move the text.
   Drag and drop text along contour
   F2 Key in distance to shift the text in relation to
   curve start point.
   current text start point.

The free setting of text on curve is confirmed in Rapido.

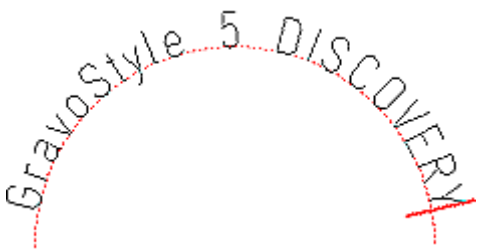
When you type additional text its remains fixed on initial start point.

Text on arc

Setting text on arc

New line of text

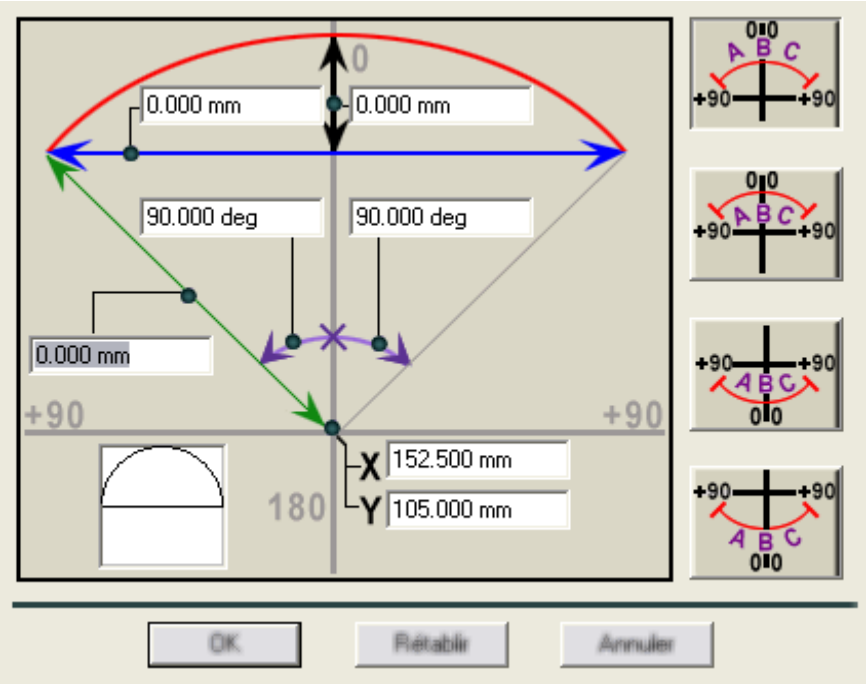
To select text drag and drop text pointer along the arc curve.



1. Open Arc.

   Click in Advanced text bar

2. Yes Click to confirm text setting in manual mode.
3. Build an arc of circle used as baseline (the small squared window displays the preview of the arc built).
4. Set the line parameters below.
   - Orientation of text on arc
   - Start and end angles
5. You obtain a Text object made of a single line.



Click the picture for further information

Cancel text on arc

1. Click a line of text on arc.
2. Click in Advanced text bar
3. Key in an angle equal 0 in Text in angle/diagonal dialog box.
4.

Other parameters in Text ribbon

Ends of baseline are set by default on top and bottom margins.

Justify text clockwise	The text is centred on arc apex. The text is against the start angle. The text is against the end angle.
F3 Distance	X coordinate of the apex or of the centre of the arc
F2 Distance	Y coordinate of the apex or of the centre of the arc
F5 Length	To set the max. length available for text change the start or the end angle.
F12 Height	Check that line height remains lower • than the distance between the arc circumference and the closest margin when the text displays outside the arc. • than the arc radius when the text displays inside the arc.

Building the baseline for text on arc

Whatever the procedure chosen to build the arc you obtain an arc or a circle
• which direction determines text orientation.
• which opening is defined by start and end angles.

Keying in the chord and the height of the arc causes the computing of the matching center and radius and vice-versa.
When you build an arc using chord and height, the access to center and radius values is forbidden and vice-versa.

Reset Click to cancel keyed in values and to restore the access to all the parameters in the.

Building using chord and height

The chord is the distance between the ends of the arc.
The height is the distance between the chord center and the arc apex.

The chord and the height of the arc are measured from the arc apex set in relation to the top and left borders of the composition.

1. **Set the position of the arc apex in Text ribbon.**
   a. Key in F2 distance.
   b. Key in F3 distance.
2. Key in arc chord and height in Arc.
   a. **Key in a chord**
      • at most equal to the double the distance between the chord centre and the closest margin (left or right).
      • null to get a circle.
      • equal to the double the height to get a semi-circle.
   b. **Key in a height at most equal to the distance between the chord centre and the closest margin (top or bottom).**

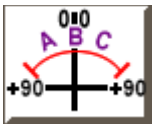
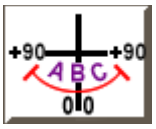
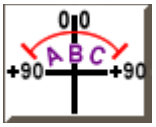
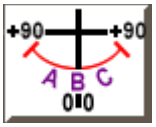
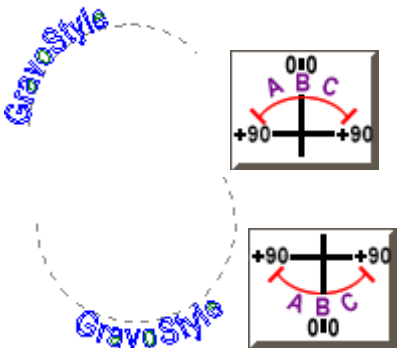
Building using centre and radius

The center of the arc is set in relation to the top and left borders of the composition.

The radius is the distance from the arc center to each point of its circumference.

1. **Set the position of the arc centre in Arc.**
   a. Key in a x coordinate at most equal to the distance between right margin and left border. The value displays as F3 distance.
   b. Key in an y coordinate at most equal to the distance between bottom margin and top border. The valuedisplays as F2 distance.
2. **Key in a non-null radius at most equal to the distance between the arc centre and the closest margin.**

Setting text on arc

Orientation	Text displays	clockwise	anticlockwise
In Arc dialog box click the Orientation matching • the direction text displays on arc. • the position in relation to baseline.	**outside the arc**		
	inside the arc		
Start Angle - End Angle The arc opens on start angle and stops on en end angle. The angles determine arc opening and length. They are automatically computed further to arc building and text orientation. Key in a negative (0 to -180°) or a positive value (0 to +180°) in Arc.	**Start = -90°** **End = +45°**		
	Start = +90° **End = -45°**		

Text in columns

Setting text in columns

1. Click in composition.
2. Click in Advanced text bar
   <Back Next> Click to step forwards or backwards.
3. Yes Click to confirm text setting in manual mode.
4. **Key in text height.**
5. **Click text in columns creation Mode.**
   Setting on baseline to make columns
   Setting in table to make a table
6. **Key in the parameters of text in columns.**
7. **Set the parameters to engrave borders around text.**
8. Finish Click to generate the Text in Columns object.
9.
10. Display engraving paths.

Line parameters are computed in relation to columns without considering the composition.

How to convert a Text object into Text in Columns?

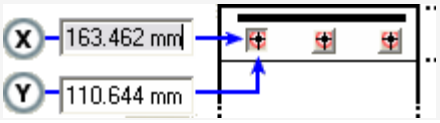
1. Click Text object.
2. Click in Advanced text bar
3. Set text in columns following the above procedure from step 5.

Setting columns of text

From the first line of text in first column, the lines of text are distributed across several columns.
The lines can be framed using borders.

1. Next> Go to step Setting on baseline in Text in Columns.

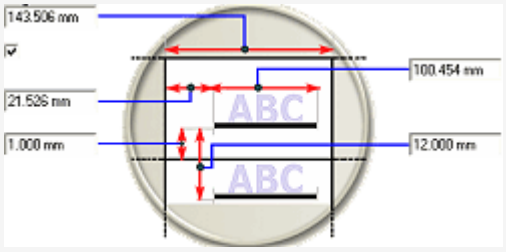
2. **In First baseline** give the position for the first line of text and the total of lines of text.



a. **Click the origin of the first line of text (center, left, right). Key in coordinates** X Y

b. **Key in Number of rows and Number of columns**

3. **In Columns area** key in the properties per column.



a. **Column width. To set different column widths:**

- **Untick Same column width.**
- **Select Column # using cursor**
- Key in each **Column width.**

b. **Text width lower than column width**

c. **Line spacing lower than text height**

d. Click Text alignment on baseline

e. **Untick Borders.**

f. Finish Click.

g. Abc

You need no border.

e. **Tick Borders. Key in**

f. **Left margin** between the baseline left end and the column left border.

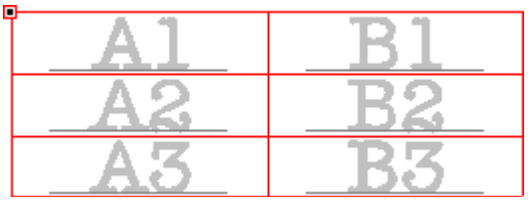
g. **Bottom margin** between the baseline and the horizontal border separating it from the next line.

h. Next> Click to add borders.

You will engrave column borders.

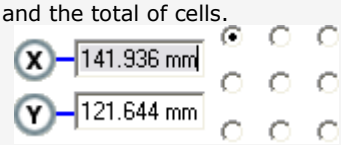
Setting text in a table

Each line of text displays in a table cell. Define columns and rows. Borders are automatically added.



1. Next> Go to step Setting in a table in Text in Columns.

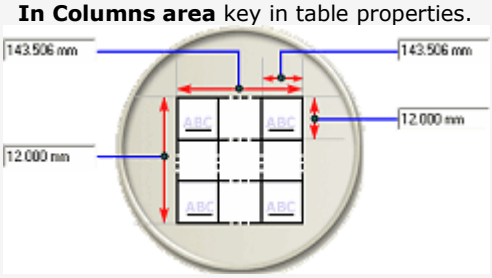
2. **In Setting in table** give the position of the first cell and the total of cells.



a. **Click the origin of the first line of text (center, left, right). Key in coordinates** X Y

b. **Key in Number of rows and Number of columns**

3. **In Columns area** key in table properties.



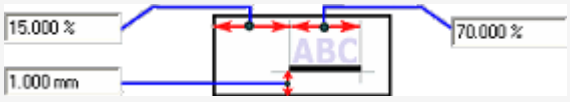
a. **Frame width of table**
or
Column width
To set different column widths:

- **Untick Same column width.**
- **Select Column # using cursor**
- Key in each **Column width.**

b. **Frame height of table**
or
Cell height

c. Click Text alignment in column

4. **Key in Cell parameters.**

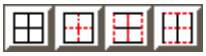


5. Next> Click to add borders.

a. **Left margin** by default equal to 15% of the column width
or
Text width by default equal to 70% of the column width

b. **Bottom margin** between the baseline and the cell lower border

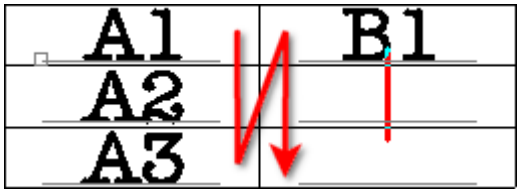
Adding borders to text in columns

1. Set the text in columns or in table.
2. **Go to step Strokes and borders in** Text in Columns dialog box.
3. Click
   - the type of lines to show or to hide 
   - the border to show or to hide (a hidden border displays dotted).
4. **Click the Path that will engrave the borders of text in columns.**
5. Finish Click to generate the columns or the table.
6. Abc

Typing text in columns

Typing by column

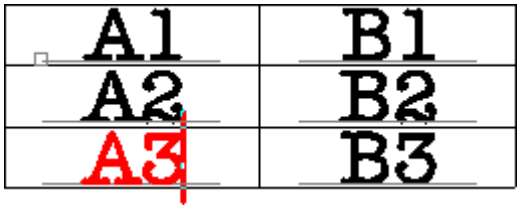
Text in columns displays downwards from left to right.



1. Click the baseline of the first text line.
2. Abc
3. Enter Press to type the text of the next line.

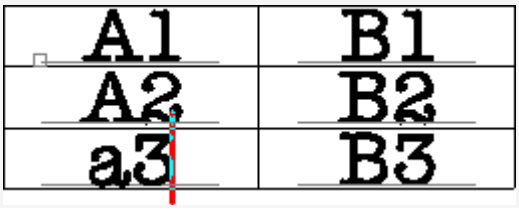
Selecting a line

You edit the text separately from other lines.



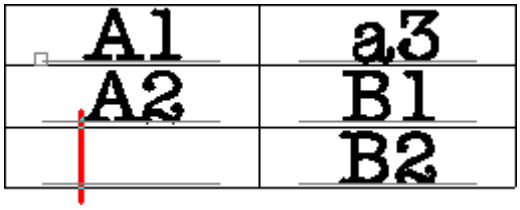
Enter Press until the pointer is set on the baseline.

Click the baseline.



Offsetting text to the right

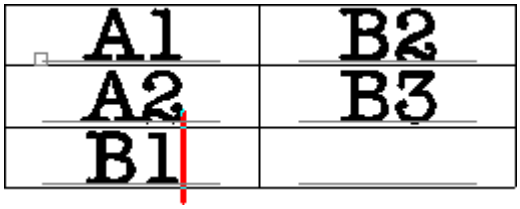
From the line selected onwards, the text in each line replaces the text on the following line.



1. Select a line.
2. Ctrl Key down press Enter

Offsetting text to the left

From the line selected, the text in each line replaces the text on the preceding line.



1. Select a line.
2. Ctrl Key down press Del

Font Editor

Using Font editor

Create a font of characters or a set of logos from a Gravograph standard font. Gravograph characters are designed for engraving from open contours.

When you select a Gravograph font, the Font Editor saves a copy you can modify as you want.

1. Click in status bar to unlock workspace.
2. Click in Advanced text bar
3. **Create a new font or** edit a user font.

New font

1. Open Font editor. Click in Advanced text bar
2. **Click a Gravograph font** to use as template.
3. New Font Click.
4. Type the **Font Name** (11 characters max.).
   The New Font is saved as file into **FONTS folder.** The filename includes
   - **the font name**
   - **FE letters** that identify a font made in Font editor
   - ***.chr extension**
5.
6. Edit the FE font displayed at the end of the font menu.

On next program start the font will display in alphabetical order.

Edit user font

1. Open Font editor. Click in Advanced text bar
2. **Click a FE font. Click**
3. Click the operation to make.
   Create character
   Add character
   Delete character
   Edit auto-kerning between characters
4. Click to update the font.
5. Click to close Font Editor.

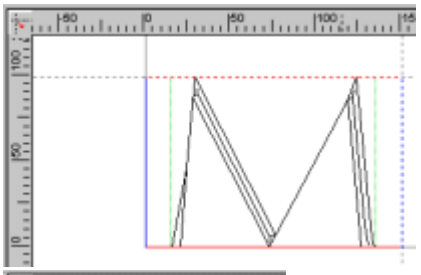
To rename the selected font , type the new Font name.

Create a user character

1. Open Font editor. Click in Advanced text bar
2. **Click a FE font. Click**
3. Delete all the objects in composition. Delete all the guidelines.
4. Click to use a Gravograph character.
   a. Click a Gravograph font.
   b. In List of characters, double-click the character used as template.
5. Create the character following the recommendations below.
6. Add the character.

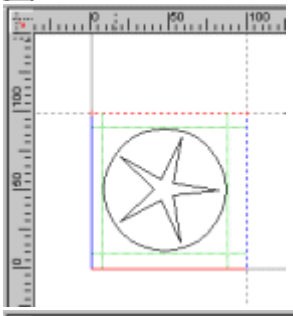
Whether or not you are creating a character using a model, adhere to the following specifications for an attractive result. Each character is a curve object you manipulate as needed.

The character is in the bottom left corner of the composition.
Composition bottom border is the baseline.
The horizontal guideline delimits the nominal height, including spaces above and below the character.
The vertical guideline delimits the nominal width, including left and right spaces around the character.



If you create a character without model, you have a standard surface of 100x100mm available.
All the characters have a nominal height of 100mm.
Keep the standard value to obtain a character with a F12 height equal to 10mm.

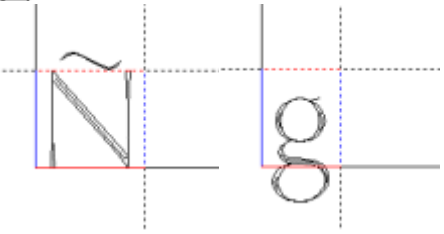
Check that the dimensions of the new character do not exceed 199x199 mm.



If you use a Gravograph character as model, keep its features to create the new character (nominal width and height, position in relation to the baseline, spaces around the character). They are fixed to display the character consistently within text.

For an accented uppercase letter, set the accent above the horizontal guideline.

For a lowercase letter with a descender (g, p, or q), set the descender beneath the baseline.



Manage characters of a user font

1. Open Font editor. Click in Advanced text bar
2. **Click a FE font. Click**

Add

3. Create the character.
4. Click.
5. **Set Unicode or Keyboard Reference** used to type the character.
   Key in its **Unicode number. Type the 6-digit value starting with "0x".**

   If the general table of Unicode characters use free numbers in private range that contains no standard character. This precaution avoids to replace any existing character and allows to display correctly each new character.
6. OK If the character already exists in font, a message asks if you want to replace it.
   No Add the character under a Unicode number in private range.
7.

Delete

3. Click.
4. Click the character to delete from **List of characters.**
5. Close Click.
6.

Edit the auto-kerning of a user font

Auto-kerning is used to improve the legibility of characters and text.

1. Open Font editor. Click in Advanced text bar
2. **Click a FE font. Click**
3. Click. Edit auto-kerning in Visual Kerning.
4.

0x 30	0	0x 34	4	-0.043750
0x 30	0	0x 37	7	-0.043750
0x 31	1	0x 31	1	0.037500
0x 37	7	0x 34	4	-0.143750
0x 37	7	0x 3a	:	-0.075000

The list contains the auto-kerning table that defines the standard spacing for different pairs of characters of the font.

Click to close the dialog box

1. Click a pair of characters.
2. Click to delete the selection.

Click to restore standard auto-kerning table.

Click only to delete the whole auto-kerning table for a font of logos.
Unlike characters, left and right spaces are not necessary between logos.

Setting auto-kerning between 2 characters

1. **Select Character 1.**
   Click. Double-click the character in **List of characters.**
   Key in its **Unicode** number. Type the 6-digit value starting with "0x".
2. Repeat the operation to select **Character 2.**
3. Fix auto-kerning.
   Click to reduce or to increase the value by 1/160th mm.
   Key in a positive or negative value.
4.
   • If there is not one, the pair of characters will be added into table.
   • If the pair of characters is in table, its auto-kerning value will be modified.

Drawing mode

Work in Drawing mode

The mode basically allows to set vector shapes in composition.

Each shape is a curve object made of one or more vector contours which lines may be warped by effects or edited in Point mode. Each shape is drawn from a reference point (start point, shape center or a point upon contour, etc.).

1. **Enable Drawing mode.**
2. Click the shape to draw. The selected tool displays near the pointer
3. Draw the shape using mouse or key in parameters displayed using key F2

Tools to draw a closed contour

Arrow

Rectangles rounded or truncated

Polygon

Star

Ellipse

Circle

Circle from 3 points

Tools to draw a closed/open contour

Curve

Lines

Line/Curve using Point&Shoot

Arc/Circle using Point&Shoot

Freehand drawing using Dedicace

Symmetrical curves

Tools to draw an open contour

Circle arc

Arc from 3 points

Arc from chord

Tangent lines/arcs

Spiral

Basic edition of contours

Marker

Crop on intersection

Decompose in open contours

Delete a loop in contour

Extend an open contour

Auto-connection

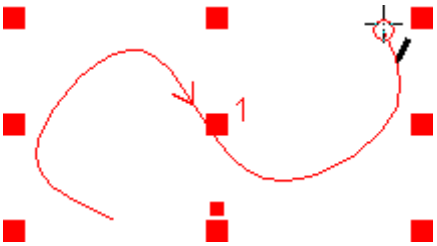
Delete contours

Handling axis

Local axe system

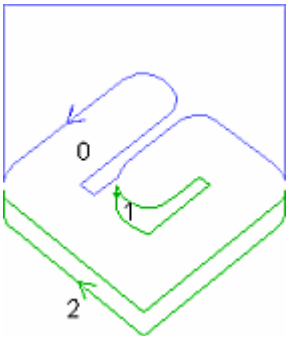
View shape contours

Displaying contour direction and order



Arrow direction

When you draw each contour has
- **an arrow that shows its lines direction.**
- **a number that indicates in which order it has been drawn,** when several contours are created at the same time (double line, ridge, etc.).



When you select several contours a number indicates in which order each contour has been selected.

When you duplicate a contour a number indicates in which order each copy has been created.

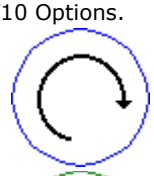
With no selection, a number indicates in which order each contour has been created.

Displaying the contour direction

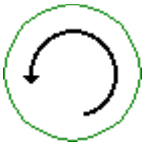
Contour direction in Display tab of F10 Options

Change color in Color tab of F10 Options.

Contour direction



A closed contour drawn clockwise is blue.



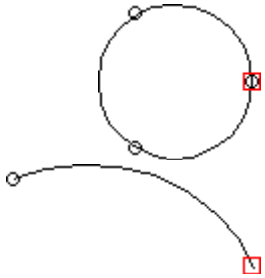
A closed contour drawn counterclockwise is green.

An open contour is black.

Displaying contour points

Displaying start points

The start point is the control point that marks the start of a contour. It is always represented by a **large square.**



Start points in Display tab of F10 Options

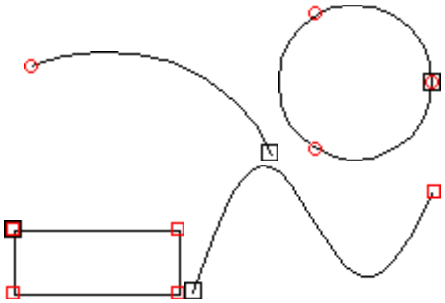
The end point is the control point that marks the end of a contour.

On a closed contour (circle, ellipse, rectangle, polygon, star, arrow, curve) the start point and the end point merge.

On an open contour (circle arc, line, curve) the start point and the end point are two distinct extremities.

Displaying control points

Contours are drawn from a series of control points.



Control points in Display tab of F10 Options

Contours with curves (ellipses, curves, circles, arcs of a circle) are also built using point handles.

Control points are **small circles in contours that have regular curves (ellipses, circles, arcs of a circle).**

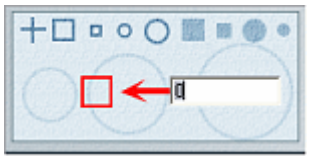
Control points are **small squares for other contours (rectangles, polygons, stars, arrows, lines, curves).**

Setting markers

The Marker tool sets a non-engraved mark, used only or by pair to execute certain operations (mirror along an axis, marking overlapping zones, drilling).

A marker is a Marker object. A set of grouped markers form composite object.

Choose a marker



1. Ctrl Key down click in Shapes bar
2. In Markers dialog box type the number corresponding to the type of the marker.
3.

1	2	3	4	5	6	7	8	9	10	11	12	13

Draw using mouse

1. Click in Shapes bar
2. Click the marker position in composition.

Key in parameters

1. Click in Shapes bar
2. F2 Key in XY coordinates of the marker.

Draw rectangles

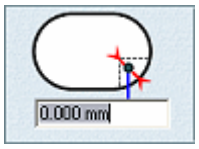
Abc Setting text in rectangle

Draw using mouse

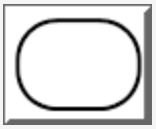
The shape is a reeditable object.

1. Click in Shapes bar
2. Click the position of the start point.
3. Drag the pointer to shape the rectangle.
   Shift Key down: Draw from centre
   Ctrl Key down: Draw a square
4. Drop when the shape has the required size and position.

Draw rounded/truncated rectangle using mouse

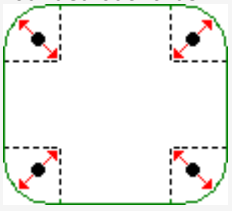


1. Click in Shapes bar
2. Click the type of rectangle.

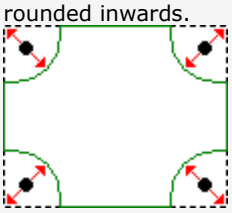


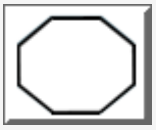
Rounded

Key in a positive radius for corners rounded outwards.



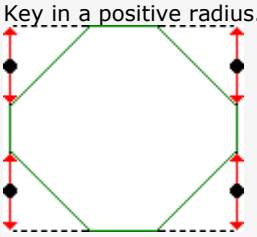
Key in a negative radius for corners rounded inwards.





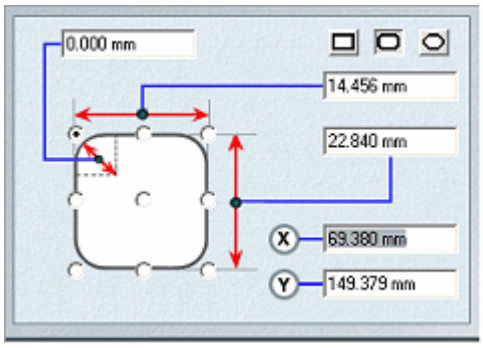
Truncated

Key in a positive radius.



3. Draw the rectangle using mouse.

Key in parameters

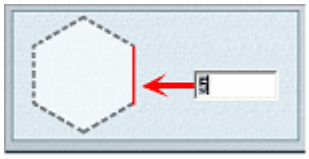


1. Click in Shapes bar
   Click in Shapes bar. Click
2. **Click the position of the gravity centre**
3. **Key in the coordinates of the gravity centre in workspace.**
4. **Key in the height and the width.**
5. Click the type of rectangle.
   Standard (no radius)
   Rounded
   - Key in a positive radius for corners rounded outwards.
   - Key in a negative radius for corners rounded inwards.

   Truncated. Key in a positive radius.
6.

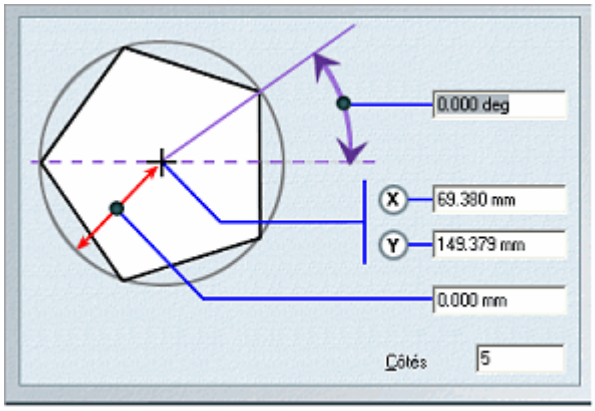
Draw polygons

Draw using mouse



1. Click in Shapes bar
2. Click the position of the gravity centre.
3. Key in a number of sides upper or equal to 3 (triangle). Click
4. Drag the pointer to shape the polygon.
   Shift Key down: Draw from gravity centre
5. Drop when the shape has the required size and position. You mark simultaneously the position of the start point.

Key in parameters

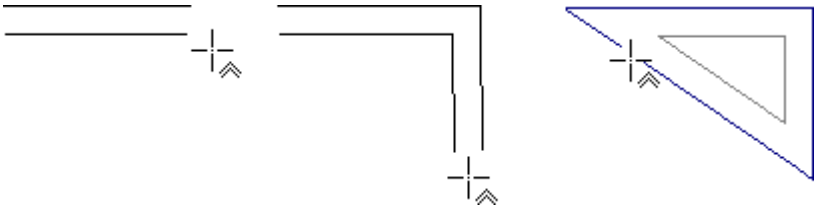


1. Click in Shapes bar
2.
3. F2 Key in
   X Y **the centre coordinates in workspace.**
   the polygon radius.
   the rotation angle of the polygon.
   • a number of Sides upper or equal to 3.
5.

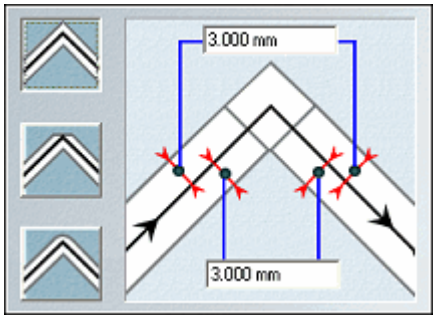
Draw lines

Draw using mouse

1. In Shapes bar
   click to draw a simple line.
   click to draw a double line.
2. Click the position of the start point.
3. Drag the pointer onto he next point.
   F2 Key in XY coordinates of the point.
4. Drop onto the position of the point and the path direction.
   Ctrl Key down: Horizontal or vertical lines
   Bs Delete the previous point
5. Repeat 4 and 5 steps according to the required shape.
6. End the shape.
   Enter Press the key or double-click for an open contour.
   Click the start point for a closed contour.



Key in parameters



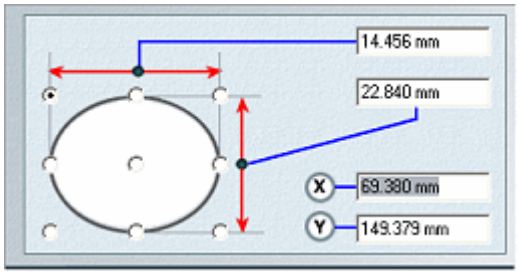
1. Ctrl Key down click in Shapes bar
2. In Double line dialog box **click the type of path angle (none, truncated, rounded).**
3. **Key in the distance of each line in relation to the pointer path.**
4. **Click the type of connection at the ends:**
   none (two open contours which direction is inverted)
   truncated (closed contours)
   rounded (closed contours)
5.
6. Draw the rectangle using mouse (steps 2 - 6).

Draw ellipses

Draw using mouse

1. Click in Shapes bar
2. Click the position of the gravity centre.
3. Drag the pointer to shape the ellipse.
   Ctrl Key down: Draw a circle
   Shift Key down: Draw from centre
4. Drop when the shape has the required size and position.

Key in parameters



1. Click in Shapes bar
2. F2 **Click the position of the gravity centre**
3. **Key in**
   X Y **the coordinates of the gravity centre in workspace.**
   the height and the width.
4.

Draw circles

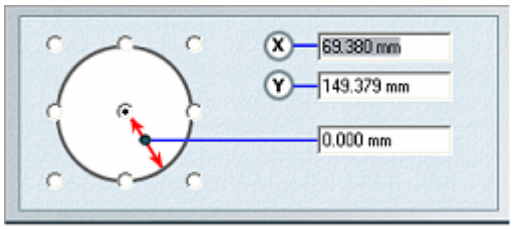
Whatever the chosen procedure
- **the start point takes place on the base of the circle.**
- **the circle is clockwise drawn.**

Draw using mouse

The shape is a reeditable object.

1. Click in Shapes bar
2. Click the position of the gravity centre.
3. Drag the pointer to shape the circle.
4. Drop when the shape has the required size and position.

Key in parameters

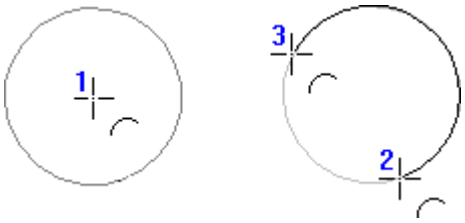


1. Click in Shapes bar
2. **Click the position of the gravity centre**
3. **Key in**
   the coordinates of the gravity centre in workspace.
   the circle radius.
4.

Draw circle arcs

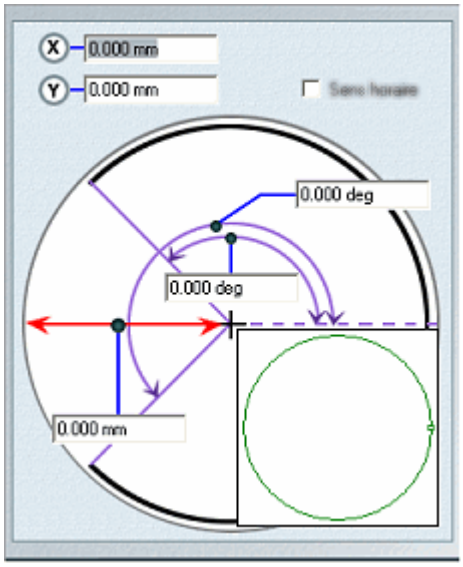
Draw using mouse

The shape is a reeditable object.



1. Click in Shapes bar
2. Click the position of the arc centre.
3. Drag the pointer to shape the reference circle.
4. Click to mark the diameter and the start point of the arc.
5. Drag the pointer to draw the arc.
   Ctrl Key down: Drawing clockwise
6. Drop on the end point of the arc.

Key in parameters



1. Click in Shapes bar
2. F2 Click to draw the arc
   Clockwise
   Counterclockwise
   According to the chosen direction the arc displays in green or in blue in the lower right preview.
3. Key in
   X Y **the coordinates of the arc center in workspace.**
   the arc radius.
   the start angle and the end angle of the arc (between 0° and 360 °).
4.

Shapes: Reeditable objects

Managing reeditables shapes

Enable

Rectangles, circles and circle arcs are reeditable objects. Reeditable mode is by default inactive.

Reeditables objects in General tab in F10 Options

Draw

1. Click the tool in Shapes bar.
2. Keep the key down while drawing to get a reeditable shape.
3.

Handle

The copy of a reeditable shape is reeditable.

Any operation that modifies the lines of a reeditable shape converts it into curves (combination, intersection, nesting, etc.). The object can be no more edited.

To keep a shape reeditable in a selection group the objects of the selection.

Edit

1. Double-click a reeditable shape.
2. Edit properties (dimensions, position, orientation). Each modification updates automatically the other properties.
3.

Reeditable rectangle

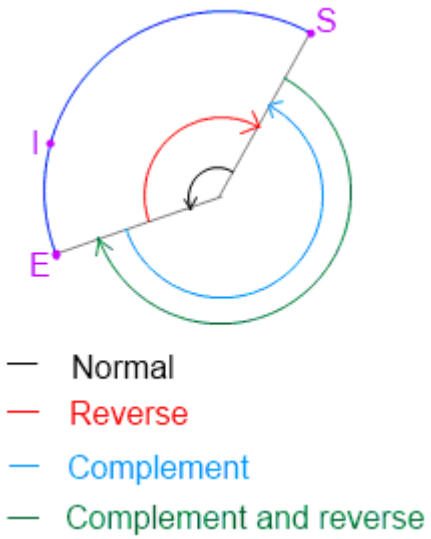
Draw the shape using mouse or key in standard parameters. If need be key in

- the coordinates of the start point and the diagonally opposite point.
- the rotation angle of the shape.

Reeditable circle

1. Click the required mode to draw the shape.
   Circle
   Circle from 3 points
2. Draw the shape using mouse or key in standard parameters.

Reeditable circle arc

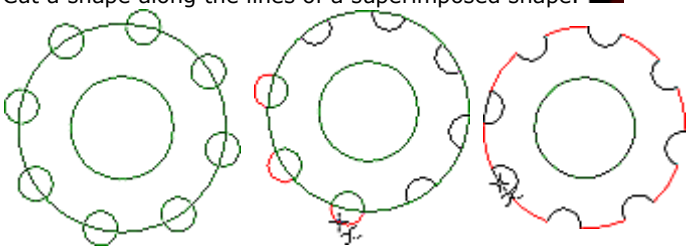


1. F2 Click the required mode to draw the shape.
   - Circle arc
   - Arc from 3 points
   - Arcs from chord
2. Draw the shape using mouse or key in standard parameters. If need be click
   - **Complement to get the opposite arc**
   - **Reverse to invert lines clockwise or anti-clockwise**

Shapes: Cut out shapes

Crop where shapes intersect

Cut a shape along the lines of a superimposed shape.

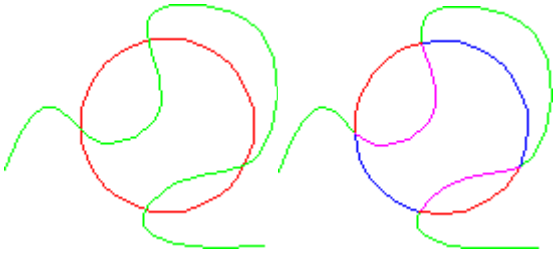


1. Draw two superimposed shapes.
2. Click in Shapes bar
3. Click the portion of the shape to be cropped. Its contour is deleted up to the point where it intersects with another shape.

The result is an open contour when you crop a closed contour.

Decompose into open contours

Decompose a shape following the lines of a superimposed shape.



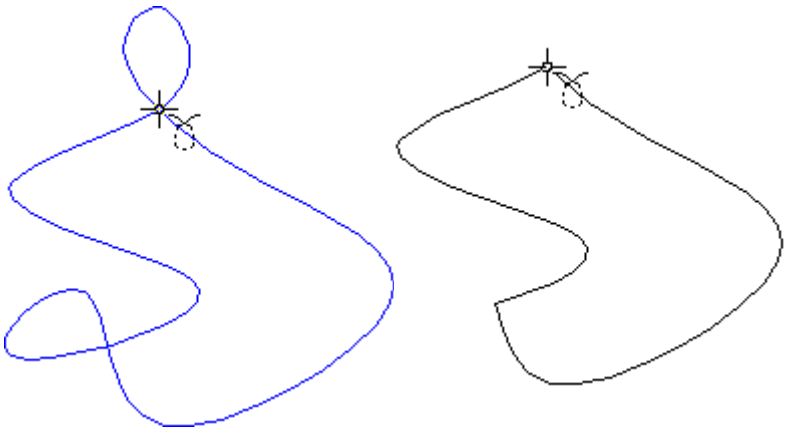
1. Draw two superimposed shapes.
2. Select superimposed shapes.
3. Click in Shapes bar Shift Key down click the tool to handle a copy of the selection that remains safe.

Each segment between two intersections becomes a separate open contour.

Delete a loop in contour

Detect small-sized loops using overlapping markers.

Delete or separate in a click all the loops on the lines inside a contour.



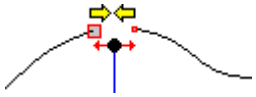
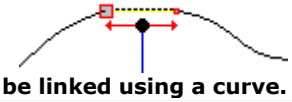
1. Ctrl Key down click in Shapes bar Shift Key down click the tool to handle a copy of the selection that remains safe.
2. Key in the max. diagonal of a loop.
3. Click as you'd rather
   Delete loops (is default)
   Separate loops
4.
5. Click the contour that shows loops.

When you separate loops in lines they become closed contours. Ungroup to separate contours

Auto-connect an open contour

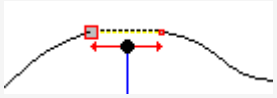
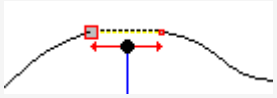
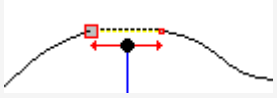
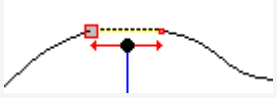
Selection

Auto-connection

Connect the ends to close an open contour.	1. Click an open contour. 2. Click in Shapes bar or in Points bar.
Configuring auto-connection Regarding the in-between distance choose how to connect the ends.	1. Ctrl Key down click 2. Set parameters in relation to the chosen connection mode (linking or merging).
 **Ends will merge into a single point.**	1. Untick **Separately.** 2. **Key in merging distance** at least equal to the distance between ends.
 **Ends will be linked using a curve.**	1. Tick **Separately.** 2. **Key in linking distance** higher than the distance between ends.
 Ends will be merged or linked.	1. Untick **Separately.** 2. **Key in merging distance.** 3. **Key in linking distance** higher than the merging distance.
Dimensions shown in graphics are drawn using Dimension tool	3.

Auto-connecting an open contour (example)

Ctrl Auto-connection settings

Distance between ends	Merging distance	Linking distance	Result
Smaller than merging distance	= 17	 = 20	Merging into a single point
Between merging distance and linking distance	= 15	 = 20	Connection using a line
Smaller than linking distance		 = 20	Connection using a curve
Higher than linking distance		 = 15	No connection

Separately (unchecked)

Separately (checked)

Separately (checked)

Shapes: Freehand drawing with Dedicace

Setting up Dedicace driver into Windows

Make the operation as Administrator each time you install a new model of tablet

1. Double-click **C:/Gravostyle????/DRIVER_DEDICACE/cons???-?_int.exe (latest version number).**
2. In Control Panel double-click **Software and functionalities**
3. Click Enable or disable Windows functionalities
4. Untick **TabletPC Components**
5.
6. Close Control Panel

Enable Dedicace function in Gravostyle

Plug the graphic tablet always onto the same USB port of PC

1. Plug the tablet cable onto an USB port of PC The light must switch on on the left edge of the tablet.
2. Run Gravostyle
3. Configure the composition
4. Switch to Selection mode
5. Click in Shapes bar

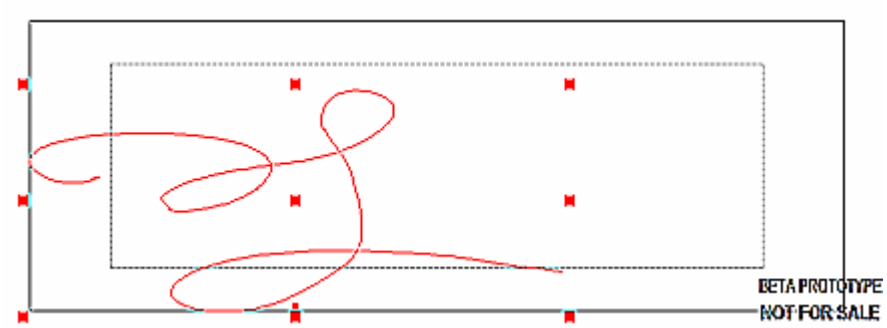
Running Dedicace device

Draw with the stilet on the surface of the graphic tablet The light must switch on on the left edge of the tablet.
The motions of the stilet display in the reference plan.

Delete all in reference plan

Cancel paths, quit Dedicace, back to Gravostyle

Click to convert and displays paths as contours in the composition



Using Gravostyle you can

transform the logo according to the required size and position.

send the logo to the machine to engrave an item.

save the logo in Symbols library and work with it later.

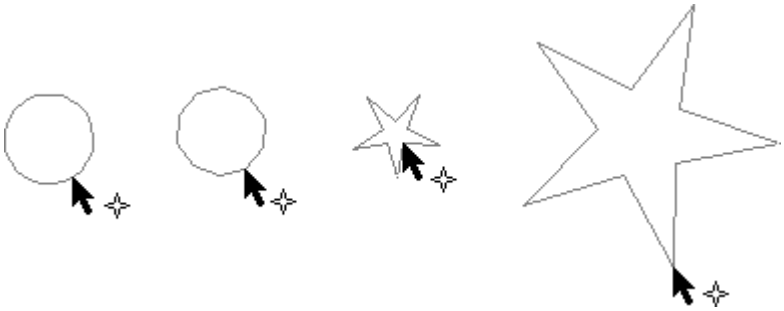
edit contours when you have Point mode.

Draw stars

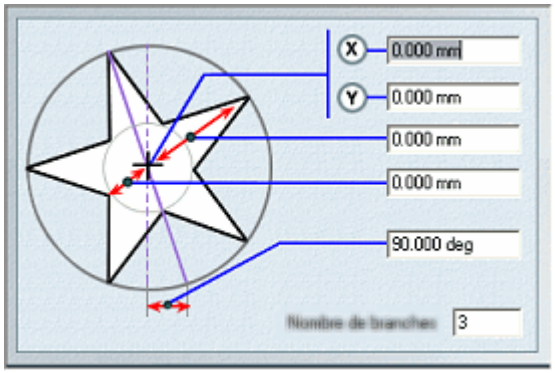
Draw using mouse

1. Click in Shapes bar
2. Key in a number of branches upper or equal to 3.

   Click
3. Drag the pointer to shape the reference circle.
4. Drop the pointer when the shape has the required size and position.
5. Drag the pointer inside or outside to shape star branches.
6. Drop when the star has the required size and position.



Key in parameters



1. Click in Shapes bar
2.
3. Key in

   the coordinates of the star centre in workspace.

   the distance between a branch apex and the star center.

   the distance between a branch base and the star center.

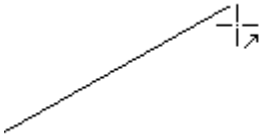
   the rotation angle of the star calculated from its center.

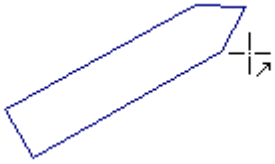
   • a Number of branches upper or equal to 3.
4.

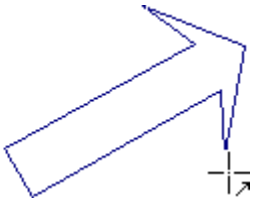
Draw arrows

Draw using mouse

1. Click in Shapes bar
2. In Arrow dialog box click the shape required (simple, orthogonal, filar). Click
3. Click the position of the start point.
4. Drag the pointer to set the length and the direction of the star.
5. Drop onto the position of the arrow apex (you draw a filar arrow: jump directly to step 8).
6. Drag the pointer to set the width of the star and of its branches.
7. Drop when the body star has the required size.
8. Drag the pointer to set the length and the branch opening.
9. Drop when the branches have the required size and position.





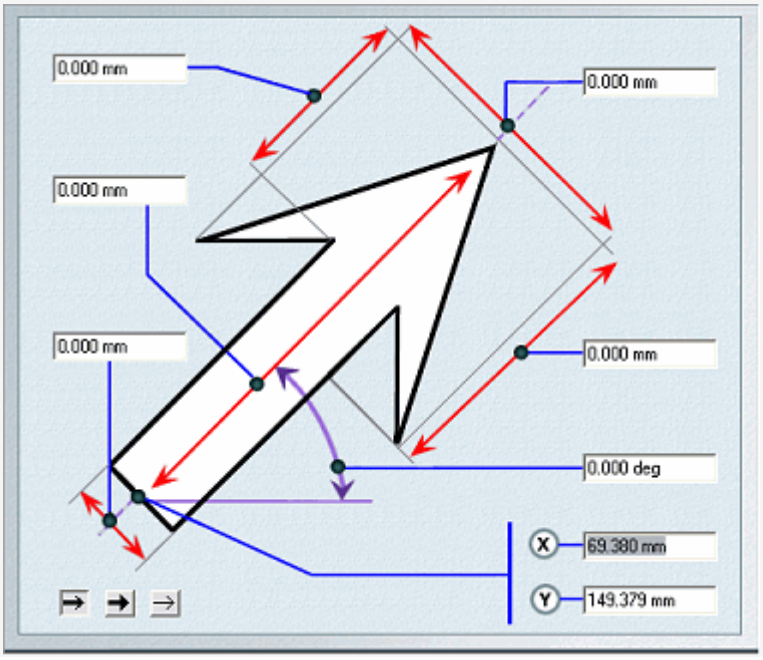


Draw an arrow with the same profile as the drawn last one

1. Click the position of the start point.
2. Drag the pointer to set the length and the direction of the star.
3. Double-click the star apex.

Key in parameters

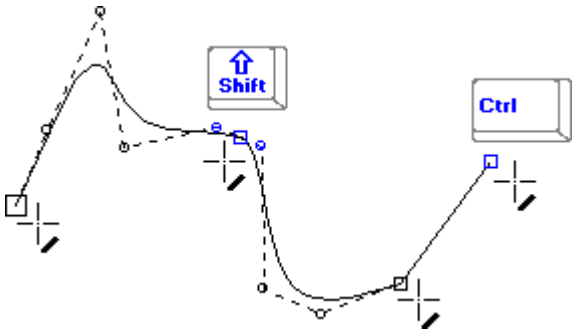
1. Click in Shapes bar
2.
3. Click the shape required
4. **Key in**
   the coordinates of the star origin in workspace
   the length of the star body
   the width of the star body (useless for a filar arrow)
   the rotation angle of the star
   the distance between a branch apex and the star apex
   the distance between the apexes of two branches
   the distance between a branch base and the star apex (useless for a filar or an orthogonal arrow)
5.



Draw curves

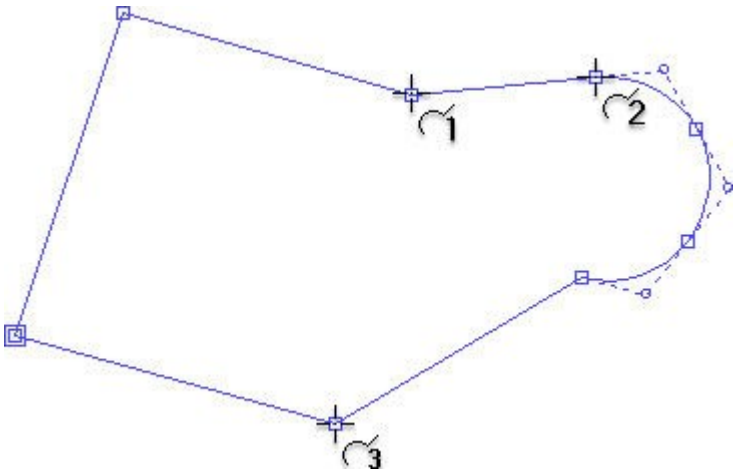
To draw a curve with a single point convert a marker in curve.

Draw a curve



1. Click in Shapes bar
2. Click the position of the start point.
3. Drag the pointer onto the next point.
   F2 Key in XY coordinates of the point.
4. Click to mark the point.
   Simple Click: Mark a curve apex
   Ctrl Key down and Click: Mark the end of a line
   Shift Key down and Click: Mark the end of a curve
   Bs Delete the previous point
5. Repeat 3 and 4 steps according to the required shape.
6. End the shape.
   • Double-click for an open contour.
   • Click the start point for a closed contour.

Draw a polycurve



1. Click in Shapes bar
2. Click the position of the start point.
3. Press the key to select the type of segment to draw.
   Fix the position of the point and the nature of the next segment.
   a. Key in XY coordinates of the point.
   b. Click the new segment to be drawn.
      1 - Line broken in 2 lines
      2 - Tangent arc in the previous line
      3 - Tangent segment in the previous arc
   c. Click to
      Close curve
      keep the contour open
   d. Click.
4. Repeat the actions in step 3 according to the required shape.
5. Double-click to end the shape.

Draw arcs and circles from 3 points

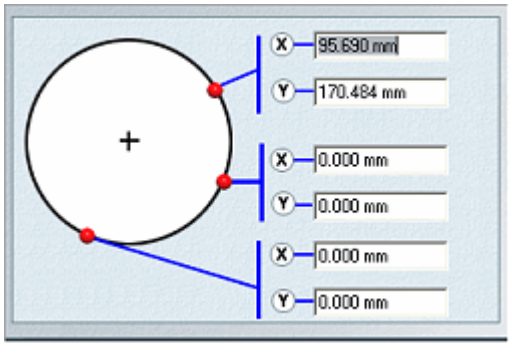
Circles from 3 points

Draw using mouse

The shape is a reeditable object.

1. Click in Shapes bar
2. Click the position of the start point.
3. Click the second point.
4. Drag the pointer to shape the circle.
5. Drop on the third point.

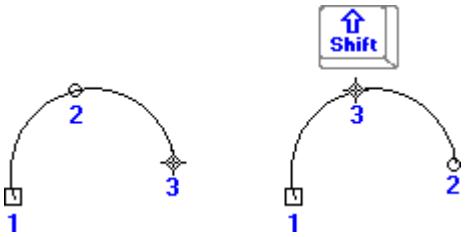
Key in parameters



1. Click in Shapes bar
2. F2 **Key in the coordinates of each point in workspace** X Y
3.

Arcs from 3 points

Draw using mouse



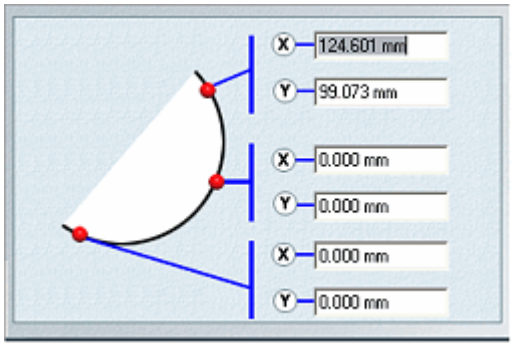
The shape is a reeditable object.

1. Click in Shapes bar
2. Click the position of the start point.
3. Click the second arc point.
4. Drag the pointer to shape the arc.
5. Drop on end point.

or

1. Click the start point.
2. Click the end point.
3. Shift Key down drag the pointer to shape the arc.
4. Drop on the position of the arc apex.

Key in parameters

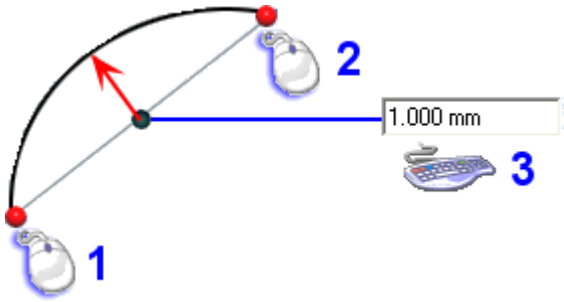


1. Click in Shapes bar
2. **Key in the coordinates of each point in workspace**
3.

Draw arcs from chord

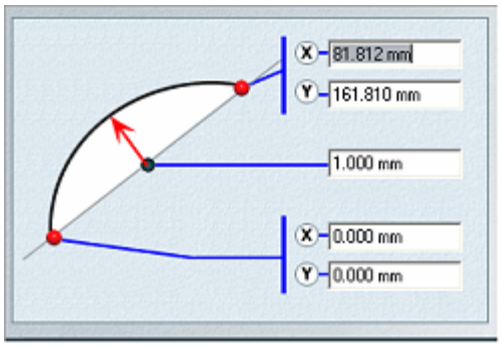
Click in Shapes bar

Draw using mouse



1. Click the position of the start point.
2. **Click the end point. The chord is the distance between the ends of the arc.**
3. **Key in the Arrow or arc height** in Arc from chord.

Key in parameters

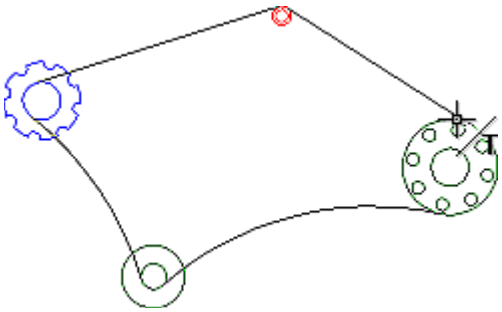


1. F2 Key in
   X Y **the coordinates of each point**
   the arc height
2.

Draw tangent lines/arcs

Draw two shapes which lines include curve segments (ellipses, arcs, circles, curves).

Link these shapes with a tangent line or arc.



Tangent line

The line will not be drawn if it is not tangent to the objects selected.

1. Click in Shapes bar
2. On the first object, click the point the tangent is being applied to.
3. On the second object, click the point the tangent is being applied to.

Tangent arc

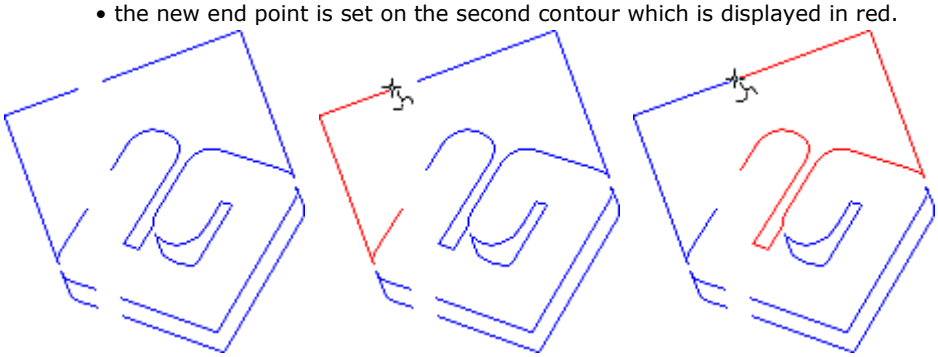
If a message indicates that the arc is not tangent to the objects selected, click and correct the arc radius.

1. Click in Shapes bar
2. **Key in arc Radius at least equal to the distance between the two points the tangent is being applied to. Validate.**
3. On the first object, click the point the tangent is being applied to.
4. On the second object, click the point the tangent is being applied to.

Extend an open contour

Stretch an open contour with a line onto the next contour.

1. Click in Shapes bar
2. Click the end point of the contour.
3. Click the contour where the selected one should stop:
   • a line extends the previous segment (same direction).
   • the new end point is set on the second contour which is displayed in red.



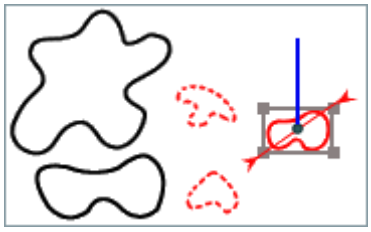
If a message indicates that the open contour cannot be extended move its end point in Point mode.

Delete contours

Delete superfluous contours to simplify for example lines produced by image vectorization.

An contour is deleted when the diagonal of its bounding box is lower or higher to a given size.

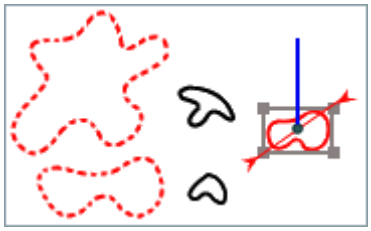
1. Select open or closed contours.
2. Ctrl Key down click in Shapes bar
3. Click to



Delete small outlines

Key in the min. Size of the bounding box diagonal.

Each contour with a lower diagonal will be deleted.



Delete big outlines

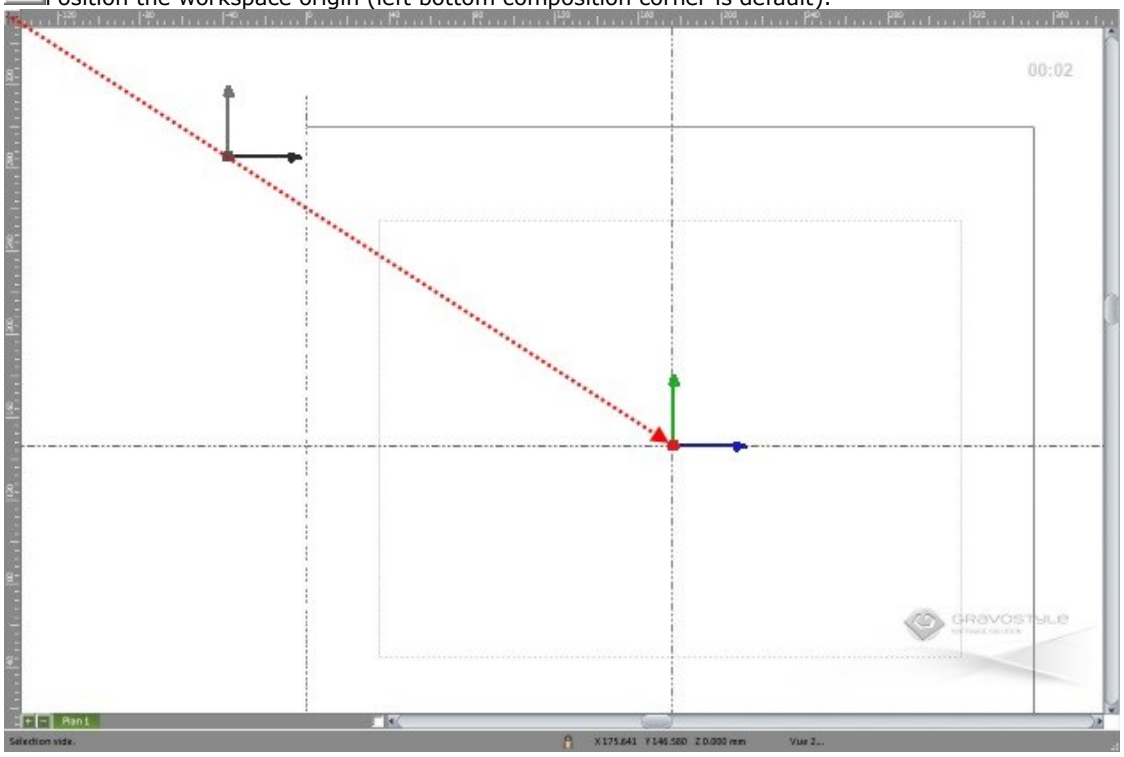
Key in the max. Size of the bounding box diagonal.

Each contour with a higher diagonal will be deleted.

4.

Shapes : Symmetric curves

1. Enable the max. workspace
2. Position the workspace origin (left bottom composition corner is default).



3. In Shapes bar click the shape to draw using the required symmetry:

   around X axis

   around Y axis

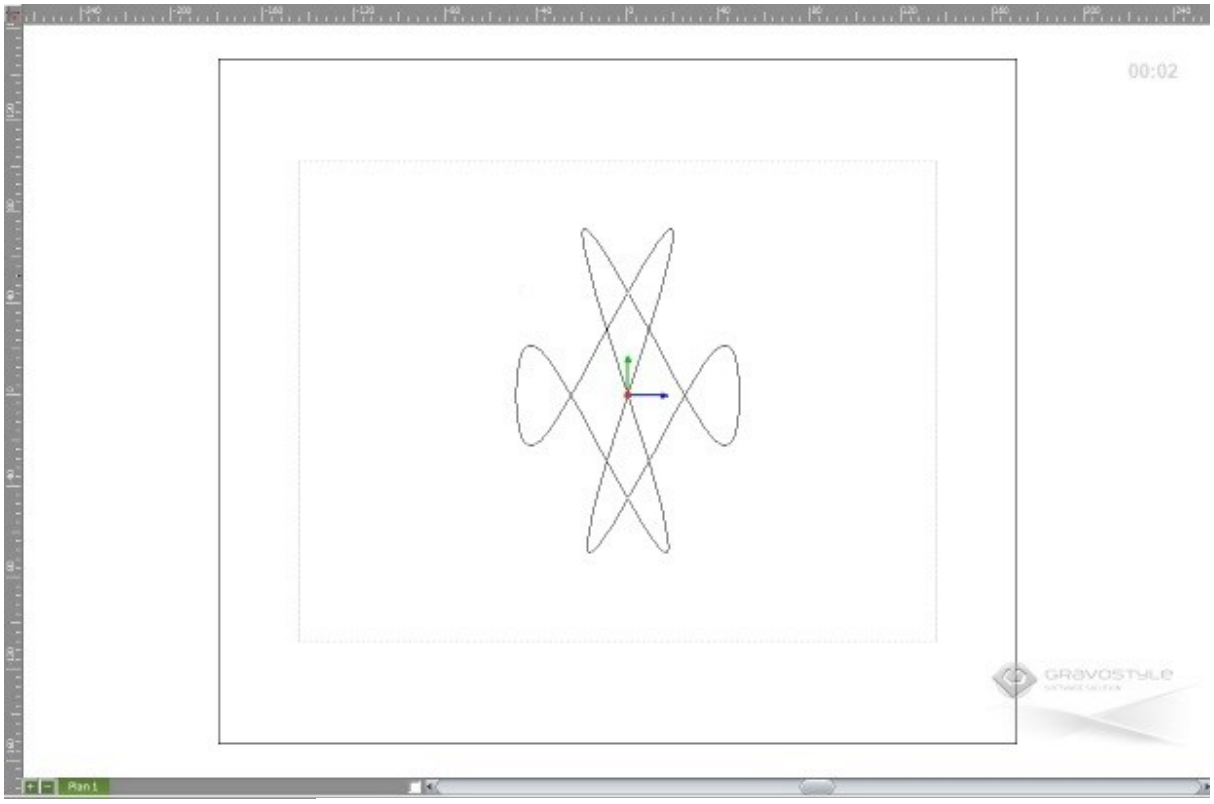
   around origin

   around XY axes

4. **Click the position of the start point**
5. Drag and drop the pointer according to the expected curving and size of the segment
6. Set the next point. Click to mark a curve apex, or

   Ctrl click with key down to mark a line end.

   Deleting previous point ← Bs
7. Repeat steps 3 and 4 according to the shape expected. The points and segments drawn are duplicated through mirror into opposite side.
8. F At need press key to get an open or a closed contour
9. Double-click to end the shape



Editing a symmetric shape using Point mode

a. Select the symmetric shape. Initial lines only display.

b. Edit required points and segments

c. Enable Selection mode. The whole shape displays according to modifications done.

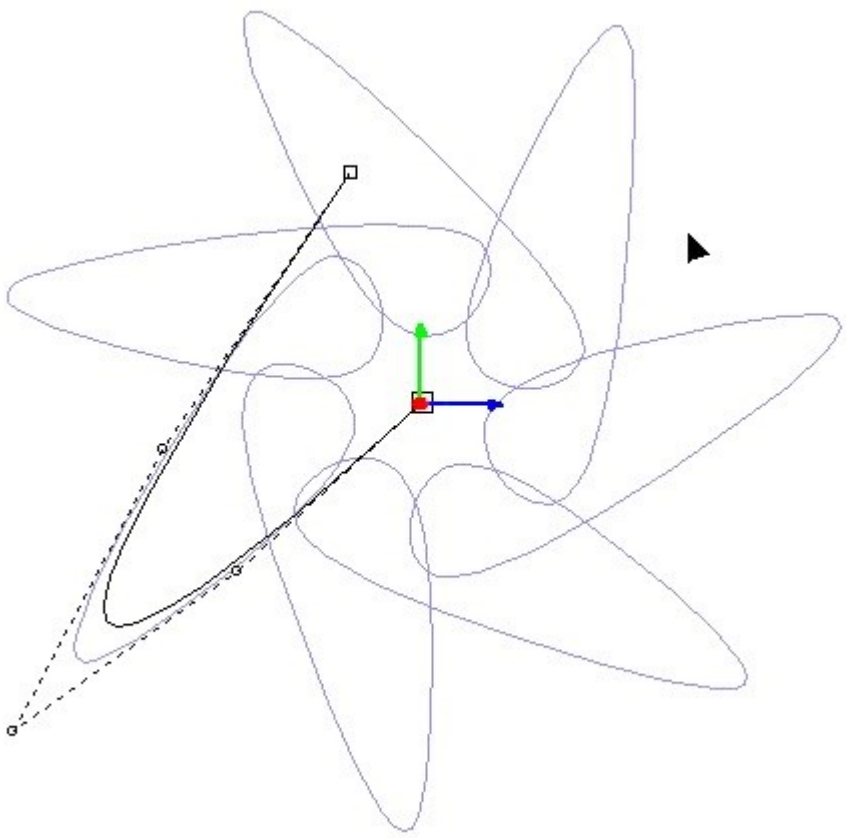
Symmetric shape by rotation around origin

The shape is a reeditable object.

a. Click in Shapes bar

b. Key in the Number of repetitions of the initial lines (here, 7)

c. Key in the Rotation Angle of the initial



lines between 0° and 360°

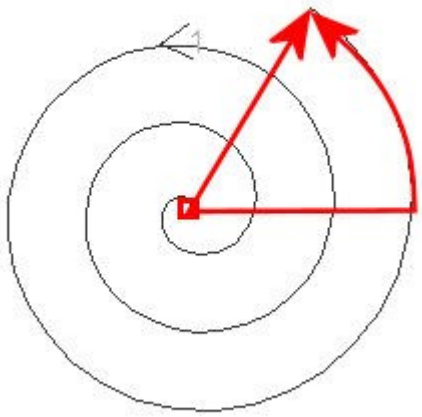
d. Tick the rotation direction. Anticlockwise is default, or Clockwise.

e. Draw the shape following the procedure above from step 4

Spiral by revolution from centre

The shape is a reeditable object.

1. **Click in Shapes bar**
2. Key in the coordinates of Central point (workspace origin is default)
3. Key in the Number of revolution around the (here, 3)
4. Key in the Start angle between 0° and 360° (here, 60°)
5. Tick the revolution direction. Anticlockwise is default, or Clockwise.
6. Key in the Radius e.g. distance between the centre and the end point of the spiral
7.



Uncombine the object to edit the open contour using Point mode

Selection mode

Working in Selection mode

Enrich the composition with objects to engrave (text, shapes, symbols...).

Enable Selection mode. The working mode lets you handle them in workspace.

Using the pointer select objects to make them undergo following operations:

Basic operations	Advanced operations
Cut/Paste	Measure
Copy/Paste	Duplicate
Delete	Effects
Align	Convert into curves
Transform	Import
Combine - Group	Export

Setting symbols

Gravostyle offers a library of symbols you can enrich with objects to engrave, bitmap files incl.
Any symbol stored in the library can be easily found and set into the composition.

Open Symbol Library

1.
2. Click in Symbols. The list of symbol folders displays.

Setting a symbol into composition

1. **Open Symbol Library.**
2. **Click the folder** (MARKERS, ENVELOP, CONNECTOR, etc.).
3. **Click the symbol** in the preview on the right.
4.
5. **Click the position** of the symbol in the composition.

Adding a symbol into library

1. Click the object or the image to convert into symbol.
2. Open Symbol Library.
3. **Click the folder** where the symbol will be stored.
4. Add Click.
5. **Type the Name** of the symbol in open dialog box
6.

Managing symbols

1. Open Symbol Library.
2. **Click the folder** that contains the required symbol.
3. **Click the symbol** in the preview on the right.

Moving inside library

Drag and drop a symbol into folder.

Delete

Click.

Rename

Click. Type the new name.

Add folder

1. Open Symbol Library.
2.
3. **Add folder**
4. **Type folder Name.**
5.
6. Move or add required symbols into the new folder.

Delete folder

The operation also deletes the symbols belonging to the folder.

1. Open Symbol Library.
2. Right-click the folder to delete
3. **Delete folder**

Importing objects

The function allows to set in the composition objects designed in third-part programs (2D or 3D CAM/CAD, bitmap image, vector graphic, etc.).

The imported file centres automatically in the composition. To import it in left bottom corner tick option in General tab of F10 Options.

Importing using the command

1.
2. Click where the file is **(DRAWS is default).**
3. Click the required format among the **File types.**
4. Within the file list that displays, **click its name.**
5. Open

Importing from Filebrowser

1. **Open filebrowser.**
2. Click where the required file is **(DRAWS is default).**
3. Display files of the selected folder according to your criteria. **Click**
   an extension or file type
   For a quick selection display only
   All vector files
   All bitmap files
   All surface files
   a sorting mode.
   a view (thumbnails with preview, files with or without properties).
   Click to resize thumbnails
4. **Select file.**
   For a quicksearch, click in list, type the first character of the name.
   Point over its icon. Its name, its type, its size and its last saving date display.
5. **Click its name.**

Lasering: Editing a Corel Draw graphic into Laserstyle LASERSTYLE

Manage with the powerful Gravostyle functions the laser marking of graphics you design in Corel Draw. The interactivity between both software is granted by the command added into Corel Draw which gives an easy access to Laserstyle.

Adding Laserstyle command in Corel Draw

Adding when Laserstyle is set up after Corel Draw

When setting up Gravostyle/Laserstyle, the Setup wizard checks if Corel Draw is installed on PC.

A message displays when Corel Draw is found.

Tick to no longer display the message

The Setup wizard adds into Corel Draw

the bar for the command which gives access to Laserstyle

Laserstyle input into Window > Toolbars menu

✔Click to show or to hide in Corel Draw the bar of Laserstyle command.

When different versions are set up the Laserstyle command will be added to each Corel Draw program found on PC.

Adding when Corel Draw is set up after Laserstyle

Add Laserstyle command using the wizard that performs 3 operations:

- Checks if Corel Draw is set up on PC or not
- When set up checks if Laserstyle command is already added or not
- When not adds Laserstyle command into Corel Draw

Make the operation as Administrator on each new installation of Corel Draw

1. Double-click the program **.\Gravostyle7???\PluginCorel\SetupMacroCorel.exe**
2. Install Click A message confirms the addition of the command.
3. Right-click the folder **.\Program Files\Corel\CorelDRAW Graphics Suite X4\Draw\GMS**
4. **Properties**
5. In Safety tab click **Modify**
6. Click Users
7. **Tick Full Control in Authorisations for Users**
8. OK
9. OK Close Properties window

Action in Corel Draw

The command runs Laserstyle, either Gravostyle interface when the user licence forbiddens Laserstyle. Laserstyle window cannot be reduced during import from Corel Draw.

Click Laserstyle command in Corel Draw to display Laserstyle interface foreground

Transfer from Corel Draw towards Laserstyle

1. Run Laserstyle. Click the tab if need be LASERSTYLE
2. In Corel Draw select a part or the whole drawing to import in Laserstyle.
3. Click Laserstyle command. A message asks 'Ready to import ?'

Whatever the reply a message reminds the conversions that may occur during import.

Tick to disable the message

Close Close the message

To enable the message click button in Display tab of F10 Options Reset Corel Message

The selection imported in Laserstyle reproduces

- Objects building the Corel Draw drawing in a single layer
- Colors of surfaces and contours
- Thicknesses of contours

Advanced Laser bar is systematically activated for color management when the user licence authorizes it.

Note that there is loss of information in the management of laser colors with standard bar.

Yes Click to set the selection as before

Material definition window displays the default dimensions of the Corel Draw selection.

A new Laserstyle document displays a copy of the Corel Draw drawing.

No Click to set the selection where you want

Using mouse pointer drag and drop the bounding box of the Corel Draw selection in Laserstyle workspace

When a Corel Draw object cannot be reproduced with a similar Gravostyle object it is converted in curves or in bitmap image. When no conversion works the Corel Draw object is deleted.

Click when the import in Laserstyle is not correct. Corel Draw window displays foreground.

If need be edit Corel Draw drawing then import again inwards Laserstyle.

Do not use Import command from File menu which is not compatible with Corel Draw versions X and later

Selection

Selecting objects

Target the selection

- using a snap mode.
- with a selection tool.
- on a type of object.
- on a set of contours with the same color.

Selecting one object

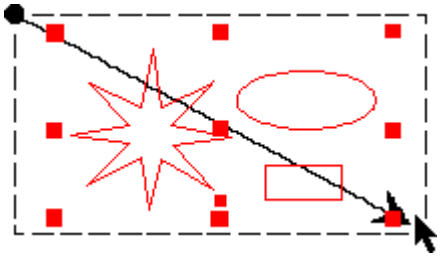
Read the status line which shows the properties of the selection.

Click an object. **The contour and selection handles display in red.**
Change the color in Colors tab of F10 Options.

Selecting all the objects in composition

Ctrl A

Selecting a group of objects



Direction arrow to view selection order

1. Drag the pointer to frame all the objects to select.
   Check that the contours of objects are fully included within the dotted selection frame.
2. Drop. The selection handles must display around the group of objects.

or

Ctrl Key down click the contour of each object to select.

or

1. Display selection tools
2. Enable selection without bounding the objects inside the selecting frame
3. Drag and drop the pointer over the objects to select

Freezing selection

Freeze the selection
- **to forbid any modification.**
- **to select easily other objects.**

Configure the right mouse button to freeze or to unfreeze the selection.

The frozen selection displays **in green.** Change the color in Colors tab of F10 Options.

or

1. Right-click selection.
2. **Freeze/Unfreeze**

Deselecting

Click outside the selection to deselect the objects it is made of.

or

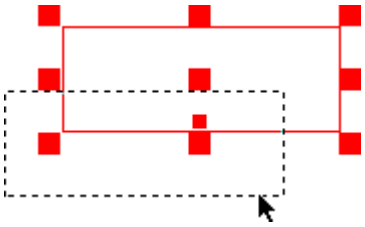
Ctrl Key down click the contour of an object of the selection to deselect it.

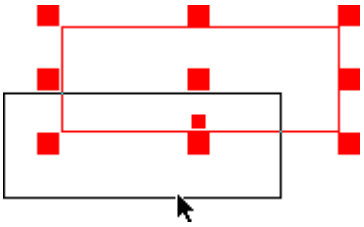
Viewing selection

To accelerate each manipulation do not tick Preview command: only the selection frame displays.

Preview: selection remains visible dur when handled.

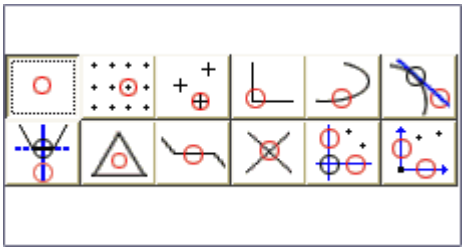
F4





Snap mode

F3 To easily run operations like selection, hook the pointer onto an element shown in workspace (guideline, point, contour).

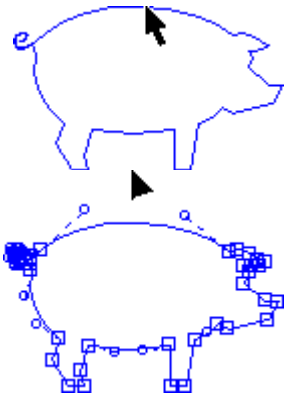


Click the picture for further information

1. **Display Snap bar**
2. Click the required snap mode(s).
   Each mode shows the element able to hook the pointer.
3. Move the pointer towards an active snap element.
   The red circle and the icon linked to the active snap mode display when the pointer comes into the magnetic field of the snap element.

When the pointer position is not correct, change the snap mode or distance.

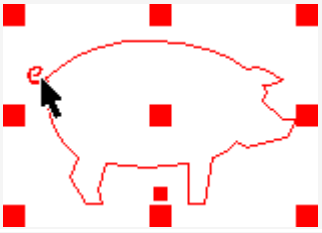
Choosing a snap mode



In Selection mode either in Point mode, selecting a contour can be uneasy when a part of its lines contains less or no point.

☑ Enable Intuitive snap.

Note that the selection of a modified contour is automatic.



Personalizing snap distance

The lower the distance, the harder to hook the pointer onto the snap element.

The distance bounds the magnetic field around the snap element (8mm is default).

1. Display tab in F10 Options
2. Key in a value between 1 and 10mm.

Select using a tool

1. **Show or Hide Selection Modes and Operators bar**
2. Click the tool used for selection.

At any time you can select an object by clicking with standard pointer

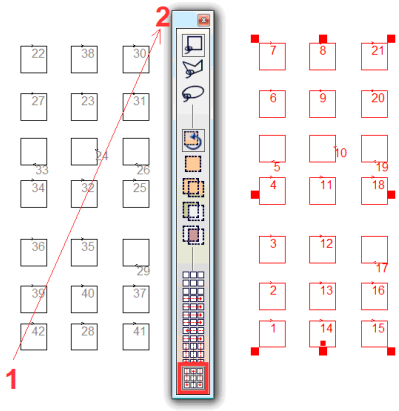
Selected objects are these which bounding box goes physically into the dotted selection path.

Drawing selection	Drag and drop selection frame around objects.
Rectangle	
Polygon (sharp selection along irregular shapes)	Click each point of selection polygon to surround objects.
Lasso (quick selection around irregular shapes)	Click each point of selection curve to bound objects.
Editing current selection	Make a new selection which cancels the previous one.
Replace	
Add	Make a new selection which completes the previous one.
Delete	In current selection click the object to deselect.
Exclude	In current selection click an object to deselect all the others.
	Back to standard selection using click

Sorting current selection

Objects are distributed according to their bounding boxes, by default from the left top corner of the selection.

The classification can start from the first point of selection to the diagonally opposite point.



Keep selection order (is default)

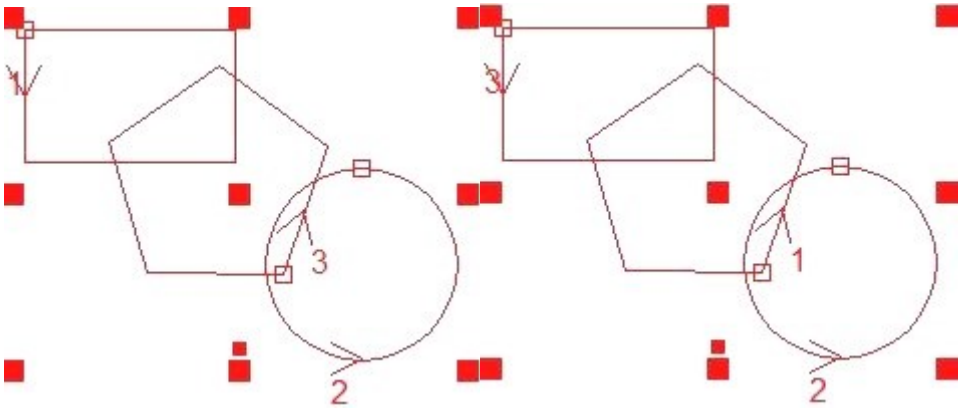
Sort up horizontally from top to bottom

Sort up vertically from left to right

Sort up horizontally by round trip, from top to bottom

Sort up vertically by round trip, from left to right

Inverting selection order



In a selection of separate objects

In a combination of objects

a. Combine selected objects

b. Click in Effects bar

Objects available in Gravostyle (non-contractual list)

1. Use the filter to specify which objects can be selected or not. The filter dominates on the selection by color.
2. To authorize the selection of a type of object click its icon in **Selection filter.**

- To forbid the selection of a type of object click its pushed icon.
- Click to invert objects authorized or forbidden to selection.

Marker object

The object is a reference for a dimension or a drilling.

Markers

Single drilling point

Geometric shapes and curve objects (except markers)

These are made of open and closed vector contours.

To edit the contours that build this type of object ungroup them.
You can edit their lines without ungrouping.

Closed contours

Open contours

Dimensions

Text objects

These are paragraphs of horizontal text you type automatically or the text you set on a non-horizontal baseline using advanced text functions.

To edit text

in Selection mode, double-click object.

in Text mode, click object.

To edit a line parameter or a text attribute, click the relative command in Text ribbon or in Rapido.

Text

Text in columns

Images

The objects come from
• the digitalization of a photo or a graphic from paper using a scanner.
• the import of files produced with a graphic editor or a digital camera.

Double-click the object in Selection mode to edit it in Bitmap editor.

Bitmap images

Professional Objects

The professional objects are groups of objects of different types.
You can't transform this type of object.

Double-click object in Selection mode to edit its parameters.
To edit the contours that build this type of object convert it into curves.

Barcode

Unique Identification Datamatrix

Stamp

Dials

Braille

Matrix series

3D Objects

Volume surface

TypeArt

Composite objects

The objects are groups of objects from different types.

To edit the contours that build this type of object ungroup them.
When a composite object contains contours, you can edit their lines without ungrouping.

Symbols

Drilling points

Vectorized images

Overlapping markers

Objects converted into curves

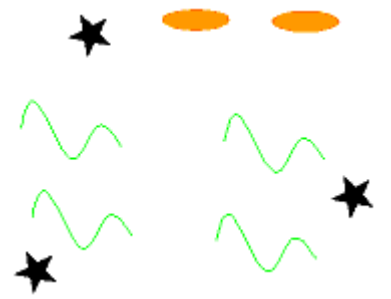
Select by color

Use the filter to select contours according to the color of the engraving path you assign them.

The filter is active only if you select contours by clicking.

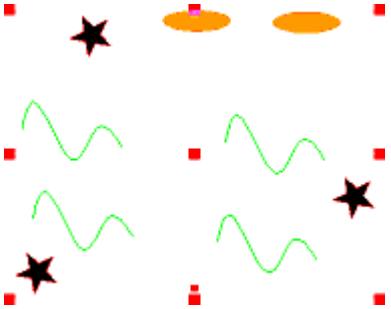
The example opposite presents.

- 2 orange ellipses
- 3 black stars
- 4 green curves



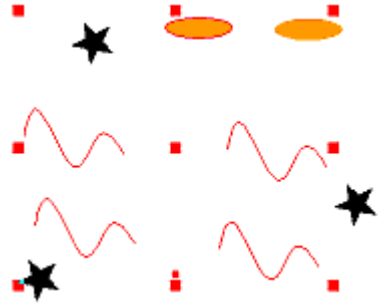
C Key down click an outline of the color wanted to select contours with the same color, except when they belong to a group that encloses contours with differents colors.

Clicking a black star selects the both other stars.



P Key down click a contour with the wanted color to select contours with the same color, even in a group that encloses contours with differents colors.

Clicking a green contour selects all the green contours.



Managing objects

Objects: Copy/Cut/Paste - Delete - Export

Select objects.

Delete

Copy/Paste

Duplicate an object inside composition.

1. Copy the selection.
2. Paste selection.
3. Move the copy superimposed to the selection.
4. Display copy and selection.

Cut/Paste

Move an object inside composition.

1. Cut the selection.
2. Paste selection.

Export

The function allows to use objects from the composition in third-part programs (2D or 3D CAM/CAD, bitmap image, vector graphic, word processor...).

1. Open Export dialog.
2. Locate where the file will be saved **(DRAWS is default).**
3. File format
4. **file Name**
5. OK

Aligning objects

1. Select objects.
2. **Show or hide Align bar**
3. Click the tool linked to the operation to perform

Key down, click the tool to handle a copy of the selection that remains safe.

Centre horizontally on the center of the first selected object

Centre vertically on the center of the first selected object

Centre in plate

Centre on first object selected

Align on the top of the first selected object

Align on the bottom of the first selected object

Align on the left end of the first selected object

Align on the right end of the first selected object

Align in parallel with a selection edge

Balance horizontally objects between left and right edges of the composition

Balance vertically objects between top and bottom edges of the composition

Space out horizontally

Space out vertically

Vertical auto-boxing

Horizontal auto-boxing

Full auto-boxing

Align 2 points on horizontal axis

Align 2 points on vertical axis

Align against a composition edge

Ranking objects

To manage superimposing between objects you can modify their order of display in the composition. The portion of objects covered by others is ignored when engraving.

When you paste or move selection, this displays in front of all the set objects.

Correct superimposing: text in front of the shape	
Wrong superimposing: text masked by the shape	
1. Select objects. 2. Type the hotkey or click the required alignment in bar.	
Front Ctrl PgDn **Send selection foreground**	
Behind Ctrl PgUp **Send selection background**	
Forward Shift PgDn **Move forward selection**	
Backward Shift PgUp **Move back selection**	

Transform an object

A. Select an object.

B. **Show or hide Transform bar.**

C. Click the tool linked to the operation to execute. The selected tool displays near the pointer.

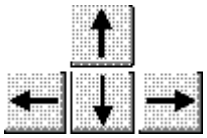
Key down click the tool to handle a copy of the selection that remains safe.

Operations are computed from the reference point. Default is the selection center. Drag and drop the new origin of the operation.

Move

1. Click if need be to shift the reference point
2. Drag and drop the selection onto the required position. Check the shifting distance in status line.
   Key down: Move horizontally or vertically

Move using keyboard

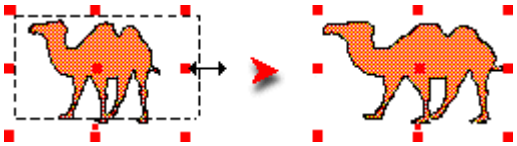


Press an arrow key to move the selection of 1mm vertically or horizontally.

1. Key down press an arrow key.
2. **Key in the Move arrow between 0.2 and 10 mm. The value displays automatically in** Display tab of F10 Options.
3.

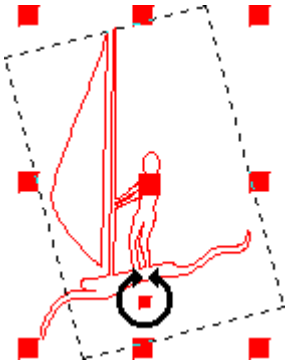
Setting standard shift

Resize/Stretch



1. Click if need be to shift the reference point
2. Point at a selection handle
   in corner to keep ratio between dimensions.
   on an edge to edit the length or the height.
3. Drag and drop the selection onto the required size. Check the scale coefficient in status line.
   Key down: Force the size of the selection to vary by 100%-step

Rotate



1. Click if need be to shift the reference point
2. Point at a rotation handle.
3. Drag and drop the selection onto the required angle. Check the value in status line.
   Ctrl Key down: Force the object to rotate by 15°-step

or

3. F2 Key in rotation angle.
4.

Mirror

Horizontal mirror on object center

Vertical mirror on object center

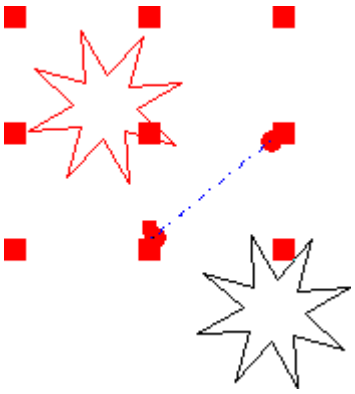
Vertical mirror on the right edge of the selection

Ctrl Key down click

Horizontal mirror on the lower edge of the selection

Ctrl Key down click

Mirror along an axis you defined



1. Set two markers to form the symmetry axis.
2. Select the object then the markers.
3. Click

3D Rotate

1. Display a 3D view.
2. Click to have a max. workspace.
3. Click in Transform bar
4. Point at an handle.
5. Drag and drop the selection onto the new orientation angle.

or

5. Key in
   • the coordinates of the rotation point X Y Z
   • the rotation angles of the selection along axes X Y
6.

Objects: Group/Ungroup

Combine or group objects to handle as a single object. When the selection contains
• various types of objects, you obtain a composite object.
• curve objects, you obtain a curve object.

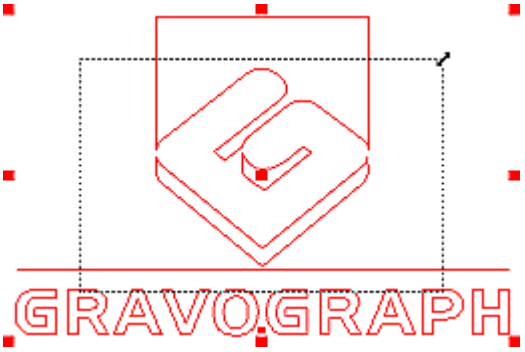
Select objects.

Combine to apply he same properties to the selection of objects.

Group to keep the own properties of each object of the selection.

Key down, click the tool to handle a copy of the selection that remains safe.

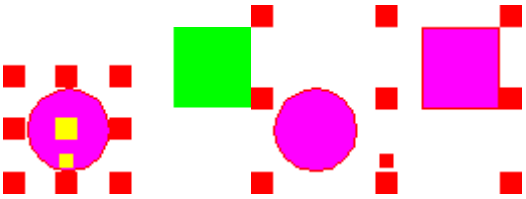
Combining objects



Combining by engraving path

Group several objects to allocate them the same engraving path.

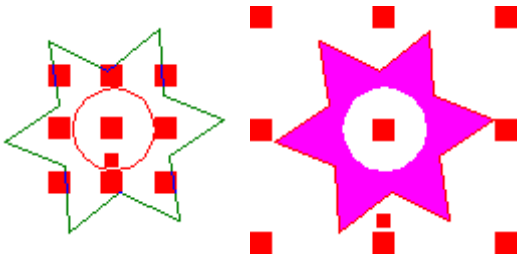
The path of the first selected object applies to all the combined objects (color, engraving...).



Combining contours by surface

Group two superimposed closed contours when they bound a surface to engrave.
The surface of the obtained curve object equals the surface of the grouped objects, less their intersection.
You can so engrave a relief object, by giving it an external contour and an internal contour.

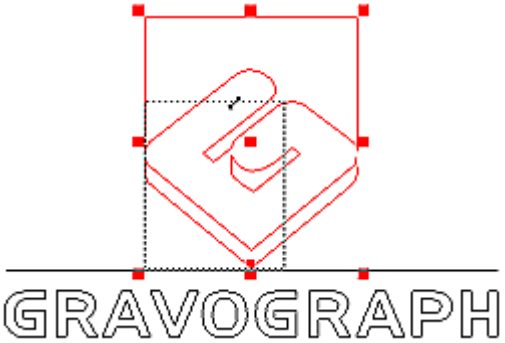
The properties of the first selected object applies to the obtained curve object (color, engraving...).



Uncombining selection

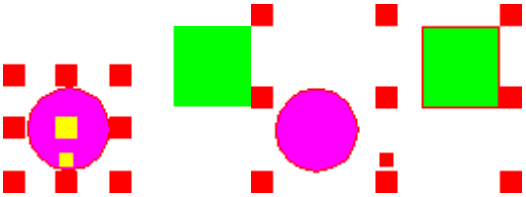
Uncombine to handle each object separetly. Each object keeps the path assigned to the combination (color, engraving...).

1. Click the combination of objects.
2.

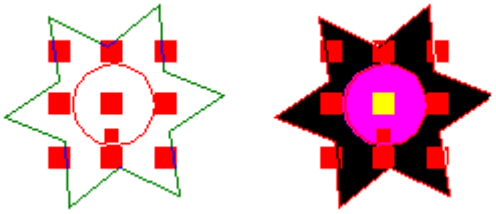


Grouping objects

Each object keeps its initial properties (surface, color, engraving....).



Ungroup to handle each object separetly



Not yet documented

Convert into curve objet

1. Select the object to convert.
2.

Shift **Key down, click the tool to handle a copy of the selection that remains safe.**

Use the function to

Convert a text object

Each character becomes an independent curve object.

You can no more edit the text.

Convert a marker into a single point-curve

Convert a complex object and edit the different objects which build it

Uncombine as often as needed to separate objects.

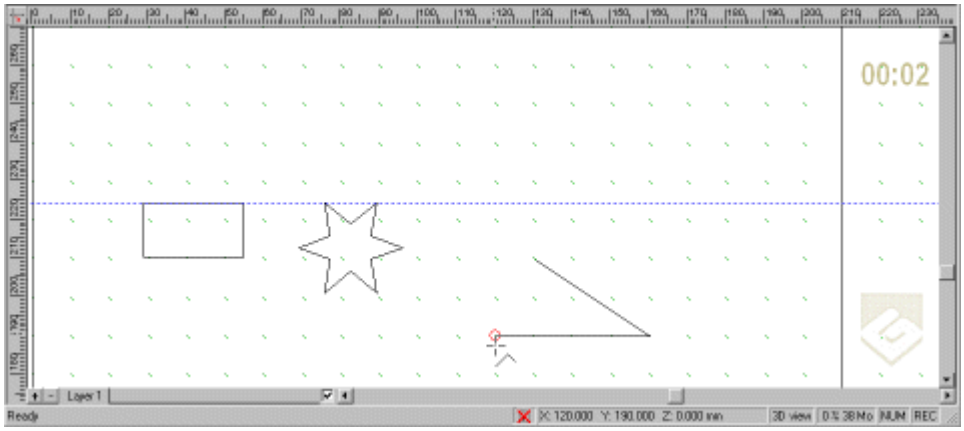
You can no more edit the object.

Setting in workspace

Setting objects in workspace

View Rulers Grid Guidelines Layers

Click the picture for further information



Handle objects inside workspace. Change color in Colors tab of F10 Options.

Click the icon in status bar

to bound the workspace to the **surface between composition margins.**

Set objects only between margins. When some objects overlap the workspace, the icon gets red

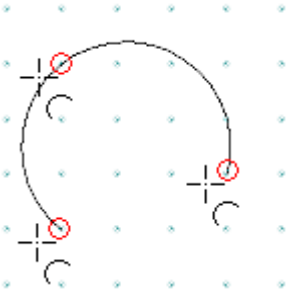
to work in a **max. workspace.**

Objects can be handled outside the composition, but must be set into composition surface and thickness to be engraved.

Workspace: Grid

The grid is made of dotted lines that allow to position objects sharply in workspace.

Use grid points to draw shapes using mouse (here a circle from 3 points)



Using grid

1. Display Snap bar.
2. Click snap mode
3. **Visible**

Customizing standard grid

Change color in Colors tab of F10 Options.

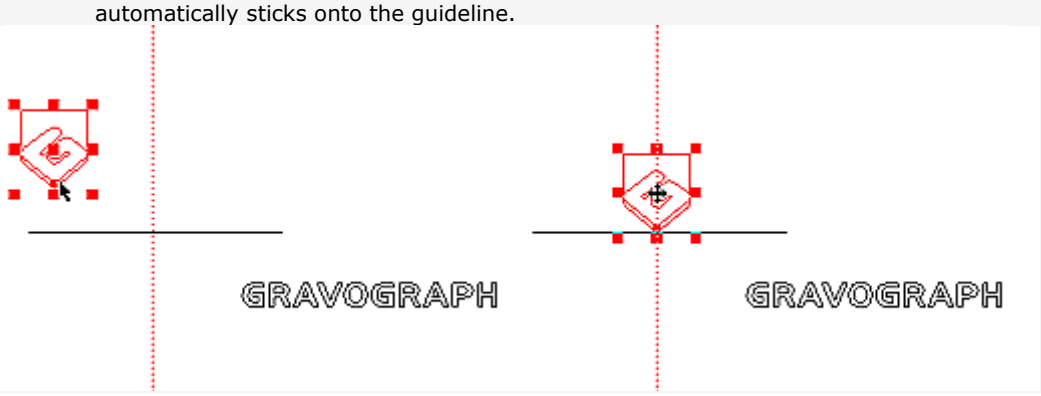
1. **Grid** in F10 Options.
2. **Tick Active or Visible** to use the grid when you create a blank composition.
3. Key in
   • **XYZ Step, e.g.** distance between two grid points (1mm is default on each axis).
   • **XYZ Start coordinates** of the grid origin (0,0,0 is default).

Workspace: Guidelines

Use guidelines to align objects using mouse.

Using guidelines

1. Add guidelines as needed. Change color in Colors tab of F10 Options.
2. Activate guidelines. Click the snap mode
3. Enable Intuitive snap.
4. Drag and drop an object towards a guideline. Each edge or the center of the object automatically sticks onto the guideline.



Add

1. Display rulers.
2. Drag a horizontal/vertical guideline from the horizontal/vertical ruler.
3. Drop when the guideline has the required position in workspace.

Move guideline

Drag and drop the guideline.

or

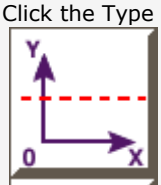
1. Double-click an existing guideline.
2. **Edit the Position or the coordinates and the angle in Edit guidelines.**
3. Change Click.
4.

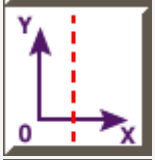
Delete guideline

1. Double-click an existing guideline.
2. Delete Click.
   Delete all the guidelines Delete all
3.

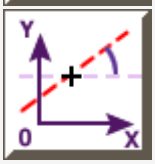
Set parameters per guideline

1.
2. Click the Type of the guideline. Set it in workspace.





Key in the Position of the horizontal or vertical guideline.



For an orthogonal guideline key in

coordinates

angle

3. Add Click.
4. Next> Click to add the next guideline. Repeat the procedure since step 2.
5.

Workspace: Handling selection

A. Select an object.

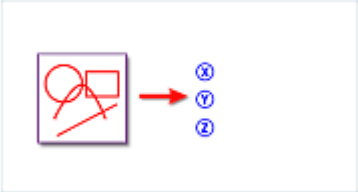
B. **Key in parameters in required tab.**

XYZ Coordinates

1.
2. **Tick Relative Coordinates** to move the point in relation to its initial position.
3. Key in
   - **Cartesian Coordinates** X Y
   - **or polar Coordinates, radius and angle** R θ
4. If need be key in Coordinate Z

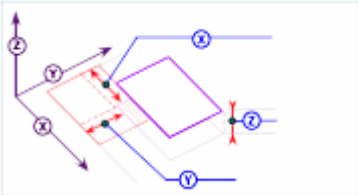
Position

Move towards



1. **Precise Position**
2. Click **Move towards to position the reference point of the selection.**
3. Click the reference point
4. Key in coordinates on axes X Y Z

Relative distance



1. **Precise Position**
2. Click **Relative distance to position the bottom left corner of the selection.**
3. Key in distances along axes X Y Z

Dimensions

1. **Scale**
2. **Click the base point** (bottom left corner of the selection is default).
3. **Click Keep ratio**
   - **to key in a dimension or a Scale coefficient.** The value is proportionally computed.
   - **to key in each dimension (Width/Height/Depth) or each Scale coefficient on axes** X Y Z

Rotation

1. **Precise Rotation**
2. **Key in rotation angle.**

Workspace: Layers

Use layers to stack objects. Set objects in front or behind, according to the order of layers.
There is no limit in number of layers, nor in number of objects set on each layer.

The display and the management of layers are made in Layer bar of the workspace.

Displaying layers

Display all the layers in the engraving preview.

Select active layer **Handle the objects of the active layer without editing the other layers.** **No operation is possible on inactive layers.**	**Click the name of the layer** in Layer bar. or 1. Right-click a Plan in bar 2. Click Layer name in list 3.
Display	Tick the box at the end of Layer bar ☑ to display visible layers. ☐ to display only the active layer.
Move objects from a layer to another one	1. Select objects. 2. Cut selection. 3. Click the layer where you want to paste the selection. 4. Paste selection.

Managing layers

1. **Double-click layer in Layer bar.**
2. **Edit the list of layers and their properties.**
3.

Add/Delete

Click

to create a new layer which stacks on the previous one and gets active.

to delete the active layer and all the objects which it contains.

Change order

Click to rank a layer

Before the previous layer

After the following layer

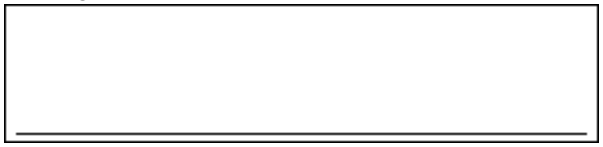
In front of all the layers

Behind all the layers

Edit properties

Logo

Line



Gravograph

Logo | Line | Gravograph Here Layer #2 is invisible

- **Type the name of the layer** (default is Layer followed by a number) which displays in Layer bar.
- **Tick**

to hide the layer which remains invisible, when you display all the layers.

to show the layer with all the visible layers.

to invert the status of each layer (visible or invisible)

- **Tick Lock**

to forbid layer modification.

to authorize layer modification.

- **Tick Print**

to forbid layer printing.

to authorize layer printing.

Click to assign a color of engraving path to the objects of the layer.

Double-click a color.

The assigned color underlines the name of the layer in Layer bar.

Duplicate

a. Click a layer.

b. Click to get its copy.

Merge visible layers

Gather in a single layer the visible layers and their objects.

a. Make visible layers to be merged.

b. Click.

Workspace: View

Displaying a predefined view

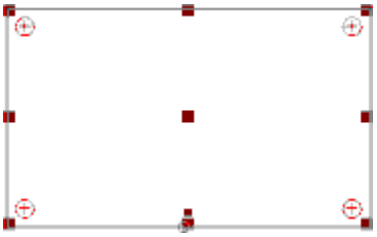
Click a View in Settings ribbon

Key down press the key relative to the number of the view <>

Use 2D views to set and to handle objects in composition surface.

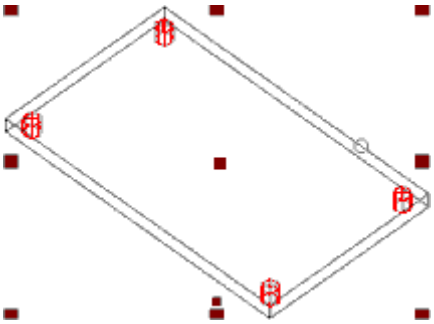
Display 2D XY view before activating a working mode.

2D XY: Composition surface



3D views are recommended to view in-depth objects and engraving paths.

3D ISO XYZ: 45° perspective



Displaying a customized view

1. Key down press key
2. View to display
3. Key in the viewing angle on every XYZ axis
4. OK

Workspace: Rulers

Display horizontal and vertical rulers

They help you to view the origin and the XY axes of the workspace.

Rulers in Display tab of F10 Options

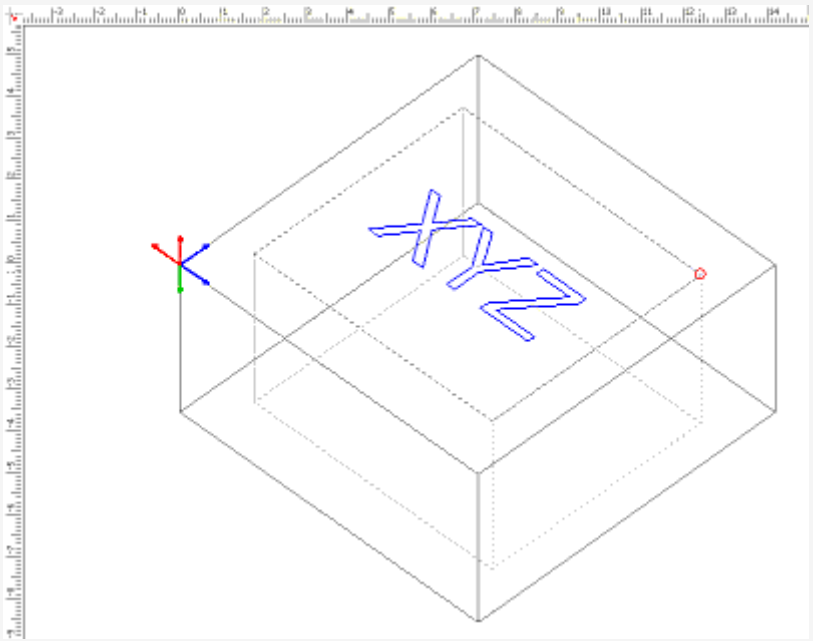
Move the pointer using the mobile indexes shown in rulers. They show its position in the active unit of measure.

XYZ coordinates display in status bar.

Display XYZ axes

- **(0,0,0) point of XYZ reference is the composition origin,** default is the bottom left corner.
- **XY axes represented by blue/red arrows** along the width and the height of the composition.
- **Z axis represented by a green arrow** in-depth the composition.

XYZ reference in Display tab of F10 Options



Modify workspace origin

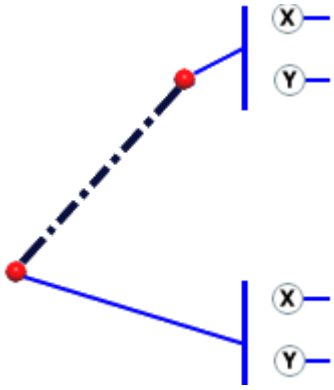
1. Display rulers.
2. Click.
3. Drag dotted axes.
4. Drop when the origin has the required position.

Workspace: Handling axis

An axis is a dotted line used to handle objects instead a pair of markers. the axe can be selected and handled, but will be neither machined nor printed.

Saving composition under VNX format converts the axis into2 markers.

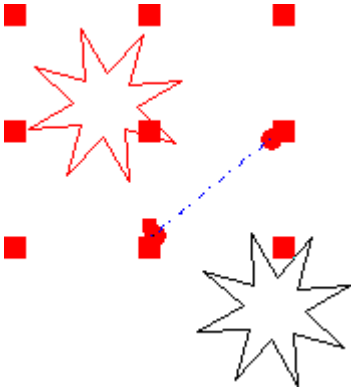
Add an axis



1. Click in Shapes bar
2. Click the position of the start point.
3. Drag and drop the pointer onto the end point.

   F2 Key in XY coordinates of each point. Click

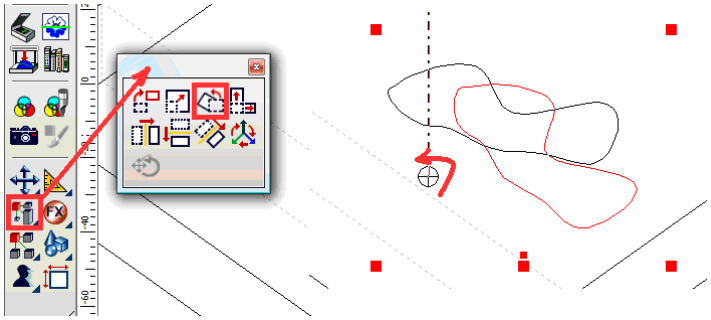
Mirror around an axis



1. Add an handling axis.
2. Select the object then the axis.
3. Click in Transform bar

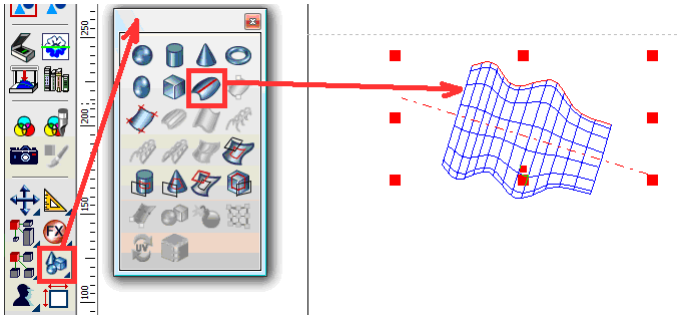
2D Rotation around a vertical axis

The axis is a rotation reference.



1. Add an handling axis.
2. Select the object then the axis.
3. Click in Transform bar

Surface revolution around an axis



1. Add an handling axis.
2. Select the object then the axis.
3. Click in Wrapping/Projection bar

Workspace: Local axe system

Managing axe systems	A blank composition by default contains (0,X,Y,Z) absolute reference that can not be modified neither deleted. A local axe system may be linked to a layer to position the objects and the paths it contains.
Activate	Axe systems are by default disabled. **Axe systems in Display tab of F10 Options**
Add	1. Click in Shapes bar 2. Click the first point, origin of the three axes (zero point). 3. Click the second point, **X axis in blue.** 4. Click the third point, **Y axe in green.** **Z vertical axis** displays in red automatically.
Edit	1. Double-click the axe system in the list. 2. Edit axe system parameters.
Name	Rename
List of axe systems	Double-click the system to edit.
XYZ Origin	Key in the coordinates of axe system zero point.
X/Y/Z Axis	Key in the orientation vector of each axis.
Reverse	Click to invert axis orientation.
Duplicate	1. Double-click the axe system. 2. 3. **Duplicate** A new system is added with (2) suffix at the end of the name. 4. Edit axe system parameters.
Delete	1. Double-click the axe system. 2. 3. **Delete**
Linking to a layer	1. Double-click a layer in Layer bar. 2. Click axe system field. 3. Double-click the axe system to link to the layer.
Info	**Information of Axe systems in sticky notes in General tab of F10 Options** **Data about axes systems display in the note** (layer linked, name, origin, orientation). They can be printed.

Measure

Measuring an object

1. Enable Intuitive snap to measure from a control point to another.
2. **Show or hide Measure bar.**
3. Click the tool linked to the operation to execute.
4. Measure the selection. Read the value in the status line.

Distance

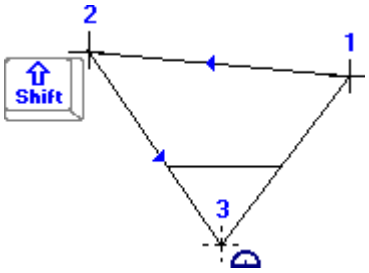
Perimeter

Surface

Overall size

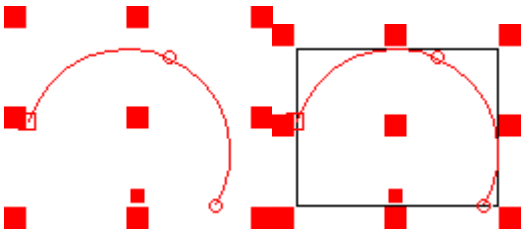
Dimension

Angle



1.
2. Click first point.
3. Drag and drop the pointer onto second point.
4. Key down point the angle to measure.
5. Click angle apex.

Bounding box



1.
2. Click object. You get an external frame.
3. Delete the bounding box which becomes useless.

Use the function to correct
• the dimensions of a contour, when the selection frame exceeds the actual size of the object.
• the wrong location of point handles.

Test tool

Dimension

Producing a dimension

F7 Display engraving paths.

Drawing using mouse

You obtain a Dimension object which path is as follows:

- **a dimension line ended with two symbols (red).**
- **a dimension stroke at each end of the line (red).**
- **a dimension value (blue).**

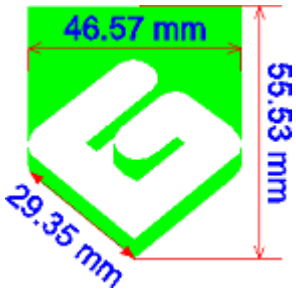
Double-click the object to edit its properties.

A. Click in Measure bar

B. Tab Press key to select the type of dimension to draw.

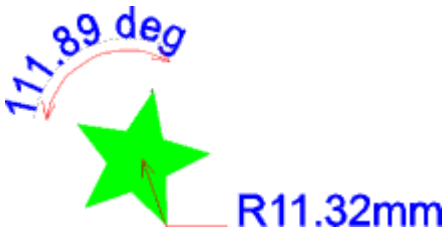
C. Measure a distance, an angle or a radius and draw simultaneously the matching dimension.

Dimension along a distance



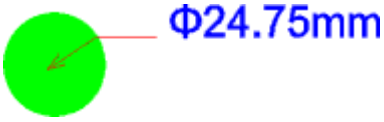
1. Click first point.
2. Drag and drop the pointer onto second point.
3. Drag the dimension to position it regarding to the measured object.
4. Drop when the dimension has the required position.

Dimension along an angle



1. Click the start point of the angle.
2. Drag and drop the pointer onto angle apex.
3. Drag and drop the pointer onto end point.
4. Drag the dimension to position it regarding to the measured object.
5. Drop when the dimension has the required position.

Dimension along a radius or a diameter



1. Click the start point of the radius.
2. Drag and drop the pointer onto end point.

Key in parameters

1. Ctrl Key down click
2. Fix the properties of the dimension lines.
3. Fix the properties of the dimension value.
4.

Setting the properties of dimension line

1. Ctrl Key down click in Measure bar
2. **Geometrical properties tab in Dimensions options**
3. **Click the Dimension type** in relation to the measured distance
   - (•) **Horizontal**
   - ( ) **Vertical**
   - ( ) **Aligned**
   - ( ) **Angular**
   - ( ) **Radial**
4. Fix the appearance of the **Symbol at each end of the dimension line.**
   a. Click the symbol icon.
   b. Key in symbol Size.
5. Fix the properties of the **Dimension line.**
   a. Fix its position in relation to dimension strokes.

   123 inside (is default)

   123 outside. Key in line length.

   123 no line

   b. **Assign the engraving path color** to dimension line and symbols.

6. Fix the properties of **Dimension strokes.**
   a. Click the symbol icon.

top stroke

bottom stroke

two strokes

no stroke

   b. **Assign the engraving path color** to strokes.
   c. Key in **Line extension beyond dimension line.**
   d. Key in **Line offset in relation to the measure start.**
7. Fix the properties of the dimension value.

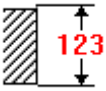
Setting the properties of dimension value

1. Ctrl Key down click in Measure bar
2. **Text properties tab in Dimensions options**
3. Fix **Dimension text appearance.**
   a. **Click a font.**
   b. **Assign the engraving path color** to text.
   c. Key in text **Height.**
4. Click **Text position in relation to dimension line.**

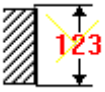
   Centred text

   Text offset. Key in the distance between text and dimension line.
5. Click **Text orientation in relation to dimension line.**

   Horizontal

   Vertical

   Slant. Key in text angle in relation to dimension line.
6. Fix the contents of **Additional text.**
   a. **Type the text Before or After** dimension value.
   b. Click the **Precision of dimension value (number of figures after comma).**
   c. Click the **Unit of the dimension value.**
7. Fix the properties of the dimension line.

Duplicate

Duplicating an object

1. **Show or hide Duplicate bar.**
2. Click the tool relative to the duplication to execute.

Key down, click the tool to transform a copy of the selection that remains safe.

Free duplication

Linear duplication

Circular duplication

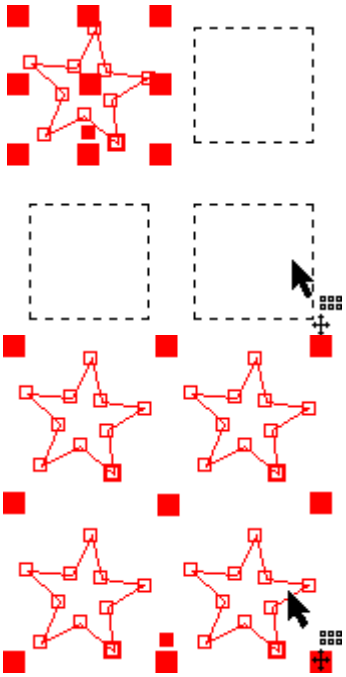
Duplication on a curve

Duplication and shading

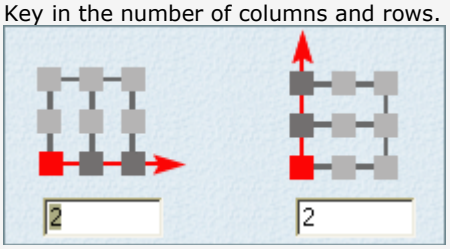
Linear duplication

To optimize the distribution of copies inside composition, run Magic copy

Duplicate using mouse

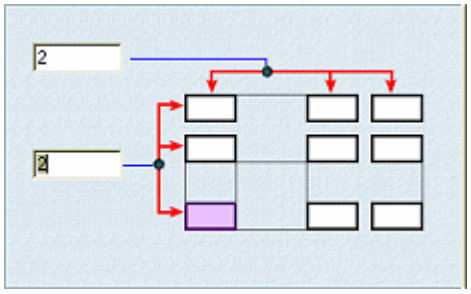


1. Select an object.
2. Ctrl Key down click in Duplicate bar
3. Key in the number of columns and rows.

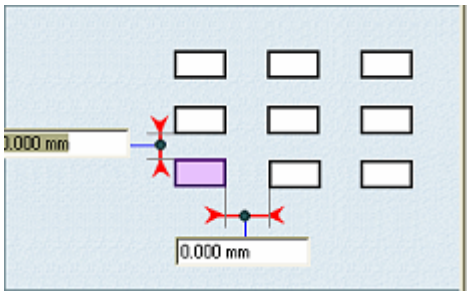


4.
5. Drag the dotted copies.
6. Drop when the selection has the required position.

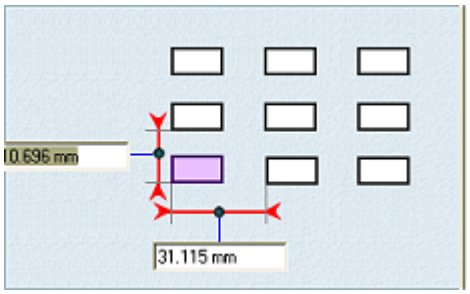
Key in duplication parameters



1. Select an object.
2. Click in Duplicate bar
3. F2 Set parameters in the required tab.
4. Key in the number of **Columns/Rows.**
5. **Set the distance between copies.**

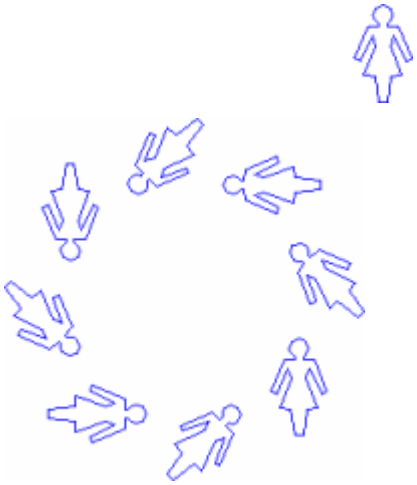


Key in horizontal/vertical **Delta between 2 copies.**



Key in horizontal/vertical **Offset between the bottom left corners of 2 copies.**

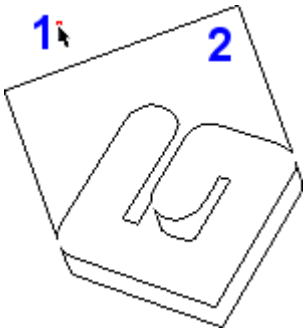
Circular duplication



1. Select an object.
2. Click in Duplicate bar
3. **Click Rotation**
   ☐ to keep the initial direction of the duplicated object.
   ☑ to rotate each copy.
4. **Key in number of copies required. Click**
5. Click the contour of the object to duplicate.
6. Drag dotted copies.
7. Drop when the selection has the required position.

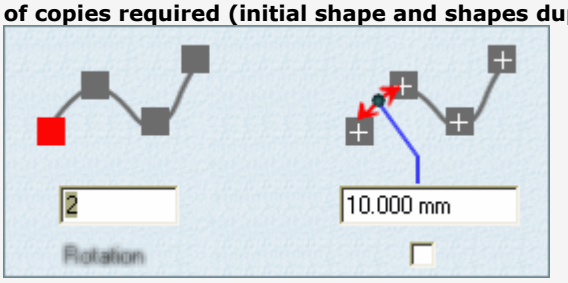
Duplication on curve

Duplicate an object following a regular progression on one or several contours (useful to distribute drill points along a signage logo lighted with LED bulbs)



The initial shape will be automatically centered on the start point of the open contour.

1. Draw a shape.
2. Draw the open contour used as duplicating support (arc, curve, line).
3. Check that the contour direction matches the duplication direction. Invert the direction if need be.
4. Ctrl Key down click the shape, then the open contour.
5. Open Duplication on curve. Click in Duplicate bar
6. **Key in Distance between the centers of two copies or the Number of copies required (initial shape and shapes duplicated).**

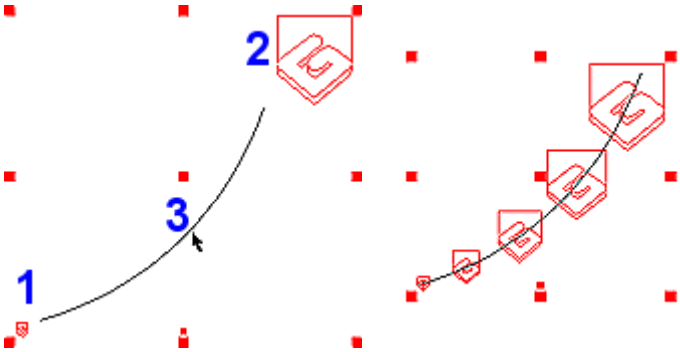


7. **Click Rotation**
   ☐ to keep the initial direction of the duplicated object.
   ☑ to rotate each copy.
8.

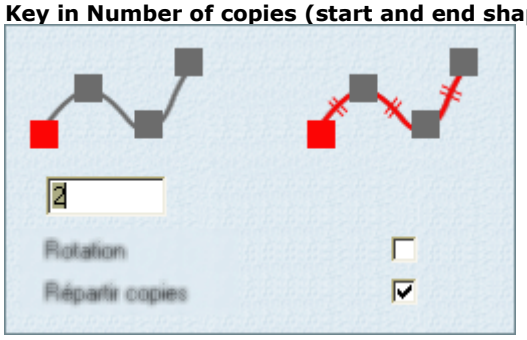
Duplicating and shading along curve

Distribute along a contour the copies between two identical shapes, with different sizes

The start and end shapes will be automatically centered on the open contour start and end points.



1. Draw two identical shapes, but with different sizes.
2. Draw the open contour used as duplicating support (arc, curve, line).
3. Check that the contour direction matches the duplication direction. Invert direction if need be.
4. Ctrl Key down click the first shape, the second shape, then the open contour.
5. Click in Duplicate bar
6. **Key in Number of copies (start and end shapes, intermediate shapes).**



7. **Click Rotation to**
   to keep the initial direction of the duplicated object.
   to rotate each copy.
8. **Click to set Equidistant copies** along contour.
9.

Effects on contours

Apply an effect on contours

Effects tools transform contours into curve objects.

Convert text into curves before applying an effect.

1. **Show or hide Effects bar**
2. Click the tool linked to the operation to execute. The selected tool displays near the pointer.

Superimpositions

Delete doubles

Offset

Convert into shape

Key down, click the tool to handle a copy of the selection that remains safe.

Invert contour direction

Key down, click the tool to handle a copy of the selection that remains safe.

Ridge

Chisel

Deleting invisible points and contours after importation

Union

Intersection

Substraction

Exclusion

Punch

Crop

Set into envelope

Segmentation

Vectorization

2D Texture

Inverting selection order in a combination of objects

Not yet documented

Effects: Detecting superimpositions

1. Select an object which contours.
2. Click in Effects bar A marker displays at each overlap point.

A single marker is a Marker object. A group of markers builds a composite object.

Use the function to

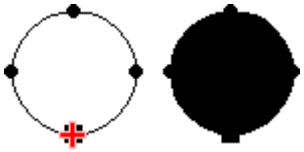
To view overlaps in contour lines

This generates engraving errors in each zone delimited by the contour. The filling path opposite is assigned to a closed curve. Only the lower surface area is filled as the curve line forms a loop.

Edit the object in Point mode to remove overlapping zones.

To solve the problem you may cut the curve into two closed contours at the red marker.

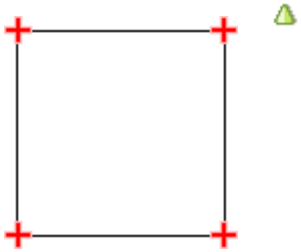
To locate contours to close



When you assign an engraving path to a closed contour the surface area it delimits may not be filled.
This means that the contour is open. Close it using Connect or Auto-connexion.

Opposite the right circle is filled, the left one remains empty and has a marker. Actually, ends are perfectly superimposed but not linked.

To find curve objects superimposed by mistake



Four markers display above the rectangle opposite. You view only one object on screen. Actually, two similar rectangles are perfectly superimposed.

This happens when you copy and paste an object or when you centre two identical objects. Move the copy just after you have pasted it.

Deleting doubles

Use the tool to delete useless points or contours. The initial object is safe.

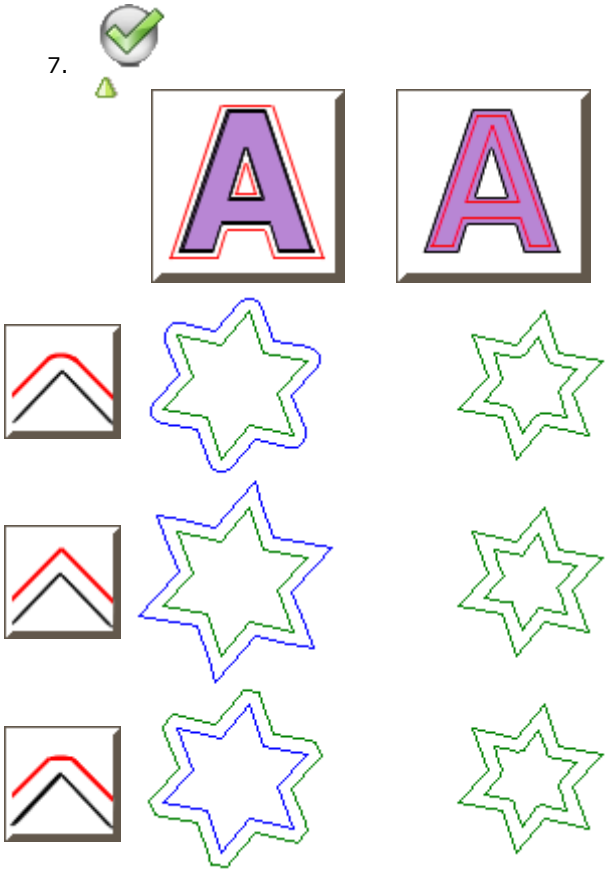
1. Select superimposed objects.
2. Click in Effects bar

Setting superimposition allowance i.e. max. distance between superimposed objects

1. Ctrl Key down click
2. **Key in an Allowance between 0.01 and 0.001mm.**
3.

Offset on contours

The function reproduces the inner or outer line of a contour.

1. Select an object with contours.
2. Click in Effects bar
3. Click to **Keep initial curves.**
4. Key in **Offset distance to initial contours.**
5. Click the **contour type (inner or outer).**
6. Click the **angle type (sharp, broken, rounded).**
7. 

Boolean effects between contours

From the intersection of two or more contours the tools generate curve objects.

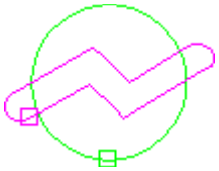
1. Display start points to view curve objects generated.
2. Select two objects with contours.
3. Click the required effect in Effects bar.

Ungroup to make objects independent.

Selection: closed contours

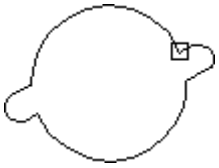
Circle (green)

Double closed line (pink)



Union

The effect joins the objects selected together into a single object.



Intersection

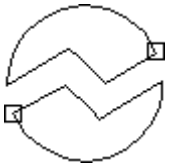
The effect creates a new object where selected objects intersect.

Substraction

The effect hollows out the first object selected following the path of the second object.

Select the objects in correct order.

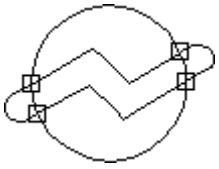
Object 1: Double closed line (pink)
Object 2: Circle (green)



Object 1: Circle (green)
Object 2: Double closed line (pink)

Exclusion

The effect creates new objects by hollowing out selected objects.

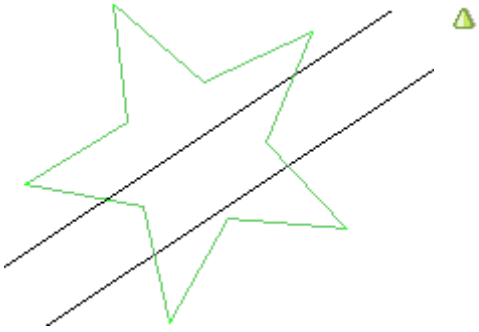


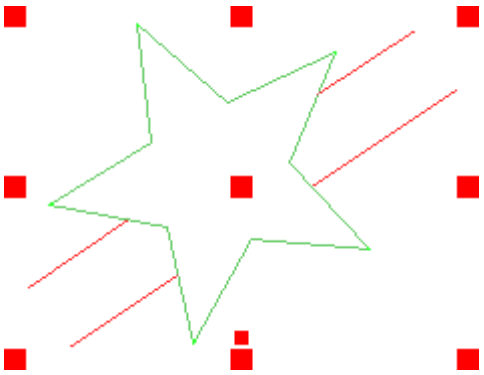
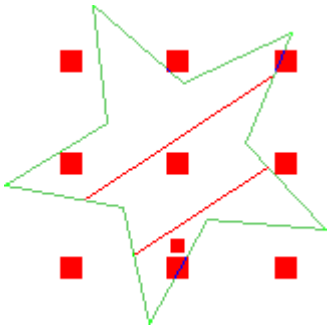
Selection: open and closed contours

Star (green)

Open double line (black)

Shift Key down, click the tool to handle a copy of the selection that remains safe.



Punch The segments of the open contour set inside the closed contour are deleted.	
Crop The segments of the open contour set outside the closed contour are deleted.	

Setting into envelope

Use the function to force object contours to assume a predefined shape.

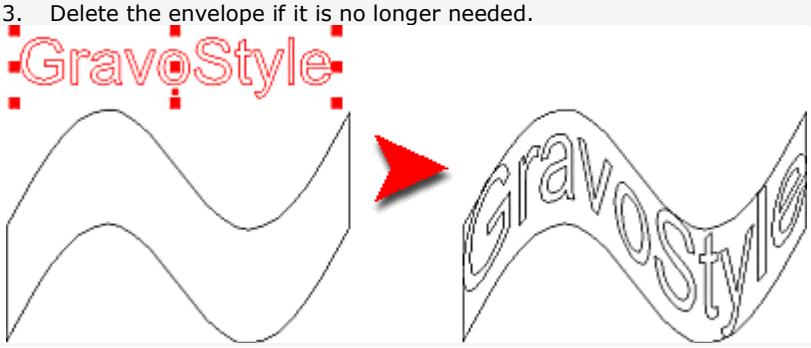
Setting an envelope

1.
2. Double-click **Symbols folder.**
3. Click **Envelop folder.**
4. Click an envelope in library preview.
5.

Setting an object into envelope

Convert text into curves.

1. Select the object then the envelope.
2. Click in Effects bar
3. Delete the envelope if it is no longer needed.

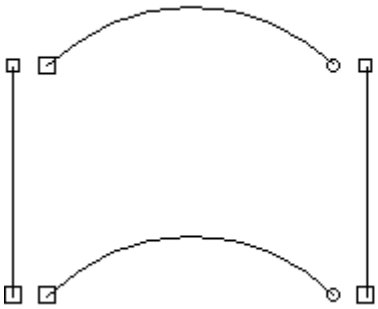


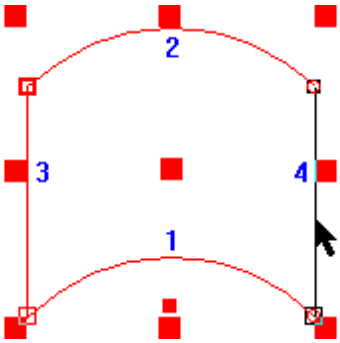
How to force the object to faithfully follow the envelope?

1. Segment the envelope to refine line precision.
2. Set the object into envelope.

Creating an envelope

1. Draw 4 open contours.
2. Centre start and end points to give the appearance of a closed contour.
3. Select contours in following order: 1 + 2 + 3 + 4
4. Group the selection.
5. Add the symbol **into Envelope folder of Symbols folder.**




2
3
4
1

Hello World
TypeEdit welcomes you !

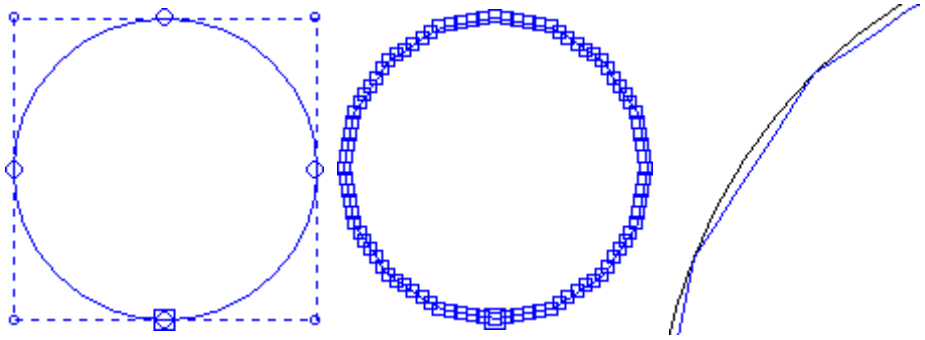
Effects: Convert a contour into segments

D display control points to view new segments.

Select an object with contours.

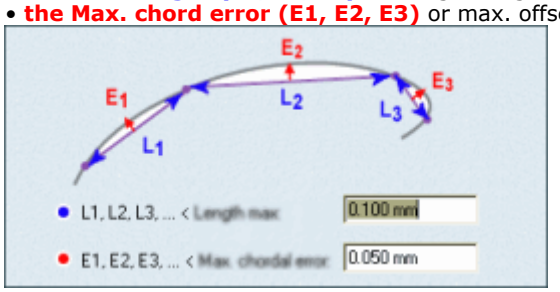
Shift Key down, click the tool to handle a copy of the selection that remains safe.

Segmenting a contour into line segments.



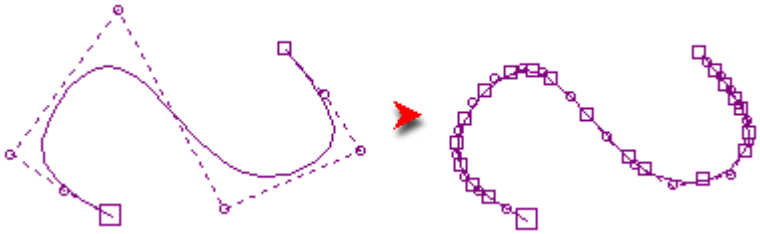
Selection	Segmentation	Chordal error (zoom)

1. Click in Effects bar
2. **Key in Segmentation dialog box**
   - **the Max. length (L1, L2, L3)** of a segment generated from a curve.
   - **the Max. chord error (E1, E2, E3)** or max. offset between a segment and the initial curve.

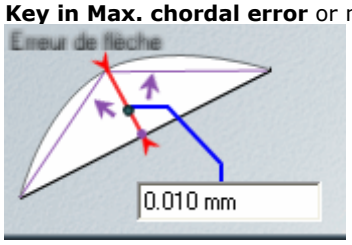


3.

Vectorizing a contour into curve segments



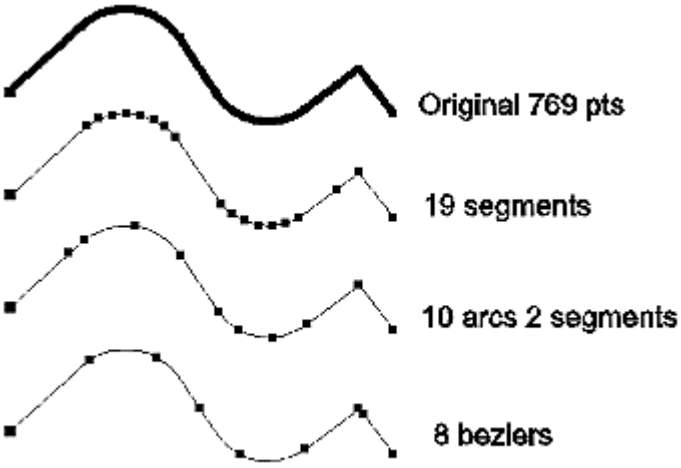
1. Click in Effects bar
2. **Key in Max. chordal error** or max. offset between a segment and the initial curve.



3.

Effects: Reduce segments in a contour

The function simplifies a contour with many points (specifically superimposed points) to a series of segments. This optimizes contour lines and machining path computing.



1. Select an object with contours.
2. Click in Effects bar
   Shift Key down, click the tool to handle a copy of the selection that remains safe.
3. **Click object Type** (segment that makes the path)
   ○ **Arcs**
   ○ **Segments (lines)**
   ◉ **Splines (curves are default)**
4. ☑ Tick **Antialiasing mainly to remove sharp angles from the path.**
5. ☑ Tick to **Use Voronoï** only on closed contours and to get a path sometimes closer to initial contour.
6. **Key in Allowance that can vary between path ends.** So you can avoid to superimpose different contours corrected.
7.

Display control points to view new segments.

Producing a ridge

Create a closed surface around a contour.
• Ridge an open contour, you will obtain a closed contour which follows the same line.
• Ridge a closed contour, you will obtain two closed contours (internal and external).

Then you can cut or fill surfaces obtained from
• text typed with Gravograph wire fonts
• single stroke drawing

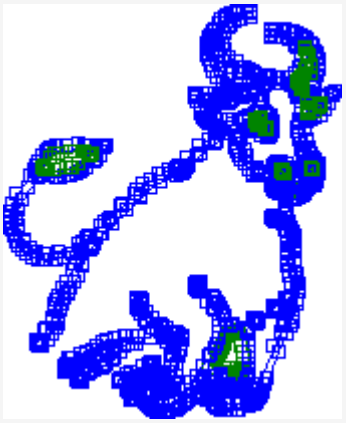
Text is automatically converted into curves.

Selection: Character from ZODIAC Gravograph font (open contours, 1 stroke)

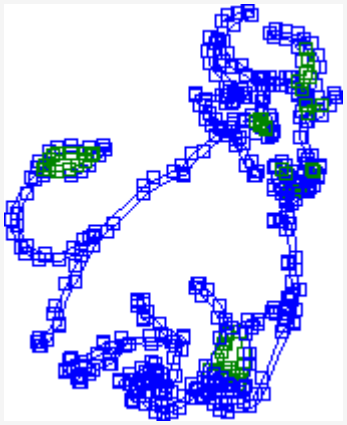
Selection: Text typed using Gravograph AVANT GARDE 1L font

Ridge: Character surface can be engraved.

1. Select an object with contours.
2. Click in Effects bar
3. Click to **Keep initial curves.**
4. **Key in a Precision between 1 and 0.0001,** according to the complexity and the resolution of ridge required. A low value increases the number of segments and the engraving time.



Precision=0.01 is default



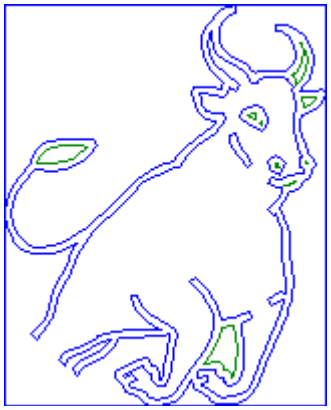
Precision=0.1

5. Click the type of **link between contour ends.**
6. Click the **angle type (sharp, broken, rounded).**

7. **Key in the distance between a selection contour and a ridge one.** Key in a value sufficient to generate the ridge surface, in relation to the contour line.

Distance=0.5

Distance=1

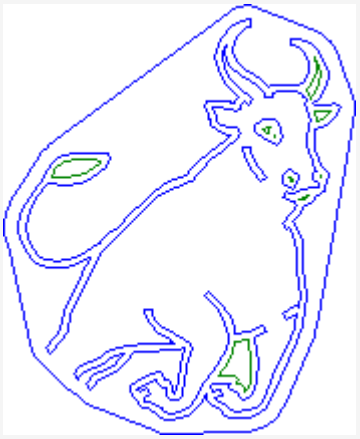


Rectangle is default
Margin=0 is default

8. If need be click to **Create a bounding box around contours of a broken or round ridge.**
The contour closes the **surface to be filled for a relief engraving.**

   1. Click the **lines of the bounding box.**
   2. Key in the **Margin between the bounding box and the ridge perimeter.**

9.



Convex / Margin=2

Concave / Margin=2

Effects: Chisel

The function produces closed contours specially from text.

Once chiseled the text converted into curves is no more editable.

1. Select an object with closed contours or select text.
2. Click in Effects bar
3. Drag and drop the dark circle between 0 and 360° to **set orientation angle of the light source.**
4. **Set contour Precision.**
   Drag and drop the cursor between 0.005 and 1mm for a fine or a fast chisel.
5. You get a group of closed contours around lightened zones.
6. **Display Filled surfaces.**

Chisel on text displayed with wire contours

Chisel on text displayed with filled contours

To change chisel color assign an engraving path to the group of contours.

Change color in Color tab of F10 Options.

Effects: 2D Texture

Use the function to fill in a closed contour with a 2D texture made with line segments that multiply using symmetries.

Open 2D Texture editor. Click in Effects bar

Producing a texture

1. Click
   to create a new texture.
   open an existing texture. Double-click a file with type *.txt matching a Gravostyle texture.
2. In left list click a **multiplication mode.**
3. Draw segments necessary to texture. To adapt texture view **use Zoom tools.**

Zoom in

Click to increase size view.

Zoom out

Click to reduce size view.

Zoom max.

Click to display the whole texture.

Configure zoom

1. **Click Preferences in View menu.**
2. Key in

- **Zoom ratio between** 0 and 1.
- **min. Zoom between** 0 and 1.

4. Click to save a texture you will use later.
   a. Double-click the folder where you save the texture as *.txt file.
   b. Type texture name.
   c. Save Click.

Draw a new segment

The copies of the segment are simultaneously drawn.

1. **Key the element Size** or segment thickness.
2. Click the start point.
3. Drag and drop the pointer onto endpoint.

Changing the thickness of an existing segment

1. Click to select the segment.
2. Click the segment.
3. Key in element Size.
4. Click in texture preview.

Delete segment	Click to delete the last segment drawn and its copies. to restore the segment deleted and its copies.
Click to delete all the segments and copies. **The operation cannot be cancelled.**	
Choose the color of a new segment and of its copies	1. Click. 2. Click the color you want in Windows bar. 3. 4. Click to draw the new segment.
Retrieving the color of an existing segment	1. Click to select the segment. 2. Click the segment which color you want. 3. Click. 4. Click to draw the new segment.
Change background color	1. Click. 2. Click the color you want in Windows bar. 3.

Modifying existing segment and copies

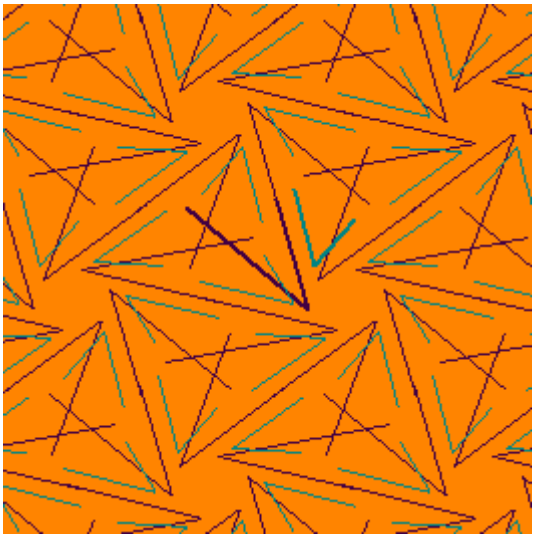
Click to select an existing segment which lines are thicker than its copies. Any modification made on the segment automatically affects its copies.

Select one or more segments	Click a segment. or Ctrl Key down click different segments.
Group/Ungroup different segments	1. Right-click the selection. 2. Click command **Group** to handle a single object. **Ungroup** to separate the objects of the selection.
Undo/Redo	Click to cancel the last action on a segment. to restore the action canceled. **Setting the number of cancellations** 1. **Click Preferences in View menu.** 2. Key in a number of cancellable actions between 3 and 10.
Move	1. Click the segment to edit. 2. Drag and drop onto its new position.
Resize/Locate	1. Click the segment to edit. 2. Drag and drop an end of the segment to set the length or the direction.
Change a segment color	1. Right-click the segment. 2. **Color** 3. Click the color required in Windows bar. 4. OK
Copy/Paste: Duplicate segment	1. Copy selection. Click or a. Right-click the selection. b. **Copy** 2. Paste selection. Click or a. Right-click. b. **Paste**

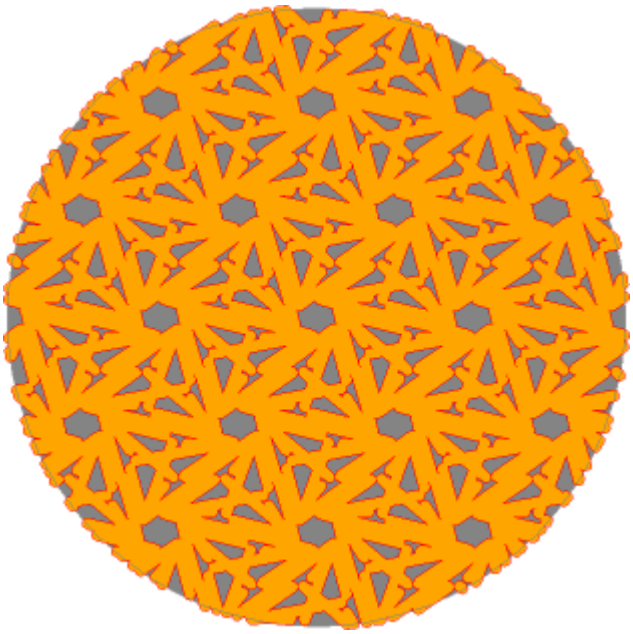
Cut/paste: Move segment

1. Copy selection. Click
   or
   a. Right-click the selection.
   b. **Cut**
2. Paste selection. Click
   or
   a. Right-click.
   b. **Paste**

Apply a texture



1. F7 Display color contours.
2. Select an object with closed contours or select text.
3. Open 2D Texture editor. Click in Effects bar
4. Click
   to create a new texture.
   to open an existing texture. Double-click a file with type *.txt matching a Gravostyle texture.
5. Apply Click to fill selection.
6. **Set Texturing properties below.**
7.
8. Close Click.

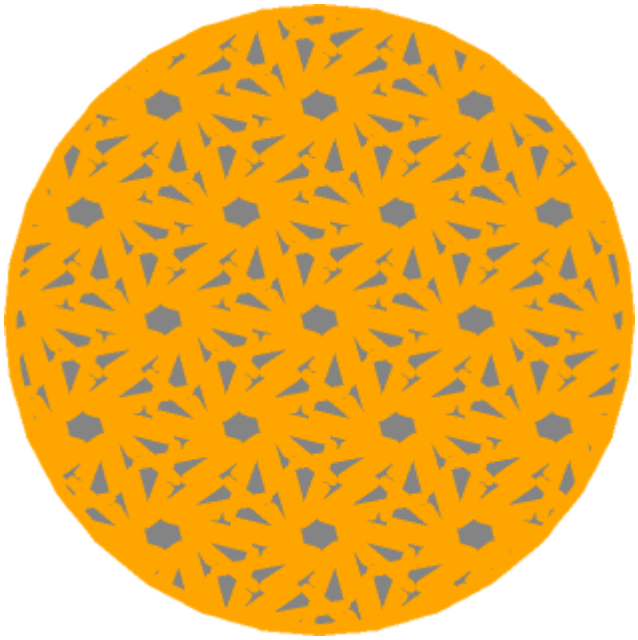


Thickness

Tick to generate a surface around each contour of the texture.

Key in surface width.

If you do not tick the option you can set With/Without contour connections Strategy.



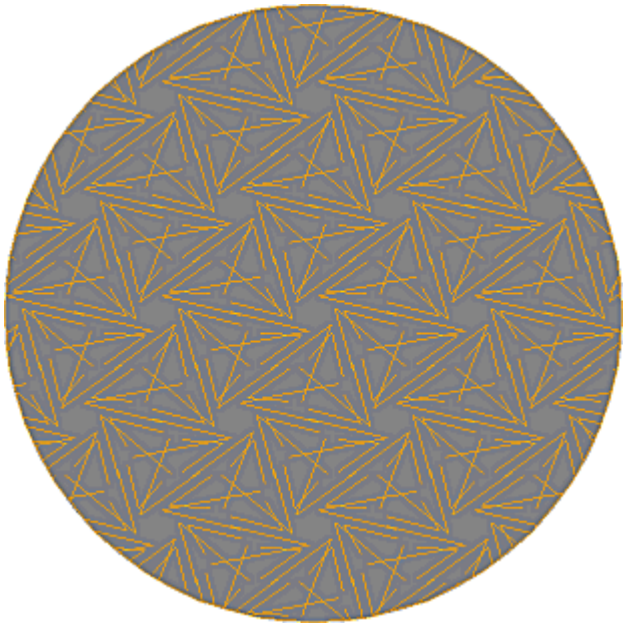
With borders

Tick to smooth the texture orders around the selection.

Simplification

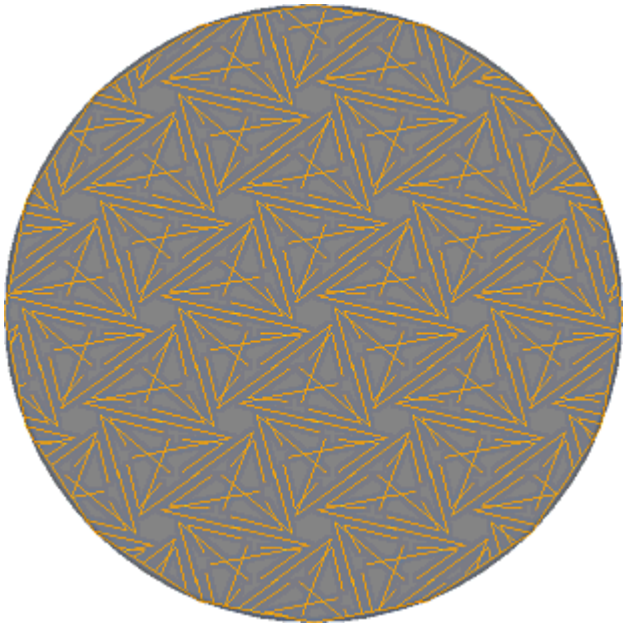
Tick to connect automatically very close segments, to reduce the number of surfaces and to simplify contours.

Key in the max. distance between two ends to connect.



Without connections.

Click to keep segments and copies safe.



With connections.

Click to connect contours and to reduce the number of Z clearances during engraving.

Key in the max. distance between two ends to connect.

Drag and drop the cursor between 0.005 and 1mm to set the distance

Point mode

Working in Point mode

The mode lets you mainly modify a vector contour by editing the points of its lines.

1. Enable intuitive snap.
2. **Enable the Point mode.**
3. Click a tool in Points bar.

Shift Key down, click the tool to handle a copy of the selection that remains safe. It does not work with these tools

Use the pointer

- To select points
- To move points

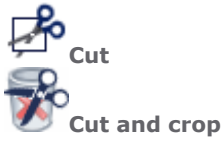
Click back to the previous step of your job

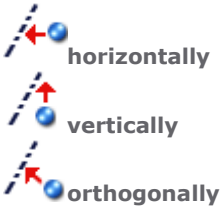
Managing points	Connecting points	Managing contours
Add	**Connect**	**Select a contour by a click**
Delete	**Disconnect**	**Ctrl Keep key down to select several contours**
Refine contour	**Divide**	**Move the selected contour**
Simplify contour	**Auto-connection**	**Delete a contour by a click**

Changing point nature	Produce an angle from a point	Converting segment
Tangent point	**Rounded**	**Into a line**
Start point	**Truncated**	**Into an angle**
		Into an arc of circle
		Into a curve

Aligning points	Cutting a contour	Projecting a point onto a guideline

Vertically
Horizontally


Cut
Cut and crop

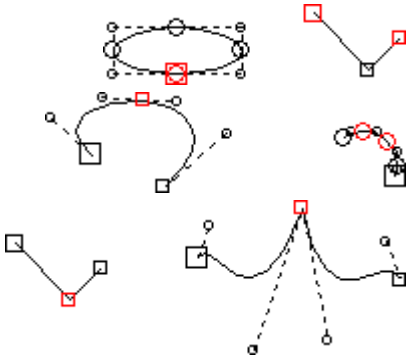

horizontally
vertically
orthogonally

Points: Selecting

Click a contour. The direction and the control points display on the selected contour.

Control points

Points are set on contour lines. The section of a contour in between two control points forms a **segment.**



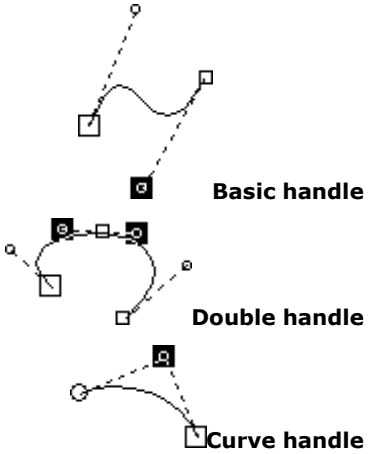
Each contour has a **start and an end points.**

A tangent point is located between two segments of an arc.

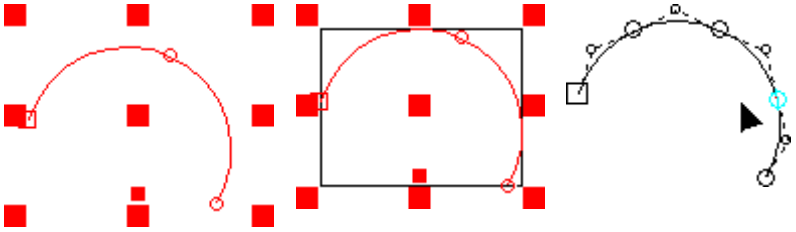
An angle point is a control point where two segments form an angle.

Point handles

When the selected contour has curve segments the handles display apart points. They are small circles located outside contour lines.
Drag and drop the handles to adjust the curvature of adjacent segments.



Handles must not warp the contour size. To correct the error add control points or generate a bounding box.



Selection **Bounding box** **Adding points**

Point selection

Enable intuitive snap.

Select one point Click the point that displays highlighted on a black background.

Select points Drag and drop the pointer to frame all the points to select.

Ctrl Key down click each point.

Deselect points Click outside selection.

Deselect a point in selection Ctrl Key down click a point selected.

Add/Delete a point

Click a contour.

Add

Zoom the spot of the contour onto you add a point.

Click outside contour to delete the red dot when you do not add the point.

Display in blue the added point.

1. Click the position of the new point on the contour. A red guide displays.
2. Click in Points bar

   Press key.

The new point is a blue circle.

Delete

Start and end points cannot be deleted.

1. Select the point.
2. Click in Points bar

   Press key or

Change the nature of a point

Click a contour.

Choose the start point for a closed contour

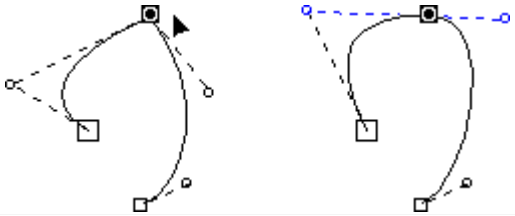
The start point of an open contour cannot change. However you can invert contour direction to reverse the start and the end points.

1. Click the control point selected as the start point.
2. Click in Points bar

Convert into a control point/point handle

1. Click a point.
2. Modify point position in relation to the contour.

Convert into a continuous or tangent point



1. Click a control point set between two curve segments.
2. Click in Points bar

Each handle is repositioned to be tangent to the adjacent segments.

Points: Positioning

Click a contour.

Position relative to the contour

1. Double-click a point.
2. Click option in Point Attributes.

Control on contour to get a control point.

Handle out of contour to get a curve handle.

Position in workspace

Drag and drop the point on its new position.

or

F2 Key in point XYZ coordinates.

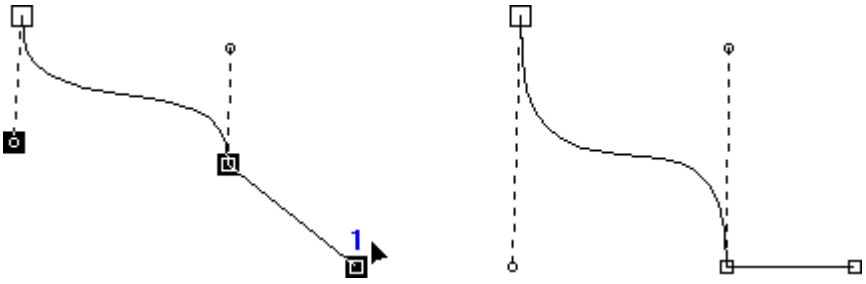
or

1. Double-click a point.
2. **Key in XYZ coordinates.**
3. Key in W coordinate when a point handle is concerned.
   The coordinate defines the curvature of the segment controlled by the handle.
   Key in a value
   • near 0 to obtain a line.
   • at least equal to 1 to accentuate the curve by bringing the apex closer to the handle.

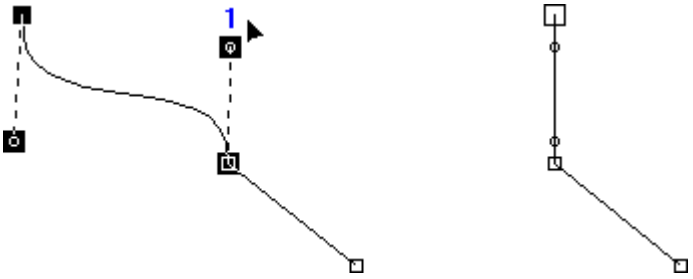
Aligning

1. Select points.
2. Click the required alignment in Points bar.

Aligning horizontally on the Y coordinate of the first point selected



Aligning vertically on the X coordinate of the first point selected

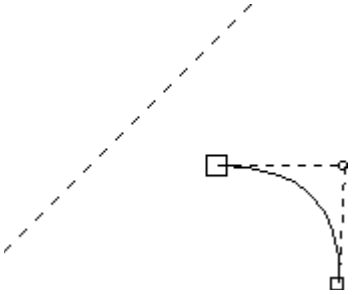


Centering

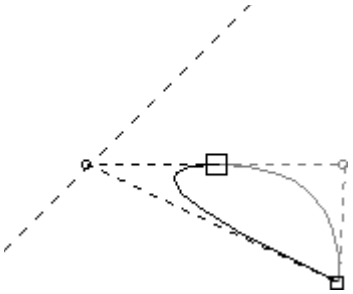
- Align points vertically and horizontally.
- Key in same XYZ coordinates.

Project a point onto a guideline

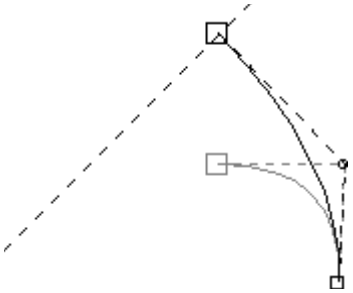
1. Create the guidelines which will be used as projection axes.
2. Click a contour.
3. Select points.
4. Click the required projection in Points bar.
5. Click the guideline where the points will be aligned.



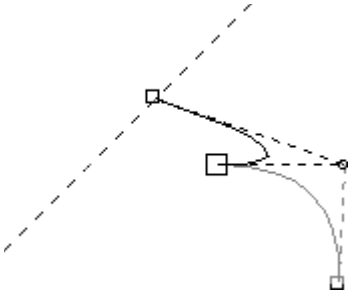
Horizontal projection of the curve handle



Vertical projection of the start point



Orthogonal projection of the end point

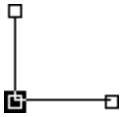


Produce a segment from a point

Click a contour.

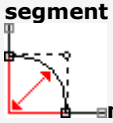
Produce an arc segment

The function generates control points at the ends of the segment, as well as the handle that controls the curvature.



1. Click an angle point.
2. Click in Points bar
3. **Key in segment Radius.**

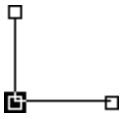
positive radius to orient the segment outside the contour

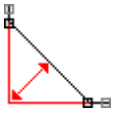


negative radius to orient the segment inside the contour

Produce a line segment

The function generates control points at the ends of a segment.

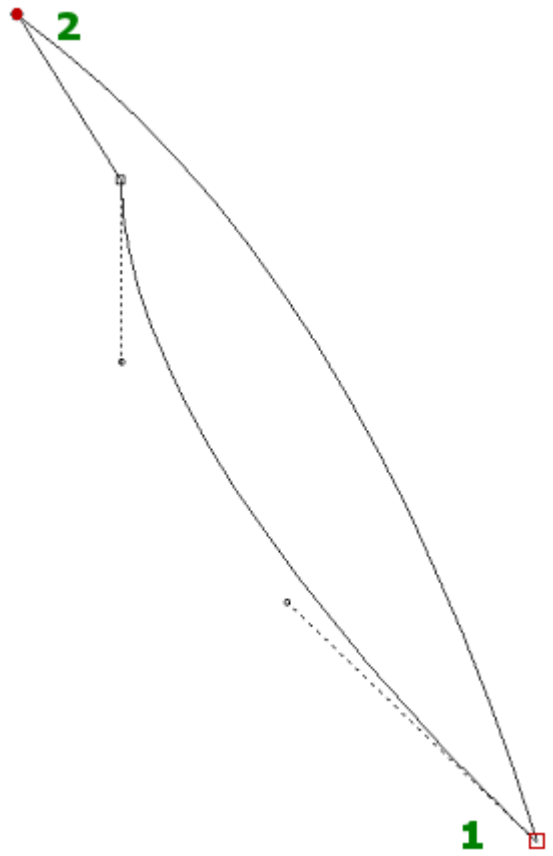




1. Click an angle point set between two line segments.
2. Click in Points bar
3. **Key in a positive Radius.**

Transform a segment

Example : Converting a curve into an arc



1. Click the segment to produce in Points bar
2. Click each end of a segment. Keep the key down to handle the opposite segment.
3. Drag and drop the pointer to shape the new segment.

Connect/Disconnect two points

Click a contour.

Connect

Use the command
- to close an open contour.
- to connect two open contours.

To connect different contours in one operation run Auto-connection.

1. Select two ends of open contours.
2. Click in Points bar

Disconnect

Use the command
- to cut an open contour into two open contours.
- to open a closed contour.

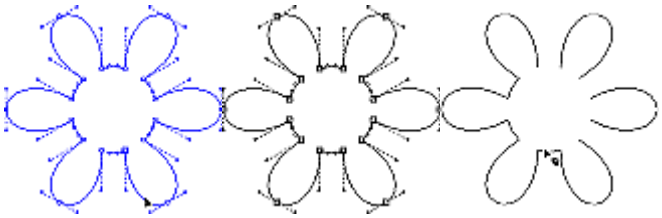
To disconnect all the points of a contour in one operation use Divide function.

1. Click a control point set between two control points.
2. Click in Points bar

Ungroup to separate objects.

Divide a contour

Disconnect each point of the selected contour in one operation



Click in Points bar

Each segment becomes an open contour.

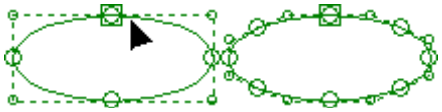
Ungroup to separate objects.

Refine/Simplify a contour

Click a contour.

Refine

Add points according to a regular progression.



Click in Points bar

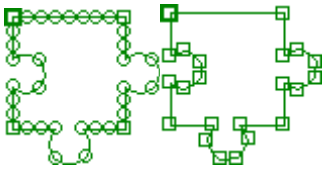
Each new point displays mid-way between two control points.
When the contour has curve segments, a point handle is also added between two control points.

Simplify

Delete superfluous points, particularly to lighten the contours of a vectorized image or of a text converted into curves.

Click in Points bar

To delete points according to a regular progression



1. Ctrl Key down click in Points bar
2. **Key in a Precision level that respects contour lines.** A too strong value can warp initial curves or replace them with lines.
3.

Cut a contour

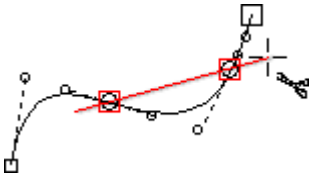
The operation allows to cut the selected contour into open or closed contours. A start point displays at the start of each contour generated.

Ungroup to separate objects.

Click a contour.

Cut an open contour

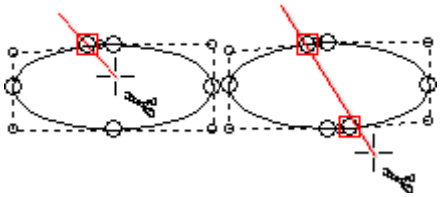
1. Click in Points bar.
2. Drag and drop the pointer over the contour.



Drag and drop the cutter over the contour, you will obtain 2 open contours.

To obtain several contours, drag and drop the cutter over 2 or more points of the contour.

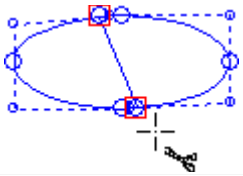
Cut a closed contour



1. Click in Points bar.
2. Drag and drop the pointer over the contour.

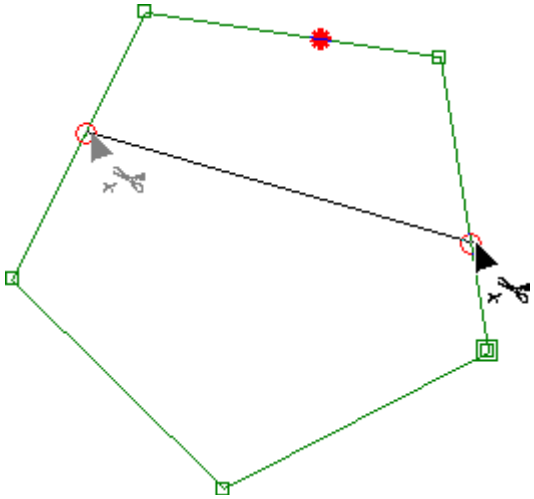
Drag and drop the cutter over the contour, you will obtain 2 open contours.

To obtain several open contours, drag and drop the cutter over 2 or more points of the contour.



Tab Key down drag and drop the cutter over 2 points to obtain 2 closed contours.

Cut and crop



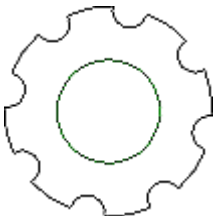
1. Click in Points bar.
2. Click the first cutting point.
3. Click the second cutting point.

When you cut a closed contour, the deleted contour is stressed with a red asterisk.

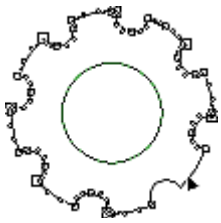
Key down click to delete the opposite contour

Auto-connect open contours

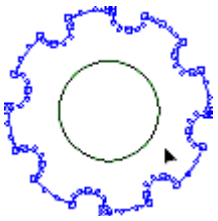
Auto-connecting several open contours



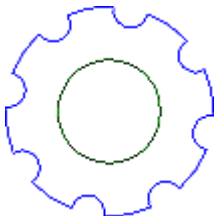
Series of black contours



Multiple selection



Auto-connection



Single blue contour

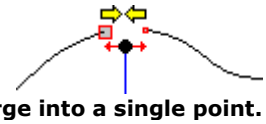
Connect the ends
- to close each contour.
- to link contours together.

Use the function to close all open contours of an imported vector file (for example, DXF objects designed using Autocad).

1. Check that each contour has the same direction.
   Invert contour direction if need be.
2. Switch to Point mode
3. Select contours in connection order required.
4.

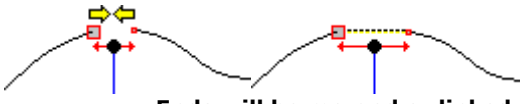
Configuring auto-connection

Regarding the in-between distance choose how to connect the ends.



Ends will merge into a single point.

Ends will be linked using a curve.



Ends will be merged or linked.

1. Open Auto-connexion.
   Ctrl Key down click
2. Set parameters in relation to the chosen connection mode (linking or merging).

a. Untick **Separately.**

b. **Key in merging distance** at least equal to the distance between ends.

a. Tick **Separately.**

b. **Key in linking distance** higher than the distance between ends.

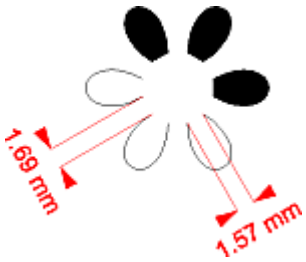
a. Untick **Separately.**

b. **Key in merging distance.**

c. **Key in linking distance** higher than the merging distance.

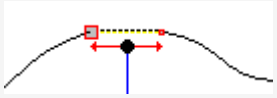
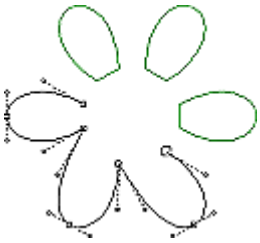
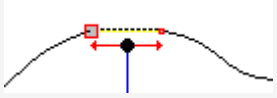
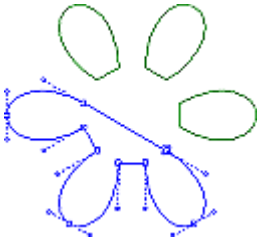
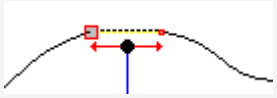
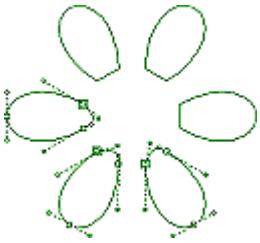
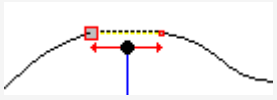
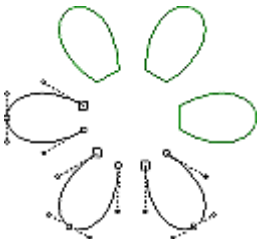
3.

Auto-connecting open contours (example)



Ctrl Auto-connection settings

Dimensions shown in graphics are drawn using Dimension tool

Distance between ends	Merging distance	Linking distance	Result
Smaller than merging distance	= 2	 = 3	 Merging into a single point
Between merging distance and linking distance	= 1	 = 7	 Connection using a line
Smaller than linking distance		 = 2	 Connection using a curve
Higher than linking distance		 = 1	 No connection

Separately

Separately

Separately

Separately

Using Point&Shoot function

Using Point&Shoot function

Enable Point&Shoot function to carry out on the machine settings in interaction with Gravostyle.

- Resizing composition or text on plate
- Drawing shapes
- Drawing a rectangle for text
- Simulating toolpath or overall engraving over the plate

For each Point&Shoot setting click the visual marker active on the machine.

The tooltip automatically replaces the red pointer when this does not reach the location expected in machine area.

The Point&Shoot window reports the different steps to follow on the machine.

For instance when a message asks "Set connection with machine", check that the machine is on and connected on one USB port of PC.

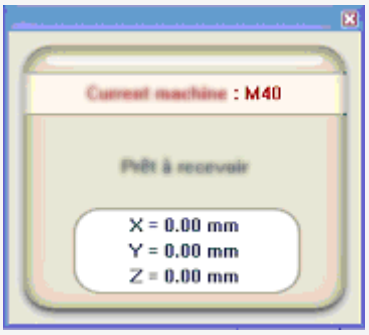
Displaying Point&Shoot window enables the matching button in mainbar. Click Point&Shoot icon

to show window.

to hide window.

1. Connect the Point&Shoot machine onto one USB port of PC. Power up.
2. Click the Engraving properties tab in Material.
3. **Click the Point&Shoot target machine** that will engrave the current composition.

Led (is default). When the tool-holder is fitted with a laser diode, the red pointer is the Point&Shoot reference.
Tool. When there is no diode, the tip of the tool mounted in spindle replaces the red pointer.



Point&Shoot: Resizing composition or text on plate

1. Click the Point&Shoot target machine that will engrave the current composition.
2. **Click Point&Shoot tab in** Material dialog box (the tab remains grayed when the active machine has no Point&Shoot function).
   Compatibility is automatically controlled between Gravostyle and machine firmware (embedded program that manages engraving instructions).
   If need be the latest firmware version will set up. The machine beeps two times when operation is over.
   a. Click the Point&Shoot marker active on the machine.
   b. Click the chosen setting.
      Plate
      Line
      Origin
   c. Click to start the setting. The machine beeps when available (button remains grayed when machine is powered off).
      Follow the animation and the instructions in dialog box, as well as data displayed in Point&Shoot window.

      Click to cancel operation or press machine key
      When setting is cancelled or ends, the tool-holder runs back to machine origin, the machine beeps, the red pointer lights off.
3. Check that composition configuration is correct.

Further to Point&Shoot setting do not modify any engraving property in Material.

Resizing composition using Point&Shoot

The setting delimits the composition surface in engraving area using the orientation of the active composition.

Click margin computing mode in Dimensions and margins tab. Key in required values (automatic, equal to left margin or user's).

Default text height equals the space available between top and bottom margins in a blank composition.

When the composition has text textlines are centred and each baseline fills up the length available between left and right margins.
Line spacing and line heights are proportionally recalculated
• so the text of the longest line fills up the baseline without compression neither stretching.
• so character feet beneath baseline of last textline do not overflow bottom margin.

Using the joystick set composition dimensions on machine.

1. Move the tool-holder onto composition top left corner.

Please move the spindle to the first corner of the area to engrave using the hand controller on the machine.
Press 'Enter/Action' button when position is set.

2. Save the location.
3. Move the tool-holder onto opposite corner.

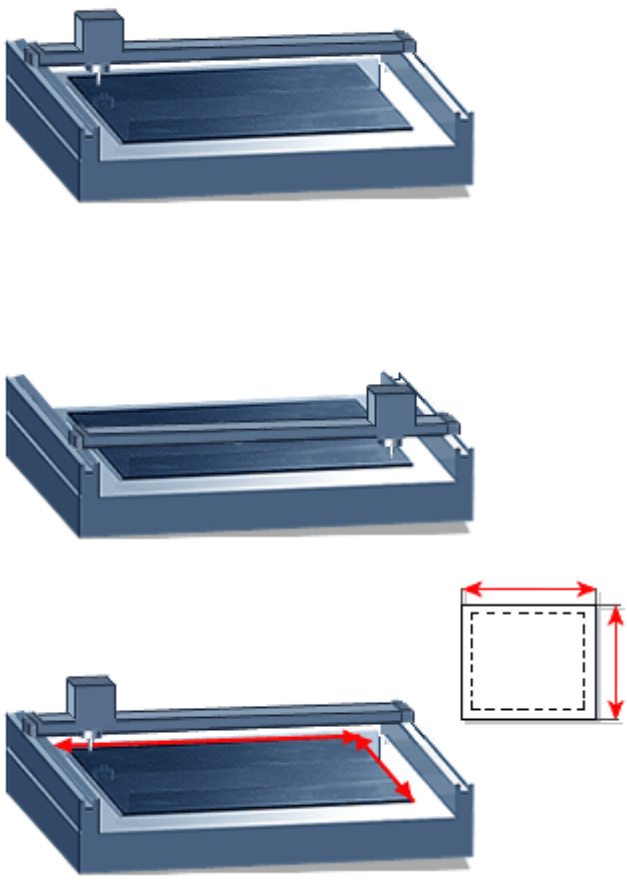
Please move the spindle to the opposite corner of the area to engrave using the hand controller on the machine.
Press 'Enter/Action' button when position is set.

4. Save the location.

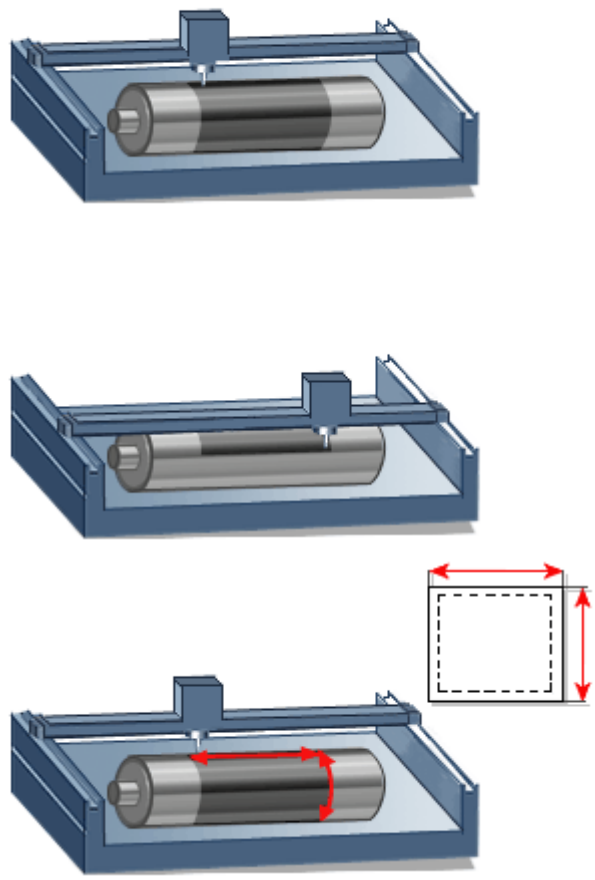
Coordinates below have been updated.
To apply them, click OK.
To modify them, select another method.
To abort modification, click Cancel.

New plate size :
Width = Height =

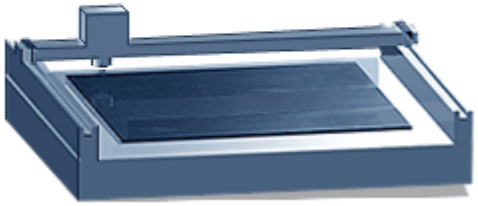
On plate

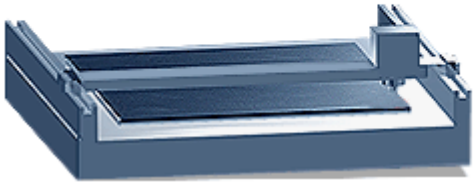


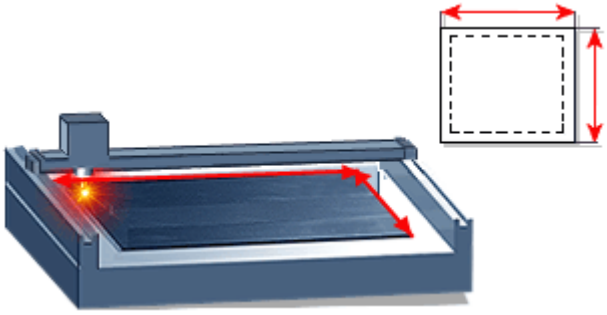
On cylinder



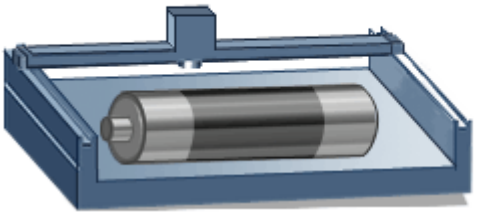
On plate

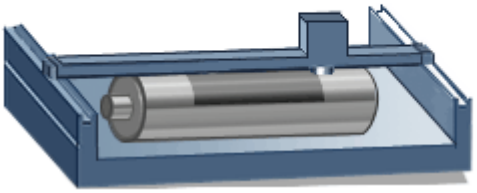


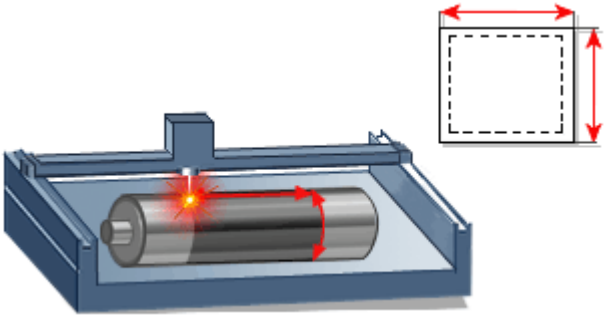




On cylinder







Resizing overall text using Point&Shoot

Type the text in automatic mode before enabling the setting you will use to delimit X length in engraving area.

X distance defines the baseline length of the longest text line.

Line spacing and line heights are proportionally recalculated so the text of the longest line fills up the baseline without compression neither stretching.

Composition dimensions automatically fit the final overall text.
Default left and right margins are null and top and bottom margins equal 10% of plate height ("automatic margins" and "equal margins" are automatically disabled).

Make Point&Shoot setting before working in manual mode. In manual mode text does not fit and can overflow composition surface.

Using the joystick set overall text on machine

1. Move the tool-holder onto text left end.

Please move the spindle to one side of the lines to engrave using the hand controller on the machine.
Press 'Enter/Action' button when position is set.

2. Save the location.
3. Move the tool-holder onto opposite end.

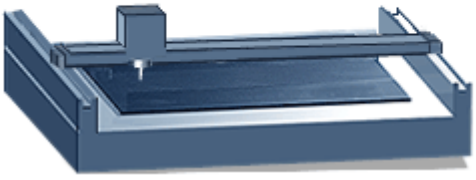
Please move the spindle to the opposite of the lines to engrave using the hand controller on the machine.
Press 'Enter/Action' button when position is set.

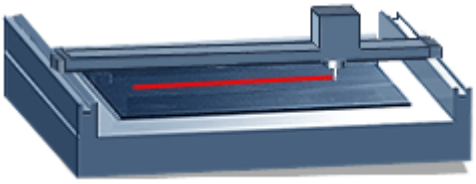
4. Save the location.

Coordinates below have been updated.
To apply them, click OK.
To modify them, select another method.
To abort modification, click Cancel.

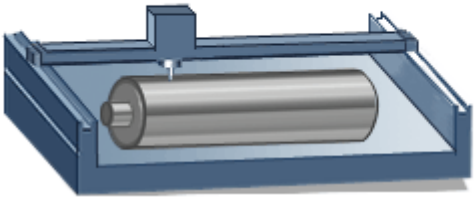
New text line width :

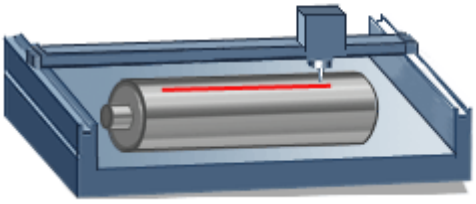
On plate

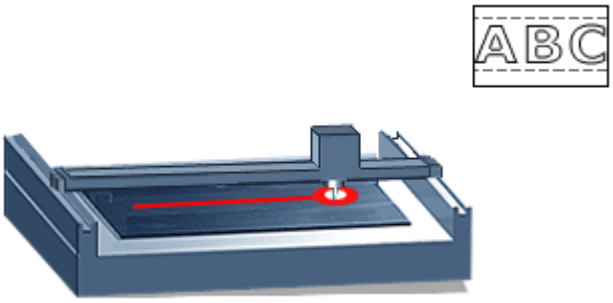


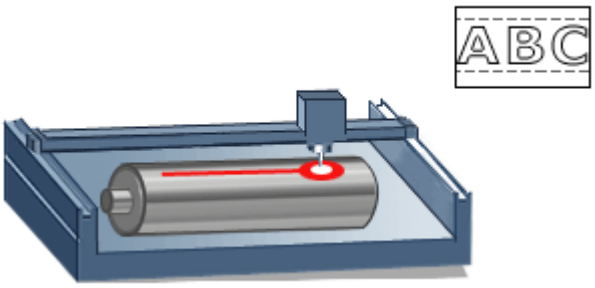


On cylinder



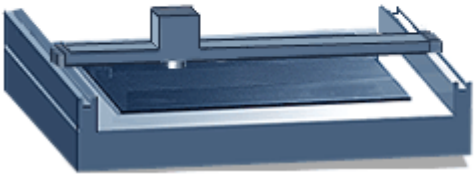


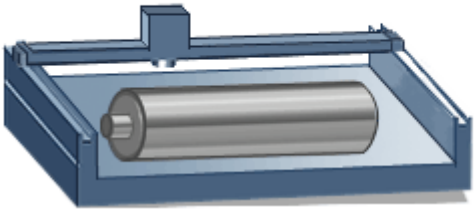


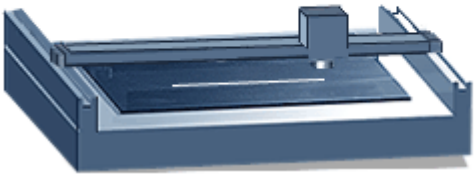


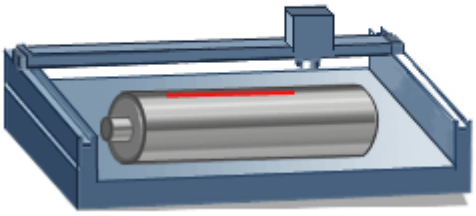
On plate

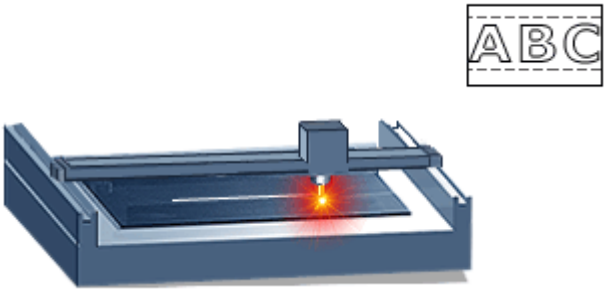
On cylinder

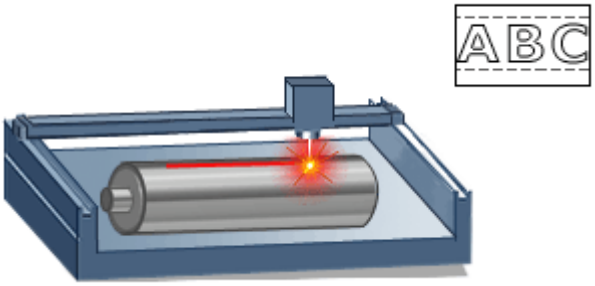












Setting engraving origin using Point&Shoot

Composition origin is the floating top left corner.

1. Move the tool-holder onto engraving origin.

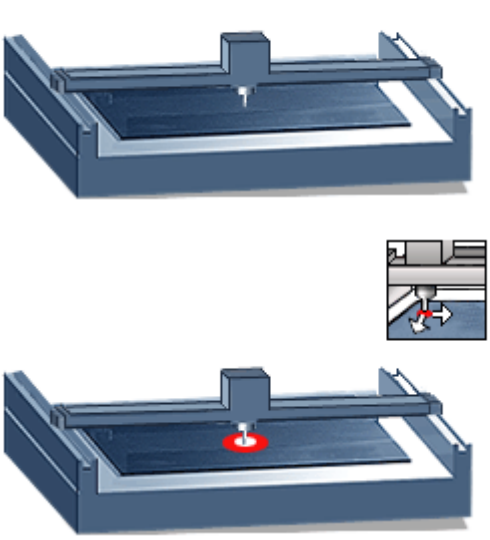
Using the hand controller:
Locate the new origin.
Press 'Enter/Action' button

2. Save the location.

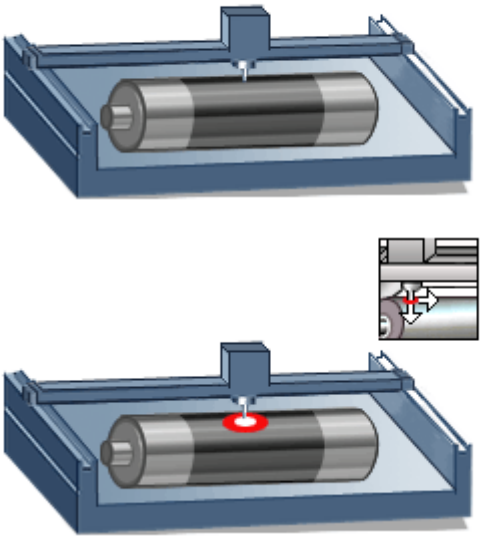
Coordinates below have been updated.
To apply them, click OK.
To modify them, select another method.
To abort modification, click Cancel.

New origin values :

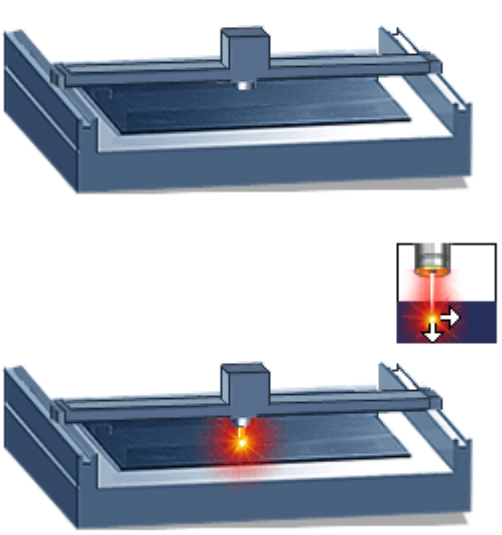
On plate



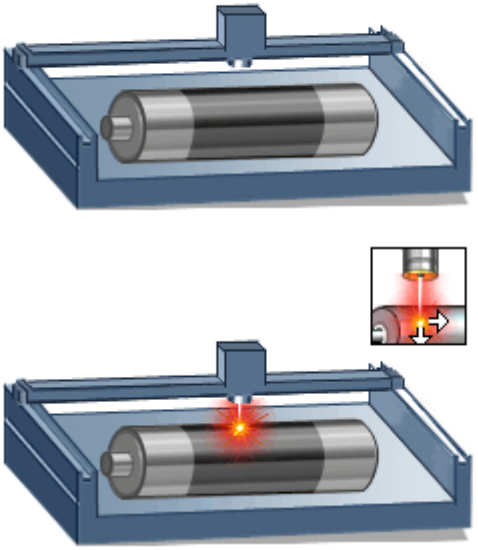
On cylinder



On plate



On cylinder



Point&Shoot: Drawing shapes

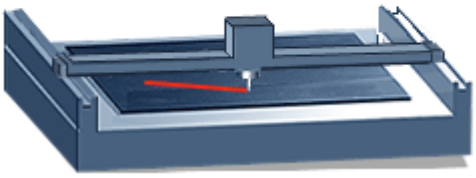
The final shape can be set outside composition surface. Move or resize the object.

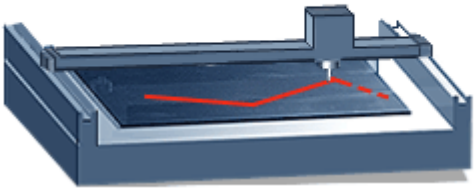
Drawing a line or a curve

1. Click the Point&Shoot target machine that will engrave the current composition.
2. Click in Shapes bar
3. Click the Point&Shoot marker active on the machine.
4. Click the open contour to draw
   Line
   Curve
5. Click to start the setting. The machine beeps when available (button remains grayed when machine is powered off).
   Follow the animation and the instructions in.
6. Using the joystick move the tool-holder onto the start point of the shape.
   Save the location

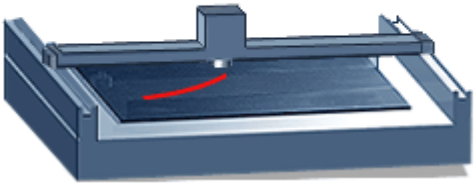
   Use the hand controller:
   Position a new point.
   Press 'Enter/Action' button.
7. Move the tool-holder onto next point. Save the location
8. Repeat step 6 for each point required.
   • XYZ position of each point saved in engraving area displays in Point&Shoot window.
   • The number of points saved displays in.
9.

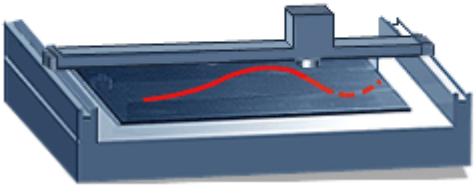
Line



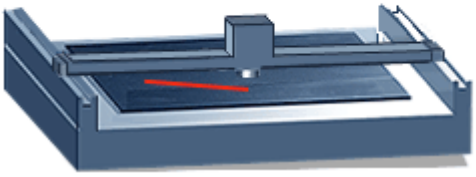


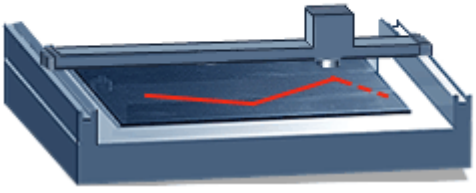
Curve



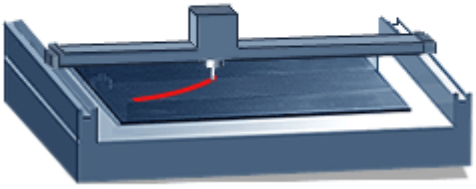


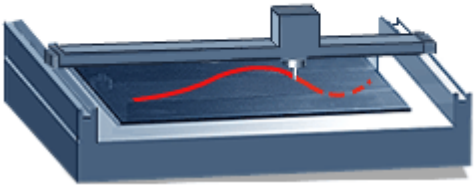
Line





Curve

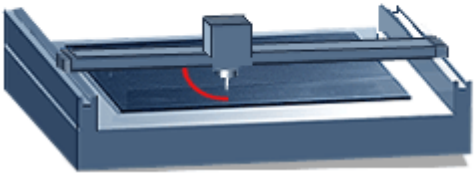


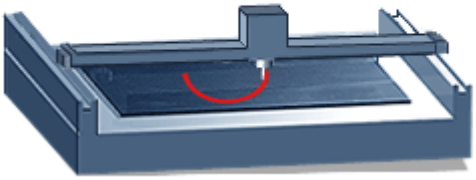


Drawing an arc or a circle from 3 points

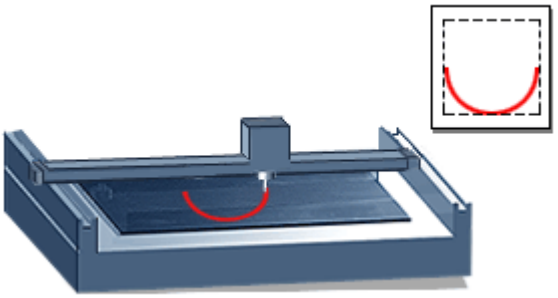
1. Click the Point&Shoot target machine that will engrave the current composition.
2. Click in Shapes bar
3. Click the Point&Shoot marker active on the machine.
4. **Click the shape to draw**
   Arc
   Circle
5. Click to start the setting. The machine beeps when available (button remains grayed when machine is powered off).
   Follow the animation and the instructions in.
6. Using the joystick move the tool-holder onto the start point of the shape.
   Save the location

   Use the hand controller:
   Position a new point.
   Press 'Enter/Action' button.
7. Move the tool-holder onto shape apex. Save the location
   • XYZ position of each point saved in engraving area displays in Point&Shoot window.
   • The number of points saved displays in.
8. Move the tool-holder onto the third point. Save the location
9.

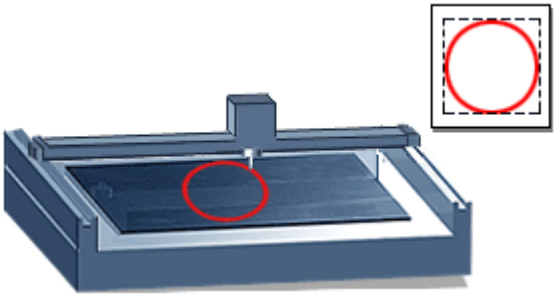


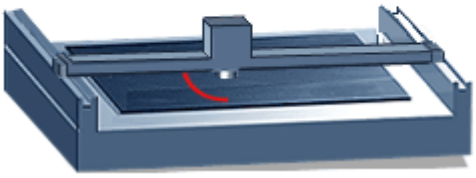


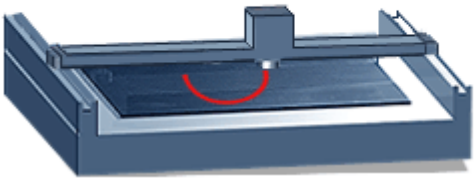
Arc from 3 points



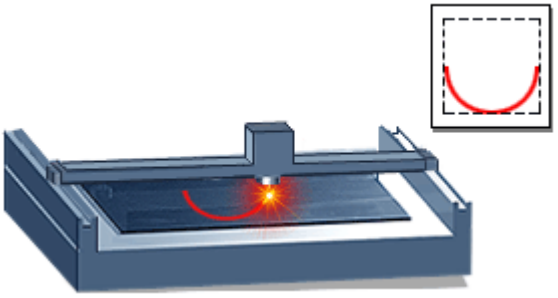
Circle from 3 points



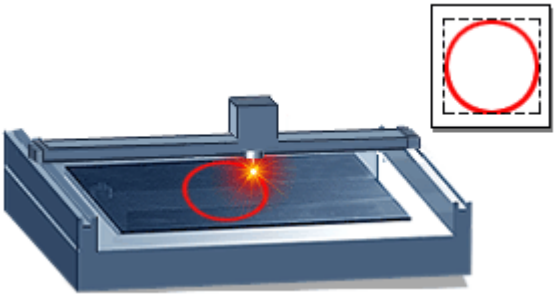




Arc from 3 points



Circle from 3 points



Point&Shoot: Drawing a rectangle for text

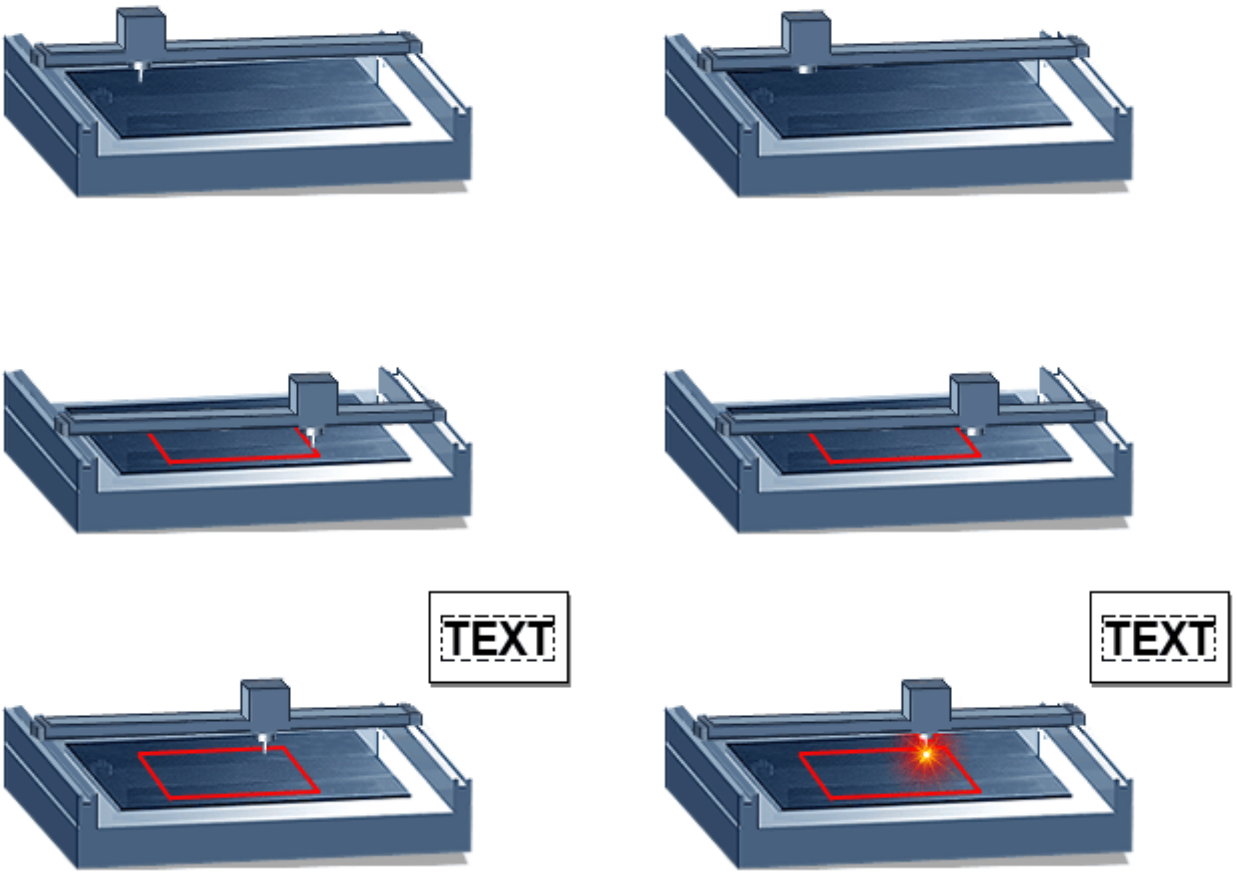
1. Click the Point&Shoot target machine that will engrave the current composition.
2. Click the font used to type text.
3. Click in Advanced text bar
4. Yes Click to confirm text setting in manual mode.
5. Click the Point&Shoot marker active on the machine.
6. Click to start the setting. The machine beeps when available (button remains grayed when machine is powered off).
   Follow the animation and the instructions in.
7. Using the joystick move the tool-holder onto the start point of the shape.
   Save the location

   Use the hand controller:
   Position a new point.
   Press the 'Enter/Action' button.
8. Move the tool-holder onto opposite point. Save the location
9. Repeat steps 5 and 6 for each rectangle in which you will type text.
   • XYZ position of each point saved in engraving area displays in Point&Shoot window.
   • The number of points saved displays in.
10.

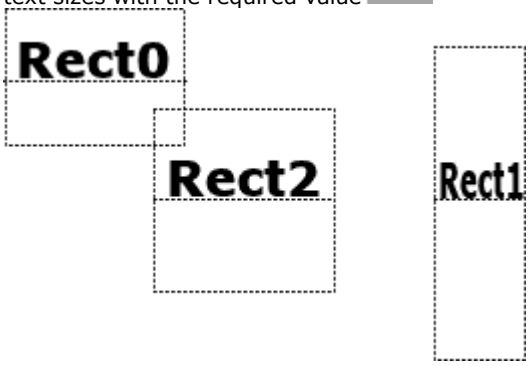
2 opposite points are required to draw a rectangle. A single point is not saved (total odd number of points).

Superimposed points are not saved. Keep sufficient distance between two points.

When a rectangle exceeds composition surface a message asks to move or to resize the object.



Type text in each rectangle displayed. To get text with the same height in each rectangle, search-replace all text sizes with the required value



Using an image

Using a bitmap image

A bitmap image is a photo or a drawing generated from a grid of pixels e.g. color points on-screen.

Retrieving a bitmap image

For optimal use the image must have 16.7 million colors and a resolution of 300 DPI min. Improve image quality in Bitmap Editor if need be.

Import the matching file (check that the image is under a known bitmap format).

Create a blank image in Bitmap Editor.

Digitize the original from paper using a scanner.

Scanning an image

The scanner allows to reproduce an image printed on paper or on film as a grid of color points called pixels.

Plug a TWAIN-compatible scanner into PC the program will identify it automatically.

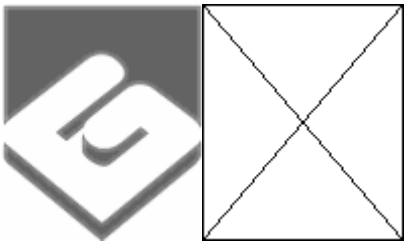
a.

b. **Click the scanner in Select Source.**

Start the digitizing program that drives the scanner. Once the procedure has been executed the image displays in program.

1. Only click once. Give the scanner time to start up.
2. Set digitizing parameters. The final image depends on
   - the original quality
   - scanner technology
   - selected settings (brightness, contrast, resolution in DPI)

Display in workspace



1. Display in F10 Options.
2. **Tick Bitmap Images**
   ☑ to display images inside composition.
   ☐ to handle a bulky image on-screen. The image is replaced by a crossed frame and displays faster.

Process for engraving

Vectorize the image using contours.

Process the image in PhotoStyle GRAVOSTYLE

Process the image in PhotoLase LASERSTYLE

Vectorizing

Vectorizing an image

Use the function to reproduce a bitmap image with contours.

When no image is selected scanning will automatically run before vectorization.

1. Set the image into composition.
2. Click the image to vectorize.
3.
4. Set vectorizing parameters.
5. Configure color reduction.

Vectorization shows the procedure execution.
• the percentage of contours executed out of the total number
• the number of the current contour and the vectorization stage

Click to cancel

You will obtain a composite object which lines you can edit using simple tools in Drawing mode.

Setting vectorizing parameters

Restore standard settings Default values

Check that the following parameters do not create a number of points that may slow down vectorization, display, manipulations and engraving calculations.

Quality		
Key in a value between	**min.**	**max.**
Allowance Precision of contour line to 1/10th pixel	0.1	3
Noise filtering Deleting interference pixels	0	3
Smoothing (Curve/Angle) Vectorizing into curves or angles	-1	+1

Mode

1. **Click Center line to vectorize the image** **using contours.** **in lines. Tick Fast** to simplify and speed up vectorization
2. **Key in Max. thinning or thickness of a stroke to vectorize as a line.** Thicker strokes are vectorized as contours.

Zone

1. **In Spot filtering key in width of the zones that will not be vectorized.**
2. Click to vectorize the black or color part of the drawing. the black, white or color background.

Reducing colors to vectorize

1. Vectorize selected image.
2. Select colors to vectorize in **Color reduction.**
   Nb of colors The number of initial colors displays in field.
   Restore initial colors Reset

Autoreduction

3. Options **Click to Setup color reduction.**
4. **Adjust Sensitivity or allowance in color recognition.**
5. **Click Contour destruction**
   to limit the color zone to actual contour.
   to extend the color zone to the neighboring pixels. Adjust
   Sensitivity for contour destruction.
   Sensitivity of fusioning areas for the shades with a dominant color.
6. **Click to enable a Preprocessing.**
   Suppression of anti-aliasing: link the transition shades between 2 colors to one of these colors.
   Noise suppression: delete interference pixels
7. OK Color number is computed in relation to above settings.

Manual reduction

3. Key in number of colors to vectorize in **Nb of colors**
4. **Select colors to merge.**
   Ctrl Key down click each color in color chart or in image preview.
5. Fusion Click. The image is recomputed in relation to dominant colors.
6. **Select colors to vectorize.**
   Ctrl Key down click each color in color chart or in image preview.
7. OK

Bitmap Editor

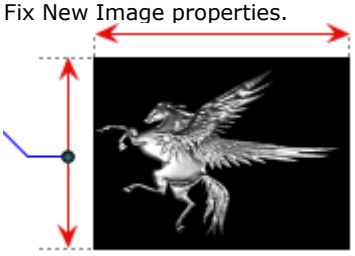
Retouching an image in Bitmap Editor

1. Set the image into composition.
2. Click the image to select.
3. Display the image in Bitmap Editor.
   Double-click the image.
4. Retouch the image.
   - Editing image
   - Editing colors
   - Selecting a zone using mask
   - Managing images
5. Save the image.
6. Alt F4 Exit Bitmap Editor.

The retouched image displays in Gravostyle workspace.

When no image is selected create a blank image automatically displayed in Bitmap Editor.

1.
2. Fix New Image properties.



   a. **Key in Width and Height (64x48mm are default).**
   Tick to Keep ratio between dimensions.

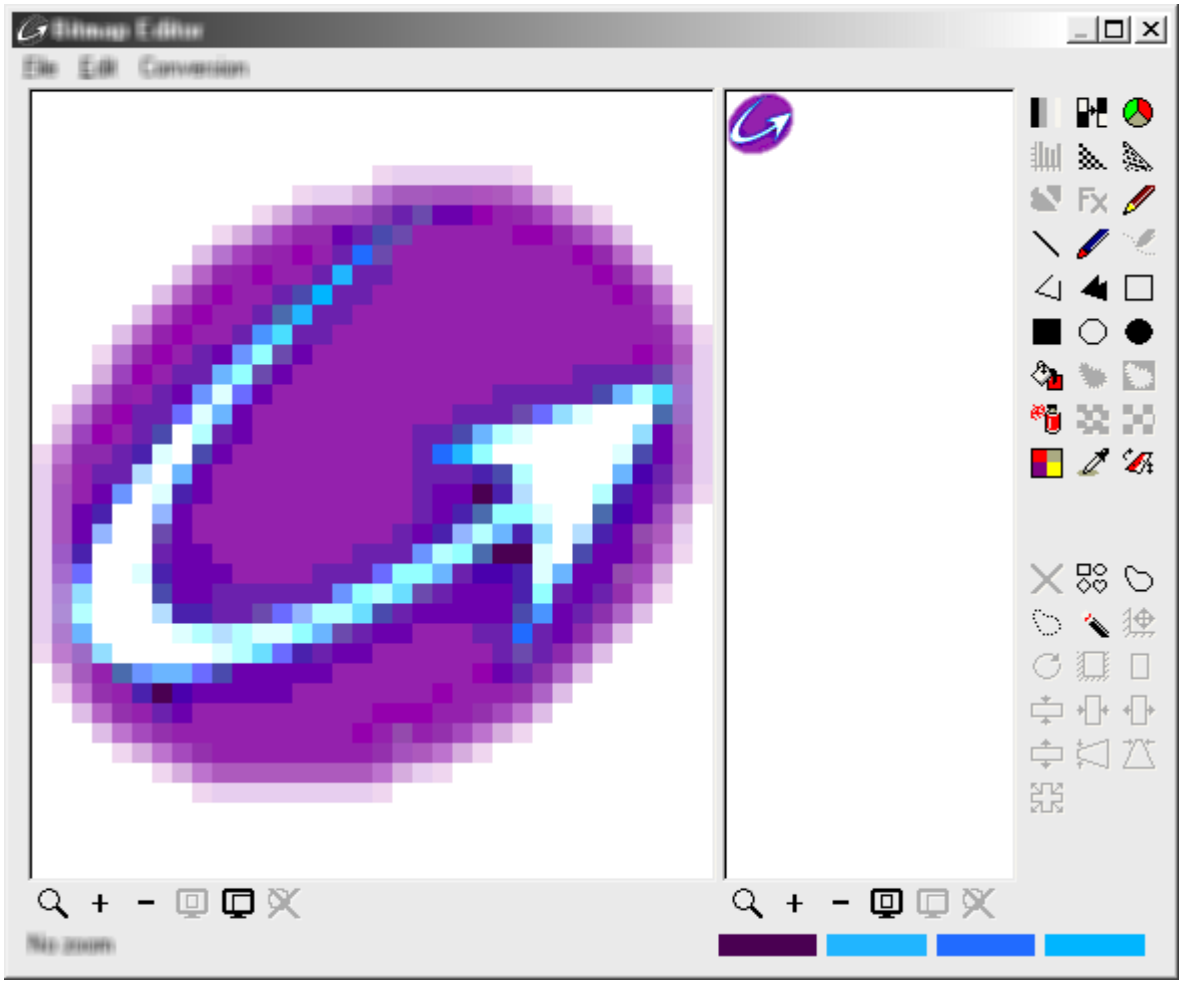
   b. Click the number of **Colors: 2, 256 or 16.7 millions.**
   Click 16.7 millions to access to all the functions in Bitmap Editor.

3. OK Go to step 4 opposite.

Guided tour of Bitmap Editor

- Saving/Opening a bitmap file
- **Editing image**
- **Editing colors**
- **Using mask**
- **Creating** image

Click the picture for further information



Bitmap Editor: Common tasks

Saving while working

Save regularly if you are creating a time-consuming or complex image, or if you have to stop in middle of work.

Ctrl S

When the image has already been saved the .bmp file under the same name is updated with the latest changes. Otherwise save the image.

Undoing last operation

Ctrl Z

Zooming

Double image size on-screen

Click a tool in Zoom bar.

Drag and drop the pointer around the zone to zoom in.

Zoom in

Zoom out

Zoom image max.

Zoom workspace

Print preview

1. **Print preview in File menu**
2. **Click Full page** to print the whole image at the page center regardless of its dimensions.
3. **Set the size of the image to print. Click Keep ratio**
   to key in one dimension. The other dimension is proportionally calculated.
   to key in the Width and Height.
4. Click **to Center image**
   when printing on page.
   to print only the part of the image displayed in Bitmap Editor.
5. OK

Printing image

1. **Print in File menu**
   Configure if need be the active Windows printer Properties
2. OK

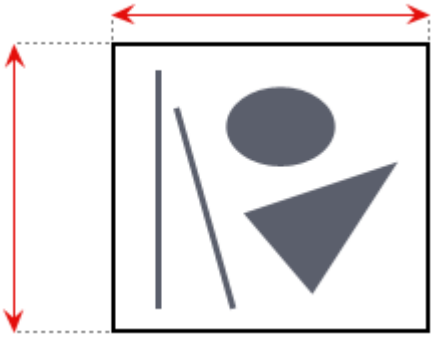
Bitmap Editor: Image files

Properties of the current image

1. **Image info in File menu**
   - the file access path
   - image dimensions in points/millimeters
   - the number of colors in image
2. OK

New image

Save the image under a name other than [UNTITLED] assigned by default to each new image.



1. Ctrl N **Enable New command.**
2. **Key in image dimensions.**
3. Click the number of **Colors: 2, 256 or 16.7 millions.**
   Click 16.7 millions to access to all the functions in Bitmap Editor.
   For a B&W image tick **Grayscale.**
4. OK

Creating from an existing image

You edit a copy to keep the source safe.

1. **Open a .bmp file.**
2. **Save the image under a different name.**

Saving image

Save the image onto disk or onto key to keep and to edit it later.
The image is saved as a .bmp file under the same name.

1. Ctrl S **Open Save As dialog box.**
2. Locate where the file will be saved **(DRAWS is default).**
3. Type comments.
4. **Type the Name of the image.**
   - To replace an existing file click its name in list.
   - To save a new file delete the "*" character and type a name different from those displayed.
5. Save Click. Filename displays in title bar.

Open one of the last four files open

Click its name in **Recent File List in File menu.**

Open an image

1. Ctrl O **Open Open dialog box.**
2. Locate where the file will be open **(DRAWS is default).**
3. **Click the .bmp file to open.** For a quicksearch click in list, type the first character of the name.
4. Open Click. Filename displays in titlebar.

Image

Editing image

Select active color

in color palette

using dropper

Draw

a line

a broken line

a filled polygon

a rectangle

a filled rectangle

an ellipse

a filled ellipse

Paint using

Fine brush

Brush

Spray

Paint pot

Handle

Transform

Sharpen

Soften

Filters

Modifying colors

Increase/Decrease color number

Histogram

Grayscale

Halftone

Halftone using diffusion

Negative

Correction

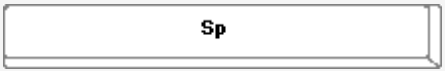
Selecting active color

Available colors bar

The first one is the active color.

Click one of the four colors.

Press Space key to switch colors.



Dropper

1. Click in Image palette.
2. Click the color using the dropper.

Creating a shade

The resulting shade displays in available colors bar.

Key down click each color to mix.

Release the key before clicking the last color.

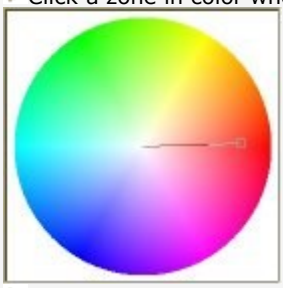
256-color image

1. Click in Image palette.
2. Click required color.

16.7 million-color image

1. Click in Image palette.
2. **Select a color in Color correction.**

   Click a zone in color wheel.

   Key in RGB Parameters.
   R (red) between 0 and 255
   G (green) between 0 and 255
   B (blue) between 0 and 255
3. **Select a shade that displays in Chosen Color.**

   Click a shade in color range.

   Key in HSV Parameters.
   H (hue) between -100% and 100%
   S (saturation) between-100% and 100%
   V (brightness) between-100% and 100%
4.

Drawing in image

1. Select the active color (closed shapes are filled in using active color).
2. Click the shape to draw in Image palette.
3. Draw the shape.

Line	1. Click to mark the start of the line. 2. Drag and drop the pointer onto the other end.
Rectangle **Circle/Ellipse**	1. Click to mark the start of the shape. 2. Drag the pointer to draw the shape. 3. Drop when the shape has the required size and position.
Broken line **Polygon**	1. Click to mark the start of the shape. 2. Drag and drop the pointer onto next point. 3. Repeat step 3 as many times as necessary. 4. Right-click to mark line end.

Painting image

Painting

1. Select the active color.
2. Click a tool in Image palette.

The Paint pot replaces a color with the active color.

3. Click the zone where you want to pour the paint.

The Fine brush paints a 1-pixel line.

The Brush paints a line based on a series of filled circles.

The Spray gives the impression you are painting using a spray gun or can.

3. Set the pointer where you want to start painting.
4. Drag and drop the pointer onto the zone to paint.

Configuring Brush

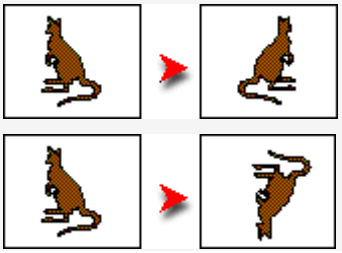
1. Ctrl Key down click
2. **Set Brush Size between 1 and 64. Line thickness displays in preview.**
3.

Configuring Spray

1. Ctrl Key down click
2. Set General parameters.
   - **Spray size between 1 and 64 pixels**
   - **Spray rate.** Adjust paint flow
3. For 16.7 million colors key in a Number of colors between 1 and 16. Fix the Color list.
   1. Click a color.
   2. **Click the Chosen color to change color in** Color edition.
   3. **Set the Color weight in relation to other colors in list**
4.

Transforming image

1. Click in Image palette
2. Click Operation. Key in Parameters.
3. Test View the result. The image size displays in millimeters and in pixels.
   Reset Click to change the result. Restart the operation.
4. OK

Operation	Key in	Key in (in pixels or in mm)
Resize The operation duplicates or deletes the required pixels to reach keyed in dimensions.	**X Variation in** image width **Y Variation in** image height	**X Size** or image width **Y Size** or image height
Resample The operation minimizes staircase effects caused by resizing. It calculates the position and the color of the missing pixels.		
Horizontal/Vertical skew	**X/Y Offset** coefficient	**X/Y Offset** distance
Rotation	**the Angle** between 0° and 360°	
Vertical or horizontal mirror/Flip		

Applying an effect in Bitmap Editor

Check that the image has 16.7 million colors.

Soften	1. Click in Image palette. 2. Drag and drop the pointer over the zone to smooth out. Pixel shade is adapted to create a transition between colors.
Sharpen	1. Click in Image palette. 2. Drag and the pointer over the zone to accentuate. Pixel shade is adapted to increase the contrast between colors.
Filters	1. Click Image in palette Fx 2. Click an effect.
Embossing	Creates a relief effect
Soften	Softens the image using transition shades between colors
Color pencil effect	Finds contours
Edge enhance	Enhances contours
Sharpen	Sharpens the image by deleting transition shades between colors
Laplacien	Not yet documented
	3. Test View the result Reset Click to change the result. Restart the operation. 4. OK

Colors

Setting color number

Increasing

The operation increases color number to 16.7 millions. Run the conversion to apply an effect on image.

Convert into 32 bits in Conversion menu

Decreasing

Open Color reduction. Click in

Image palette

Autoreduction

Reset Restore initial colors

1. Select colors to process.
   Ctrl **Key down click each color in present Palette or in image preview.**
2. Process selected colors.
   Delete Delete Selat
   Fusion Merge and generate a dominant color
3. Automatic reduction Click.
4. OK

Manual reduction

Default values Restore initial settings

1. Options Click to open Options.
2. **Adjust Sensitivity or allowance in color recognition.**
3. **Click Contour destruction**
   to limit the color zone to actual contour.
   to extend the color zone to the neighboring pixels. Adjust
   Sensitivity for contour destruction.
   Sensitivity of fusioning areas for the shades with a dominant color.
4. **Click to enable a Preprocessing.**
   Suppression of anti-aliasing: link the transition shades between 2 colors to one of these colors.
   Noise suppression: delete interference pixels
5. OK
6. Reduce colors Click in Color reduction. Color number is computed according to above settings.
7. OK

Black&White - Grayscale

Converting color image into black and white

Halftone in black and white The operation converts colors into black and white pixels.	Click in Image palette.
Reduction to black and white	1. Reduce color number to 2 when possible. Different tests are required. 2. Convert final colors into grayscale. 3. Distribute the different grays between black and white using histogram stretching.

Converting color image into grayscale

Conversion into grayscale The operation converts the number of colors to an equal number of grays.	Click in Image palette.
Reduction to 256 grayscale The operation reduces the number of colors to 256 grays.	**Grayscale 8 bits in Conversion menu**
Halftone with diffusion The operation converts colors into grayscale pixels.	1. Click in Image palette. 2. **Key in a number of grays between 2 and 64.** 3.

Negative

Switching to negative the selected image or zone replaces each color by its opposite. The effect obtained is comparable to negative photographic.

Click in Image palette.

Histogram

The graphic presents the grayscale distribution within image. The vertical axis shows the percentage of pixels which color matches a graylevel displayed on horizontal axis.
Functions relative to histogram allow to modify image brightness.

1. Convert image into grayscale.
2. Click in Image palette.
3. Click the function to apply.

Equalizing	Modify pixel color to distribute them equally between dark and light graylevels.
Specification	Open a bitmap image which grayscale distribution will be applied to current image.
Stretching	Modify pixel color so that the image contains all the graylevels.

4. **Click the Histogram view to display**
   classic: weight of each graylevel
   simultaneous: total weight of graylevels
5. Apply View the result
6. OK

Color correction

1. Click in Image palette
2. Click the tab linked to correction function. Key in parameters.
3. Apply View the result
4. OK

Brightness/Contrast

Brightness	Lightens/Darkens the image +100% = pure white -100% = pure black
Contrast	Increases/Decreases brightness variation between light and dark zones.

HSV

A color on-screen is defined from three components.	Increases/Decreases
H (hue) between -100% and 100%	Color or gray shade Shifts all the colors up or down the red/green/blue range.
S (saturation) between -100% and 100%	Color purity 0 = bright colors 100% = grayscale
V (luminance) between -100% 0 and 100%	Color brilliance from black to white 0 = pure black 100% = pure white

RGB

A on-screen color is defined from three primary colors.	Increases/Decreases the level of
R between 0 and 100%	red
G between 0 and 100%	green
B between 0 and 100%	blue

Mask

Using a mask

The mask is a closed contour used to select a part of the image to edit.

Create a mask

- using magic wand
- from a symbol
- from a polygon
- from a freehand shape
- Delete
- Show/Hide

Transform mask

1. Create a mask.
2. Click a transformation tool in Mask palette.
3. Click the mask.
4. Drag and drop the pointer to transform the mask.

You can move the mask using any tool in Mask palette.

- Move
- Rotate
- Horizontal alignment
- Vertical alignment
- Stretch horizontally
- Stretch vertically
- Vertical projection
- Horizontal projection
- Vertex

Edit mask selection

1. Create a mask.
2. Select the active color.
3. Click the tool in Image palette.

- Drawing lines using brush
- Filling in selection
- Filling outside selection
- Cropping image

Creating a mask

Polygonal mask

1. Click in Mask palette.
2. Click to mark the start of the shape.
3. Drag and drop the pointer onto next point.
4. Repeat step 3 as many times as necessary.
5. Right-click to mark line end.

Freehand mask

1. Click in Mask palette.
2. Click the image.

Using magic wand

1. Click in Mask palette.
2. Click the color to select.
3. Key in selection parameters in **Magic Wand.**
   Apply View the result
   1. **Click to enable a Preprocessing.**
      ☐ **Suppression of anti-aliasing:** link the transition shades between 2 colors to one of these colors
      ☐ **Noise suppression:** delete interference pixels
   2. **In Parameters adjust Sensitivity or allowance in color recognition.**
      Click Contour destruction
      ☑ to limit the color zone to actual contour.
      ☐ to extend the color zone to the neighboring pixels.
   3. **Specify if 1-pixel thin contours will be**
      ◉ **Drawn** as mask lines
      ○ **Ignored**
   4. OK

Mask from collection

Symbol library Click.

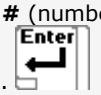
Open the **.hpg file under HPGL Vectors format you will use as a mask.**

1. Click in Mask palette.
2. Double-click a shape.

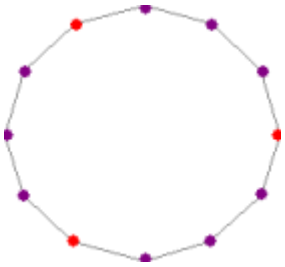
   If you select a polygon key in **Number of edges.** OK
3. Drag the pointer over image to draw the mask.
4. Drop when the shape has the required size and position.

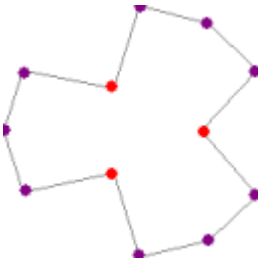
Configuring Vertex tool

Use the tool to transform the mask from selected points. It allows to create a star- or a cross-shaped mask from a circle or a polygon.

1. **Create a mask.**
2. Click in Mask palette.
3. In Ngon mask dialog box key in
   • **every** in a series of points (here 4)
   • the number of points to **Select** (here 1)
   • **from point #** (number of the first point) **to point #** (number of the last point). 

4. Drag and drop the pointer to transform the mask.





Editing mask selection

Create a mask.

Cropping image	Click in Mask palette. The selection using the mask becomes the current image.
Copying/Pasting	1. Ctrl C Copy the selection. 2. Move the mask where you want to duplicate selection. 3. Ctrl V Paste the selection into mask.
Cutting/Pasting	1. Ctrl C Cut the selection. 2. Move the mask where you want to shift selection. 3. Ctrl V Paste the selection into mask.

Photostyle

Processing an image in PhotoStyle GRAVOSTYLE

The option allows to process a bitmap image (photo, drawing, plan) and to produce the object to engrave.
Depending on its color, each pixel in image on-screen is converted into
• a white pixel or point to engrave.
• a black pixel or non-engraved point.

1. Set the image into composition.
2. Click the image to select.
3.
4. Make settings in PhotoStyle dialog.
   Engraving parameters
   Treatments over image
5. Preview View the result
   Double-click the button to display the processed image
   • using original colors
   • in grayscale
   • in white & black in relation to points to be or not to be engraved
6. The logo displays in workspace.

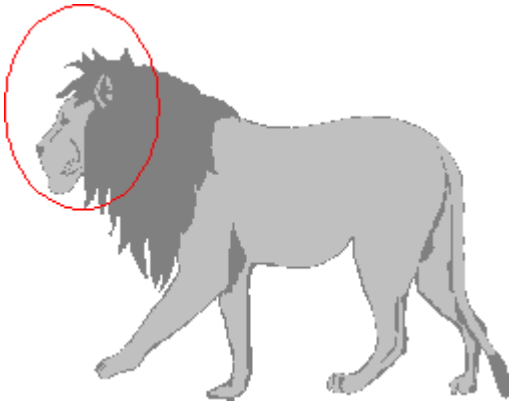
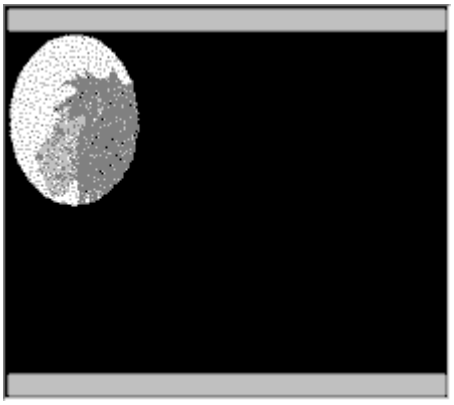
When no image is selected PhotoStyle Wizard will automatically run before PhotoStyle.
Click in PhotoStyle wizard
to scan the image.
to import the image.

Depending on whether applied settings increase or decrease the final number of points, the object can be displayed in a size quite different from the size of the original image. The size of the object on-screen is not representative of its engraving size.
Perform an engraving test to assess the quality of the logo. If the result is not acceptable, delete the logo and restart the procedure.

PhotoStyle dialog box

Click the picture for further information

How to delimit the surface of the image to be processed?

Draw a closed contour around the zone. Select the image then the mask.	In PhotoStyle the portion of the image located outside the mask is converted into an non-engraved black background.
	

PhotoStyle: Settings on the photo to engrave

Engraving parameters

Each resolution reproduces the photo using a distance between two engraved points. For instance 0.127mm step matches 200dpi resolution.
The more you increase the step, the more you reduce the number of points/mm and the engraving quality.

Click an engraving resolution

- (•) Standard
- ( ) Fast
- ( ) Thin
- ( ) **Customize step.** Key in value. Step = 0.425 mm

1. **Key in max. engraving Depth.**
2. Set engraving surface (image dimensions display by default). Tick to **Keep scaling**
   [x] **Key in the height or the width** at most equal to the dimensions of the engraving area. The other dimension is proportionally computed.
   [ ] **Key in the exact height and width.**

For an optimum engraving resize the image in PhotoStyle. Keep the final logo size in composition.

Treatments before engraving

Halftone

Reproduce each image color using a geometric black and white pattern.

Click a pattern.

- Bethesda
- Weston Knight
- Northfolk

Preview View the result in PhotoStyle dialog box
Double-click the button to display the processed image
- using original colors
- in grayscale
- in white & black in relation to points to be or not to be engraved

Brightness

Adjust Brightness over the whole photo.

-50% - +50%

Contrast

Adjust Contrast between light and dark zones.

-50% - +50%

Negative

[x] **Click to engrave a material with a light top coat and a dark background** (for example, Gravoglas white on black).
Engraved points are dark and non-engraved points are light.

Soften

Click to

Soften: decrease transitions between light and dark zones.

Sharpen

Sharpen: increase the contrast between light and dark zones.

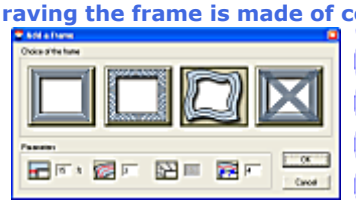
Relief/Details (M20 only)

1. **Adjust Relief** to accentuate or not the pixels of the photo.
   0 - 10
2. **Adjust Details** to soften or to sharpen the contrast between light and dark zones.
   0 - 10

Adding a frame around image

Add a frame around the logo designed in PhotoStyle.

For quick engraving the frame is made of contours you can edit in Point mode.



1. Add a frame Click in PhotoStyle dialog.
2. Click a frame.
3. **Key in the frame width as a percentage of the surface of the final logo.**
4. **Key in the parameters that fix the frame profile.**

	Key in the number of repetitions around the image.
	Key in the number of beams between 2 corners of the frame.
	Key in the number of repetitions around the image. Key in the number of waves between 2 corners of the frame.
	Delete current frame

5.
6. Preview View the result
   Double-click the button to display the processed image
   • using original colors
   • in grayscale
   • in white & black in relation to points to be or not to be engraved

PhotoLase

Processing an image in PhotoLase LASERSTYLE

Enrich and optimize a bitmap image for laser marking (photo, clipart, plan).

When no image is selected Import dialog box automatically opens when running PhotoLase. Import the required image.

If you select curve objects (geometrical forms, symbols, text converted into curves) their surfaces are converted into bitmap images you can edit.

The selected image displays in **PhotoLase workspace You can**
- **type text.**
- **add a frame around the image.**
- **resize or move the image and the text.**

The processing cost is recomputed after each modification.

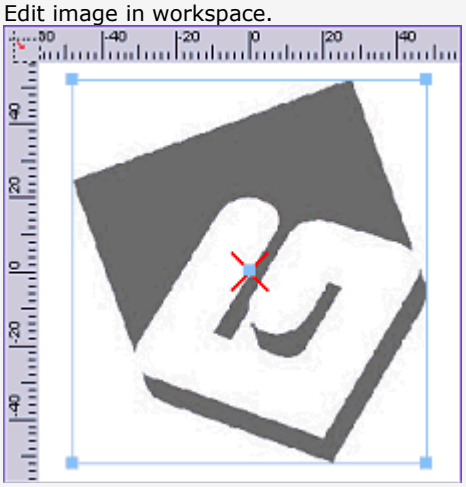
Convert the colors of the image into grayscale adapted to laser marking.

Depending on the color, decide when each pixel (point in image on-screen) is converted into
- a more or less black point to engrave (each graylevel power is proportional to the power assigned to black color).
- a white non-engraved point.

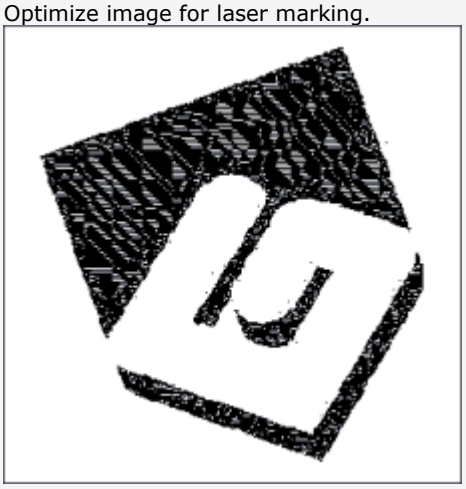
Observe each modification in preview.

Display the preview or the processed image in composition.

1. In Material **click the active target machine that will engrave the processed image.**
   Add the target machine if need be.
2. Set the image into composition.
3. Click the image to select.
4.
5. Edit image in workspace.



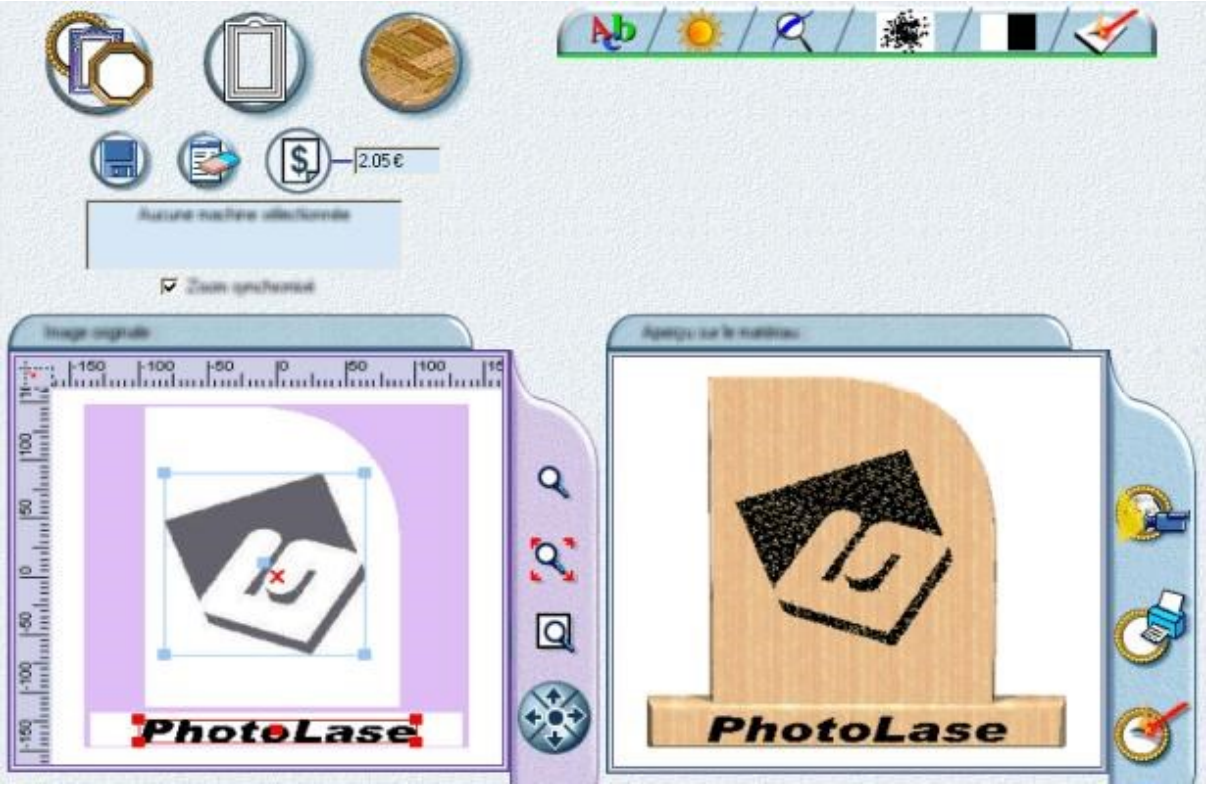
6. Optimize image for laser marking.



7. Make a PhotoLase output.

PhotoLase dialog box

Click the picture for further information



The selected image displays in PhotoLase workspace where you view XY axes and the red crossed-centre

A selection frame displays around the image and around each line of text.
Use the blue handles to resize or to move the selection using mouse.

Modifying the image in Bitmap Editor

A. **Double-click the image** in workspace to display it in Bitmap Editor.

B. After modifications click **Save and exit command in File menu.**

The selected image displays in PhotoLase workspace. Colors are converted into grayscale.

Depending on whether applied settings increase or decrease the final number of points, the object can be displayed in a size quite different from the size of the original image. The size of the object on-screen is not representative of its engraving size.

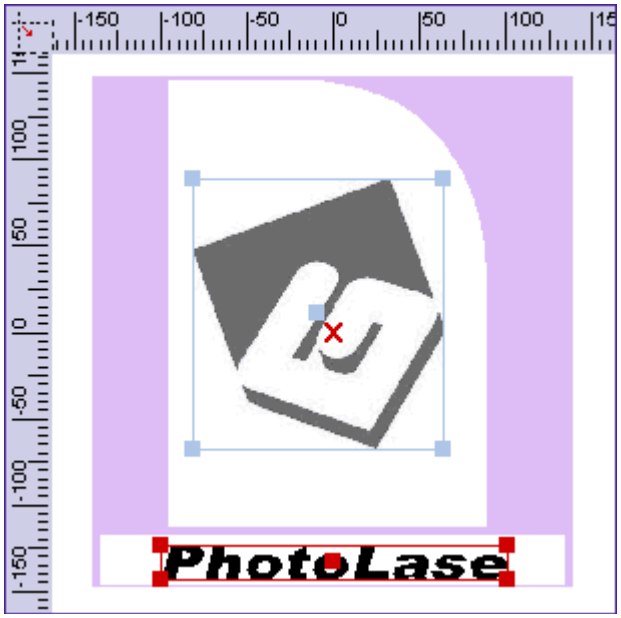
Delete the result in composition if need be. Restart PhotoLase process.

Editing image in PhotoLase

Choosing material

1. Click to display material list.
2. Double-click a material that displays in background.

Adding a frame



For instance the image is set over a decorative support and enhanced with the line of text "PhotoLase".

1. Click the type of frame.

Frame or decorative support with location for engraved plate

Frame to be engraved with surfaces to engrave additional text

2. Double-click on a frame shown in list.
   The frame is displayed in purple in workspace.
   Each white zone is available for engraving.
3. Position and resize the image and the lines of text inside the frame.
   The image is automatically set in the largest white zone.

The image is cropped when it exceeds the white zone of the frame.

Delete the frame

1. Click
2. Double-click **No Border.**

Adding text

Select a line of text

Click the line of text. The selection frame gets red. You can move, resize or delete it.

Delete the selected line of text

Press key.

Click.

If you disable Text function the lines of text are hidden in preview and thus will not be engraved.

1. Click in PhotoLase bar.
2. Click to enable Text function.
3. Click to set the properties of the new line of text.
4. Click the font in drop down menu.
5. **Click the graylevel, percentage of the laser source power.**
6. **Type text in the second field.**
7. **Key in height and the width of the line.**
8. **Key in character spacing.**
9.

The new line of text is automatically centered in workspace. Create as many lines of text as needed.

Text is automatically compressed when it exceeds the length of the line.

Zooming

Set the display size using **Zoom functions.**

Tick Synchronized zoom to zoom simultaneously in workspace and in preview.

Zooming using mouse

Right-click
- to double the size of the image on-screen.
- twice to display the image and all the text boxes.

Zoom tools

Zoom the framed zone

Zoom the image and all the text boxes

Zoom the image

Moving a line of text

1. Drag the central handle of the selection.
2. Drop when the selection has the required position.

Resizing a line of text	1. Drag a handle set in selection corner. Shift Keep key down to resize the selection from centre. 2. Drop when the selection has the required size.
Positioning the image	Click the circle to center the image in workspace. Click an arrow to move the image in one direction. Ctrl Key down press an arrow key.

Setting PhotoLase marking parameters

Use PhotoLase settings to optimize the image for laser marking.

1. Click the setting tab to key in its properties. The tab is underlined in **green** when the setting is active, in **red** when inactive.
2. Enable or disable the selected setting.
3. Fix the properties of **each active setting.** Test the result in preview.
4. Click the setting tab to close.

Save the active settings to apply them to each new processing.

Click to restore standard settings.

1. **Enable and make the optional settings.**

Gamma Correction

Black contrast is the gap in brightness between light and dark zones.

White brightness is the lightning level overall the image.

Adjust the gamma (1.0 is default) to correct simultaneously the contrast and the brightness of the image.

Key in a **Black contrast between 0 and 255.**

Key in a **White brightness between Black and 255.**

Key in a **Gamma value between 0.1 and 10.**

Enhancement

Key in the **Width and the Strength** or variations in contour contrast and brightness, expressed as percentages.

Strength between -100% and 100%

Width between 0% and 100%

Halftoning

Reproduce the image using a geometrical white and black pattern which contrast you adjust.

Click a **pattern (Floyd-Steinberg is default).**

Key in a **Percentage between 0 and 100% to sharpen or to soften the pattern.**

2. **Enable and fix the Threshold according to which each graylevel is converted into black or white.**

A pixel which gray level is
- lower than the threshold becomes a black point to engrave.
- over the threshold is a white non-engraved point.

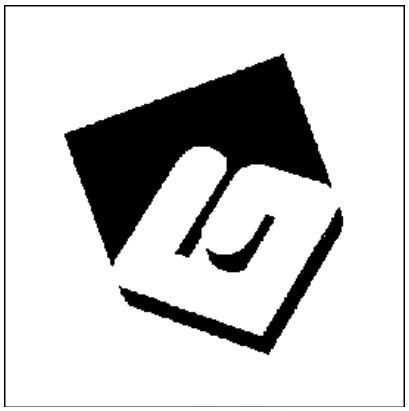
Enabling or disabling Threshold automatically enables or disables Laser job.

Key in a **Threshold between 0 and 255 (127 is default).**

3. **Enable and configure laser Job.**

Properties of the selected laser machine	Machine model and source power
Resolution Adjust the marking precision in DPI or impulsions per inch. **In low resolution (150 to 400DPI),** you will obtain quick and clean surface marking. **In high resolution (over 500DPI),** you will obtain in-depth marking that is fine and slower.	Click a **Resolution between 150 and 1200DPI (300 is default).**
Power and speed expressed in percentage The power is proportional to laser source power. The speed is proportional to the max. speed of the machine motion system.	a. **Click to disable the Automatic setting** for the parameters. Key in a b. **Power** between 0 and 100% c. **Speed** between 0 and 100%
Engraving direction	a. **Tick option** **Mirror** to mark the background of a material with a transparent top coat. **Negative** to invert image colors. b. Click to view the processed imaged in Laser window.

Producing a PhotoLase output



Click to print material preview.

Click to set laser properties before marking.

Display in Laser window

In PhotoLase

-

Click. Material preview will be rastered into B&W bitmap within composition.
You can also click Save and validate command in File menu.
- **Click Save and validate simulation command in File menu.**
Material preview will be converted into color bitmap within composition.

Do not edit PhotoLase image with Bitmap function from Laser dialog box, this will alter the job.

Building a scene

1. Change the material or the frame.
2.

Key down click
3. Double-click a scene. The background is not printable.

Engrave composition

Assign toolpath

Engraving the composition GRAVOSTYLE

Assigning a toolpath to an object

F7 **Display Filled surfaces** to view surfaces and contours according to path properties assigned to.

Decide which process and tool will be used to engrave each object of the composition.

1. Select an object or select text.
2.
3.
4. Properties Click to set Tool properties.
5. Select machining tool and parameters in Computip wizard.
6. Configure machining mode.
7. Set machining properties.
8. Assess engraving result in Wysiwyre 2D render.

Rename path

a. Click a color in Machining path bar.

b. Right-click the name **(default is Tool followed by rank).**

c. Type a name that states the machining mode (plotting, drilling or filling). Enter

Setting tool engraving properties

Set parameters and options required in physical execution of the engraving.

Wysiwyre 2D render

Simulate engraving in the material you want.

Transfer to engrave

Send the composition from PC to engraving machine.

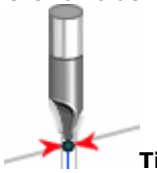
Engraving a long plate

The option allows to configure a composition which surface exceeds machine area.

Toolpath: Set using Computip

Call out Computip wizard to select the tool and the machining parameters adapted to the path you are defining.

1.
2. Properties Click to set Tool properties.
3. **Click Computip tab.**
4. **Click path color.**
5. **Click the Material database to use** Computip US **or** Computip Std
6. **Click material to engrave**
   Computip wizard displays the machining parameters for selected material.

7. **Key in text height and the number of strokes of** the Gravograph font.
8. Click a value in Tool field. Computip wizard displays the tool that will engrave text.
   
   Tip at tool end

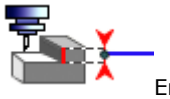
   Commercial reference
9. Apply Click to save

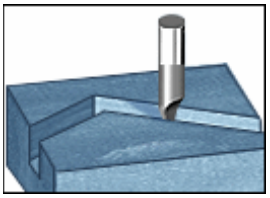
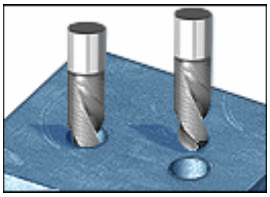
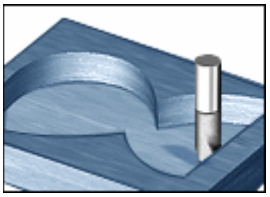
   the tool in Tool tab.

   parameters in Machining parameters tab.
10. Yes Click.

Toolpath: Configure machining mode

1.
2. Properties Click to set Tool properties.
3. Select the tool and machining parameters using Computip wizard.
4. **Click Tool tab.**

    Engraving depth and Tool profile have been computed by Computip.
5. **Click the machining mode.**

	**Plotting** The tool engraves only object contours.
	**Drilling** The tool drills material at drilling points or at markers.
	**2D in-depth** **2D on surface** The tool fills object surfaces then engraves finishing contours. Key in 2D filling parameters.

6.

Tool switching during engraving displays next tool name on machine LCD screen.

Toolpath: Machining properties

Set engraving parameters according to the technical features of the machine. Refer to the manual attached.

1.
2. Properties Click to set Tool properties.
3. Select the tool and machining parameters using Computip wizard.
4. **Click Machining Properties tab.**
5. **Set machining properties in pass table (4 max.).**
   a. **Set the number of passes to execute.**
   Each path is engraved on one or more passes according to a set of parameters and options linked to the mechanical performances of the machine.
   A pass equals a tool path to engrave the objects to which it has been assigned. Several passes can be required to clear away the chips produced during previous passes or to gradually achieve a given depth in a fragile material.
   1 **The pass is executed by default.**
   • Click next number to create a pass.
   • Click previous number to delete a pass.
   b. **Set machining parameters for each path pass.** Standard parameters have been computed by Computip.

	Speed on XY axes
	Speed on Z axis Click the required speed.
	Engraving depth Key in an adapted value as the engraving is executed with or without nose.
	Low time-dwell Click the time-dwell.

c. **Click the matching button to enable or to disable a machining option.**

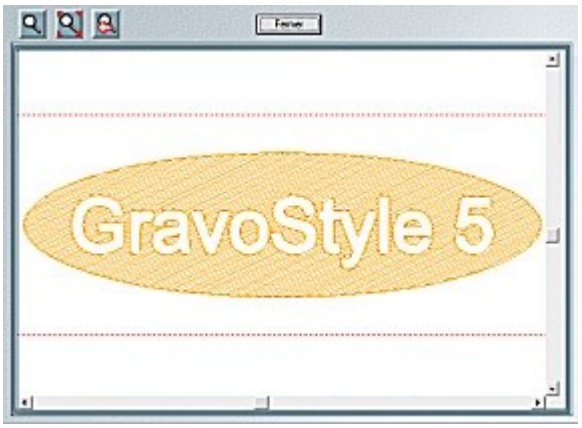
	Spindle motor rotation Material is taken out by tool rotation driven by spindle motor. Tool rotation is not necessary when there is no drilling or when no material is taken out. For example, engraving with a diamond scratches material surface and engraving with a pen draws inklines. **The tool physically rotates when spindle motor rotation is enabled in Machining dialog box and the engraving runs on the machine.**
	Lubrication The option triggers the lubrication system to extend tool lifespan and to improve engraving quality.
	Auxiliary output
	Auto. Tool Changer

Toolpath: 2D Filling

The toolpath allows to engrave surfaces delimited by closed contours.

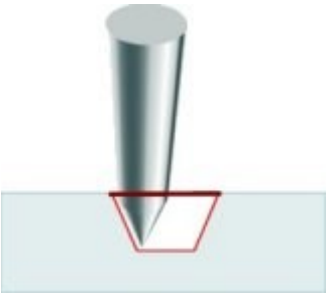
Check the filling in 2D Wysiwyre 2D render.

The path is correct when:
• object lines are accurately reproduced.
• object surface contains no white zone e.g. unfilled.
• filling displays regular and uniform.

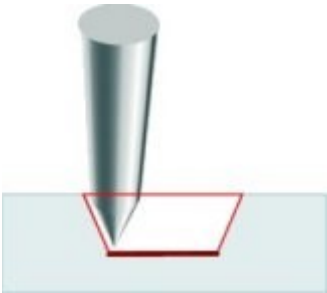


Configure the machining mode from step 1 to 4.

5. **Click a 2D path that fills** the top or the ground of the material especially with a conical tool which cutting is larger at surface than in depth.

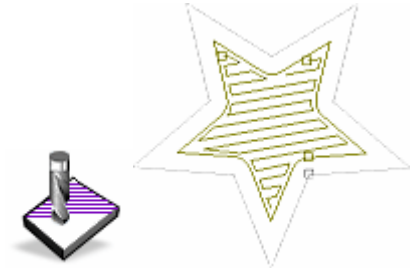


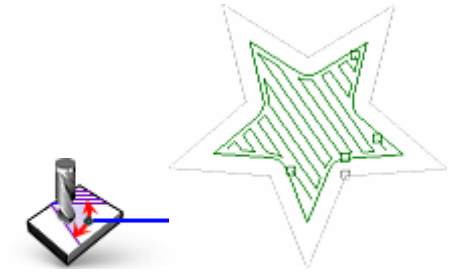
2D on surface reproduces object lines at the engraving top.

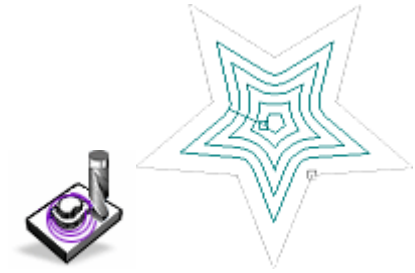


2D in-depth reproduces object lines at the engraving ground in a material with a transparent surface (Gravoglas).

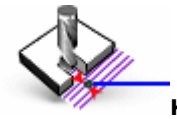
6. Click the Filling mode.



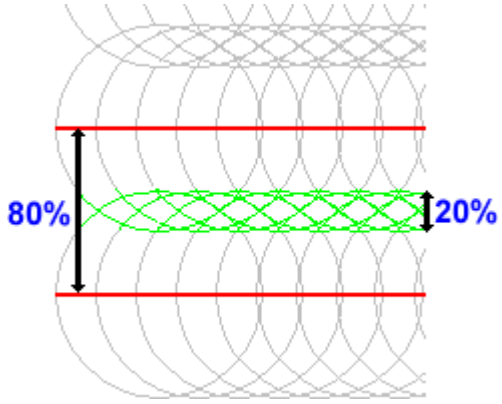


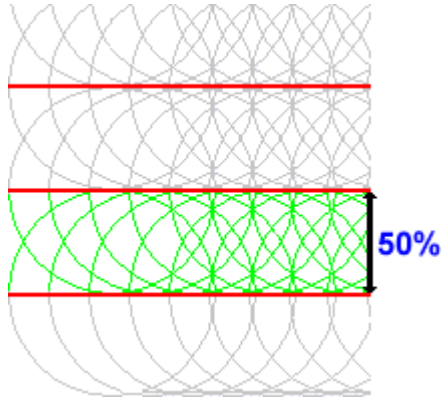


Hatching rectilinear lines with an angle between 0° and 90°	**Island concentric lines from the center with linking contours**

7.  **Key in an Overstep between 10% and 80%.**

The percentage determines the overlap between two filling lines proportionally to tool diameter. The difference between the percentage and 100% gives the **pass width e.g.** the distance between 2 consecutive lines.





Pass width = 80% **Overstep = 20%**	**Pass width = 50%** **Overstep = 50%**

Wysiwyre: 2D render on material

Use the flat simulation to assess the result on the required material before engraving text and vector contours, except bitmap images.

When objects go out of the plate exit Wysiwyre and correct the composition in Gravostyle.

New render

1. **Display current composition in Wysiwyre.**
2. Set rendering parameters.
   - **Material**
   - Engraving width computed by Computip based on tool profile and engraving depth
   - **Background color**
   - **Fill color**
   - **Plate shape:**
     a. **Shape in Display menu**
     b. Click the shape required **(default is Rectangle).**
     c. Click if need be **Plate contour to delimit the composition using a dotted line around the plate.**
     d. OK
3. **Exit in File menu to go back to Gravostyle**

Information about Wysiwyre

Comparing renders

To enable a render click its window. The active render displays foreground.

1. **New Window in Window menu**
2. Set the parameters of the new render.
3. **Arrange the windows in Cascade or Tile.**

Close in File menu to close the active render

Information about active render

1. Display composition dimensions and the material.
   Ctrl I
2. OK

Print the active render

1. **Click in toolbar.**
   Configure the active Windows printer Properties
2. OK

Render preferences

Save rendering parameters as preferences applied to each new render.

1.

2.

Tool engraving properties

Setting engraving properties for Rotary machine GRAVOSTYLE

1. **Open Machining window.**

   Ctrl M

2. Set general properties of tool engraving (machine, origin, orientation, options, etc.).
3. Set engraving properties per toolpath (speeds, depth, dwell, etc.).
4. If need be set the properties specific to CAM machining

Click to

Validate the new properties

Preview Display the engraving preview

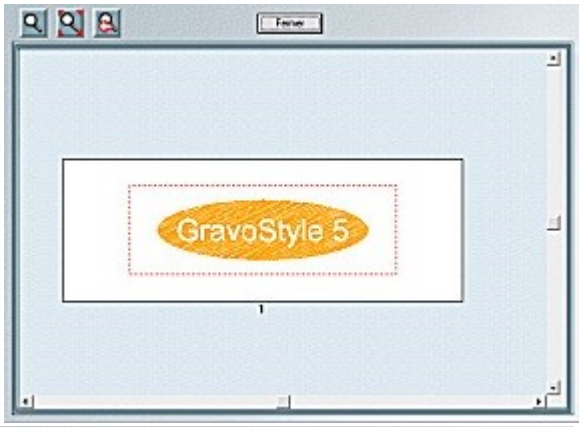
Run Send the composition for engraving

For IM4 and M40 machines with COM port the engraving status displays in background. Click the window to read the messages posted by the machine (examples below). The last file spooled in engraving queue is deleted when the window closes

boot : %1.%2 program : %3.%4 com%5	Versions of boot and firmware programs displayed when machine is detected
Ready to receive	Machine available to engrave next composition
Engraving in progress	Run engraving using key
Pause required	Suspend engraving using key
XYZ Joystick	Shifting coordinates of tool-holder

Engraving preview

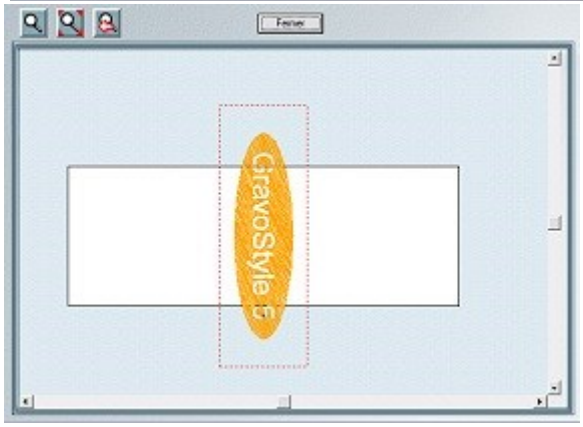
Preview Click in Machining dialog.



Preview Click in Machining window.

Engraving area is the white rectangle.
Composition surface is the red dotted frame.

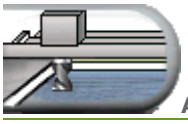
For complex compositions the preview displays using the engraving order
- the layers where objects are distributed
- the support plates of a Matrix series
- the long plate panels



The engraving preview also helps you to check possible overflows outside engraving area.
The problem can be caused by an object set outside composition or a wrong composition configuration.

Tool engraving: General properties

1. Open Machining window GRAVOSTYLE CAM
2. **Set engraving parameters.**



Active machine

Click to select a target machine different from the one chosen in Material dialog box.

Plate or cylinder engraving

Cylinder Engraving is automatically active when cylinder parameters are set in Material dialog box.

a. TS TC Click the button with the accessory name.

b.

Edit cylinder parameters.

Click Flat to restore engraving using vice or table.

c.
Click to select an origin different from the one chosen in Material dialog box.

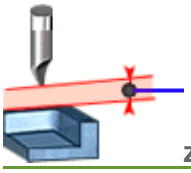
Origin

d. Click to select an origin different from the one chosen in Material dialog box**.**

e. **When you choose a floating origin key in coordinates**
X distance from origin to 0 point on X axis.
Y distance from origin to 0 point on Y axis.

Orientation

Click to select an orientation different from the one chosen in Material.



Z clearance

Measured from Zref point the parameter sets the distance the tool raises between an engraved line and the next line to engrave.
Refer to machine manual to understand the effect of Zref setting on clearance.

CAM **The parameter can be edited in Machining dimensions.**

Key in a clearance value at least equal to max. material thickness.

• To engrave a planar surface key in a low value that is sufficient to avoid engraving a line between two separate lines.

• To engrave a surface with reliefs key in a max. value so the tool never bumps material during horizontal fast motions.

Key in a clearance that complies with the machine technical features. Adjust Z-clearance to each new Zref setting.

Auto Zref

Refer to automatic Zref. setting in manual attached.

Click the Zref setting to carry out according to the active machine.

None: the setting is manually made by the user.

Diamond dragging: The detection of the contact between diamond tip and material onto the first point to engrave is automatic.

Regulating nose: The detection of the contact between tooltip and material onto the first point to engrave requires the intervention of the user.

a. Transfer the composition to the machine for engraving.

b. The tool-holder points onto the first point to engrave.

   Remove the cutter and turn the micrometer to the 0 position,
   <VALID> to continue

c. Save XY location of the point. The tool-holder drops down into contact of material.

   Insert the cutter,
   <VALID> to continue

d. Save auto ZRef point.

   Turn the micrometer to the indicated position,
   <START> to continue

e. Set engraving depth.

   Save the depth along Z-axis.

f. Run engraving.

3. **Set engraving options.**

Spindle motor rotation **The tool physically rotates when spindle motor rotation is enabled in Machining dialog box and the engraving runs on the machine.**	Click to enable or to disable spindle motor rotation. Material is taken out by tool rotation driven by spindle motor. Tool rotation is not necessary when there is no drilling or when no material is taken out. For example, engraving with a diamond scratches material surface and engraving with a pen draws inklines.
Lubrication	The option triggers the lubrication system to extend tool lifespan and to improve engraving quality.
Automatic plate feeder (A.P.F.) **Refer to manual attached to fully use A.P.F. accessory.**	Auto. plate loading gets available when you produce a plate series using Matrix function or inserting variable into text. a. Click to enable APF accessory. b. Display APF Manager. c. Set plate clamping and ejection properties. ▪ **Pressure strength** between 0 and 100 % ▪ **Nbr of plates** at most equal to the total • of elementary plates. • of plates containing a variable. ▪ **Move blank plate** to test plate clamping and ejection ▪ **Joystick move** to adjust plate clamping and motion without engraving d.
Auto. Tool changer (A.T.C.)	Auto. Tool changer (A.T.C.)

Tool engraving: Properties per toolpath

Set engraving parameters according to the technical features of the machine. Refer to manual attached.

1. Open Machining window.
2. **Click a path used in the composition identified by the color and the tool name** that are assigned to in Tool Properties.
3. **Set machining properties in pass table (4 max.).**
   a. **Set the number of passes to execute.**
   Each path is engraved on one or more passes according to a set of parameters and options linked to the mechanical performances of the machine.
   A pass equals a tool path to engrave the objects to which it has been assigned. Several passes can be required to clear away the chips produced during previous passes or to gradually achieve a given depth in a fragile material.
   1 **The pass is executed by default.**
   • Click next number to create a pass.
   • Click previous number to delete a pass.
   b. **Set machining parameters for each path** set by default in Tool Properties.

Speed on XY axes

The parameter defines tool horizontal motion speed (in mm per sec.) when marking material.

Speed on Z axis

The parameter defines tool drop speed (in mm per sec.) when drilling material.

Click the required speed.

Engraving depth

Key in an adapted value as the engraving is executed with or without nose.

Measured from Zref point, the parameter defines the distance the tool drills into the material. Refer to machine manual to understand the effect of Zref setting on and to adjust correctly the engraving depth on machine.
Using a nose is advised unless the nose may scratch the engraved material.
The depth-regulating nose requires no sharp Zref setting and grants a precise and constant engraving depth over the whole engraved surface (material with variable thickness).

To engrave using nose key in 0.00 value and adjust engraving depth on machine.

To engrave without nose key in a value between 0.01 and material thickness. Adjust engraving depth to each new Zref setting.

Low time-dwell

The parameter defines a stand-by time (in seconds) between the end of the drilling and the start of material marking.
When the engraving depth is attained the low time-dwell is triggered. The tool holder remains immobile, while tool rotation removes chips produced by material drilling.
At the end of the time-dwell, the tool holder will move to engrave horizontally.

Click the time-dwell.

c. **Click the matching button to activate or deactivate a machining option.**

Spindle motor rotation

Material is taken out by tool rotation driven by spindle motor.
Tool rotation is not necessary when there is no drilling or when no material is taken out.
For example, engraving with a diamond scratches material surface and engraving with a pen draws inklines.

Management of XYZ speeds changes as spindle motor rotation is active or not.

The tool physically rotates when spindle motor rotation is enabled in Machining dialog box and the engraving runs on the machine.

Lubrication

The option triggers the lubrication system to extend tool lifespan and to improve engraving quality.

Auxiliary output

Auto. Tool changer (A.T.C.)

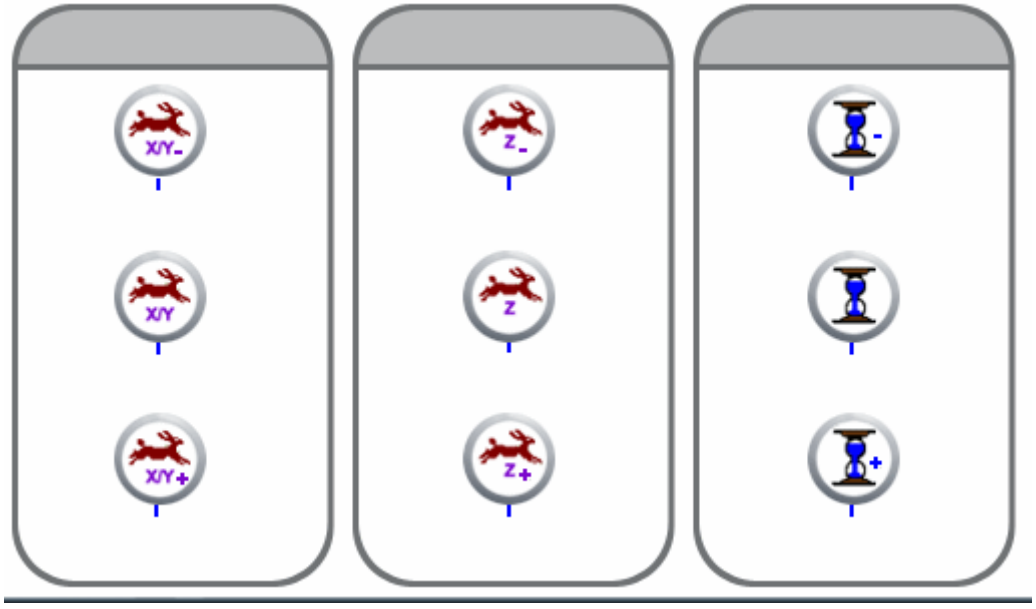
Tool engraving: Edit parameters per toolpath

Adapt parameters to the mechanical performances of the machine, as well as to the properties of
- the material engraved (thickness, strength, flatness)
- the engraving tool (diameter, type, grinding angles)
- the composition (series production, fonts, character height).

Set parameters according to the machine technical features. Refer to manual attached.

Modifying current speeds and dwell

1. Click an icon in pass table of Machining.
2. **Key in min., med. or max. value for each parameter** in Current machining parameters.
   Default Click to restore standard values.



3.

Values of XYZ speeds change when spindle motor rotation

is enabled to engrave using a rotary tool.

is disabled to scratch using diamond.

Customizing standard speeds and dwell

1. Standard Machining parameters in F10 Options
2. **Key in min., med. and max. value for each parameter.**

   Speed on XY axes

   Speed on Z axis

   Low time-dwell

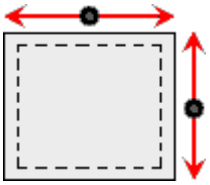
   Click to Activate time-dwell. Otherwise do not change any parameter value.
3. Click the active value for each parameter in Path Properties **(min., med. or max.).**
4.

Long plate

Producing a composition on a long plate

The configuration allows to engrave a composition
• which surface equals at most the engraving area.
• which dimension exceeds the height of the engraving area.

1. Configure the composition.



Key in dimensions.

• **Length** is higher than engraving area height: you have a **horizontal long plate.**

• **Height** is higher than engraving area height: you have a **vertical long plate.**

The engraving orientation is

normal for a horizontal long plate.

reversed for a vertical long plate.

The engraving origin **must be machine left corner.**

In Info zone a message posts that the long plate configuration is automatically enabled (max. number of plates is zero).

2. Set the objects to engrave in composition.
3. Configure the long plate.
4. Run panels engraving.

The composition below illustrates each step in long plate configuration.
Here is a horizontal long plate with dimensions of 300x80mm, engraved using IS200 machine (225x80 mm).

Cylinder engraving and Matrix series are forbidden in Long Plate mode.

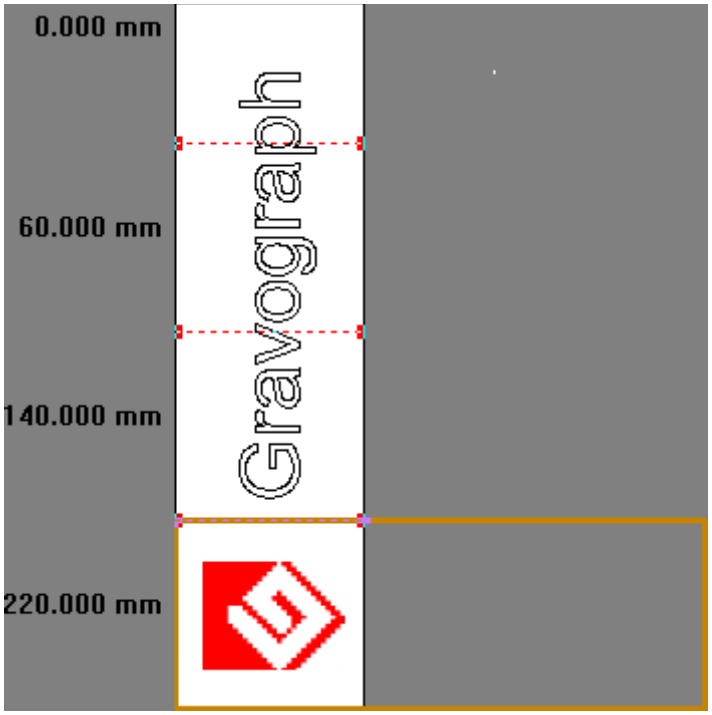
Defining long plate panels

After setting objects in long plate open Machining window.

Long plate definition dialog box opens. The preview allows
• to check the long plate location in engraving area.
• to manage the number of panels required to run full engraving.
• to reset the cutting lines between panels.

The engraving area is the brown frame.
Each panel is delimited by a red dotted cutting line that matches its top edge.

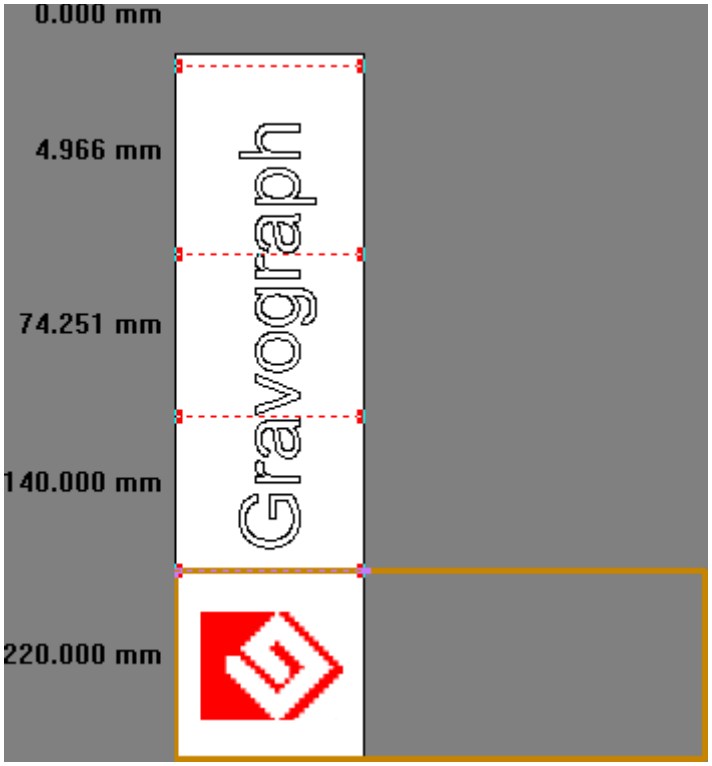
4 panels in initial definition



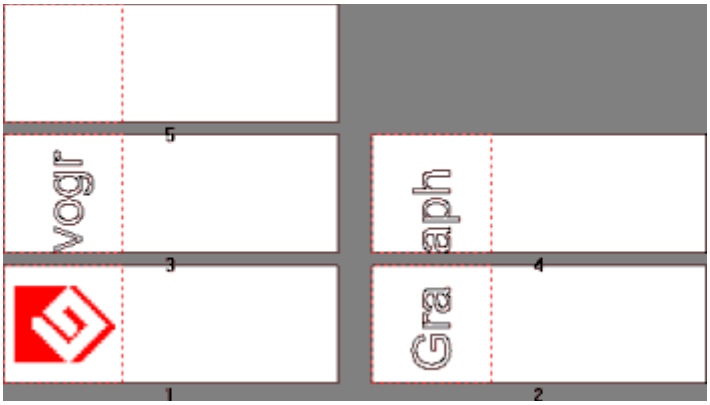
Edit the cutting lines to resize a panel and to avoid having some objects riding two panels.

Click to validate the new panels.

5 panels after editing cutting lines



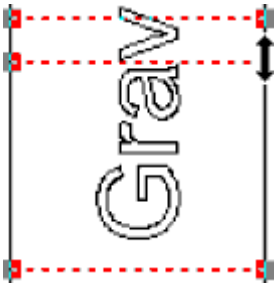
Preview Click in Machining. **Numbered panels display following engraving order.**



Editing cutting lines

1. **Zoom in Long plate definition.**
2. **Create or reposition a cutting line.** The number of panels is recomputed to engrave the whole composition.
3.

Moving using mouse



a. Click the right end of an existing cutting line.
The pointer shows that you can move the cutting line.

b. Drag vertically the right end of the cutting line.

c. Click its position on the right edge of the composition.

d. Validate.

The position of the cutting line is locked as soon as the panel size equals the engraving area.

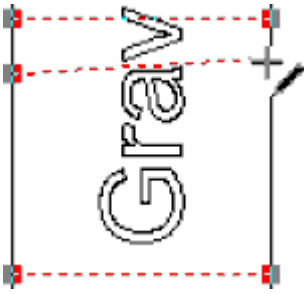
Keying in position

a. Double-click the value displayed near the left edge of the panel.

b. Key in cutting line new position in **Edit Cutting Line.**

c.

Drawing a straight cutting line



a. Click the left end of an existing cutting line.
The pointer shows that you can add a new panel.

b. Drag vertically the left end of the new cutting line.

c. Click its position on the left edge of the composition.

d. Drag and drop the pointer to draw the cutting line.

If the new cutting line is close to an existing one and the panel size does not exceed the engraving area, the preceding cutting line will be deleted.

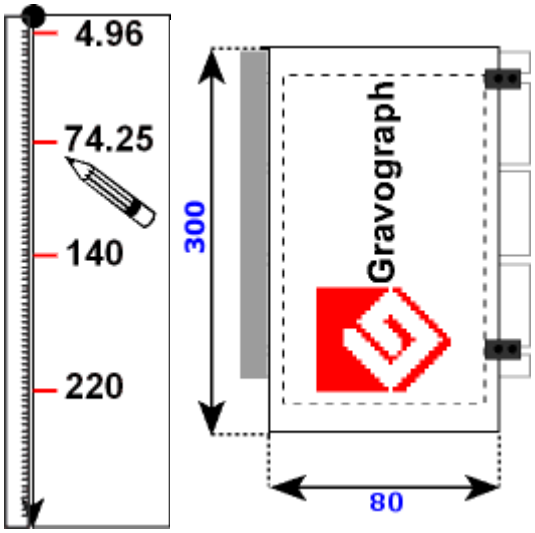
Drawing a broken cutting line

a. Click several times to draw a broken line far from object lines.

b. Click the position of the right end on the plate right edge.

Engraving a long plate

Prepare the engraving



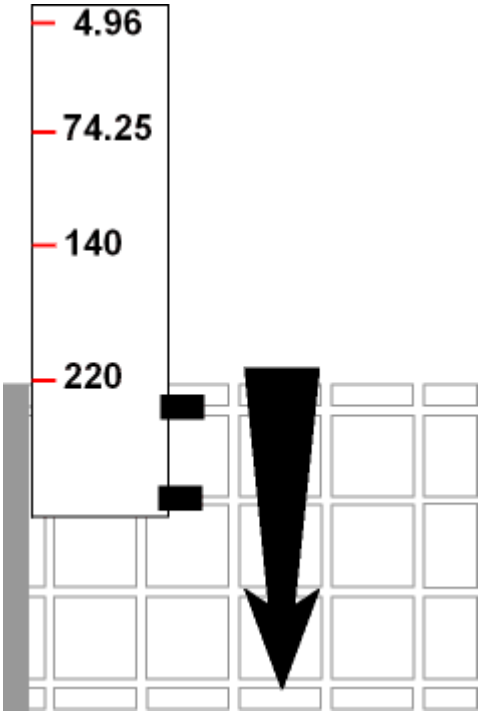
1. On the plate, mark using a felt marker each cutting line that matches the top edge of each panel.
2. On the machine, mount the table specific to long plate engraving (consult Gravotech Marking distributor).
3. Keep enough space to move the plate apart the machine.
4. Clamp the plate so that the largest dimension is parallel to table left edge.

Transfer before engraving

Send the composition to the machine.

Tool path sel If you select paths to transfer note that panels with paths are selected by default.
Each path has
• the Tool name or the number assigned to.
• the number of the layer [] **followed by Pan number of the panel where it is located.**

Run engraving



1. **Key in a max. TIME OUT value.** The period allows the machine to stay ready to receive while the transfer is being performed (refer to manual attached).
2. Press key. LCD screen displays the message.

<OFFSET PLATE>
xxxx,xx mm

3. Release the plate.
4. Align the top edge of the first panel on point 0 of table.
5. Clamp the plate.
6. Press key again.

The machine engraves the panel and then stops (the tool will return to engraving origin).

Repeat the procedure from step 2 for the next panels.

If you note a fault during engraving, immediately press key to suspend the engraving.

Press a joystick key to run a new pass on the current panel.

These actions are only possible during engraving.

Assign laserpath

Engraving the composition LASERSTYLE

Assigning a laserpath to an object

F7 **Display Filled surfaces** to view surfaces and contours according to path properties assigned to.

Decide which process the laser beam will use to mark each object of the composition.

1. Select an object or select text.
2.
3.
4. **Set path properties (color, filling, lines, thickness, cutting).**

- Basic marking
- Advanced marking

Setting laser engraving properties

Set parameters and options required in physical execution of the engraving.

Transfer to engrave

Send the composition from PC to engraving machine.

Laserpath: Basic marking

1.

2. **Click color in Laser color bar.**

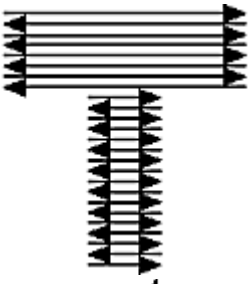
   Click to use more or less colors (4 min.).

   White color
   Assign the color to an object set over another one filled with a different color.

3. **Click each marking property.**

   Raster properties

   The laser beam fills surfaces by sweeping (rectilinear round trips).

   Raster filling

   is default except for

   The laser beam sweeps object surface.

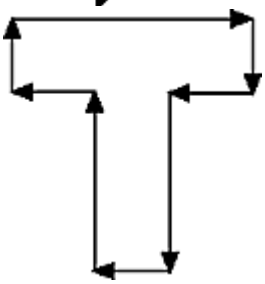
   Raster Line

   The laser beam sweeps object lines according to the thickness keyed in.

   Key in a Thickness higher than 0.1 mm (beam width).

   Vector properties

   The laser beam follows object lines.

   Cutting

   is default

   Vector lines

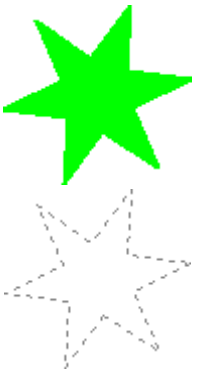
Dotted lines
available when cutting is ticked

4. Save properties.

Assign the properties required to mark an object.

Green raster filling and lines

The laser beam sweeps star surface then star lines according to the thickness keyed in.



An object without properties is gray dotted and not engraved.

Laserpath: Advanced marking

Assigning an Advanced Laser path

The transfer of a Corel Draw design to Laserstyle automatically enables the Advanced Laser bar.

1. **General** in F10 Options
2. **Use Advanced laser bar**
3. If need be click to
   - Init Brush Init Pen **Restore standard values**
     The buttons get available when the bar is enabled.
   - **Keep the last Brush/Pen values**
     User values are active at the next display of the Advanced Laser bar.
   - **Keep colors for Curves - Text**
     User colors apply to the text typed or to the curves created in the composition.
4.

Assigning an Advanced Laser path

When you set a path in Advanced laser bar do not longer use the basic bar.

A. Select objects or select text.

B.

C. **Set advanced properties.**

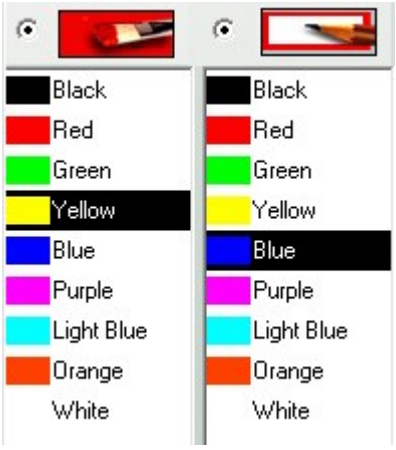
Filling by Brush / Contours by Pen

Other properties

An object without properties is gray dotted and not engraved.

Brush: Raster filling of a closed surface

When you select an object that has an advanced laser path, its properties display in Brush color and in Pen color.

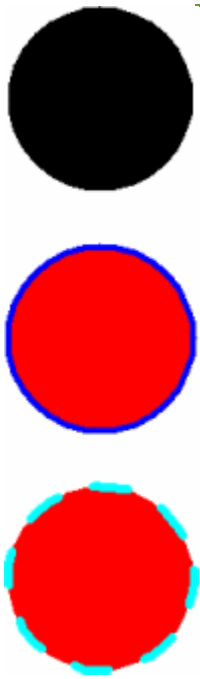


Click Brush color

The user color fills in the selection.

Click to delete the color

Pen: Raster or Vector contours



From to top to bottom

- **Filling surface**
- **Filling surface and contour**
- **Filling surface and dotted contour**

1. Click Pen color

The lines of the selection display in the user color.

2. **Key in a Thickness**
   - **lower than 0.01mm for vector cutting.**
   - **higher for raster filling.**

3. Click the **end type for an open contour.**

   rounded

   truncated outside contour

   truncated inside contour

4. Click the **angle type in contour path.**

   rounded

   truncated

Click to delete the color

Pen Symbols

Add a symbol to an end of open contour

From top to bottom

- **Symbol at end point**
- **Symbol at start point**
- **Dotted contours without symbol**

1. Click to open symbol list.

2. Click an available symbol.

The symbol displays inside

Click to delete or to restore a symbol at one end.

Creating a symbol

Click to

Rename user symbol.

Delete user symbol.

Standard symbols cannot be edited.

1. Click to open symbol list.
2. Click an available symbol.
3. Edit Click. OK
4. Edit the symbol in Point mode.
5. Click the new symbol.
6.
7. Click in the bar.
8. Click to set the symbol at one end.
    1. Add Click.
    2. Type symbol name. OK
9. OK Click in list.

Assigning a dotted Pen

1. Double-click a path in the list of **Dotted paths.**
2. **Key in Zero Offset** to set dots along the selection.

Click to deleted the path selected in the list

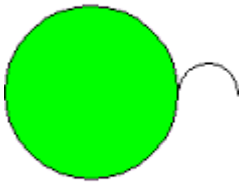
Creating a dotted path

1. Click.
2. **For each segment required key in the length:**
    - **positive value for a filled segment.**
    - **negative value for an empty space.**
    - **the Total length of** segments displays.
3. Type the **path name in Line Type.**
4. Add Click. The path displays in the list.

Entry/Exit tangent to path

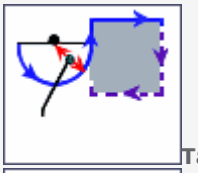
Engrave an arc tangent to the entry and/or the exit of the path assigned to a closed contour.

1. **Key in arc radius.**
   • positive value for an arc outside contour.
   • negative value for an arc inside contour.
2. **Click the angle of the arc opening** computed from the start point of the contour.
3. Click to set the arc **outside or inside contour.**

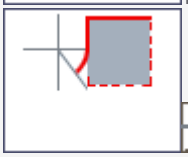


From to top to bottom

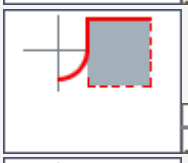
- **Tangent entry by 45°**
- **Tangent exit by 180°**
- **Entry by -45° and exit by 90°**



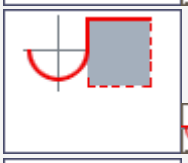
Tangent entry



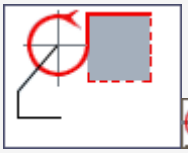
45°



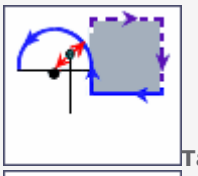
90°



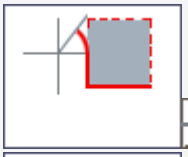
180°



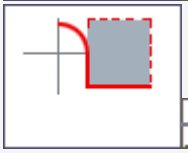
Key in an angle between 0° and 360°.



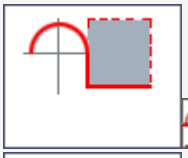
Tangent exit



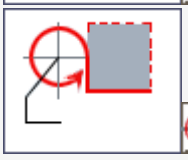
45°



90°



180°



Key in an angle between 0° and 360°.

Lasering properties

Setting engraving properties with Laser machine

1. **Open Laser window.**

2. **Set the properties involved to execute engraving.**
   - Raster mode for Gantry machine
   - Properties per laserpath
   - General properties
   - GANTRY properties
   - Generate a stamp
   - Material calibration Wizard
   - Set GALVO properties

Click to

Validate new properties

Preview Display engraving preview

Run Send the composition to the machine

Laser marking: Properties per path

A. Open Laser window.

B. For each laserpath set the parameters predefined for basic marking or advanced marking.

Set the parameters in accordance with the technical features of the machine. Refer to manual attached.

Power as % of the source	Key in a value between 0 and 100%, (according to the raster mode chosen for GANTRY machine). The parameter sets the power level proportionally to laser source.
Speed as % of the max. speed	Key in a value between 0 and 100% according to the current raster mode (20 is default). The parameter sets the speed of the machine motion system proportionally to max. speed.
Refocusing The parameter sets material vertical shifting to correct the autofocus according to the result expected in engraving ground.	1. Click to enable refocusing. 2. Key in a negative or positive distance. 3. Click to the left or right of the value to trigger the refocusing **before or after marking.**
Air assistance The air flow directed onto laser beam is used to put out flames produced when engraving some materials.	1. Check that the air assistance device mounted on the machine is connected to a compressor (read "Installation" and "Air Assistance Device Requirements" chapters in machine manual). 2. Click to trigger air assistance.
Speed	Key in a value.
Impulsion repetition rate (Hz)	Key in a value between 5000 and 200000 Hz to set a series of impulsions sent using max. power. **For a GANTRY machine (LS100Ex YAG for example) the matching frequency displays in Hz when you edit the value.**

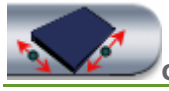
Marking mode **Raster Filling with or without Raster lines** **Cutting** **Vector Lines** **Dot Lines**	The definition of the laserpath is reminded according to the parameters predefined for basic marking or advanced marking. Click **None to disable the marking.** **Any object that received the path color will not be engraved.** Click to **enable a mode compatible with the preset marking. Any object that received the path color will be marked using the new mode selected.** **If yellow is a Raster\Vector path, you can click** **Vector Lines** **Raster Filling**
Number of passes for cutting or filling	Key in a number between 1 and 9. A pass equals one round of the laser beam to mark objects. Several passes can be required to gradually reach a given depth in a fragile material.

Laser marking: General properties

Open Laser window.

Active machine

Click to select a target machine different from the one chosen in Material.



Composition dimensions

Width and Height keyed in Material dialog box display as information.

When a dimension exceeds the engraving area the value will display in red.

Engraving using a material Presets

1. **Click the type of marking parameters for the current composition.**

   Current Job values e.g. parameters active before engraving

   Proposed Laser settings: are standard values fixed by a locked preset which name is 'Machine active+ source power +Material'

   User Laser parameters: are personal values fixed by a preset saved under the name the user has chosen

2. **At need, click the preset that defines the marking parameters.**

   Deleting the selected preset

3. **At need, edit the marking parameters for a specific material.**
   To refer to recommended values, click to display the page dedicated in Gravograph website
   Click to display the Lasering parameters board according to the measure unit (inch or mm).

4. **Validate the new parameters. This enables Current Job values and**
   adds Customized to the preset name, when you have selected one and edited its values.
   displays No Name when you key in personal values without preset.

5. **Click when you save a new preset** or when you update an existing preset.
   When you save a new preset, type and validate its name into 'Save user presets' window. When a message indicates that an existing preset has the same name, type and validate a different name.

Machine resolution The parameter sets the engraving precision in DPI. **In low resolution (50 - 400 DPI)** you will obtain fast and clean surface engraving. **In high resolution (over 500 DPI)** you will obtain in-depth engraving that is fine and slower.	Click a resolution **DpiX** between 50 and 1,200 DPI. **DpiY** by default equal to DpiX. Click a **Standard/High quality or Surface/Fast speed raster filling (GANTRY only).**
Origin The coordinates locate the composition origin in engraving area. Default is the top left corner of the engraving area (0,0).	1. Click to select an origin different from the one chosen in Material. 2. **When you choose a floating origin key in coordinates** X, distance from origin to 0 point on X axis. Y, distance from origin to 0 point on Y axis.
Engraving orientation	Click to select an orientation different from the one chosen in Material.
Raster mode for Gantry machine	Click to enable a raster mode for Gantry machine
Plate or cylinder engraving Cylinder Engraving is automatically active when cylinder parameters are set in Material.	1. Click to enable cylinder engraving. 2. Key in the diameter of the cylinder to engrave. 3. Click to select an origin different from the one chosen in Material.
Simulate engraving using Point&Shoot	Simulate engraving above material. **Estimated Lasering time**

GANTRY Properties

Laser marking: Enabling a raster mode for Gantry machine

As a rule, every Gantry machine marks in the following conditions:

The marking speed must remain constant on the same horizontal route of the laser beam.

The power determines the exposure time of the material.

The beam fills at first surfaces to raster, then marks bitmap images and finally plots vectors (surface outlines and open lines).

1. Click in Laser window.
2. **Click the raster mode adapted to mark the objects in the composition.**
   Every object shows the color corresponding to the required marking.
   The raster mode chosen defines the determining parameters to mark the set of colors.

Automatic raster (is default)

The mode converts every color into a grey level, proportional to black used as the reference color.

For example, if yellow amounts to a 80%-light grey, the matching marking power of equals 20 % of the power for black.

Use it to mark objects that share identical raster settings (for example, a paragraph of text lines).

Key in the marking parameters only for black among which
- the power in percentage of the max. power of the source
- the speed in percentage of the max. XY speed of the machine

All the colors are simultaneously marked according to
- the power per color, proportional to the power set for black
- a constant speed, equal to the speed set for black

When you optimized a photo using PhotoLase settings, keep automatic raster.

Manual raster

The mode converts every color into a distinct grey level. Objects with different surfaces or sizes can be engraved by controlling the marking setting of every object.

For every color, key in the marking parameters among which
- the power in percentage of the max. power of the source
- the speed in percentage of the max. XY speed of the machine

Colors are marked one by one, according to the power and the speed set for every color.

Diffusion raster in grayscale

This variant of the automatic mode reproduces every color as a more or less dense cloud of grey scaled-points, according to the contrast between colors.

The mode suits the materials that do not support or do not react to the power variation (plastic for example).

All the colors are simultaneously marked with constant power and speed,

according to the values set for black.

Photo raster

This variant of the automatic mode reproduces every color using a geometrical pattern made of black and white points, according to the contrast between colors.

B&W Raster for stamp

Available after stamp creation, this variant of the automatic mode converts every color into a grey level which will be likened

- to black, thus engraved when the corresponding power equals at least that of black.
- to white and ignored in the marking, when the power is lower than that of black.

3. At need, adjust the Light between 0 and 100 to fix the max. raster power for black (except for).
Colors with higher powers will be marked according to this maximal value.

4. At need, invert the color of points in Negative to mark a material with a light surface and a dark bottom (for example, white on black Gravoglas).

5.

Laser marking: GANTRY Properties

Open GANTRY Laser window.

Power compensation	Click to apply to the power a correction percentage of in phase of acceleration or deceleration, in case of too strong or too weak marking. **Drag and drop the cursor from -100 to +100 to adapt the power for**
	Raster filling in block borders
	Vector marking on small segments
Refocusing	Click to enable or to disable the autofocus over a block or a the plate to engrave
Marking direction	Click the marking direction (downwards round trip is default). For further choices click exactly the PLUS sign in the bottom left icon corner. Click the required marking direction
Suction Air filtering must always be active to remove smokes during engraving.	1. Click to trigger suction. 2. Key in time delay in seconds between • the start of engraving and starting up suction. • the end of engraving and shutting down suction.
Z up position Measured from autofocus point, the parameter sets the distance the material is lowered to avoid contact with the focus carriage during horizontal motions.	1. Click to activate the clearance. 2. Key in a value at least equal to material highest relief level.
Generating a stamp	1. Click to enable the function. 2. Click to generate stamp shape.
Wood preset	Click to apply the properties for wood laser marking.

Automatic plate feeder (A.P.F.)

Refer to manual attached to fully use A.P.F. accessory.

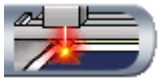
Auto. plate loading gets available when you produce a plate series using Matrix function or inserting variable into text.

1. Click to enable APF accessory.
2. Display APF Manager.
3. Set plate clamping and ejection properties.
   - **Nbr of plates** at most equal to the total
     - of elementary plates.
     - of plates containing a variable.
   - **Move blank plate** to test plate clamping and ejection
   - **Joystick move** to adjust plate clamping and motion without engraving
4.

Laser marking: Material Calibration

The function helps to define for a laser material the power and speed adapted to raster filling/vectors and vector cutting.

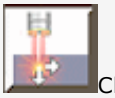
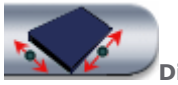
The function must not be used to produce a stamp which engraving parameters are specific (speed, raster, shape).



Calibration Click in **Laser properties Material Calibration dialog box opens.**

Material calibration using Wizard

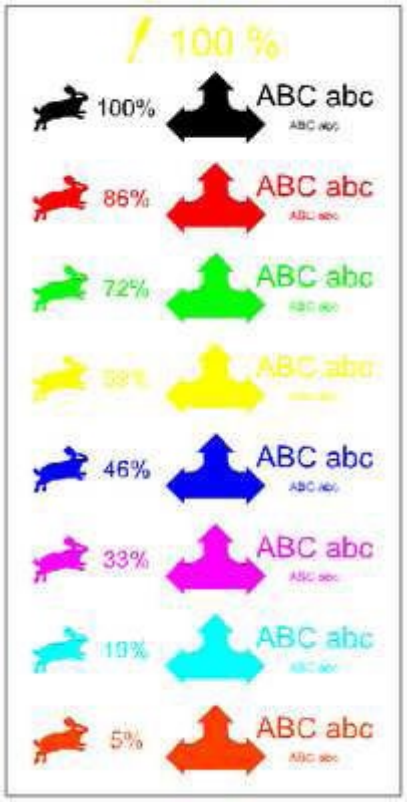
A. **Set General marking properties.**

Autofocus	**Key in focal Distance** (0 is default). The value is saved for the next calibration.
Refocusing The parameter sets material vertical shifting to correct the autofocus according to the result expected in engraving ground.	Click to enable or to disable refocusing, active by default.
Machine resolution The parameter sets the engraving precision in DPI. **In low resolution (50 - 400 DPI)** you will obtain fast and clean surface engraving. **In high resolution (over 500 DPI)** you will obtain in-depth engraving that is fine and slower.	**Click DPI resolution between** 50 and 1200 (300 is default). The value is saved for the next calibration.
Air assistance The air flow directed onto laser beam is used to put out flames produced when engraving some materials.	1. Check that the air assistance device mounted on the machine is connected to a compressor (read "Installation" and "Air Assistance Device Requirements" chapters in machine manual). 2. Click to enable or to disable air assistance.
Origin The coordinates locate the composition origin in engraving area Default is the top left corner of the engraving area (0, 0).	1.  Click to select engraving origin. 2. **When you choose a floating origin key in coordinates** X, distance from origin to 0 point on X axis. Y, distance from origin to 0 point on Y axis.
 **Dimensions of job test** Plate width and height display as information.	The selection of a Laser mode activates the job test to be sent to engraving Engraved on one 35x70mm plate this job divides in 8 cells column. Every cell has a 20x7mm surface in which objects are marked using a power or a speed different from the previous one.

B. Keep **Material calibration Wizard active (is default)** Wizard status, enabled or disabled, is saved for the next calibration.

C. **Click Laser mode to configure Raster or** Vectors. The active laser mode is saved for the next calibration.

Raster Mode (active is default) Raster filling properties



Objects per cell in job test

- filled arrow
- text "ABC", F12 height = 2.00mm
- text "ABC abc", F12 height = 0.80mm

Raster mode automatically disables air assist.

Increasing variation of source power

- from 5% = Min value in first cell
- to 100% = Max value in last cell

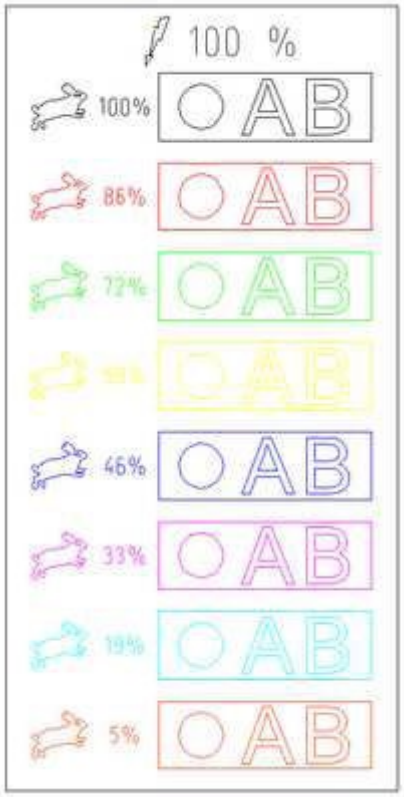
Speeds are spread out between Max and Min values in the 8 cells of job test.
Each cell is engraved using the displayed power.

Constant speed equal to 100% of the motion speed of focus carriage

Job display

- 8 standard colors for laserpath
- Text displayed using TTF font = Arial

Vector Mode Vector cutting properties



Objects per cell in job test

- 19x6mm rectangle (15mm are necessary to reach the maximal speed by taking into account the acceleration and the deceleration)
- circle with diameter = 4.00mm
- text "AB", F12 height = 3.00mm

Vector mode automatically disables air assist.

Constant power equal to 100% of source power

Decreasing motion speed of focus carriage

- from 100% = Max value in first cell
- to 5% = Min value in last cell

Speeds are spread out between Max and Min values in the 8 cells of job test.
Each cell is engraved using the displayed speed.

Job display

- 8 standard colors for laserpath
- Text displayed using Gravograph font = SL513 INTERN

D. Run Click to send the job test to first engraving (step 1).

E. Watch the result on material (step 2).

- Key in Min and Max values between 1% and 100%
  Click to send the job to engraving with the new Powers Run
- Next Click to go to step 3.
- Restart Click if you want to go back to step 1.

F. Key in Min and Max values between 1% and 100%
Click to send the job to engraving with the new Speeds Run

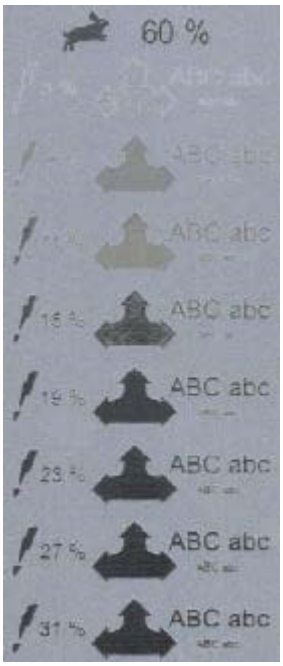
Material calibration without wizard (Expert mode)

A. Set general marking properties.

B. ☐ **Disable Wizard.**

C. ⦿ **Click Laser mode to configure Raster or Vectors.**

D. **Click the setting to make.**



Power setting

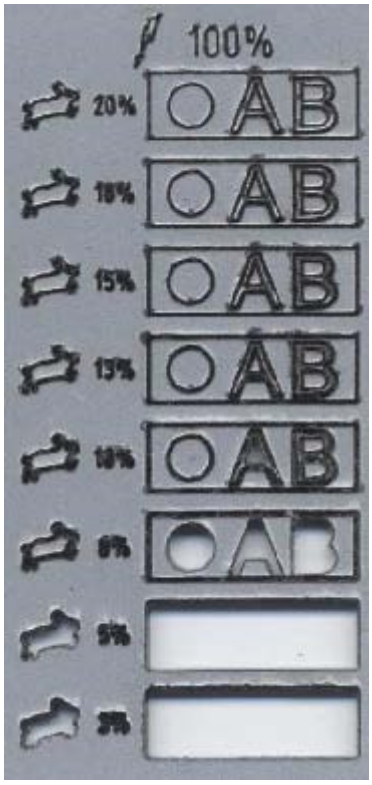
Increasing variation of source power

Key in Min and Max values between 1% and 100% with Min value lower than Max value.

Recomputed from Min to Max value powers display in the 8 cells of job test.

Constant speed proportional to motion speed of focus carriage

Key in a value between 1% and 100% (is default).



Speed setting

Constant power proportional to source power

Key in a value between 1% and 100% (is default).

Decreasing motion speed of focus carriage

Key in Min and Max values between 1% and 100% with Min value lower than Max value.

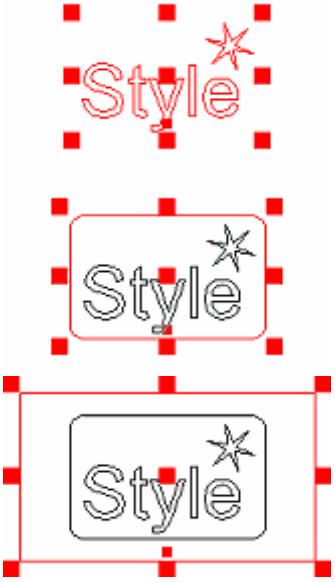
Recomputed from Max to Min value speeds display in the 8 cells of job test.

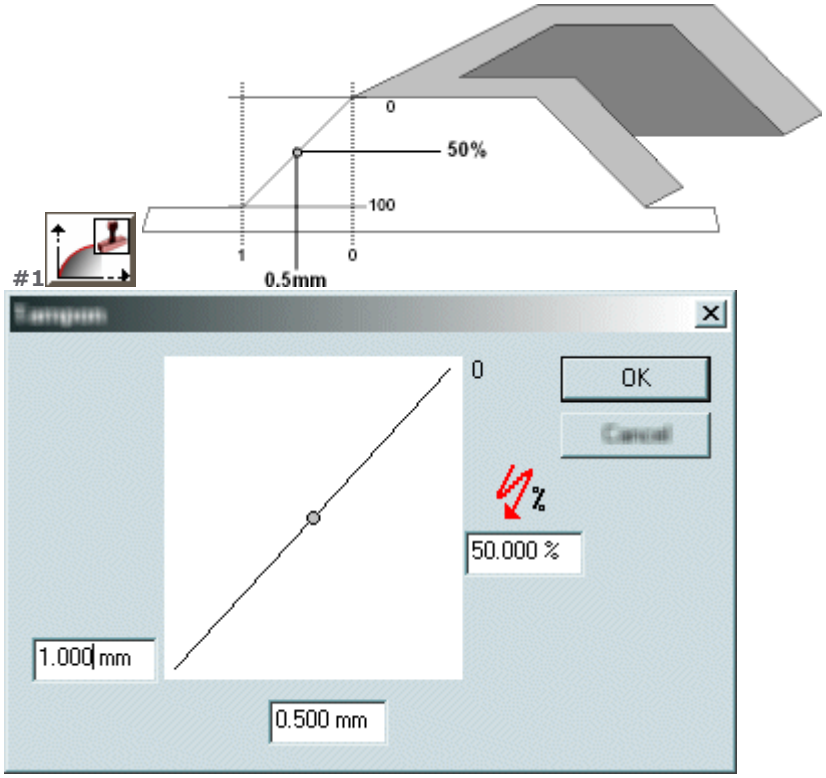
Laser marking: Producing a stamp with a GANTRY machine

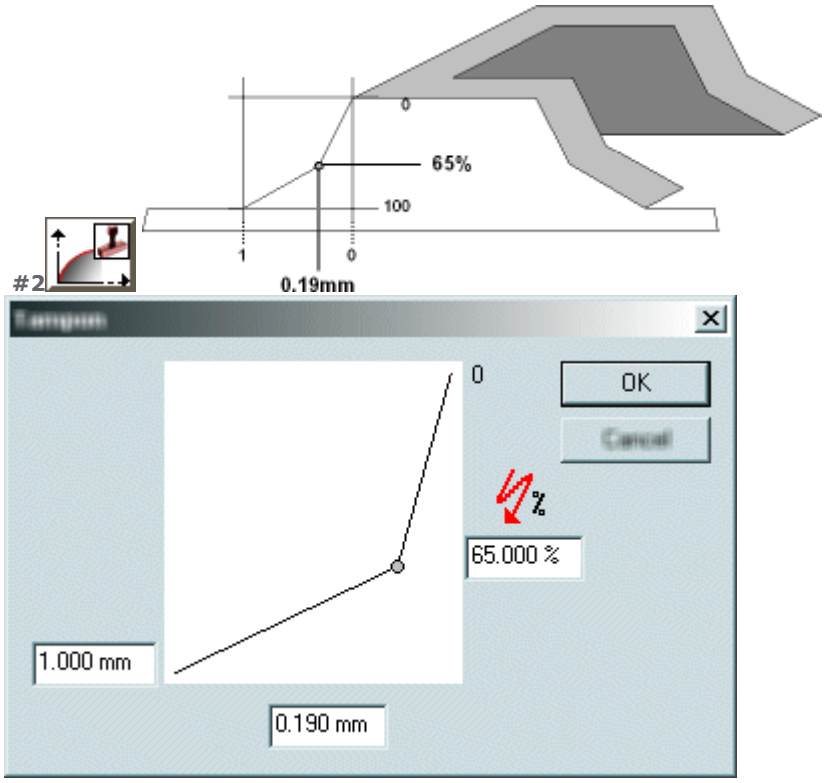
When you have produced a stamp using Stamp wizard do not use this function that will alter your job.

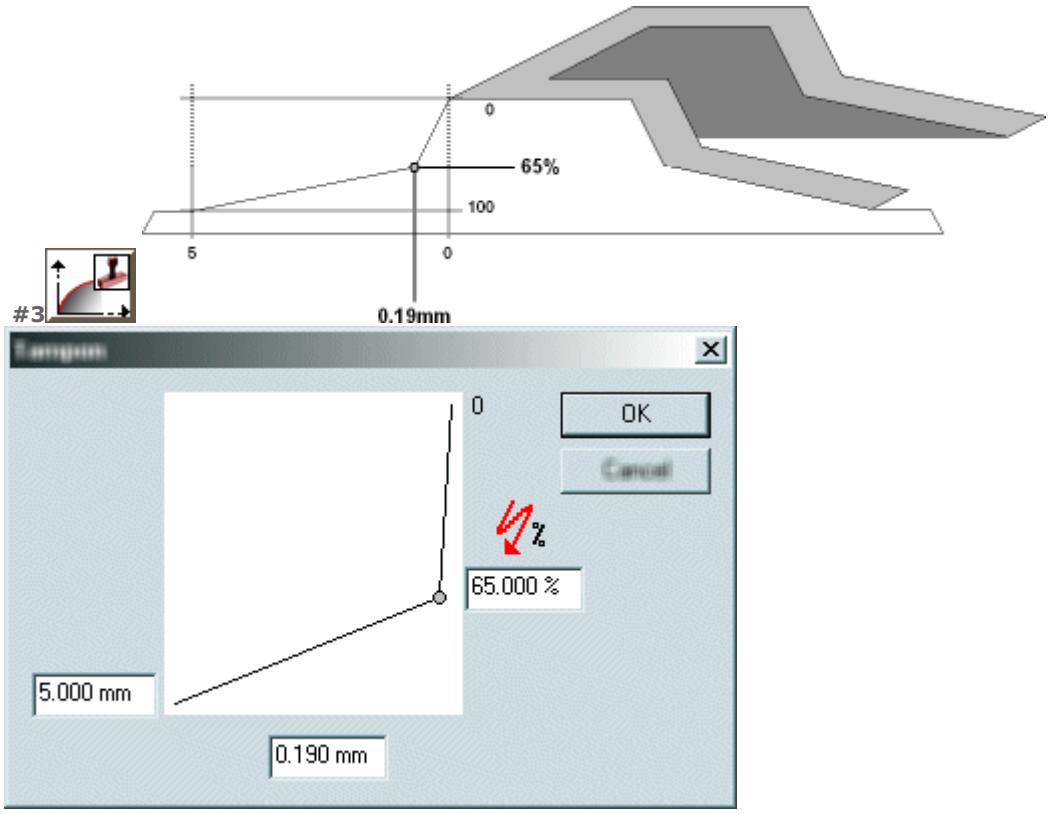
Use Stamp function from Laser engraving to mark a single stamp from a basic composition.

1. Key in the stamp actual dimensions as composition dimensions.
2. Place objects in stamp.
    1. Create text objects or curve objects.
    2. Convert text into curves.
    3. Group objects.
3. Draw the shape used as cutting contour. The closed contour must bound all the stamp objects. It can be generated using offset around grouped objects.
4. Draw the shape that simulates stamp mount. The closed contour must bound the cutting contour.
5. Click in Laser window.
6. Click to open **Stamp settings.**
7. Adjust stamp section (examples below).
   Drag and drop inflexion point in preview.
   Key in section parameters:
   • distance from the inflexion point to the section start
   • section length
   • percentage of the power set for black color that sets the inflexion point at a given engraving depth
8.




0
50%
100
1
0
#1
0.5mm
0
OK
Cancel
%
50.000 %
1.000 mm
0.500 mm


0
65%
100
1
0
#2
0.19mm
0
OK
Cancel
%
65.000 %
1.000 mm
0.190 mm


0
65%
100
5
0
#3
0.19mm
0
OK
%
65.000 %
5.000 mm
0.190 mm

Laser marking: GALVO Properties

Open Laser window.

Warming up	Click to start the machine gradually after a time of inactivity.
Aiming diode	Click to switch on the diode used to set the machine focal. 1. Click the lightning duration of the diode (20s is default). 2. OK
Fast rotation of cylinder attachment	The option is available when cylinder parameters are set. **Click to adapt the rotation speed that can avoid vibrations.** The activation of the option adds two dwells in advanced settings. **Values get accessible by password. Only an approved Gravotech Marking technician is authorized to modify these parameters which influence the marking quality.**
Advanced settings	**The factory parameters are set during machine installation.** 1. **Key in the dwell times** linked to beam motions. 2. **Click XY laser orientation** according to the position of the operator 3. **Key in the jump Speed** or motion speed between surfaces to fill in. Do not modify the diffusion in raster filling.
Focal corrections	**Values get accessible by password. Only an approved Gravotech Marking technician is authorized to modify these parameters which influence the marking quality.**

Sending for engraving

Engraving: Sending composition

Before transfer check that
- **the computer and the engraving machine are correctly connected.**
- **the machine is powered up.**
- **the machine is not in engraving process.**

If you have not installed the machine follow the installation procedure and advice provided in manual attached.

GRAVOSTYLE Rotary engraving

1. Select the objects to engrave (all by default).
2. Assign the selection the required engraving paths.
3. Set the properties for tool engraving.

LASERSTYLE Laser marking

1. Select the objects to engrave (all by default).
2. Assign the selection the required marking paths.
3. Set the properties for laser marking.

CAM 2.5D Machining

1. Select the paths to machine (all by default) in Toolpath list
   Right-click
   a group
   a path
2. Set the properties for tool machining.
3. Set the properties specific to CAM machining.

4. **Click the active target machine** that will engrave the current composition. If need be
   add rotary machine.
   add laser machine.
5. Configure the transfer to the machine.
6. Simulate engraving over material.
7. Run Click to send the composition to the machine.
   The progress bar displays the percentage of data transferred.
   To stop the transfer Esc
8. Execute the pre-engraving settings on the machine (refer to manual attached).
9. Run the engraving from machine control panel.

The order of path creation and selection determines the default engraving order. Closed contours are engraved before open contours.

Any modification made in composition will only apply to the engraving further to a new transfer that deletes the previous one.

Engraving: Configuring transfer to the machine

Transfer to rotary machine GRAVOSTYLE CAM

Run Before clicking set transfer conditions in Machining dialog.

Selecting paths to send

1. Tool path sel Click. **Path selection dialog box** displays the list of tool paths assigned to selected objects. Each path has
   - the name or the number of the tool assigned to.
   - the rank of the layer [] it belongs to.
2. Selection Click. **Layers selection dialog box displays the** list of layers that contain the selected objects.
3. Click the paths to deselect or to select for engraving (all by default).
   All Click to select all.
   None Click to deselect all.
4.

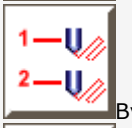
Driving the transfer

Click the engraving output.

Send the composition to **the Port of the active target machine.**

Check transferred data in **Test window.**
Close window Close

Grouping in transfer file

1. Collate Click.
2. Click the transfer group.
   None to transfer each path as a single file
    By layer to transfer each layer in a separate file
   All layers in a single file
3.

Managing transfer queue

When you run a series of transfers you can set their engraving order.

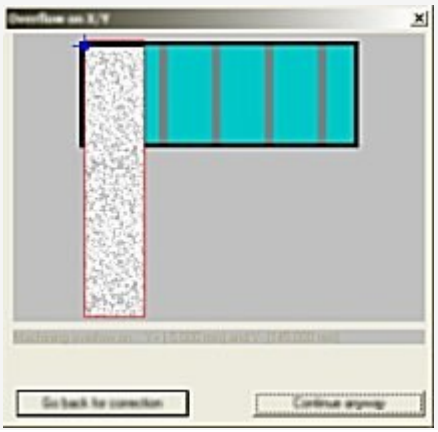
1. Spooler Open Windows manager for the target machine.
2. Right-click an engraving file.
3.
   - **Suspend** to temporarily interrupt transfer to the machine.
   - **Cancel** to stop the transfer.

XY overflow

During transfer the simulation displays any overflow of the composition outside engraving area.
The problem can be caused by an object set outside engraving area or a wrong composition configuration.

Back for correction Click to edit the composition.

Continue Click to force the transfer.



Transfer to laser machine LASERSTYLE

Run Before clicking set transfer conditions in Laser dialog.

Selecting paths to send

1. Selection Click.
   Layers selection dialog box displays the list of layers that contain the selected objects.
2. Click the paths to deselect or to select for engraving (all by default).
   All Click to select all.
   None Click to deselect all.
3. When you select at least two layers key in **Engraving delay between two layers (5 seconds are default).**
4.

Driving transfer

Click the engraving output.

◉ Send the composition to engrave **to the Port of the active target machine.**

○ **Save the engraving file in DRAWS folder** to transfer it later to a machine.

Selecting another folder

1. Path Click. **Find File dialog box opens.**
2. Click a folder in Windows Explorer.
3. OK

Grouping paths in transfer file

1. Collate Click.
2. Click the transfer group.

   ○ By layer to transfer each layer as a distinct file
   ◉ **All** to transfer layers as a single file.
   ○ **All in a page** to engrave layers superimposed on the same surface.
3.

Managing transfer queue

When you run a series of transfers you can set their engraving order.

1. Spooler Open Windows manager for the target machine.
2. Right-click an engraving file.
3.
   • **Suspend** to temporarily interrupt transfer to the machine.
   • **Cancel** to stop the transfer.

Engraving: Simulating using Point&Shoot

GRAVOSTYLE CAM Open Machining dialog.

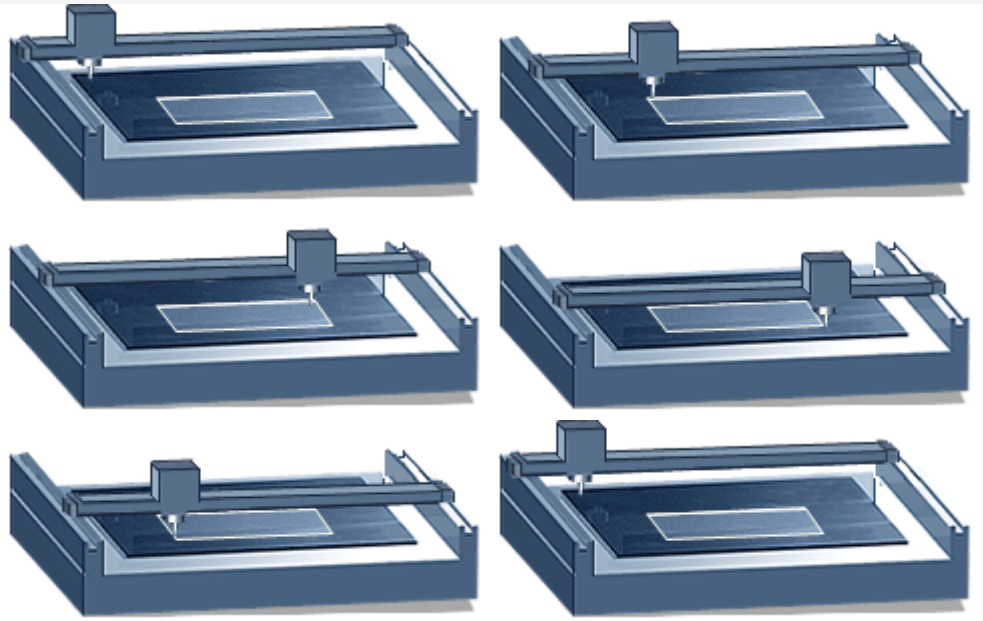
Do not modify any property in dialog.

LASERSTYLE Open Laser dialog.

Point&Shoot windows displays **when the active target-machine has the function.**

1. **Click Port** to send the composition to the active target-machine.
2. **If need be click a Point&Shoot marker (Led or Tool) different from the one clicked in Material.**
3. **If need be click to enable or disable Auto Zref or** automatic detection of the contact between tooltip and material on the first engraving point.
4. Click the chosen operation.

Test borders	Simulate engraving bounds over material



The simulation sends to the machine a rectangle drawn from its surface corners.
The red pointer outlines the rectangle so the user controls the overall engraving on material, with a pause between two rectangle edges. Watch the animation that guides you at each step.

Go to first point

Press Start key each time a message asks to set the tool-holder over one rectangle corner.

Normal	Restore physical engraving in material
Test inscription	Simulate engraving with tool-holder up over material

5. Run Click. The machine beeps when it is available et and the red pointer lights on.

6. Start the engraving from machine control panel.

   Press machine key to cancel operation.
   When simulation is cancelled or ends, the tool-holder runs back to machine origin, the machine beeps, the red pointer lights off.

Customizing program

Gravostyle: Customizing the program

The more you use the program, the more you will need to adapt it to your work habits.

The simpliest way is to assign personal values to parameters and options regularly used. They will automatically be applied to each new composition.

1. Open Options.
2. Click the tab linked to the preferences to edit.
3. Set required preferences.
4.

- General
- Display
- Colors
- Grid
- Material
- Hotkeys
- Text attributes
- Spell Checker
- Fonts
- Mouse buttons
- User toolbar
- Machining parameters GRAVOSTYLE

Setting general preferences

A. **General** in F10 Options

B. Click the option or customize the required parameter.
Restore standard values Reset all the parameters

Undo level	**Key in a number between 1 and 100** to set the number of operations saved in Undo/Redo History.
Auto save	To set the automatic saving period **key in an Auto save every minutes:** • a number of minutes between 1 and 60. • a zero value to disable automatic backup.
☐ **Keep .BAK files**	Click to save each automatic backup of the current composition into a single file with the same name under BAK format. **Open BAK file in case of accidental loss of the composition.** 1. 2. **Click the .BAK file that has the composition name in File viewer.**
☐ **Import on origin**	Click to set the imported file **in the bottom left corner of the composition.**
☐ **VNX copy/paste**	Click to copy/paste objects between different versions of Gravostyle or TypeEdit. VNX format converts copied objects into vector contours so that they into a composition designed in Gravostyle or in TypeEdit. **Text objects and complex objects are converted into curves and no more editable.** **Bitmap images and surfaces remain safe.**
Unit **Speed Unit**	Click the unit that measures dimensions, distances and motions. Click the unit that measures speed engraving.
Language	Click the language used to display program messages and dialogs.
☐ **Reeditable objects**	Click to draw reeditable geometrical shapes.
☐ **Info Axe system in sticky note**	Click to display data about axe system in the note
☑ **Machine Firmware automatic update**	The option enables the automatic control of compatibility between engraving program and machine firmware (embedded program executing engraving instructions). If need be, the last firmware version will set up. Follow the instructions displayed in engraving status. The machine beeps at the end of operation. ☐ Disable compatibility control when the initial machine firmware must be kept (machine driven by several Gravostyle software).
☑ **Sound**	Enabling some commands produces a sound. Click to enable or to disable the function.
Fixed number of decimal places	1. ☑ Click to set the number of decimals. 2. Type a 0 character per decimal.

Mouse button (F5)	Click to configure the mouse.

Customizing display

1. **Display in** F10 Options
2. Tick the option or customize the required parameter.

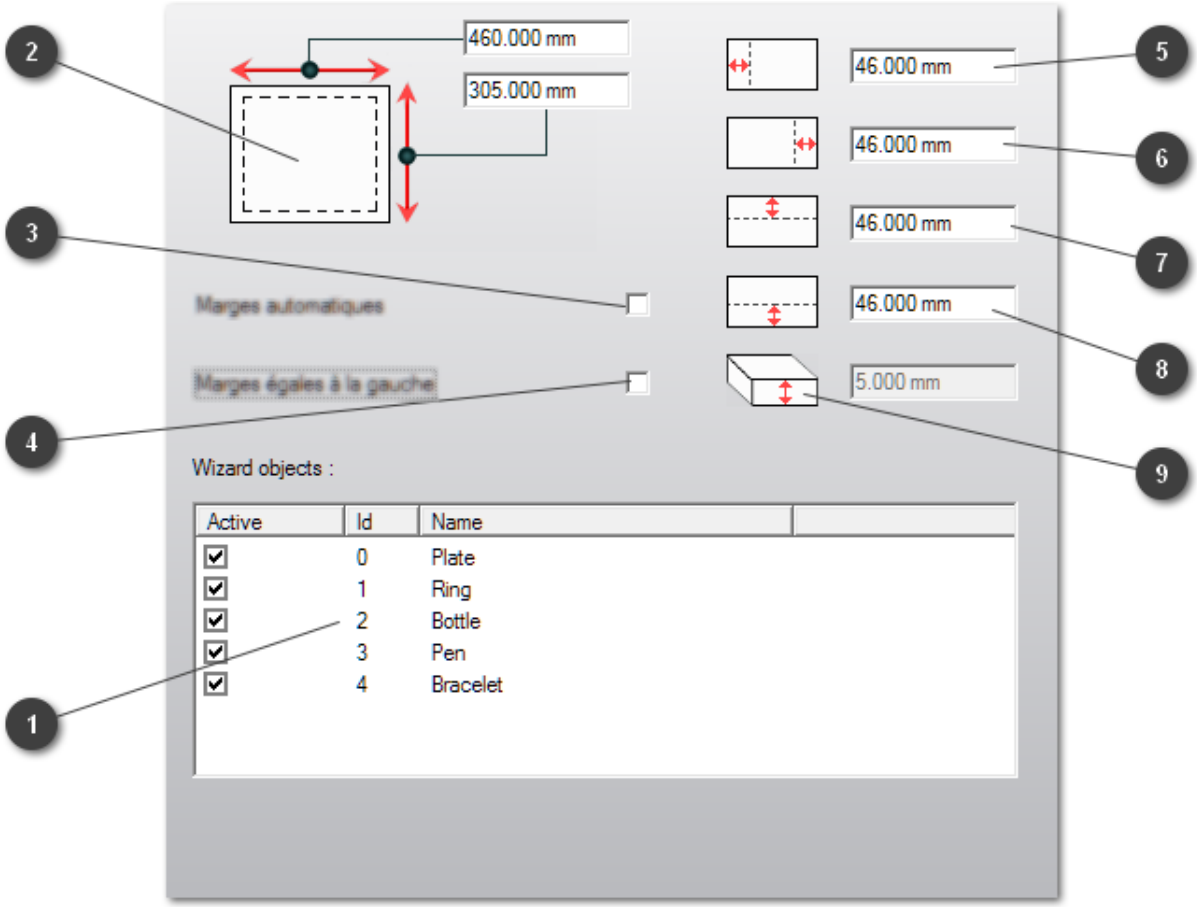
Rulers	Display horizontal and vertical rulers
Bitmap images	Display bitmap images
Show direction	Display contour direction
Show start point	Display start point of each contour
Show control point	Display control points of each contour
XYZ reference	Display the origin and XYZ axes of the workspace
Arrow move	Set the distance an object moves using arrow keys
Snap distance	Delimit the magnetic field around snapping element
Intuitive snap	Tick to snap the pointer automatically onto control points of a contour. You can easily • Align an object against a guideline • Measure an object • Work in Point mode **Ticking option automatically enables the Control point snapping mode**
Display timer	View time spent on current composition
Extend status bar	Display all the data in bar
Axe system	Click to use local axe systems.
CAM Properties tab	Configure machining properties for each path
TypeArt render in 2D view **Solid render** **Surface step**	**Simulation options (not documented)**
Toolbars configuration	Organize floating palettes

Customizing colors

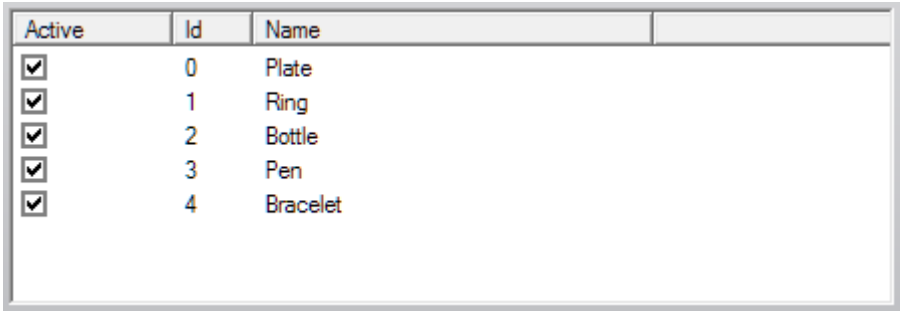
1. **Colors** in F10 Options
2. Click the required color

Neutral	black
Open contour	black
Anticlockwise closed contour	dark green
Clockwise closed contour	blue
Background	white
Baseline	gray
Engraving path	black
Fast motion over material	black
Material	black
Snap distance	red
Selection	red
Freeze selection	green
Chisel effect	dark gray
Margins	gray
Grid	dark gray
Guidelines	black

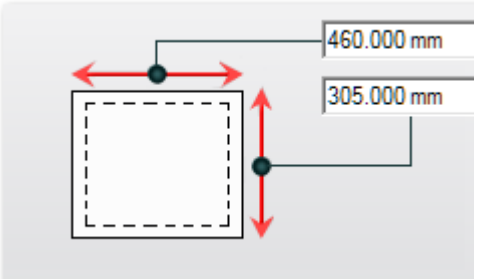
Preferences: Object - Material - Engraving zone



1 **Tick or untick the objects available in Layout wizard**



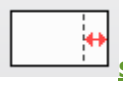
2 **Material Length and Height**

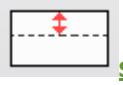


3 **Click to get standard Margins proportional to dimensions**

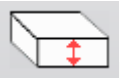
4 **Click to get standard Margins equal to left margin**

5 **Standard left margin**

6  **Standard right margin**

7  **Standard top margin**

8 **Standard bottom margin**

9  **Key in material thickness to produce a 3DArt object**

Gravostyle: Hotkeys

A hotkey is a combination of keys you type to run a command or to activate a function.

1. Shortcuts tab in F10 Options
2. **In the list of available Icons click**
   menu command
   button icon
3. **Type the current Shortcut** linked to the command or to the function.
   Delete To delete the current hotkey
   Reset To restore the standard hotkey
4. Save user's config Click to save new hotkeys.
   If hotkeys are modified again, click to Restore user's config.
5.

Customizing: Text Attributes

1. **Text Attributes** in F10 Options
2. Customize the required parameter.

Arial	Font
	Height
	Width
	Italics text
	Exponent/Index text
Bubble time	Zoom period during text typing
Control +/-	To set manual kerning step key in added or subtracted spaces using hotkey.

Customizing: Mouse buttons

Adapt the mouse behavior to your work habits.

Click the action performed using central wheel.

Click the action performed using right click.

Gravostyle: User Toolbar

Group the functions regularly used into a customized ribbon. Add as many ribbons as necessary.

1. **User toolbar** tab in F10 Options
2. Click to Add a ribbon. Type the name of the new ribbon.

   To edit a ribbon, click its name in the list of existing ribbons

   To delete a ribbon, drag and drop its name into trash
3. Click the environment where the ribbon must display (Gravo, Laser, Art...)
4. Manage the commands of the current ribbon

Add	a. Click a command in the list of **Available icons** b. Drag and drop into the list of **Icons of the current ribbon** c. Drag and drop the required icon to change the order of commands
Delete	a. Click a command or a divider in the list of **Icons of the current ribbon** b. Click.

1. Add a divider to separate two sets of commands in the same ribbon.

   Type the name of the divider.
2. Save the modifications of the ribbon.

Add
- **at least one icon to enable every ribbon.**
- **24 icons maximum per ribbon.**

Customizing standard bars (not yet documented)

Professional objects

Professionals: Tools

Click the tool that creates the required object.

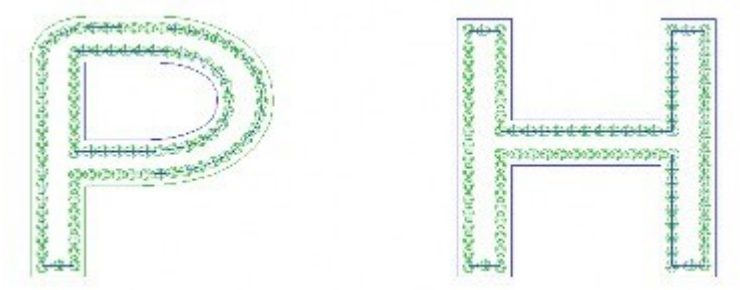
Not yet documented

Building dials	Produce linear, circular or free-shaped graduations.
Setting drilling points	Set markers into composition to drill fastening holes.
Defining text variables	Create a series of identical plates and automate text input for all the plates.
Producing Matrix series	Engrave a series of identical small plates on a single large plate. The composition is used as a model to create the series of plates.
Advanced optimization	Distribute the objects to cut in relation to user parameters.
Automatic optimization	Distribute the objects to cut within composition to reduce losses of material.
Inlay	From a closed contour produce a male shape which will be cut to fit into a hollowed out female shape.
Magic copy	Duplicate objects simultaneously or separately according to the deliberate number of copies.
Batch import	Import a set of files.
Producing barcode	Type and transcribe text into 1D or 2D barcode.
Script	Produce a geometrical shape using a script.
LED	Produce a neon sign from a drilling path for LEDs
Typing Braille	GRAVOSTYLE Engrave for visually impaired or blind people according to their needs in personalization, signage or marking, in conformity with the standards applied in different countries

Print&Cut	LASERSTYLE Cut a vector graphic made in a third part-software.
Producing stamps	LASERSTYLE Engrave and cut rubber stamps.

Professionals : Neon signing using LEDs

Designed for the production of neon signs using emitting LEDs, function sets the front holes to fix the LEDs.



A. **Add the objects whose contours are used as baseline to distribute LEDs**

B. **Add markers if they fix LED positions along baseline**

C. Open LED wizard

Click to hide or show the parameters of each section of the wizard

D. Select the objects whose contours form the baseline

E. Specify LED geometry

F. Configure LED positioning

G. **Preview** Click to check LED distribution

H. Duplicate selection along the baseline

Select the text or the contours for LED positioning

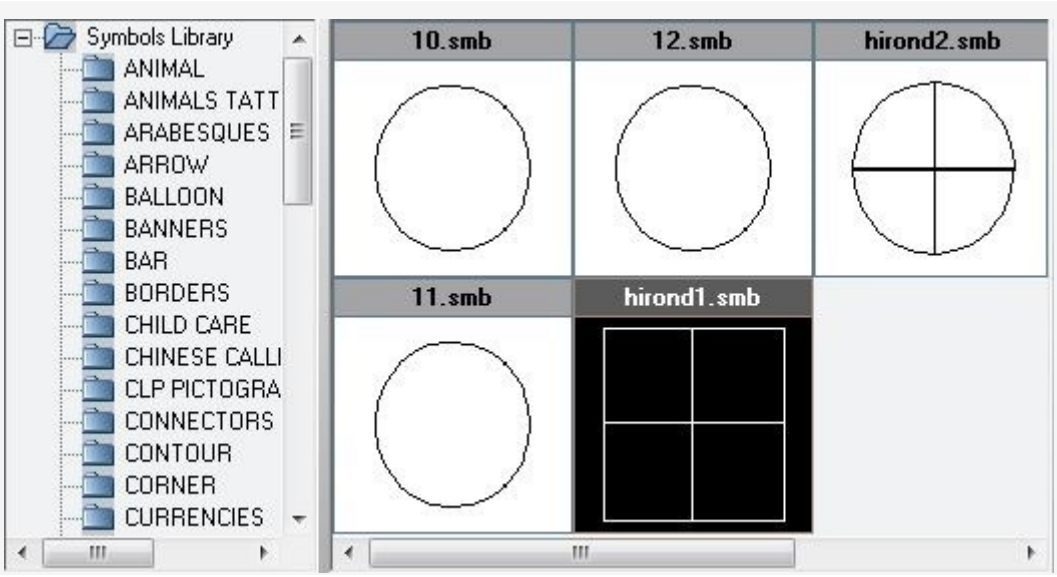
In the composition, click objects that shape the baseline. Each selected object displays in red.

Selected objects are automatically displayed in the Selection of LED Wizard.

Adding an object into selection	CLICK IN LIST THE USEFUL OBJECTS
Removing a object from selection	a. Right-click the object reference b. **Delete**
Cancelling selection	a. Right-click on list b. **Deselect all**

LED geometry

Circle (is default)	Key in the drilling diameter (3mm is default).
Symbol	1. Open Symbols library 2. Select a symbol 3. OK The name of the matching file displays after the icon (here, HIROND1.SMB).



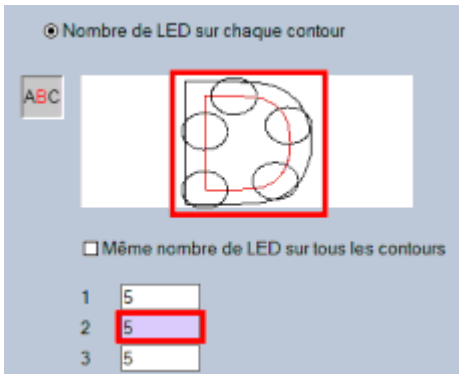
Selected object

1. Click the objects to duplicate
2. Click them in composition

Tick to Ignore the first contour. The box bounding selected objects does not shape LED geometry.

Positioning

Select the markers corresponding to LED fixed positions	**CLICK IN LIST THE USEFUL MARKERS** When a marker does not follow the baseline, the nearest point on the path becomes a LED position.
Add a LED centered in each corner	1. Tick to set the angle limit below which no LED will be added 2. Key in value between 0° and 360°
Rotate LEDs	By default, objects follow the baseline. Tick so that objects keep their original orientation.
Add a margin starting every contour **Adding a margin ending every contour**	By default, LEDs follow the baseline. 1. Tick to add an offset at the start or at the end of contour 2. Key in the required value
Set LED color	1. Tick to assign a machining color to LEDs 2. Click the active color to display the list of path colors 3. Double click the required color
Managing collision	Tick to distribute LEDs without overlapping. Collision management raises tool during machining. **Collision management is done only between two contiguous LEDs.**
Duplication type **Enable the option to fix or not the number of LEDs**	**Spacing between two LEDs (is default)** A random number of LEDs is set following the min. (10mm is default) and/or max. Spacing (15mm is default) between two LEDs. Key in the required value



Number of LEDs on each contour

By default, the baseline is red and the LED positions display in black in the preview.

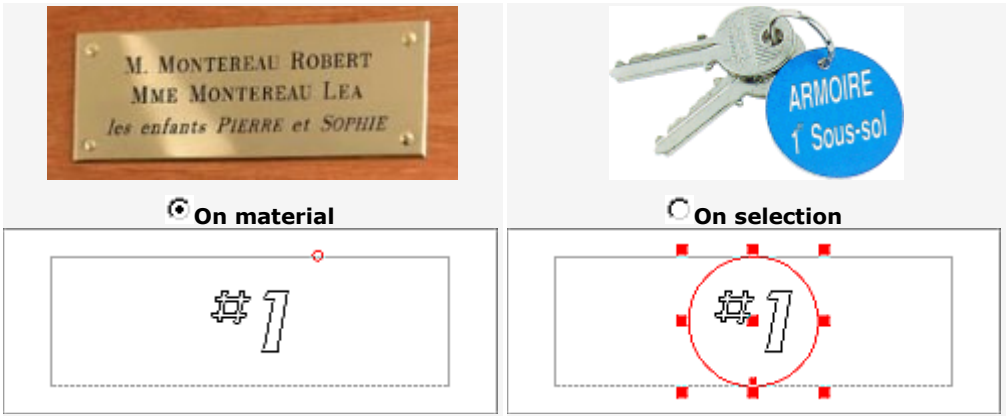
The whole text, contours and LED positions display in black in the preview. The first contour is red (e.g. first letter of the text).

An input field displays for each object following the creation order of objects.

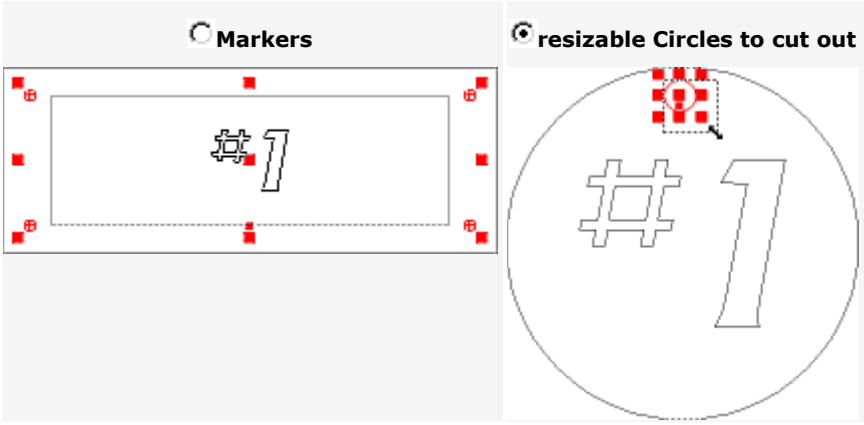
1. Click a field to display the object in preview
2. Key in the required value
3. Otherwise tick to get the same number on each contour

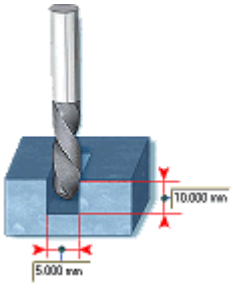
Professionals: Drilling points

1. Click in Professionals bar
2. Click the surface to drill.



3. Click drilling mode.





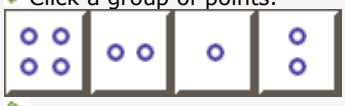
4. Key in drilling depth and width.

5. Set drilling points.

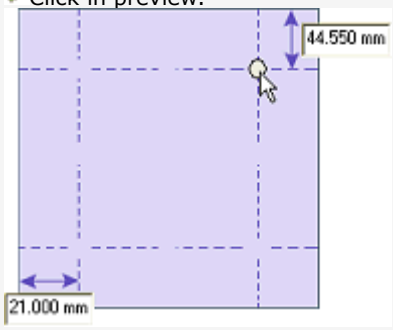
Preset layout

a. **Add or delete required points.**

Click a group of points.



Click in preview.



b. **Key in the distance between drilling points and**
• top and bottom borders of composition (by default equal to top margin).
• left and right borders (by default equal to left margin).

c.

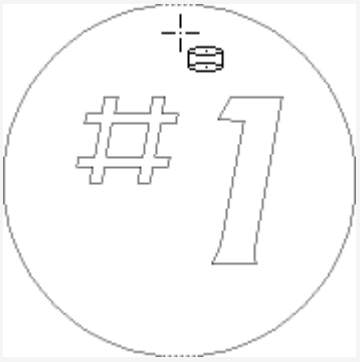
Free setting

a.

b. Set a drilling point.

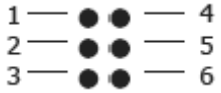
Click in composition.

F2 Key in XY coordinates.

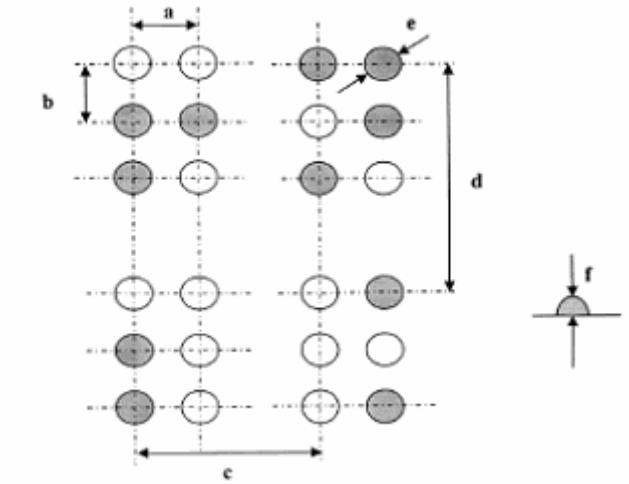


Professionals: Braille wizard GRAVOSTYLE

Braille is a writing/reading system made of tactile dot patterns used by visually impaired or blind people.
Each Braille character or cell is obtained from 2 columns of 3 dots each. Combining relief and flat dots builds 64 cells over 6 dot locations.



Braille Wizard transcribes one word into braille equivalent complying with standards in force in your country.
It computes dimensions of braille text, e.g.
• dot diameter (e) and radius (f)
• vertical (a) and horizontal (b) distances between two dot centres in the same cell
• horizontal (c) and vertical (d) distances between two dot centres from adjacent cells



Braille Wizard uses TTF NH-Braille font to displays cells. If the font is missing, a message warns you when you run Gravostyle. Set up NH-Braille font in Windows.

Choosing the true Braille standard to transcribe text is not obvious.

When your customer is not in a position to indicate the required standard, make several transcriptions using different standards and print them.
Give the prints to the customer to let it decide the braille standard that meets its needs.

In partnership with Duxbury Systems company, Gravotech Marking regularly enhances the list of Braille standards available adding new languages or updating listed standards according to their evolution. Copyright Duxbury Systems, Inc., 2014

Ask these essential questions.

- Which public is concerned by Braille engraving: local population, tourists, students, workers
- Which item will be engraved using Braille: plate, knob or bannisters, stapes
- Which text will be transcribed into Braille: is it a product specifics, a book extract (citation) or a signage fixture (access to a definite location)?
- Which Braille standards are usually used in your country? Different standards are combined to cover many transcription domains (common language, literature, mathematics, music).

For further information contact the organization or the association that defines most of the Braille standards in your country.
You will often have the opportunity to consult an official document that describes legal and technical specifications for each standard.

1.

Display engraving paths.

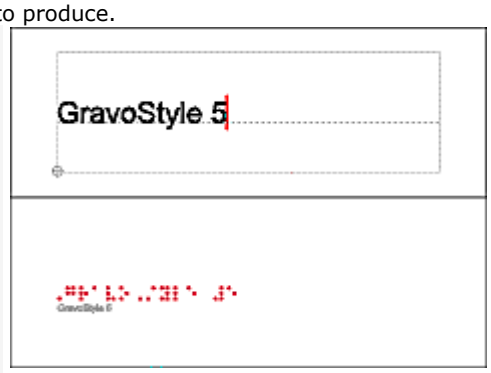
2.
Choose the type of object to produce.

Producing a Braille object from typed text

Select text to transcribe.

Braille text aligns according to the justification of source text (left, right, centre).

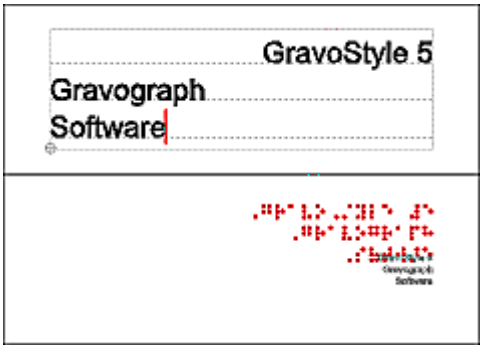
The final object keeps the position of source text.



The mode is recommended to transcribe in Braille text over several paragraphs containing long sentences.

If you only select one line in a paragraph all the lines will be converted into braille.

The alignment of the first line applies to each paragraph line.



Producing a Braille object from new text

The source text is input in Braille wizard.

Braille text is automatically distributed apart object centre. Move final object inside composition.

The existing text must be short. It has to count only a paragraph from two or three lines, each containing two words at most.

3. Open Braille wizard. Click in Professionals bar

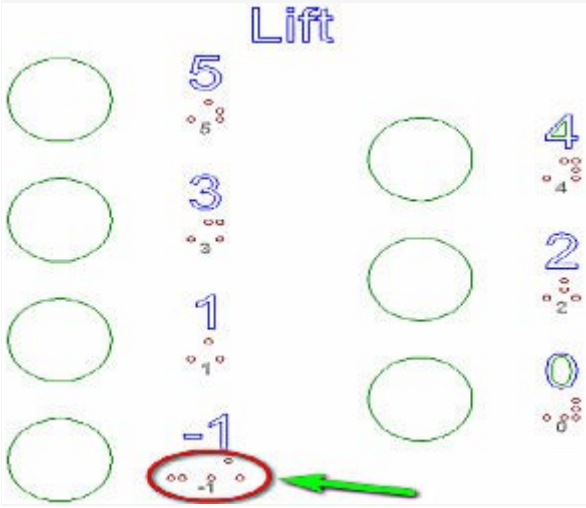
4. Yes Click to confirm text setting in manual mode.

5. **Click Braille standard adapted to your geographical area and to your engraving purposes.** The last standard used is preset.

   Read the tooltip that displays the specifications of the standard you roll over

Basic **Advanced**	A Braille standard can develop two transcription levels: • Easy, brief and quick to read, **basic code particularly suits to signage.** • Aimed at reproducing initial text and its formatting, **advanced code is used to transcribe books, specially scientifics.**
Uncontracted Braille 1	**Uncontracted braille or Braille 1** are written character by character like proper names.
Contracted Braille 2	**Contracted braille or Braille 2** is designed to reduce text overall dimensions and to speed the reading. Without skilled training, transcribing into contracted braille gets hard.
Unified	In partnership with Duxbury Systems company, Gravotech Marking regularly enhances the list of Braille standards available adding new languages or updating listed standards according to their evolution.

6. Fix Braille processing options.

Force lowercase	Click to engrave Braille text only in lowercase even when standard text is in capitals or lowercase.
Mathematical Braille	1. To transcribe numerical values click the Braille standard that understands mathematical symbols such as minus sign "-" 2. Click option. 
Line break	Click to force Braille text to jump to next line each time it fills up the length available in the composition.

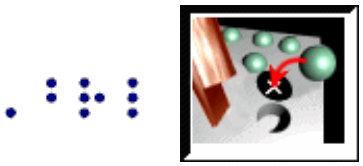
7. Click a preset toolpath. You can assign later a different color path to Braille object.

Indented engraving with tool #8

Cell dots are machined as domes to produce text relief.

Raised engraving with tool #9

Cell dots are drilled.
Fiberglass beads are embedded into dots to shape text relief.



You must configure the machine for Braille engraving and adjust the dispenser to insert beads along the engraving path.
Click this link to refer to Braille Dispenser documentation

8. Fix the properties of Braille text.

Selected text

a. Click if you want to **Keep the original text.**
b. Fix Braille text position. **Key in X or Y distance in relation to the left bottom corner of the source text.**
c. Click if you want **Line break.**

New text

Type or paste text to transcribe into input field.

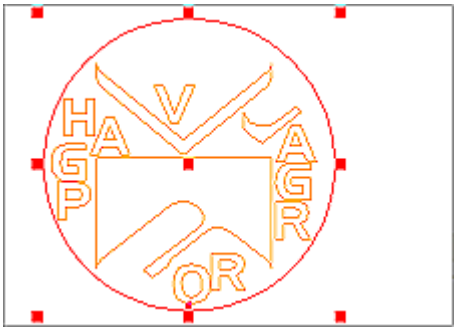
Line break between 2 paragraphs Enter

Edit text

a. Select text in input field.
b. Right-click to display contextmenu.
c. Click the operation to execute (cut, paste, delete, etc.).

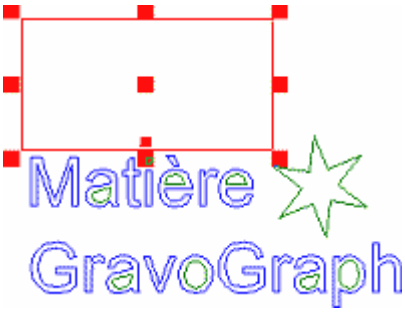
9. You obtain a complex object. Source text displays as an indication only.

Professionals: Advanced material optimization



Convert text into curves.

Distribute objects to be cut in defined area using nesting settings:
- nesting surface (plate or material scrap, origin, distribution)
- object orientation (rotation, symmetry, nesting, spacing)



1. **Choose nesting surface.**
   - **In composition select the objects to cut out.**
   - **In a preset surface.**
     a. Draw the closed contour that delimits the nesting area.
     b. Select the area, then the objects to cut out.
2.

   Generating report as PDF file

   Here, the rectangle is the nesting area containing a star and characters converted to curves.

3. **Click nesting surface.**

   Material (is default). Objects are distributed within surface area delimited by composition margins.

On the first shape selected. Objects are distributed within the closed contour you have drawn.

4. **Click nesting origin** (default is the top left corner of the selected surface).

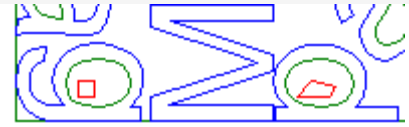
5. **Click the distribution direction in nesting surface, horizontal (is default)or vertical**

6. **Click nesting options.**

   Mirror. Using symmetry, an object can be turned or reversed within nesting surface.

In-hole. Small objects can be nested into unfilled areas inside larger objects.

The top part of an accented or punctuated character (letters i, è) can be nested in another character (letters g, p).



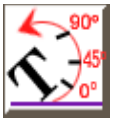
7. **Click to enable edge detection.** Use the option to move closer square or rectangular objects with shared edges.

   Key in min. edge length. Edges lower than keyed in value are ignored.

8. **Click the type of rotation. Objects with bitmaps rotate only by 90°, 180° or 270°.**

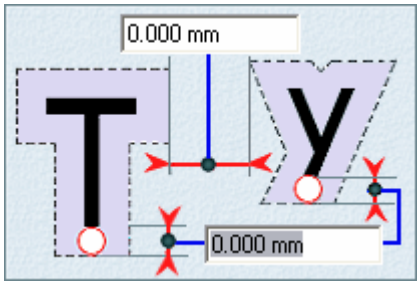
   Free (is default). Each object rotates according to an ideal angle to occupy the nesting surface.

Step angle. Key in angle. With 5° step objects rotate according to a series of angles 0°, 5°, 10°, 15°, 20° up to 360°.



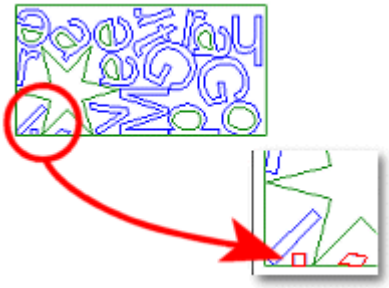
Angle list. Key in one or more forced Angles by separating two values using (;) character.

None. Each object keeps its original orientation.



9. Set the gap between two objects. Key in
   a. **tool beam diameter.**
   b. **clearance** or distance between 2 cuttings.
10. **Adjust Resolution between 0.1 and 0.6 for fine or fast nesting.**
11.

To perform a different nesting keep objects selected and edit settings in Material Optimization.



Accented or punctuated characters (i, è) are partially ungrouped to fill the whole nesting surface.

If the nesting surface is insufficient some objects may be rejected.
Fix a more efficient nesting or resize the nesting surface.

Using Optimization wizard

A. Fix Nesting properties in Material Optimization.

B. Click to run wizard.

Restore standard values

1. **Key in max. Number of tests.**
2. **Key in min. Improvement** or occupation rate of the material.
3. Key in max. test period in seconds.
4. Click to display the nesting report (Number of the best test, the ground to stop the tests, the best occupation rate of the material, the improvement rate in relation to standard nesting).

C.

Saving nesting properties

Click to save current properties in a file with NEST format (XML format).

Click to load a *.nest file and to enable nesting properties.

Optimization with magic copy

A. **Fix Nesting properties in Material Optimization.**

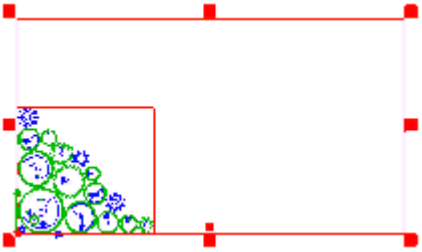
B. Click without ticking Duplicating nested objects option. Optimization runs, then magic copy.

or

B. **Click Duplicating nested objects option.**

C. Click. Magic copy runs according to
• duplication properties per object set in the table on right side.
• nesting properties set in Material Optimization.

Optimization with fall computing



The function automatically computes the material remaining after nesting. The final fall should be used for further engravings to rentabilize material.

1. Enable optimization with fall computing
2. **Click the mode that sets the fall shape:**
   Simple mode, the fall is a rectangle.
   Standard mode, the fall is the surface opposite to the box bounding the objects already nested.
   Optimized mode, the limits of the fall follow the edges of the nested objects very close.
3. **Whichever the active mode, key in the values used to compute the fall size:**
   the min. Surface of the remaining plate, from which the fall size is computed
   the max. Length of the fall diagonal, below which the fall size is computed
4.

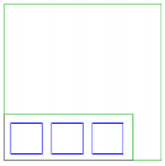
Saving the material fall as a reusable symbol

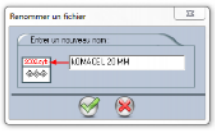
a. Open Symbols library

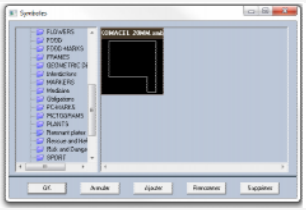
b. Save the fall into Remnant plates folder

c. Type the new name of the symbol

d. Close the window







Adding Matrix cutting axes upon the fall surface

a. Enable cutting axes

b. **Key in the values that distribute axes:**

Horizontal X Offset between two axes

Vertical Y Offset between two axes

c. **Click the cutting color**

Text variables

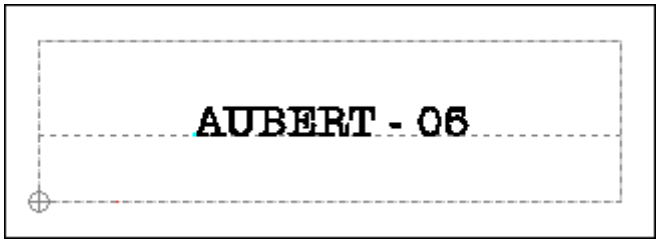
Professionals: Text Variables

Using text variables enables to simultaneously create a series of identical plates and to automate text input in all the plates.

1. Produce the composition used as a template to produce the plate series. The plates share the parameters and the text of the master plate.
2. Open Variables table. Click in Professional bar
3. Add text variables.
4. Save variables.
5. Insert created variables into text.

To engrave a set of apartment doorplates, you can create two variables:
• a list of names that contains the name of each occupant in an apartment.
• an incrementation that corresponds to the numbering of the apartments.

After inserting variables into master plate text, each plate in series will display a name extracted from the list of names and an apartment number produced using incrementation.



Variables: List of names

The variable is a list of values similar to lines of text you can
- type directly in a column of the table of variables.
- extract from a text file you import.
- copy from a text file and paste into a column of the table of variables.

Each value is a name, a number or a word which obeys Unicode standard. The IT coding allows to display and to process text in various languages, in particular Asian.

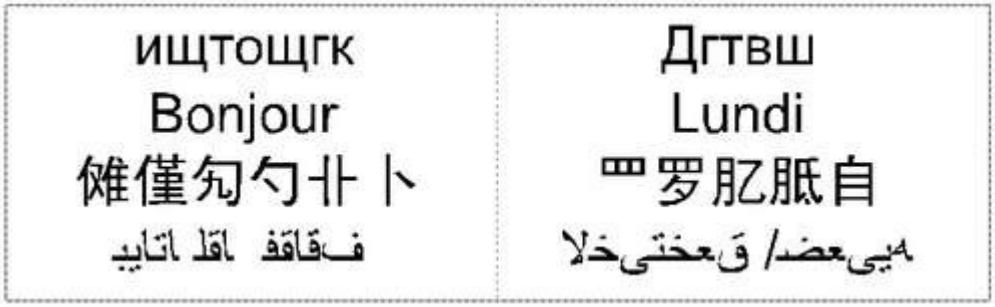
For an optimal Unicode management, install first the linguistic pack for each language you will use in Windows. Each pack contains the components required to process text (fonts, dictionary, keyboard, etc.)

Typing in Variables table

Repeat steps 1 and 2 for each new list of names.

1. Add the variable.
2. In each column cell, type the value to display in each plate of the series.

	VAR1	VAR2	VAR4	VAR3
1	ищтощгк	Bonjour	بيانا لقا فقاقف	傩僅匈勺卄卜
2	Дгтвш	Lundi	لاخىتخعق /ضعىيه	罒罗肊胝自
3				
4				
5				



Extracting from a text file

You can also extract a list of names from a database.

1. **Generate the file to import.**
   a. Open a text editor that manages Unicode standard.
   b. Type a value.
   c. Type a line break (or carriage return) to go to next line.
   d. Repeat steps b and c till the last value. Do not type a line break at the end of list.

   e. Save as a .txt Unicode file (or UTF-8).
   f. Click to exit.
2. Import Click in Variables table.
3. Double-click the .txt file. Lines of text display to **View file.**

4. OK The list of names is added into Variables table.

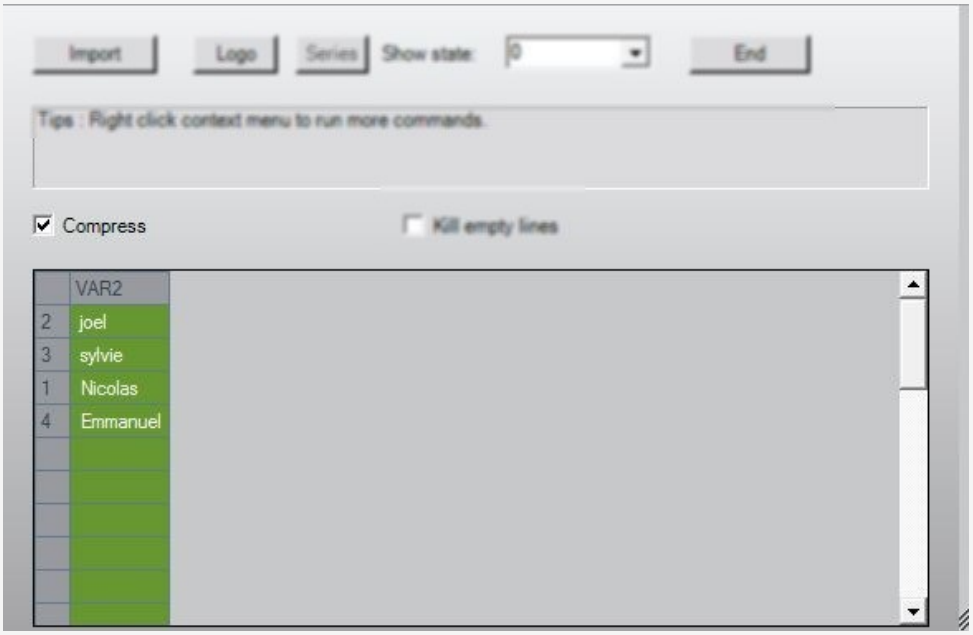
	Nom	Apt
1	PETILLON	01
2	JAMIN	02
3	MOREL	03
4	LUCAS	04
5	AUBERT	05
6		06
7		07
8		08
9		09
10		10

The "Nom" variable is a list of 5 names extracted from the text file opposite.

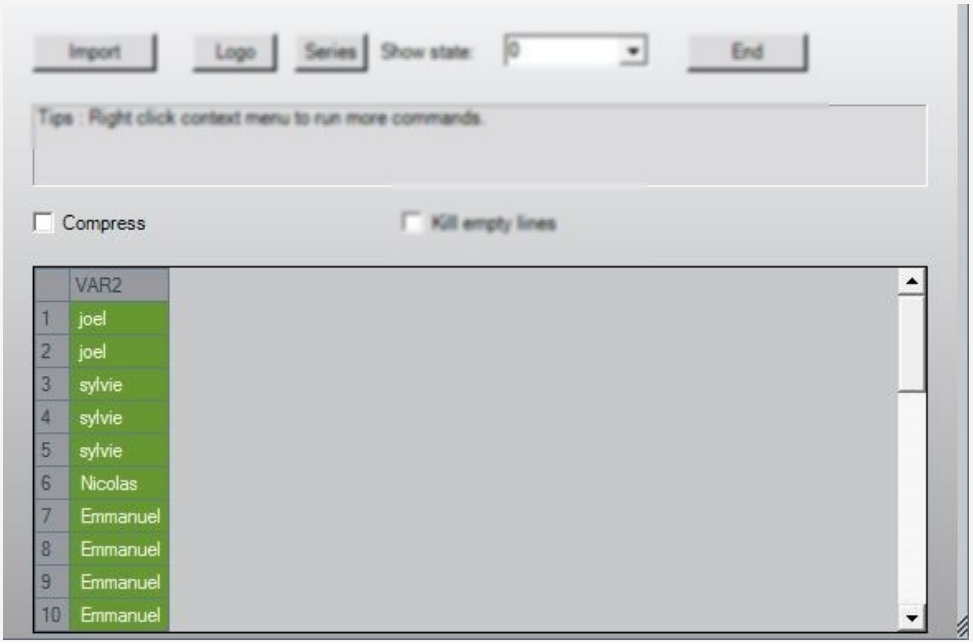
Set the number of repetitions per value

1. **Generate the file to import.**
   a. Open a text editor that manages Unicode standard.
   b. Key in the number of repetitions of the value, type a comma, type the first value.
   c. Type a line break (or carriage return) to go to next line.
   d. Key in the number of repetitions of the value, type a comma, type the second value.
   e. Repeat steps b and c till the last value of the list. Do not type a line break at the end of list
   f. Save as a .txt Unicode file (or UTF-8).
   g. Click to exit.
2. Import Click in Variables table.
3. Double-click the .txt file.
4. Click to indicate that the First column shows the number of repetitions per value.
5. OK The list of names is added into Variables table.

When Group option is active, the first column shows the number of repetitions per value.



Otherwise, every value displays as often as of repetitions.



Configuring the extraction of a variable

Several lists of names can be combined inside a single text file (for instance names and numbers).

1. **Generate the file to import.**
   a. Open a text editor that manages Unicode standard.
   b. Type the first value of the first list, type a comma.
   c. Type the first value of the second list, type a comma.
   d. Repeat steps b and c till the first value of the last list.
   e. Type a line break (or carriage return) to go to next line.
   f. Type the second value of each list, type a comma.
   g. Repeat the operation till the last value of the last list. Do not type a line break at the end of list.
   h. Save as a .txt Unicode file (or UTF-8).
   i. Click to exit.

2. Import Click in Variables table.
3. Double-click the .txt file. Lines of text display to **View file.**
4. **Key in Starting line** where the extraction will begin in extraction Mode.
   Each line is preceded by its number **[??]>> (the first line has the number 0).**
5. **Click the extraction Mode of values.**

Separator (is default) Values are extracted column by column. Delimited by a separator character, each column matches a new list of names.	Click separator Mode **Column separator (comma is default)** **Line separator (carriage return is default)**
Constant width Values are extracted line by line. Each line is limited by a number of characters you fix.	Key in number of characters in **Column format.** When lines have different widths, key in the max. number of characters for each line, separated by a comma.

6. Preview Click to compare values in **Extraction preview.**

Variables: Extracting a list of names from a database

A database is made of different tables. Each contains several fields of values.

1. Click in Professionals bar.
2. **Click ODBC Database connexion script.**
3. Run Script Click.
4. **Key in the path to the database into Database connexion string selection.**
   Next> Click.
5. **In database click the name of the table to use in Tables list**
   Next> Click.
6. **In table, click the name of the field to use in Fields list**
   Next> Click. A message shows the number of values extracted from the selected field (20 max.) OK
7. **For each field to extract from the database repeat the operation from step 2.**
8. Click to close Script manager.
9. Click in Professional bar
   In Variables table each field extracted from the database is a list of names.
10. Insert into text the required list of names.

Play Powerpoint demo

Variables: Incrementation

The variable is a logical series of numbers computed from the first to the last numbers using the step e.g. gap between two consecutive numbers.

1. Add the variable.
2. Series Click.
3. **Click Incrementation format.**

ABCDEF---	**Numerical (is default) series of numbers**
89ABCD---	Pull up Alphabetical and Alphanumeric buttons.
ABCDEF---	Alphabetical series of numbers made of letters
89ABCD---	Alphanumeric series of numbers made of letters and figures (to generate serial numbers)

4. Key in incrementation parameters.

0 1 ... n **Start value**

0 1 2 **Step**

0 1 ... n **End value or**

0 1 ... n **Total of numbers (click the parameter used)**

5. Key in incrementation options.

Imposing a fixed number of characters per number

	Nom	Apt
1	PETILLON	01
2	JAMIN	02
3	MOREL	03
4	LUCAS	04
5	AUBERT	05
6		06
7		07
8		08
9		09
10		10

a. ☑ **Click to have Constant number of digits.**

b. ###.## Type a symbol per character (6 is default).

Opposite, Apt variable is a numeric incrementation which

0 1 ... n **start value is 1.**

0 1 ... n **end value is 10.**

0 1 2 **step is 1.**

###.## **Each number has 2 characters (##).**

Inserting text

Type the text ###ABC **before or** ABC### **after each value.**

6. Preview Click to check the list of numbers.
7. OK The list of numbers fills the column of the variable.

To edit an incrementation right-click the variable name in variable table **Series**

Incrementation Mode	0 1 ... n	0 1 ... n	0 1 2	Numbers
Increasing incrementation Key in a. **an End value higher than Start value.** b. **a positive Step.**	8	16	4	8, 12, 16
Decreasing incrementation Key in a. **an End value lower than Start value.** b. **a positive Step.**	20	5	-5	20, 15, 10, 5
Incrementation **stops on the last multiple preceding the End value if it is not a multiple of the Step.**	18	25	2	18, 20, 22, 24
Incrementation **stops on Start value if the Step is higher than the gap between Start and End values.**	18	19	2	18

When you do not respect each condition Start and End values will automatically be reversed.

Variables: Symbols

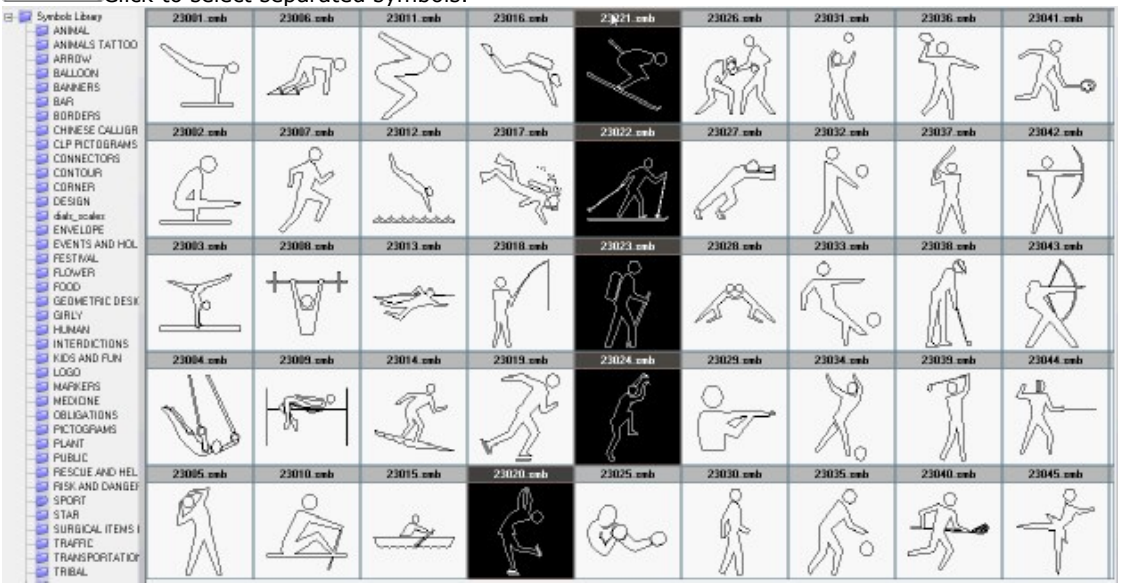
The variable is a series of symbols that automatically the text of each plate in the series.

Creating a variable from a series of symbols

1.
2. Logo Click to open Symbols Library
3. Click to open the folder that contains the symbols to insert into text.
4. **Select the symbols in the preview. Key held down**

   Shift Click to select consecutive symbols.

   Ctrl Click to select separated symbols.



5. OK Add the selection into the table of available variables (here, Logo 1).

	VAR1	Logo1
1	Patin	Sport\23020.smb
2	Ski	Sport\23021.smb
3	Fond	Sport\23022.smb
4	Marche	Sport\23023.smb
5	Escalade	Sport\23024.smb
6		

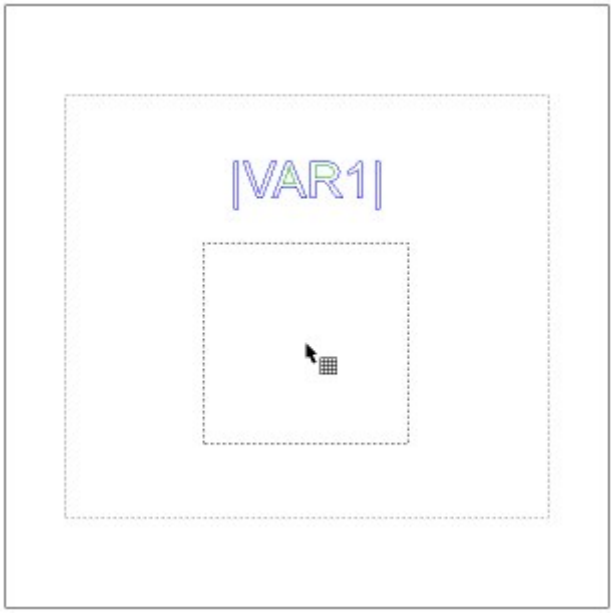
   Each access path to a selected symbol becomes a value of the variable (here, 5 values at most).

6. Switch to Selection mode

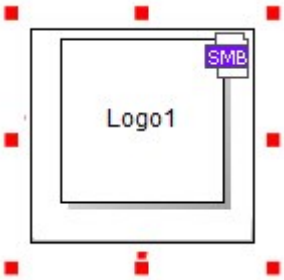
7. Select the variable

   Click the name of the Logo variable.

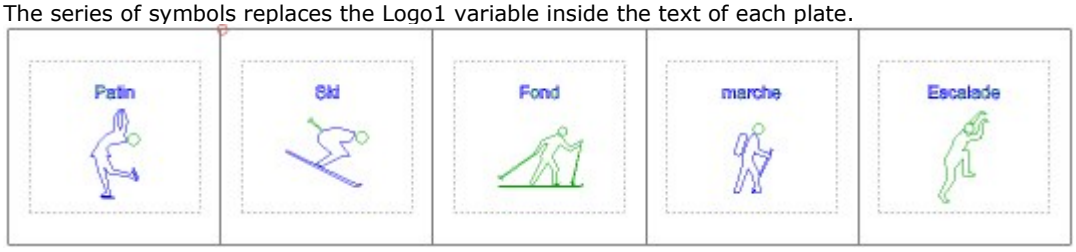
8. Insert into text the variable snapped to pointer



If need be resize the variable using selection handles.



The series of symbols replaces the Logo1 variable inside the text of each plate.



Creating a symbol folder

1.
2. Open Symbols Library
3. Add the folder that will contain the new symbols
4. Add each symbol as SYB file into the new folder

Create a symbol from a Gravostyle object, a bitmap image or a character from a font.

Variables: Managing

Open the table of variables.

Variables

The first table row displays the name of each variable available. Each column displays values per variable.

Add A column is added into a table of variables. The values of the new variable fill the matching column in the table.	1. Right-click the first table row. 2. **Add variable** 3. Add a list of names, an incrementation or a series of symbols.
Delete The selected column disappears from the table.	1. Right-click the name of the variable to delete. 2. **Delete variable**
Rename	1. Right-click the name of the variable to rename (VAR is default). 2. **Rename variable** 3. Type the new name of the variable. Enter

Values

The first table column displays the number of each plate in the series. Each row displays values that may appear in the text of one plate in the series.

Edit a value	1. Double-click the cell. 2. Key in the new value.
Select a value	Click the cell.
Select a series of values The selection can spread across several columns and over several rows.	Drag and drop the pointer from the first to the last cells.
Select a row of values	Click the number of row.
Delete	1. Select one or more values. 2. Right-click. **Delete** or 2. Del Press key.
Duplicate Duplicating a row of values allows to produce simultaneously several series of identical plates. ☑ Click to **Resume the number of copies per row duplicated.**	1. Select one or more values. 2. Right-click. **Copy** 3. Right-click the cell where the selection will be duplicated. 4. **Paste**

Move

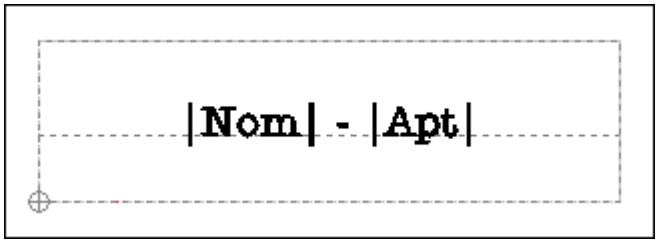
1. Select one or more values.
2. Right-click. **Cut**
3. Right-click the cell where the selection will be inserted.
4. **Paste**

Variables: Inserting into text

Insert into text

	Nom	Apt
1	PETILLON	01
2	JAMIN	02
3	MOREL	03
4	LUCAS	04
5	AUBERT	05
6		06
7		07
8		08
9		09
10		10

The text of the master plate contains
- **the list of names |Nom|**
- **the incrementation |Apt|**
- **fixed text " - " separating the two variables**



1. Add variables
2. In master plate text click where you want to insert a variable
3. Fix the attributes of the variable.
4. Click in Professional bar
5. Click a variable (incrementation or list of names).
6. The name of the variable displays between brackets **||**

Delete in text

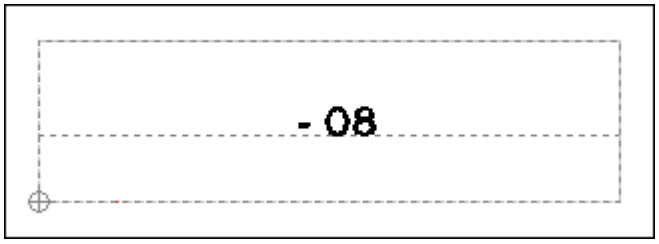
The values no longer display in text. The variable remains available in table.

1. Display the master plate. Double-click the displayed plate.
2. Select the name of the variable and the brackets around it **||**
3. Press key.

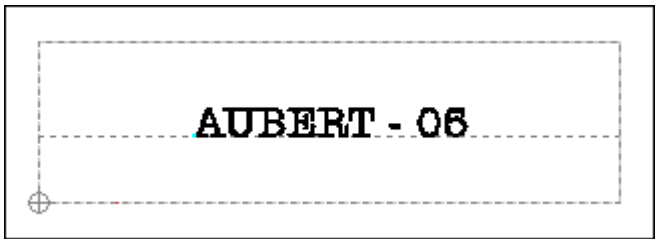
Display a plate in the series

Each variable is replaced by the value linked to the displayed plate.

When a variable does not contain a value linked to the displayed plate its location in text remains empty (hereunder, plate 8 displays).



Here, plate 6 displays.

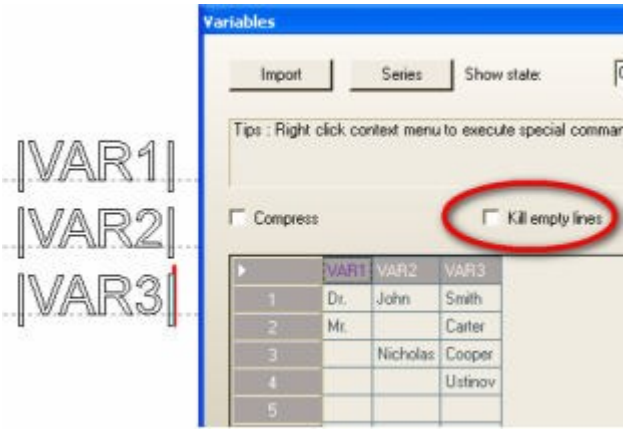


1. **Open** Variables.
2. Click the number of the plate to **Show state (type 0 for master plate).**

Automatic distribution of the text extracted from variables

The text of the master plate contains three variables, each centred on a line of text.

When a variable does not contain a value linked to the displayed plate its location in text remains empty.



When the plate #2 of the series displays the second line remains empty because lVAR2l variable has no value for the plate (empty cell).

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Nicholas Cooper	Ustinov

☑**Tick to Delete empty lines in** table of Variables.

In plates 2, 3 and 4, the lines of text refocus automatically between the margins. Empty cells are ignored.

Dr. John Smith	Mr. Carter
Nicholas Cooper	Ustinov

Advanced Matrix

Pro: Producing a Matrix series

Use the function to engrave a series of identical elementary plates on one or more material sheets.

1. **Create the composition used as template to produce the series of plates. Elementary plates share the properties and the objects of the template.**

   a. Configure the template in Material window.

   b. Insert a variable into text at need.
   Using a variable automates text input, logo setting or the numbering over the series of plates.

2. **Click in Professional bar**

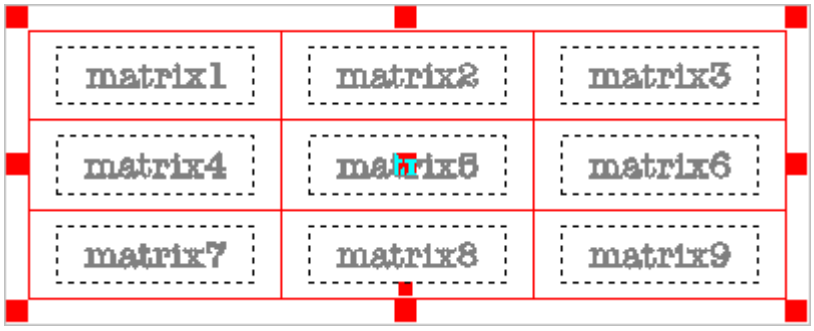
   a. A message will ask if the manual mode must be enabled. Click Yes
   The Matrix window displays
   the name and the area of the active engraving machine
   the dimensions of the template for the plate series

   b. Distribute the elementary plates on material.

   c. Select the plates to engrave.

   d. Generate the Matrix series.

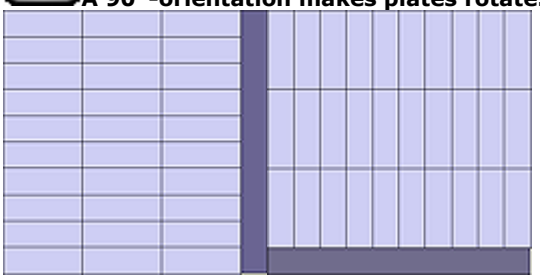
The example below resumes the production of a Matrix series with IS200 machine (225x80mm).
The template is a 30x10mm composition which text contains the |NUM1| incrementation. The variable automatically numbers the nine plates of the series.

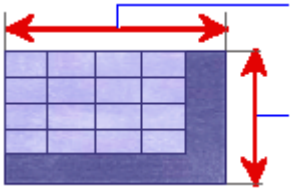


Matrix: Distributing plates on material

1. **Click to position the plates in Matrix window.**

   A 90°-orientation makes plates rotate.





2. **Set the actual dimensions of the Material**

   Key in the width and the height at most equal to the area of the active machine (except when engraving a long plate).

   Click if you want to save the values under the name of your choice

   or

   Click the preset dimensions: Gravograph material sheet or material size saved.

   Delete the material sized clicked

3. **Configure the cutting of the elementary plates.**

   Click a cutting mode you have saved after parameter settings.

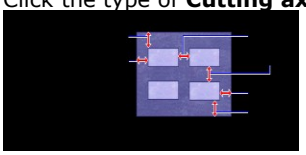
   Delete the cutting mode clicked

   or

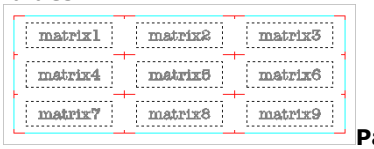
Set the cutting parameters.

Click if you want to save the values under the name of your choice

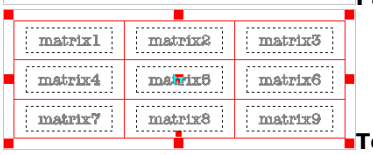
a. Click the type of **Cutting axes.**



None (example, engraving using a jig). Key in only Offset values



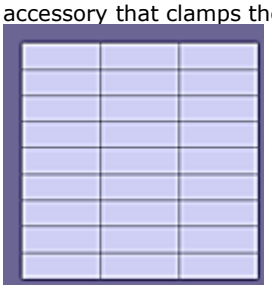
Partial



Total (is default)

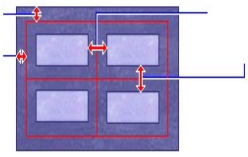
b. Click the color of the **cutting path (orange is default).**

c. **Key in the margins around material.** So the cutting tool will not damage the accessory that clamps the material.



Click to key in the **Bottom and Right margins**
Default margins are null. Key in equal values to centre the elementary plates in the material.

d. **Key in the horizontal or vertical Offset between two plates.**



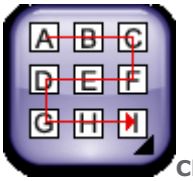
For a total or a partial cutting key in

margins at least equal to half of the tool tip.

spaces between at least equal to the tool tip.

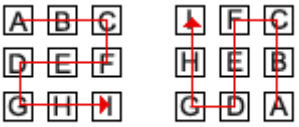
When cutting parameters increase the overall size of plates beyond the material surface, Matrix distribution is automatically adjusted.
• the number of elementary plates on material

may decrease.
• additional sheets may be added to receive the maximum number of elementary plates.



4. **Click the Presentation of the plates (rigthwards and downwards is default).**

The option sets the order of the plates and the engraving direction.
- rightwards or leftwards
- downwards or upwards



5. Select the plates to engrave.

Matrix: Selecting plates to engrave

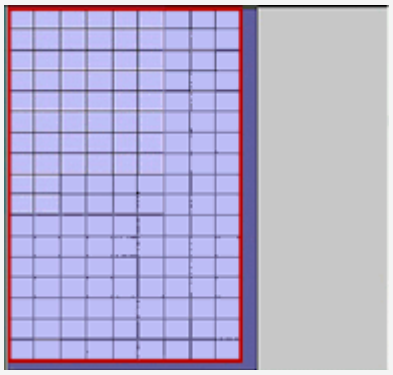
1. Distribute the elementary plates on material.
2. **Select the plates to engrave.**
   - Select using mouse
   - Set selection parameters
   - Set the number of layers
3. Generate the Matrix series.

GLOBAL

The properties of the Matrix series show non-editable greyed values.

Material Actual size of the material

Nb Max. Maximum number of plates on material



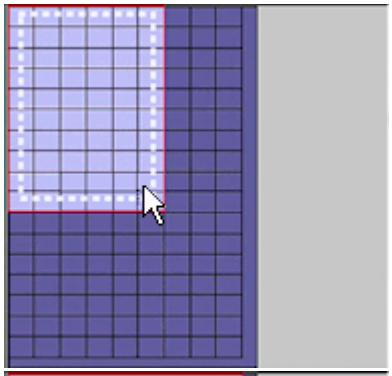
Selection Number of elementary plates to engrave (maximum is default)

The value will change according to the plates the user selects.

Composition The overall size of the elementary plates is rendered by a light blue grid **bounded by a red frame, inside the dark rectangle that is the material.**

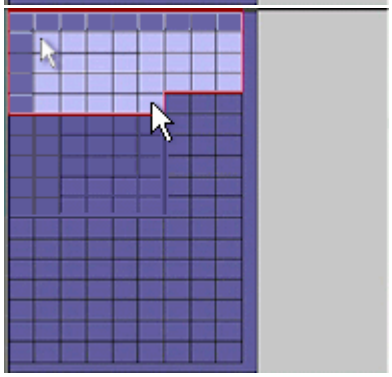
It is recomputed according to the dimensions of the selected plates and the cutting parameters.

Selecting using mouse



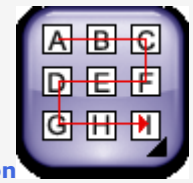
Drag and drop the pointer from the first to the last elementary plate.

Selection = 60

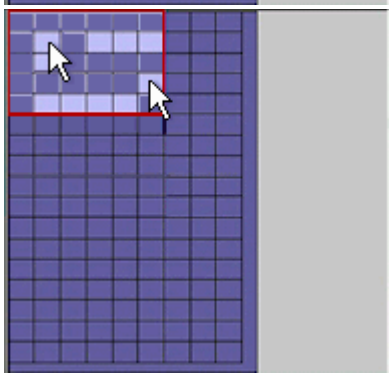


Select contiguous plates using pointer.

Shift Key held down drag and drop the pointer from the first to the last elementary plate.



Selection = 20 in relation to the Presentation

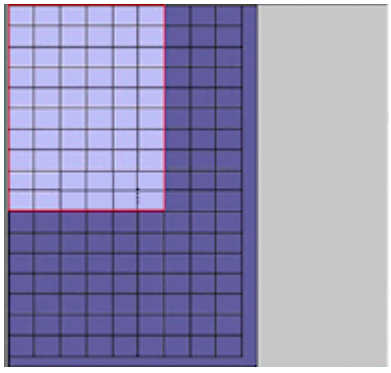


Select separate plates using pointer.

Ctrl Key held down click each elementary plate.

Selection = 10

Setting selection parameters



Key in the number of plates

X per row (here 6)

Y per column (here 10)

Selection = 60

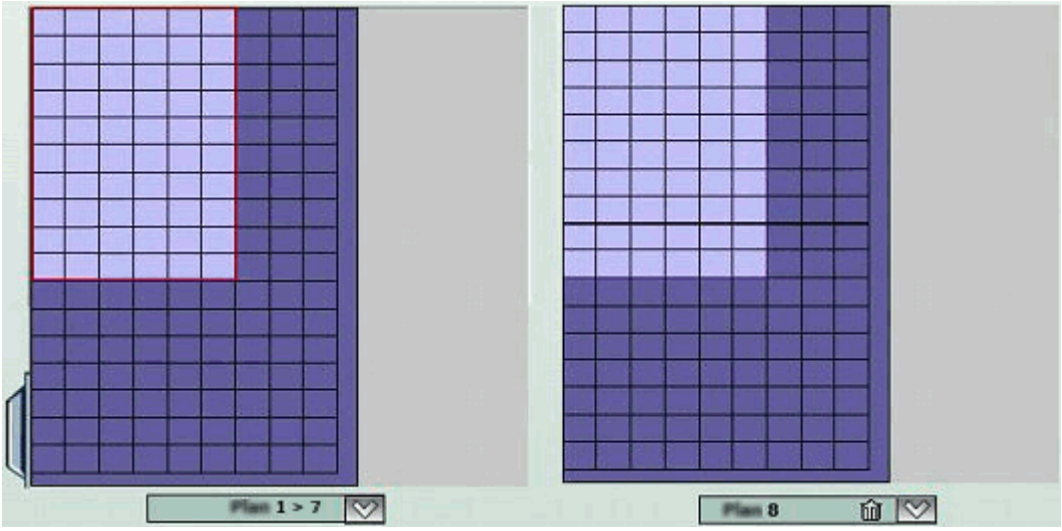
The default Matrix simulation displays a single layer filled up by the maximum number of plates.

Managing the number of layers

Key in the GLOBAL number of Layers equal to the number of material sheets.

Made using the pointer or the parameters the selection of the elementary plates is identical on every plan.

The total of elementary plates equals the Selection of plates per layer multiplied by the number of layers (here 60 x 8).



With 2 layers, the last one displays on the right.

The icon displays under the preview of the last layer. Click to delete it. The previous layer replaces it, if at least 3 layers exist.

Selection and number of Layers decrease in the GLOBAL board.

With 3 layers a tab lets you display the first layer.

Selecting a set of plates

Matrix: Changing plate selection of a layer

With 3 layers at least a tab lets you display the first layer which selection or dimensions can be set.

Click the tab to pull the first layer on the left side from the layer stack.

The layers in the middle are numbered from the second to the one before the last layer. The last layer displays at the right side of the stack.

The table of properties displays automatically under each preview per layer.

It lets you change the dimensions of the layer or the selection of the elementary plates.

Changing the selection per layer

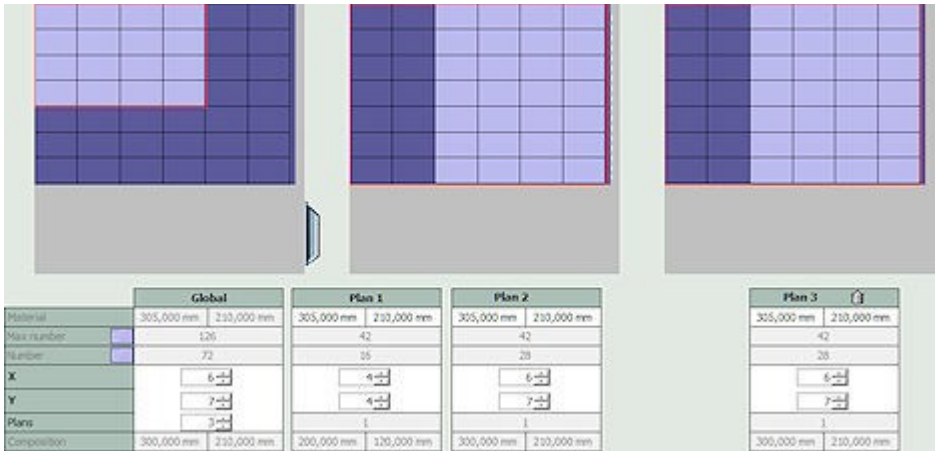
Select the plates using the pointer within the preview.

or

Key in XY values into the table of the layer.

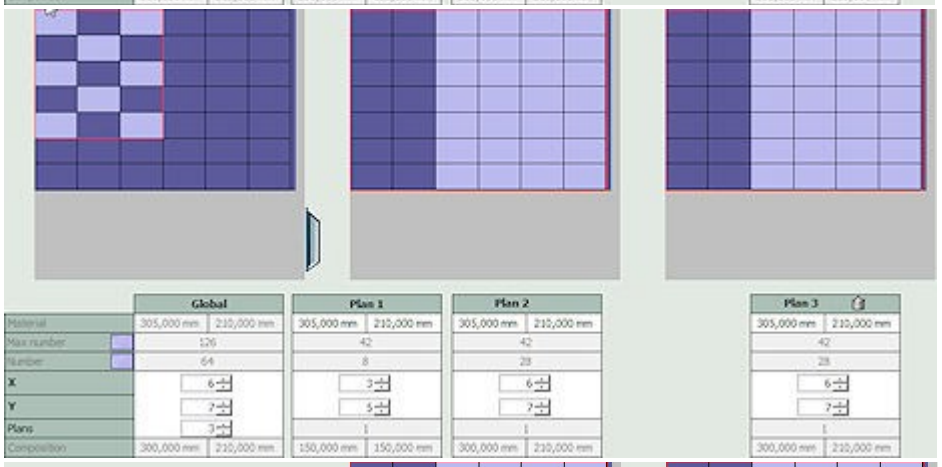
The selection in the last layer only applies to this one.

Change the selection or the dimensions to engrave plates on a material fall.



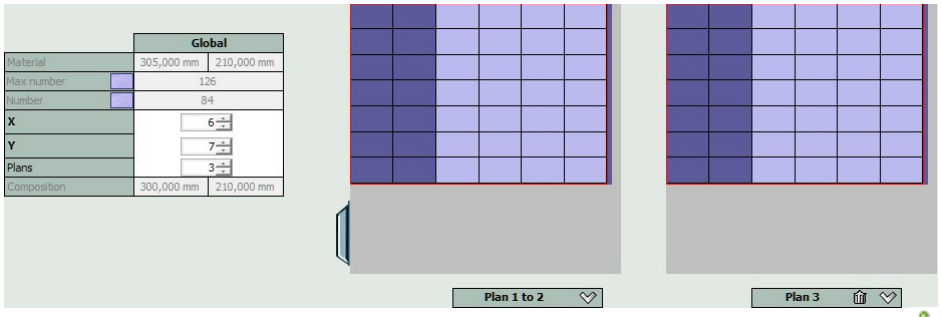
The selection at the middle for the layer stack cancels and replaces the one for the last layer.

On the other hand it does not apply to the Layer #1.



The selection in the Layer #1 only applies to this one.

Change the selection or the dimensions to engrave a set of plates on a sharp surface of material.



Click to reset the first layer onto the stack. The layers of the stack are numbered from the first to the one before the last layer.

Under each preview, the layer number is followed by an arrow

Click

to set the XY values or the material dimensions per layer.

to hide the table of properties per layer.

The selection for the layer stack cancels and replaces the one for the Layer #1.

Matrix: Engraving a fixed number of plates

1. Distribute the elementary plates over each material sheet.
2. **Key in the Number of wanted plates.**
3. Select the plates to engrave in the Layer #1.

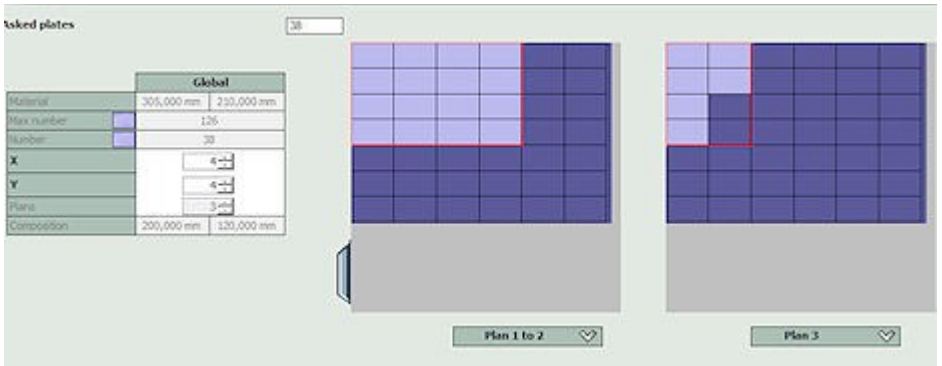
According to the XY values, the material size or the cutting parameters of cut, the number of required layers is automatically calculated to obtain the number of plates required.

Beyond 2 layers, the last layer contains the last plates remaining to engrave.

Beyond 3 layers, click the tab to show the first layer.

When the Selection does not equal the wanted Number of plates, the box displays in red in the GLOBAL board to indicate the gap between values.
Produce the series Matrix according to the final Selection or modify the selection of plates in the chosen layer.

The wanted number of plates is fixed when the Matrix series integrates variables to automate name input, logo setting or the numbering in the elementary plates.
It systematically equals the biggest number of values among variables inserted in the text (if a variable counts 16 values, an other one 7 values, the wanted number of plates is 16).



The selection in the last layer only applies to this one.

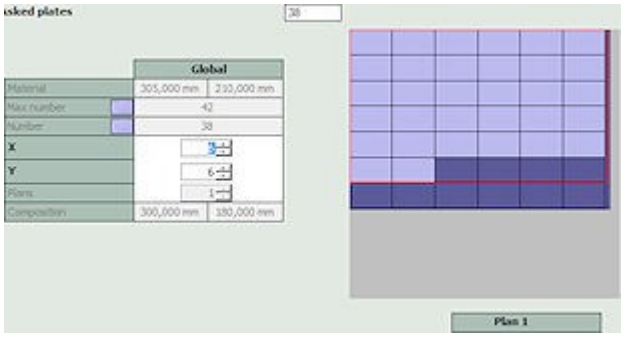
The selection in the Layer 1 only applies to this one.

The selection at the middle for the layer stack cancels and replaces the one for the last layer.

The selection in the Layer 1 changes the one in the last layer.

The number of plates in the last layer is automatically recalculated to obtain the wanted Number of plates.

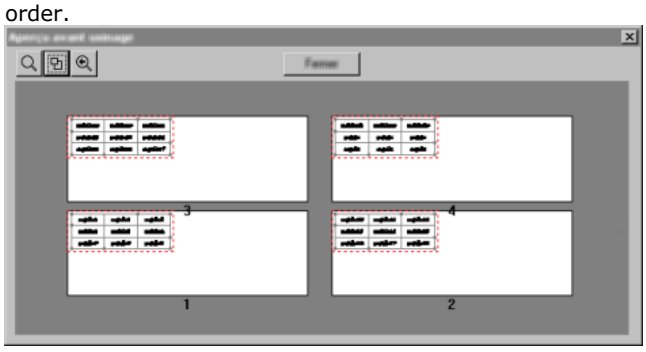
If the wanted number of plates fills up totally the layer stack in the middle, the last layer is deleted.



If the Selection in the Layer #1 causes the overflow beyond the wanted Number of plates, the Layer #1 returns onto the layer stack. The Selection in stack applies to the Layer #1.

Matrix: Generating the plate series

1. Distribute the elementary plates over each material sheet.
2. Select plates to engrave.
3. **Choose to generate a Matrix series with**
   - **customizable plates** which content you edit (text or logo) separately from others.
   - **plates with locked content** which distribution and selection on material you can edit.
4. F7 Display engraving paths.
5. Display the Matrix series in engraving preview. Layers are numbered in relation to the engraving order.



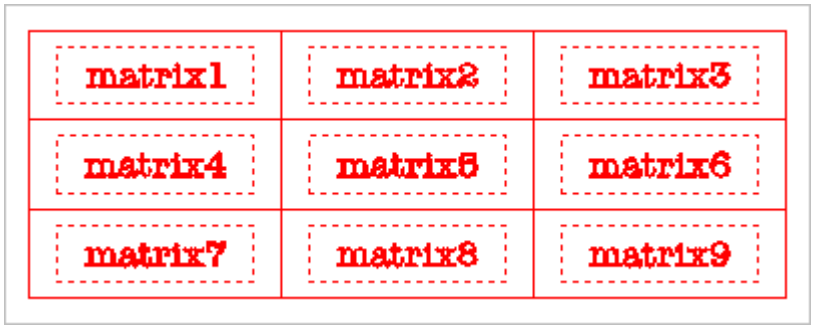
The pause upon engraving lets you change the material sheet on the machine.

Generating fixed layers

1. **Click to View one Layer** in Matrix window.
2. **To Show Layer #, key in its number.**

The selected layer contains a Matrix object that groups elementary plates, their content, eventually cutting axes.

Double-click the object to edit properties.



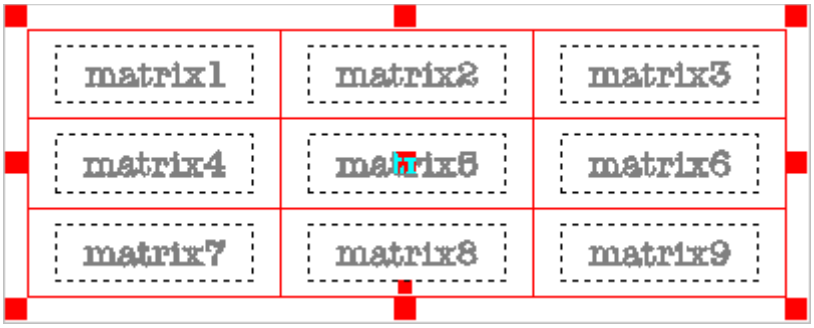
Generating customizable layers

Click in Matrix window A number of layers equal to the total of material sheets will be added into workspace.

To edit Matrix parameters cancel the series immediately after production.

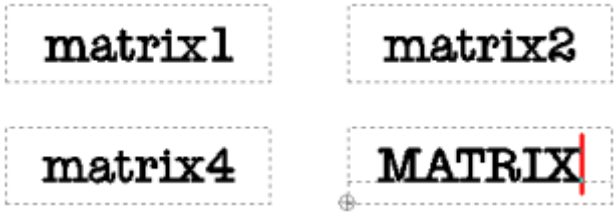
Click on until the template displays again.

In Layer bar click the layer to display. It contains
• a text object in each elementary plate.
• eventually a complex object grouping the cutting axes.

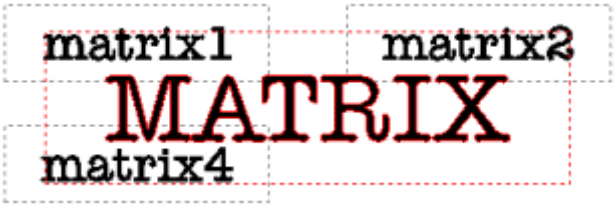


Click an elementary plate to edit the text.

Change the text, the size or the position of an elementary plate separately from others.



Click the elementary plate to edit (deleting, moving, resizing, etc.).



The operation definitely changes the distribution of the elementary plates in the active layer.

Matrix: Producing a series for AutoPlateFeeder (APF)

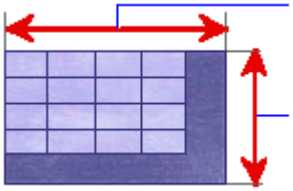
1. **Create the composition used as a template for the series of plates that share the properties and the objects of the template.**

   a. Configure the template in the Material window.

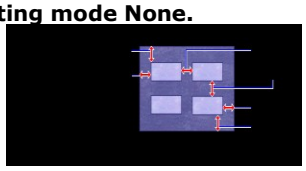
   b. Insert a variable into text at need.
   Using a variable automatizes the name input, the logo setting or the numbering over the plate series.

2. **Produce the Matrix series. Click the Pro bar**

3. Click the template Basic plate in the Matrix window.
   The dimensions have been saved in the material list.



4. **Click the cutting mode None.**

   Do not set any Offset value 

5. **Key in the Number of required plates, e.g. the total of plates loaded in the APFeeder.**

6.

7. Fix the engraving properties in the Machining/Lasering window.

8. Enable and configure the APFeeder.

Stamps

Professionals: Stamps LASERSTYLE

Whatever the mode chosen creating a stamp requires **the following components.**

the objects to mark onto stamp (text, logo, shapes, etc.)

the stamp support

the contour to cut the stamp in material

Do not edit the final stamps using Stamp function in Laser dialog box that will alter your job.

Creating in automatic mode

Call out Stamp wizard to start a stamp **from new text or of from a selection of objects.**

1. Select stamp objects.
2. Generate the support.
3. Generate the cutting contour.
4. Finish Create the stamp.

Creating in manual mode

Create one or more stamps starting **from existing support and objects.**

F7 Display filled surfaces.

Create a single stamp.

When you create multiple stamps distribute in a same layer and laser them on a single rubber sheet.

A stamp is a complex object generated according to
• marking preferences.
• location preferences.

The marking is simulated using a grayscale render.
The support is gray.
The cutting contour is red.

Stamp wizard

Stamp: Selecting objects

Set
- marking preferences.
- location preferences.

New lines of text

1. Open Stamp wizard. Click in Professional bar
2. Click the font.
3. Click laserpath color.
4. Key in character spacing.
5. Key in line spacing.
6. Click text orientation.
7. Type text in input field.
   Line break
8. Next> Generate stamp support.

Existing text

1. Type text.
2. Open Stamp wizard. Click in Professional bar
3. Next> Generate stamp support.

Existing objects

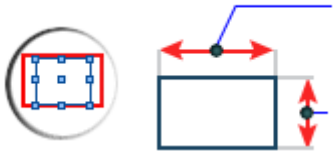
1. **Create stamp contents:** text objects or curve objects.
2. Select objects using drag and drop.
3. Open Stamp wizard. Click in Professional bar
4. Next> Generate stamp support.

Stamp: Generating support

The closed contour represents the non-engraved stamp mount.

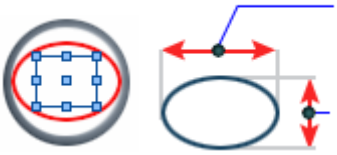
1. Select stamp objects.
2. Click a **preset support or set support properties (rectangle is default).**
3. Next> Generate the cutting contour.

Rectangle: Width and Height



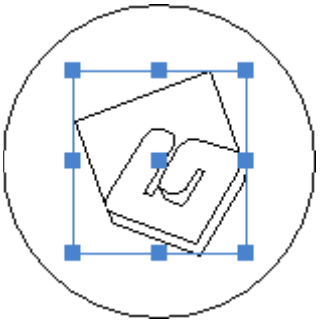
Circle: Radius

Ellipse: Width and Height



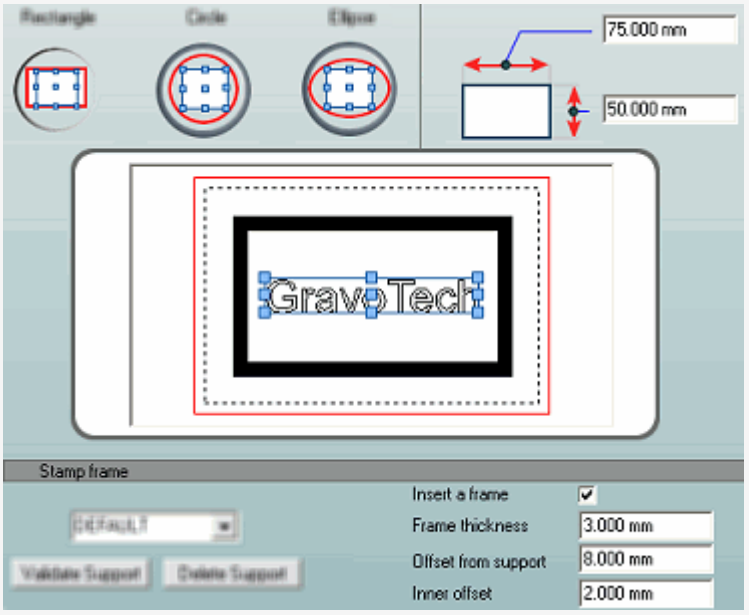
The preview displays the stamp objects centred in support.

A selection frame displays around the group of objects.
Use the blue handles to resize or to move the selection using mouse.



1. Click the **support shape.**
2. Key in **support dimensions.**
3. Click to **Insert a frame. Key in**
   - **the thickness** (1mm is default).
   - **the offset or border between the frame and the support** (0 is default, frame and support are superimposed).
   - **the inner offset or horizontal distance between the frame and the text.**

The selection is proportionally resized in the surface delimited by the frame or by the support.



Add a preset support

1. Configure the new support (shape, dimensions, frame).
2. Type the name in the list.
3. Validate support Click.

Click the support in the list to apply it to selection.

Delete support Click to delete the selected support.

Stamp: Generating cutting contour

The closed contour delimits the overall size of the stamp in material.

1. Generate stamp support.
2. **Set the cutting properties.**

Line Click the required contour.

Optimized according to the overall size of the group of objects (is default)

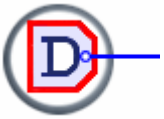
Rectangle like the selection frame for the group of objects

Like Support

Merged boxes

Click the mode to cut a suite of lines of text according to their actual surfaces. The generated cutting contour reduces the loss of material by respecting the text size.

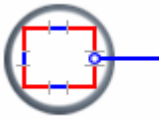
Offset



For an optimized, rectangular or merged cutting key in the distance between the contour and the perimeter of the stamp objects.

The cut contour can be corrected so that the stamp remains in support surface. Key in a lower offset if need be.

Precut



1. ☑ Tick to **Enable Bridges.**
2. Key in bridge **Size or length of uncut material.**

The cutting contour displays dotted.

3. Finish Click. The stamp displays according to the marking preferences set in F10 Options.

To modify the stamp cancel immediately after production.

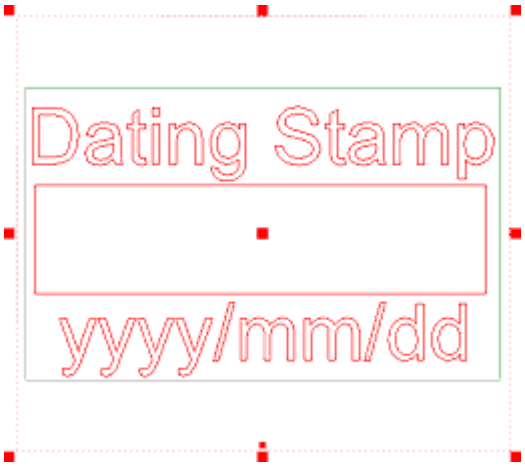
a.

b. Open Stamp wizard again.

Manual mode

Stamp: Creating in manual mode

Run the manual mode to produce a stamp with internal cut for a dating stamp for example.



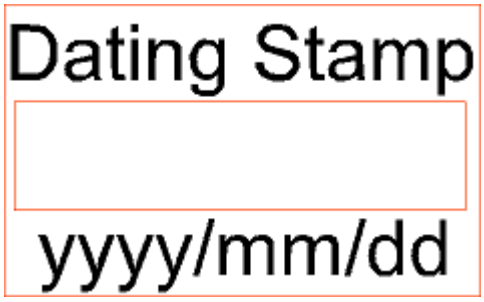
1. **Set**
   - marking preferences.
   - location preferences.
2. **Create stamp contents: text objects or curve objects.**

Two lines of text build the stamp.

The internal rectangle bounds the cut reserved to the date indicator.

3. **Draw the support around the objects.**
   - Draw a closed contour.
   - Generate the contour using offset.

The external rectangle is used as support.



4. Assign a laserpath to each stamp object.

The support and the internal rectangle receive the orange color, standard cutting path.

5. Select by drag and drop the support and stamp objects.
6. Ctrl Key down click in Professional bar

The external plan of cut and the internal cut display in orange.

Double-click the stamp to cancel its production. The support and the objects are ungrouped to be edited.

Generating the cutting contour using offset

1. Click the group of objects.
2. Click in Effects bar
3. Click to **Keep initial curves.**
4. Key in an **Offset distance sufficient to produce a single contour around the objects.**
5. Click the type of contour, then the type of angle.
6.

If the offset produces more than one contour delete the contour and restart the operation.

Too weak offset **Correct offset** **Contour retouched**

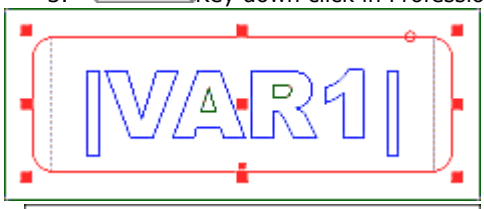
Stamp: Producing multiple stamps

Set
- marking preferences.
- location preferences.

Send the set of stamps to a worksheet. Their number and their distribution per worksheet will determine the number of rubber sheets to laser.

Creating stamps

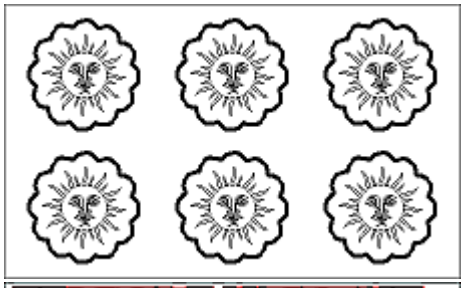
1. Stamps
   - are different create each stamp in manual mode.
   - are identical **create a model.**
     a. **Draw the support around existing objects.**
     b. **Make copies using**
        - a Duplication function.
        - Matrix function (see below).
     c. Edit a copy to customize a stamp.
2. Ctrl A Select all the copies obtained.
3. Ctrl Key down click in Professional bar



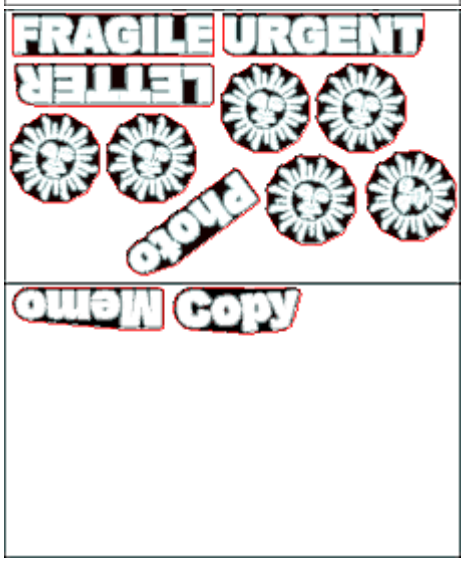
Drawing the stamp support around the text of the composition used as a template (text extracted from a variable)

Static series of Matrix copies obtained from the template

Creating and optimizing stamps in worksheet



Copies obtained by linear duplication of a support and a symbol



Adding and optimizing stamps by creating a new worksheet

Cancelling the creation of multiple stamps in a worksheet

Cancel immediately the operation.
• once to reset supports and objects in initial layer.
• twice to delete the stamps in worksheet.

Cancelling the creation of one stamp in a worksheet

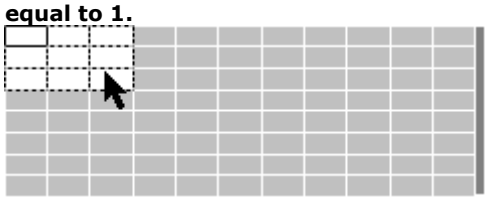
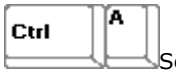
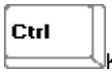
1. In Layer bar click Worksheet
2. Double-click a stamp.

The stamp is deleted in worksheet.

The support and the objects are converted into curves, ungrouped and sent to the front layer.

Producing multiple stamps using Matrix function

Enable the static mode if you are producing a small series of copies from the current composition.
You change the text or size of a copy independent of the other copies.
We recommend to produce the series of copies on a single layer to not slow down the composition display.

1. Configure the composition used as stamp template.
2. Draw the support around a group of existing objects. Insert an incrementation or a list of names in text if need be.
   Using a variable lets you automate the numbering or the text typing over the plates series.
3. Open Matrix.
4. **Untick Dynamic to distribute copies in static mode.**
5. **Key in dimensions of the rubber band.**
6. **Key in number of copies Nb.X per row and Nb. Y per column. Key in a Nb. Layers value equal to 1.**
   
7. Delete cutting axes because the cut contour will be automatically generated around each copy.
8.
9.  Select all the copies obtained.
10.  Key down click in Professional bar

Stamp preferences

Stamp: Setting marking preferences

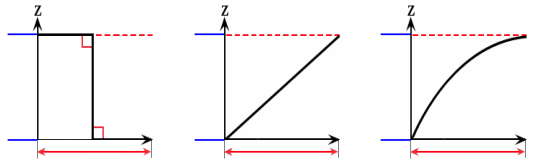
A. Open F10 Options.

B. **Click Stamp tab Set marking preferences (preset, section, cutting, render).**

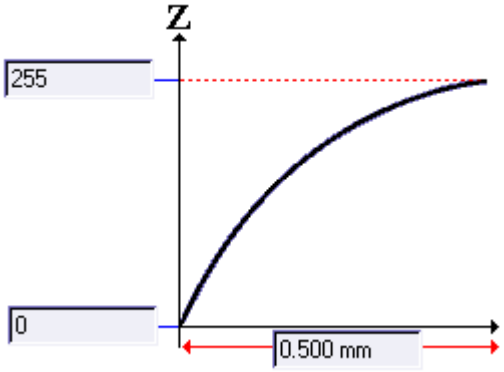
C. **Set location preferences on rubber sheet**.

D.

Computing section



Step **Linear** **Curve**



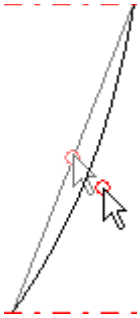
1. **Click**
   Section type.
   or
   Section color.
   Each color is a preset section (black is default).

2. Key in shape width.

3. **Key in gray level between 0 and 255**
   - **Min.** at the section base (default is 0=Black).
   - **Max.** at the section apex (default is 255=White).

Relief marking is default Max gray level (255=White) is higher than Min gray level at the base of the section (0=Black).

For a hollow marking key in a Max gray level lower than Min gray level at the base of the section.



4. **To adjust a curved section drag and drop the inflexion point in preview.**

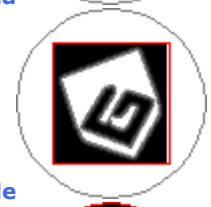
Cutting mode

Color

Click and enable a color in Windows palette (red is default).

Line

Optimized



Rectangle

Support

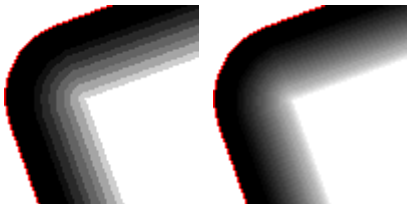
Fusion

1. Click the required cutting lines:
   - ◉ **Optimized in relation to the overall size of the group of objects (is default)**
   - ○ **Rectangle in relation to the selection frame of the group of objects**
   - ○ **Support**
   - ○ **Merged to cut a series of lines of text according their actual surfaces** The generated cutting contour reduces material loss by respecting text size.
2. **For an optimized, rectangular or merged cutting, key in the Offset** between the contour and the perimeter of the stamp objects.

Bridges

1. ☑ Tick to **Enable Bridges.**
2. **Key in bridge Length of uncut material** The cutting contour displays dotted.

Render display

Cutting	Click to show or to hide the cutting contour.
Support	Displayed in gray the support is not to engrave.
Mirror	Click to reverse the stamp. The contents will be normally marked once the stamp will be fixed onto mount.
Nb of steps for Rendering  **8** **256**	By default, a stamp shape is simulated by a 8 gray levels-shading. **Key in number of gray levels from the base to the top of the slope (256 max.).** Each gray level matches a percentage of the laser power applied to black color. **A high number of gray levels increases the marking resolution, but slows down the render display.**
Send to Worksheet	Click to add a layer dedicated to stamp production Each new stamp displays in worksheet The support and the objects are removed from the initial plan.
Freeze old stamps	Tick to immobilize existing stamps on their present location. New stamps will be added and distributed upon remaining material.
Resolution for bitmap conversion	1. **Key in a Resolution between 1 and 1000 DPI.** 2. OK 3. Click the stamp to convert into bitmap image. 4. Ctrl Key down click in Advanced text bar

Stamp preset

Create a preset to save the preferences for stamp lasering. Click in list to assign a preset to each new stamp.	1. Set all the preferences in **Stamp tab of F10 Options.** 2. Type the name in the list. 3. Validate Click to add the preset. Delete Click to delete the selected preset.

Stamp: Location preferences

A. Open F10 Options.

B. Set marking preferences (profile,shape, cutting, render).

C. **Click Stamp nesting tab. Set location preferences on rubber sheet.**

D.

The distribution of stamps on the rubber sheet depends on their number and on location preferences.

Rotation	○ **Free:** each stamp rotates according to the ideal angle to occupy the rubber sheet. ○ **Precise: key in Angle.** Using a constant angle of 5°, a stamp rotates by 5°, then 10°, 15°, 20° till 360°. ○ **Several Angles authorized: key in the List of angles** separated by semi-comma (**;**) ◉ **No rotation (is default)**
Laser parameters	Key in • **the Diameter of laser beam.** • **the Offset** or distance between 2 cut stamps.
Start corner	◉ Click the corner where the stamp distribution starts **(top left corner of the composition is default).**
Direction	Click the way of stamp distribution. ◉ **Horizontal is default** ○ **Vertical**
Resolution	**Adjust the Resolution between 0.1 and 0.6 for a fine or a standard distribution.**
Background color	☑ Click to **Change background color to black.** ☐ Click to **Display the worksheet as printed** on black to contrast stamps to engrave.

Dials

Producing a dial

1. Open Dial wizard. Click in Professional bar
   Use the preview to view object construction. Click the preview to update.
   <Back Next> Click to step forward or backward.
2. Fix the properties of the scale support.
3. Configure scaling strokes.
4. Fix dial engraving properties.
5. Key in dial text if need be.
6. Finish Click to generate the Dial object.
7. Display engraving paths.

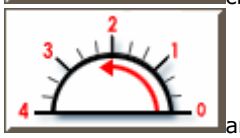
For a free-shaped scale

1. Draw the shape used as scale support.
2. Click the shape to select.
3. Go to step 1 in Dial wizard.

Dials: Properties of scale support

1. Go to step 1 in Dial wizard.
2. **Key in parameters matching the chosen Support and Scaling mode (selected shape, line or circle).**
3. **Click the support direction that defines the start point and the scaling way.**

clockwise (is default)



anti-clockwise

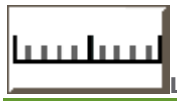
4. Next> Click to configure scaling strokes.

Free shape (non-available without selection)

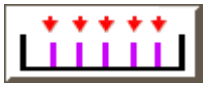
Select the support shape before creating dial.

a. Key in parameters matching the chosen mode.
   - **Dist. between 2 strokes**
   - **Number of strokes**

b. Go to step 4.


Line (is default)

a. **Key in XY coordinates of line Origin.**
b. **Key in the slope Angle of the line.**
c. Click a scaling Mode.
d. Key in parameters matching the chosen mode.

Mode	Keyed in parameters	Parameter autocomputing (in red)
	Dist. between 2 strokes **Number of strokes**	 **Support length**
	Dist. between 2 strokes **Support length**	 **Number of strokes de graduation**
	**Support length** **Number of strokes**	 **Dist. between 2 strokes de graduation**

Circle arc

a. **Key in XY coordinates of arc Centre (composition bottom left corner is default).**

b. **Key in arc Radius.**

c. Click a scaling Mode.

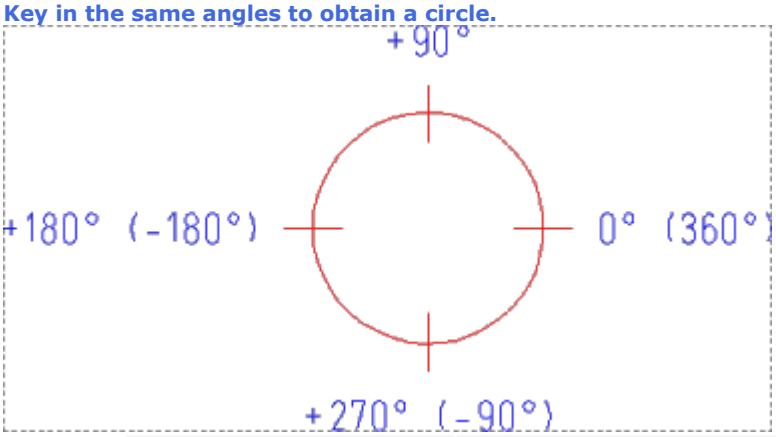
d. Key in parameters matching the chosen mode.

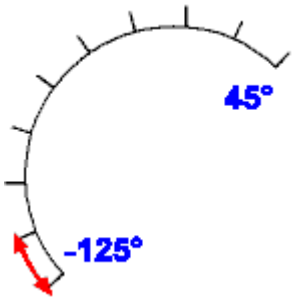
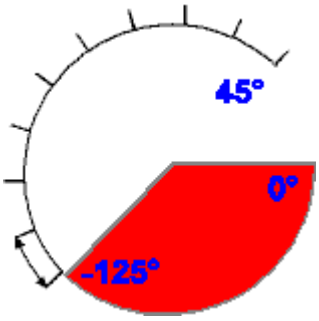
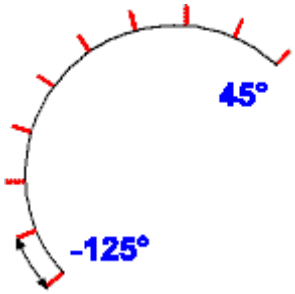
Start and end angles define arc opening and support length.

The support is a semicircle by default. Start angle equals 0, end angle 180°.

Use reference below to key in start and end angles.

Key in the same angles to obtain a circle.



Mode			
Keyed in parameters	**Start angle** **End angle** **Number of strokes**	**Start angle** **Angle between 2 strokes** **Number of strokes**	**Start angle** **End angle** **Angle between 2 strokes**
Parameter autocomputing (in red) **Clockwise arc with** **• start angle de +45°** **• end angle de +225° (or -125°)**	 **Dist. between 2 scale strokes**	 **End angle of support**	 **Number of scale strokes**

Dials: Properties of scaling strokes

A. Go to step 2 in Dial wizard.

B. **Fix properties for each set of strokes.**

1. Click **# rank of the set.**

Repeat the operation for each set of strokes (10 max.).

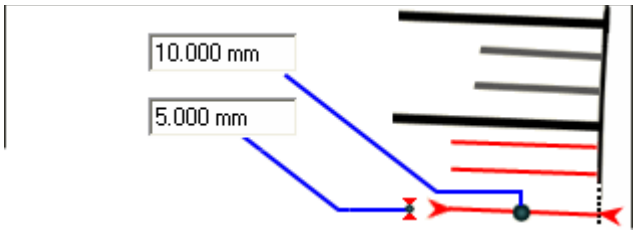
2. Click **Position on support.**

outside (is default)
centered
inside

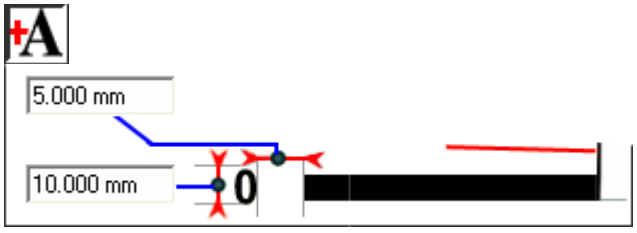
3. Click **Profile.**

line (is default)
triangle
flat
rectangle

4. Key in **Scale Height and Width (except for linear strokes).**



5. Click to **add text to the set of strokes.**
6. Key in **Text height.**
7. Key in **Text/Scale Space.**



C. Define the series of strokes that make up the scale. **Key in the rank # of each set in Sequence.**

Linear dial with 11 strokes, built from 2 sets of strokes according to sequence 001

Set	Profile	Position	Height	Width
#0			5 mm	_
#1			4 mm	2 mm

D. Next> Click k to define dial engraving properties.

Dials: Engraving properties

1. Go to step 3 in Dial wizard.
2. **Click Toolpath.**
3. **Click the Underline engraved as scale support.**

   simple (is default)

   double. Key in distance between the two engraved lines.
4. When there is no text click to generate Dial object Finish

   When you link text and scale **set text engraving properties. Click**

   a. **Text alignment.**

      on support (is default)

      on each stroke

      on the highest stroke

   b. **Text orientation in relation to each scaling stroke.**

      orthogonal (is default)

      horizontal

      Key in text slope angle.

   c. **Font used to display text.**

   d. **Toolpath used to engrave text.**

   e. Next> Click to input scale text.

Dials: Text input

1. Go to step 4 in Dial wizard.
2. Select the text you link to the scale.
3. Finish Click to generate Dial object.

Text displays around the scale in relation to
- **support direction (clockwise or counterclockwise)**
- **engraving properties (alignment and orientation)**

Autonumbering	a. Click to generate a logical series of numbers. b. Key in **Start value** **Step or gap between two values** **Nb of decimal digits fixed per number** c. **Click** ☑ **Numbering each stroke** to number all the scale strokes. Numbers do not display at strokes that do not accept text. ☑ **Delete non-significant zero** to remove useless decimals.
Text variables **Add required variables before linking to scale.**	a. Click to load an existing variable. b. Click a list of names or an incrementation. Each value in variable (number or line of text) is linked to one scale stroke.
No text	Click to pull up each button.

Print&Cut

Print&Cut: Producing the bitmap image before cutting LASERSTYLE

Print&Cut function optimizes the laser cutting of a bitmap image so that the cut material has the exact size of the printed image.

Run a graphic editor that manages bitmap images and vector objects over layers (Corel Draw, Adobe Illustrator, Corel Paint Shop Pro, Paint.NET...).

Source image

1. Create the image onto a first layer.
2. **Group all the objects which make the image and convert into bitmap.**
3. Rotate the image according the direction you want to print it.

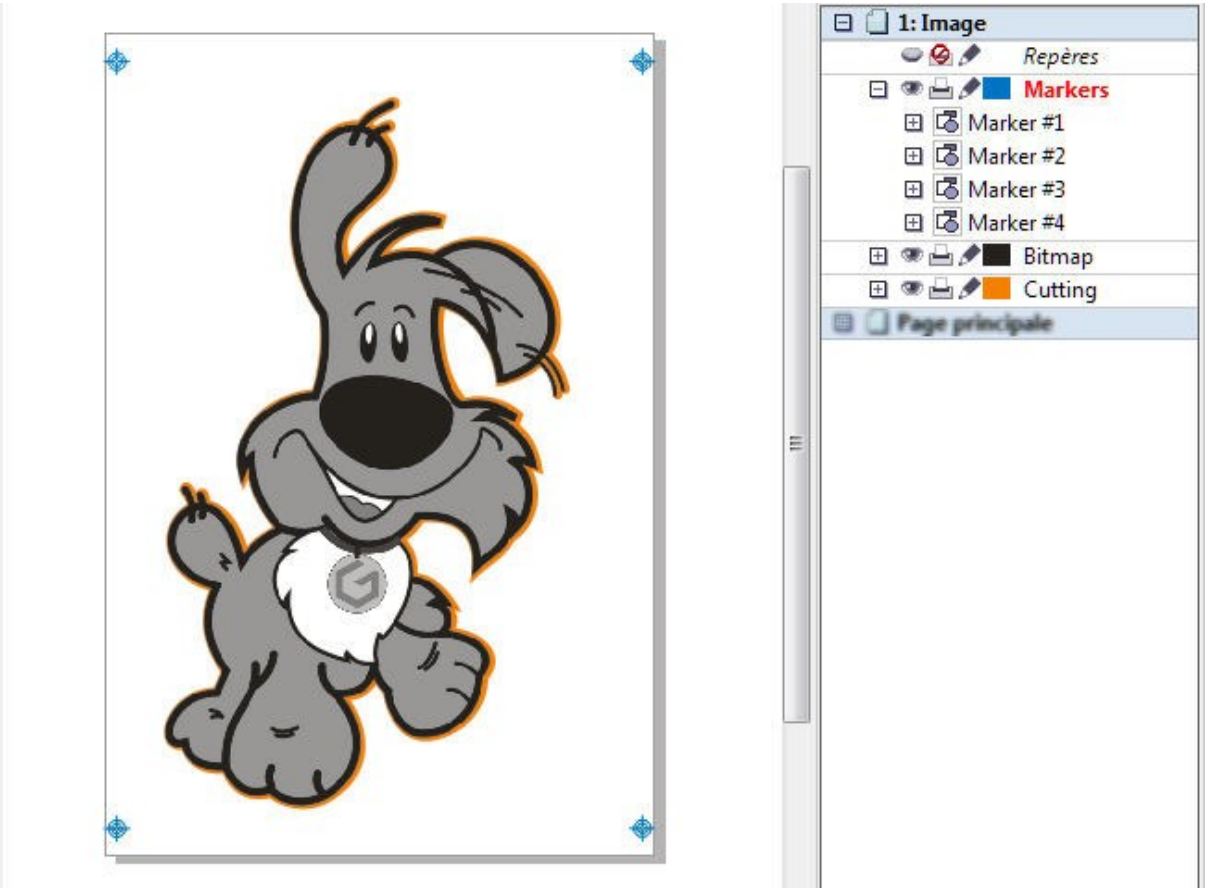
External cutting

1. Add the closed contour onto a new layer (here, in orange).
2. **Using a vector tool, draw the contour along the perimeter of the image.**
   The thickness of the path must lower than 0.17mm.

Cutting markers

1. **Add a new layer you must name Markers to set the markers.**
   To materialize each marker use a 4x4mm square with 2mm-diameter black circle at center
2. **Set around the image 4 markers, leftwards, downwards.**
   They bound the overall size of the material in which the image will be cut.
3. **Name each marker as follows: 'Marker', followed by its number '#1' - '#4'**
4. **Export the final image under PDF format (for instance Pdf Web for Corel Draw).**

At need set additional markers.
All the markers must remain separate objects.



Optimizing the image cutting

1. Open Material window
2. Click Engraving properties tab
3. **Click the machine that will cut the bitmap image**
4.
5. **Create a new composition**
6. **Import bitmap image**
7. Achieve Print&Cut optimization using red pointer or camera

CONFIGURATION **Display tab to key in optimisation parameters**

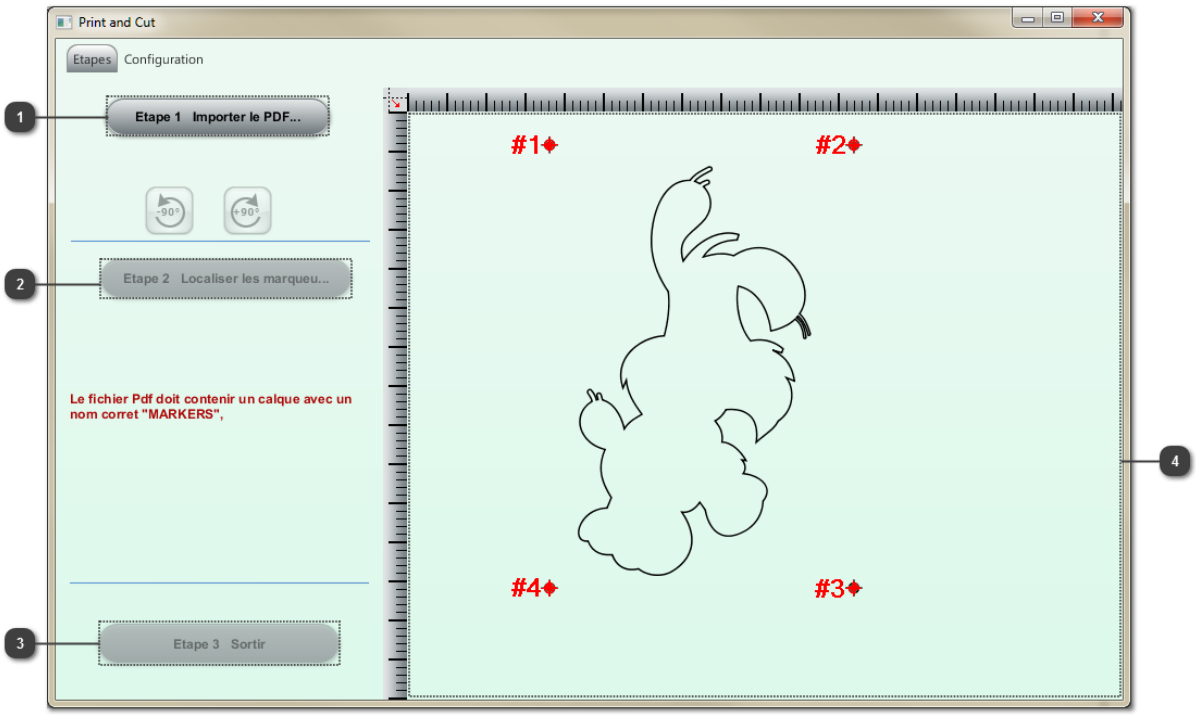
Layer name is Markers by default

Tolerance in detection accuracy

Number of markers to validate manually on machine

Dwell time at a marker before automatic validation. Key in a fair value to save each marker without stretching out the detection time.

Print&Cut: Optimizing the cutting using red pointer



1

Opening the PDF file to cut

Produce the bitmap image before cutting.

Click to display the cutting into the Print&Cut preview

Markers are red, numbered in the order of creation. The contour of external cut is black.

Make the image rotate by 90°left or right, if need be.

2

Locating markers...

Click and save the position of each marker onto the material

The first markers blinks in the preview.

a. Send the red pointer onto the marker: press the key on the machine

b. Adjust the setting using joystick

c. Validate the position of the marker The marker becomes blue in the Print&Cut preview.

d. The red pointer moves onto the next marker. Repeat the operation.

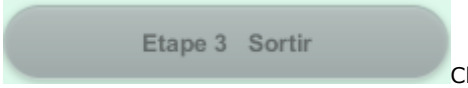
By default, the automatic location is active from marker #3.

- The pointer aligns onto the third markers and saves its position automatically.
- Press any key of the joystick to set manually the position of a marker. After validation, the automatic location restarts.
- The detection of the remaining markers continues and ends without your intervention.

Press the key to cancel a locating sequence

3

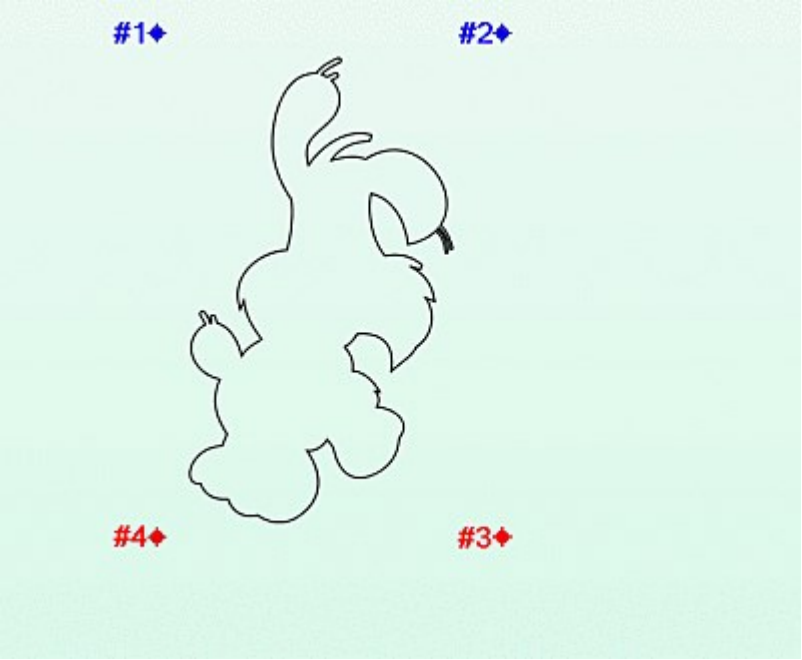
Close window



Click and send the path to cutting

4

Preview of the cutting in relation to markers



Print&Cut: Optimizing the cutting using camera

Before use in Gravostyle, the camera must be calibrated to recognize cutting markers as points laser marked.

Marking calibration grid

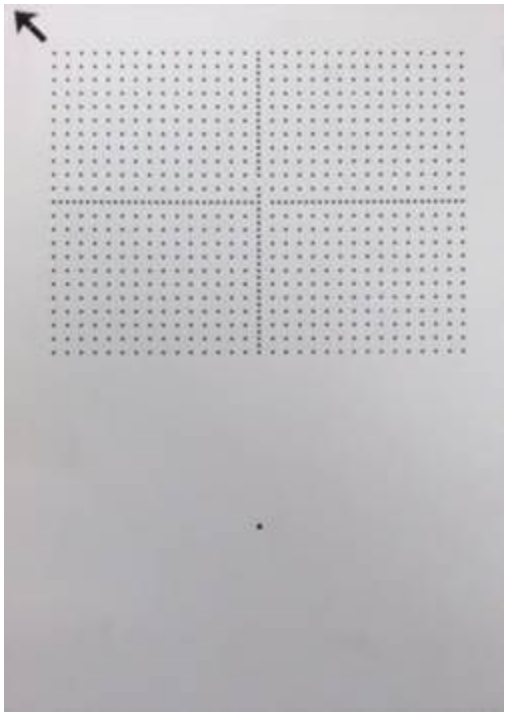
1. Take the material supplied in Print&Cut V2 kit (210 x 150 mm)
2. Secure it onto machine under usual cutting conditions (accessory, origin...)
3. Open C:\Gravostyle8000\Draws\PrintAndCutCalibrationPlate.gnh file in LASERSTYLE
4. Key in a rather low speed between 10 % and 15 %, adapt the power according to the source to obtain points so round as possible
5. Run Mark the grid points onto plate

Setting camera up in Windows

1. Check that the camera is connected to laser head
2. **Run the file C:\GravoStyle8000\DRIVER_CAMERA\uEyexx_47202_WHQL.exe (Windows 32 or 64 bits)**
3. Follow the instructions to install the driver
4. Double-click to fix uEye Cockpit camera settings
5. **Click Optimal Colors**
6. Cancel Close the window
7. Enable Print&Cut V2 function in LASERSTYLE
8. CONFIGURATION Click tab. Wait until the camera view is displayed in window.

When the camera is not detected, load the latest driver from URL https://fr.ids-imaging.com/download-ueye-winxx.html.
Follow the instructions to install the driver.

Calibrating camera



1. Secure the calibration grid onto machine under conditions identical to cutting ones
2. Perform head autofocus onto plate
3. Enable Print&Cut V2 function in LASERSTYLE
4. CONFIGURATION Click tab
5. Camera Setup Click to run operation

The head points onto XY coordinates of the center of the engraving area. Autofocus begins the development, followed by detection of the grid points using camera

The head is finally aligned with the checkpoint to validate or not the calibration.

Ctrl Shift Alt CONFIGURATION **Keys down click the tab to set calibration parameters**

Serial number of active camera	Select the camera connected to active machine
Autofocus	Manual setting for camera before calibration
Image orientation **X Mirror** **Y Mirror**	Tick to display the image downside in camera field
Set the threshold under various filters	The image quality can be changed using V1, V2, Smooth, Close Hole settings However default values are calculated to display the best image. Reset default values Back to recommended settings
Camera zero point before calibration	Key in XY coordinates to modify the position of the head during calibration

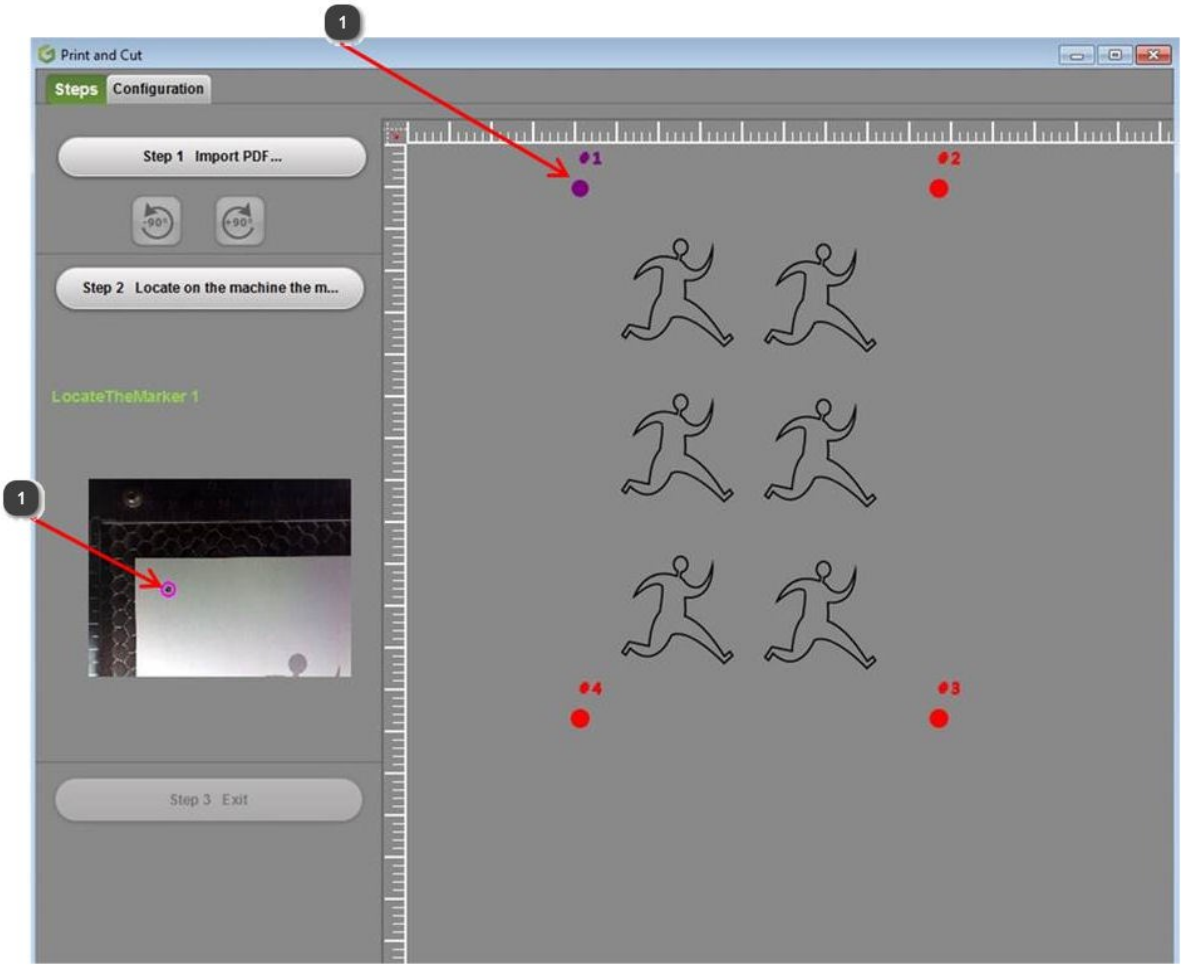
Optimizing the cutting

Follow the Print&Cut procedure, the camera replaces the red pointer. Detection of markers occurs either

- in automatic mode, with camera above material.
- in manual mode, by selection in the preview.

1 The pink circle shows a marker recognized in camera field and in preview.

- When poorly selected, return onto previous marker enables a new recognition.
- The required marker can be selected by clicking its position in the preview.
- When several markers are detected simultaneously, the camera selects the center marker.



Professionals: Magic copy

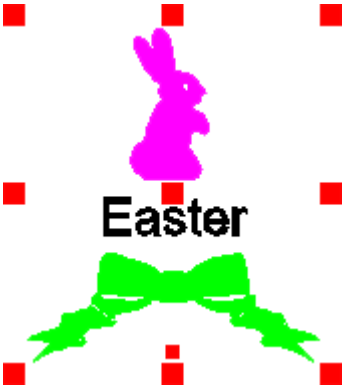
Group objects by set or by color path.

1. Select objects.
2. Click in Professionals bar

The wizard opens.

Each object of the selection displays in **Object to duplicate column.**

The name shows the object type and its path color in hexadecimal code.



Rename an object

Object to duplicate	Number of duplications
Composite f582100	1
Composite f581ed8	1
Text f5ba9e0	1

a. Double-click the name and type the new one.

b. Save modifications.

Remove an object

You always can select the object in the composition.

a. Right-click the name.

b.
- **Delete** to remove the object.
- **Delete all** to remove all the objects.

Duplicate all the objects

a. Tick the **Same number of copies per each selected object.**

b. **Key in the Number** required (0 is default).

Duplicate one object

Object to duplicate	Number of duplications
Ribbon f582100	6
Rabbit f581ed8	10
Easter f5ba9e0	3

1. **Untick the** Same number of copies per each selected object.
2. **Key in the Number of duplications** opposite to each object: double-click the value and type the number of copies required (1 is default).

Repeat the operation for each object to duplicate.

Stacking and centering copies on Copy layer

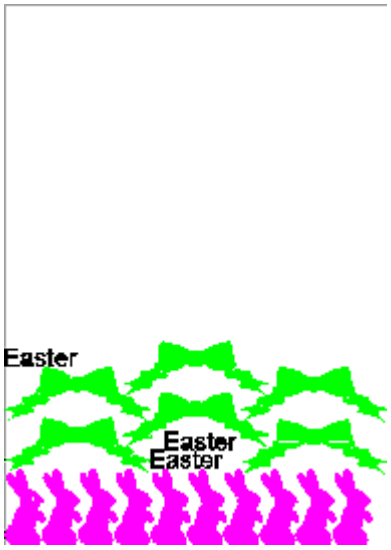
Copy layer is added to receive copies. The selection remains safe on source layer.

1. **Untick Nest duplicated objects option.**
2. OK

Click Copy layer in Layer bar.

Space horizontally and vertically to view unnested copies.

Distribute copies



a. Tick to **Nest duplicated objects.**

b. Fix settings for advanced material optimization.

c. OK

Generating report as PDF file

1. Nesting parameters set
2. Layer report with information about
   - the layer or the 1st selected contour filled by Nesting
   - the layers successively filled by Magic copy. Information series repeats per filled layer, each one has its own values.

Getting nesting information within 2 pages

The report uses current unit set in F10 Options.

Sheet name	Name of the layer in which nesting is made
When nesting is made in the 1st selected contour, Sheet name contains systematically s0 value.	All the information below concern the layer, till next Sheet name.
Instance index	Value 1 systematically
Length	Width of the layer (or of the 1st selected contour) in which nesting is made.
Width	Height of the layer (or of the 1st selected contour) in which nesting is made.

Net sheet area	Surface of the layer (or of the 1st selected contour) in which nesting is made.
Total parts nested	Number of parts nested in layer (or in 1st selected contour)
Total part area	Surface of parts nested in layer (or in 1st selected contour)
Total cut area	Cut surface of parts nested in layer (or in 1st selected contour)
The surface takes into account offset, the additional distance and deletes inner parts.	
Nested length	Cut width of parts nested in layer (or in 1st selected contour)
Nested width	Cut height of parts nested in layer (or in 1st selected contour)

Professionals: Batch import

1.
2. **Open file viewer.**
   Click where are files to import **(DRAWS is default).**
3. Display files of the selected folder according to your criteria. **Click**
   an extension or file type.
   For a quick selection display only
   All vector files
   All bitmap files
   a sorting mode.
   a file list (thumbnails with preview, files with or without properties).
   Resize thumbnails
4. **Add files to import.**
   a. Click the file preview in the left-side list.
      Ctrl Key down click different files.
   b. Click to add the selection into right-side list.
      Remove a selected file
5. Click import options.
   Delete files selected in the left-side list
   Optimization by nesting. In that case click to fix Nesting parameters

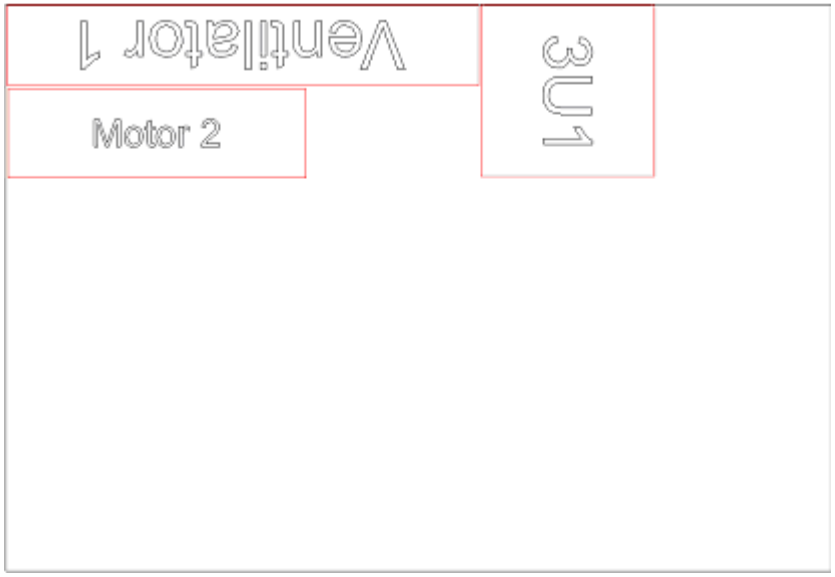
Nesting parameters Distribute files imported using nesting

Fix advanced Optimization properties to configure the distribution of files or jobs imported into composition.

The optimization is computed on the external frame bounding each job to engrave. Without frame a rectangle is added around the extreme engraving points of the job.

The operation begins with the setting of the biggest job in left bottom corner of the composition. Other jobs fill the copy from left to right according to Nesting properties.

When the current layer is full the next jobs take place automatically on a new layer.



LASERSTYLE Importing a batch of files to mark and to cut within the same material

Before achieving batch import check that each file contains a closed contour bounding the other objects to engrave. The contour must be vectors in orange color.

Each file containing this kind of frame will be cut further to laser marking. After cutting you get a set of independent pieces which number equals the total of the imported files.

1. **General** of F10 Options
2. **Click to Use Advanced Laser bar. Click**
3. **Import a batch of files according to the procedure below.**
4. If need be add the cutting contour around each file. Draw the closed contour
   either using Shapes tools
   or using Offset
5. Display Advanced Laser bar. Click in toolbox
6. **Assign orange color to each vector cutting contour.**
   a. Click to **Delete filling.**
   b. Click to **Fill the contour of the selection with the chosen color.**
   c. Key in a **Thickness less than 0.100mm for a vector cutting.**
   d. Double-click **the orange color.**
7. **Group each cutting contour with the objects it bounds.**
   Ctrl Key down click

Professionals: Inlay

GravoTech

GravoTech

oGaehTcvr

After operation the text converted into curves is no more editable.

1. Select an object with open contours or select text.
2. Click in Professionals bar
3. Fix linked properties.
   - Machining matrix
   - Female shape
   - Male shape
4.

- The selection remains safe on the source layer.
- Female shapes display in Magenta on Female layer.
- Male shapes display in Cyan on Male layer.

Properties of machining matrix

Click to define the **rounding of inner and outer angles on male and female shapes.**

Key in the rounding radius.

You have four profiles to machine the couple of shapes. The female shape is blue, the male shape red.

Blind conical hole

With a conical tool you fill in the female shape and you cut the male shape.

Open conical hole

With a conical tool you cut the two shapes.

Open cylindrical hole

With a cylindrical tool you cut the two shapes.

Blind cylindrical hole

With a cylindrical tool you fill in the female shape and you cut the male shape.

Properties of female shape

Key in external Offset, machining distance between female shape and selection.

Click to apply a **vertical Mirror.**

Click the Machining tool (Magenta is default).

Properties of male shape

Key in internal Offset, machining distance between male shape and selection.

Click to apply a **vertical Mirror.**

Click the Machining tool (Cyan is default).

Click to distribute male shapes on Male layer using advanced material optimization.

A new layer is added to receive the additional male shapes.

Professionals: Script

1. Click in Professionals bar
2. The Script manager opens. Click a script in the list
3. Run Script Click.

- Script ODBDC Database connexion
- Gravotech_Barcode_script

Managing scripts

Rename	1. Right-click a script in the list. 2. **Rename** 3. **Type Script Name**
Delete	1. Right-click a script in the list. 2. **Delete**
Add **Using Visual Basic commands you can add and edit personal scripts. For further information consult Gravotech Marking distributor.**	1. Add Script Click. 2. Type or paste commands in Script Editor. 3. Test Script Click to check how the script works. 4. **Type Script Name** 5. OK When it works click to save the new script under *.txt format.
Edit	1. Right-click a script in the list. 2. **Modify** 3. Make modifications in Script Editor. OK
Display in Favorites bar Favorites bar displays the icon with the rank of the script 1	1. Click a script in the list. 2. Add Command Click.

Using a masterscript

A masterscript can be scheduled to run subroutine scripts what allows to use skilled functions without typing all the commands in the script.

The masterscript contains only calls to subroutine scripts and comments. The query order of the subroutines scripts has to respect the execution sequence as if the masterscript contained all the scripts.

Add a masterscript

A masterscript is a file under *.sme type.

1. Add Merged script Click.
2. **Type Script Name**
3. Add subroutine scripts into the masterscript.

Add a subroutine script

A subroutine script is a file under *.sli type.

1. Right-click a masterscript.
2. **Add new library. Add a script.**
   Add existing library. Type the name of an existing script.

Modifying a subroutine script embedded in a masterscript change its behavior. Do not edit, do not rename, do not delete subroutine script called out by one or more masterscripts.

Sorting subroutine scripts

Double-click a masterscript to show or to hide subroutine scripts.

Sort subroutine scripts according to the order the masterscript will execute them.

1. Right-click a subroutine script.
2. **Up** to rise the script by one rank
   Down to lower the script by one rank

Barcodes

Profesionals: Barcodes LASERSTYLE

Barcodes produce serial numbers used to track trade, administration or industry products (identification, logistics, moving...).

A.

Display engraving paths

B.

C.
Click the type of barcode required:

Producing 1D barcode

Unidimensional codes are represented by a suite of parallel bars with variable thicknesses.

1D codes are read by a device which laser beam sweeps the series of bars.

Producing 2D code

Two-dimensional codes use various symbols (rectangles, squares, points and other geometrical forms). Their matrix shape allows to encode more information.

Rectangular or square 2D codes can be decoded by a smartphone with a reading application. The photography of a 2D barcode by smartphone allows to run various actions, as to connect to a website, to send a message, or to dial a phone number.

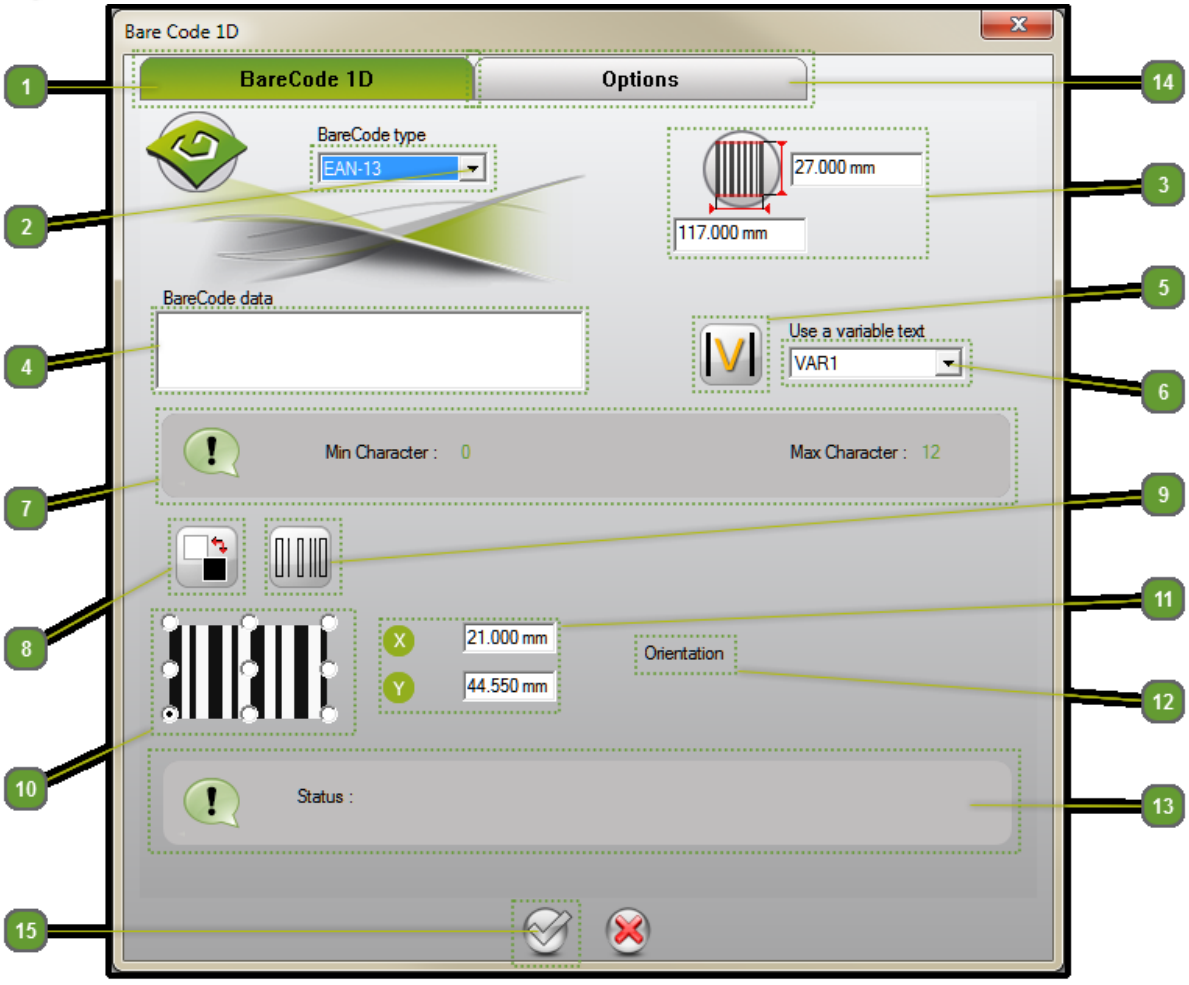
Identifying an item by a unique and non-ambiguous UID Datamatrix code

You obtain a complex object.
Double-click the objet to edit its properties.

1D Barcodes: Engraving properties

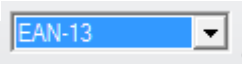
A.

B.



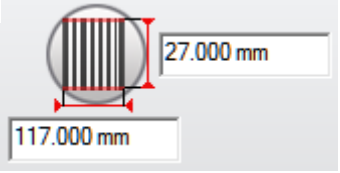
1 1D Barcodes: Engraving properties

2 Selecting encoding standard



Click its name in the drop-down list

3 Barcode nominal height and width



Key in values complying with the chosen standard

4 **Text to convert into barcode**

According to the chosen standard, type letters and/or ciphers.

5 **Inserting a variable**

Click to access available variables

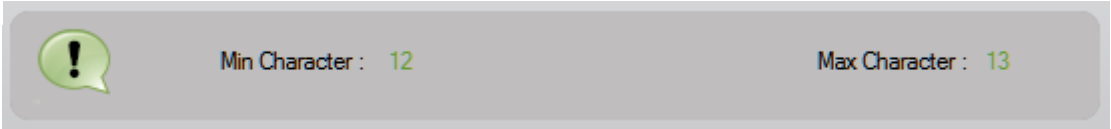
Thus you will encode serial numbers generated by incrementation or by a list of names.

6 **Selecting the variable to insert**

Click its name in the drop-down list (VAR1 is default)

The variable name displays inside the Text to convert.

7 **Suivi du number de characters in le text**



According to the chosen standard, check that the number of input characters equals the total of required characters, optional characters inch.

8 **Inverting areas to engrave**

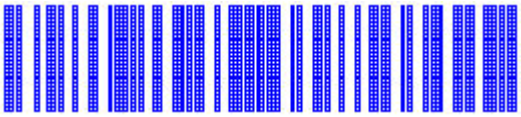
Click to engrave the area around bars and to obtain a relief barcode

9 **Vectorizing bars**

Click to engrave every bar surface following a grid of grouped points

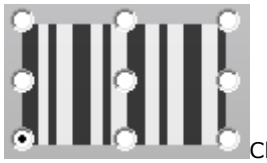
Click to display available path colors

Click to assign the pathcolor to points to engrave

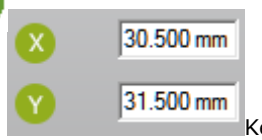


10

Barcode origin


Click the point position (bottom left corner is default)

11 **Origin position in workspace**



Key in the point coordinates (bottom left corner of the composition margins is default).

12 **Barcode orientation**

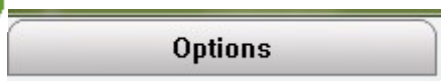
Click its name in the drop-down list

- Normal (horizontal is default)
- Inverted (rotation by 180°)
- Vertical, text leftward (rotation by 90° right)
- Vertical, text rightward (rotation by 90° left)

13 **Validation of the final barcode**

The status zone indicates if the barcode contents complies with the chosen standard.
If need be a message displays the kind of error to correct.

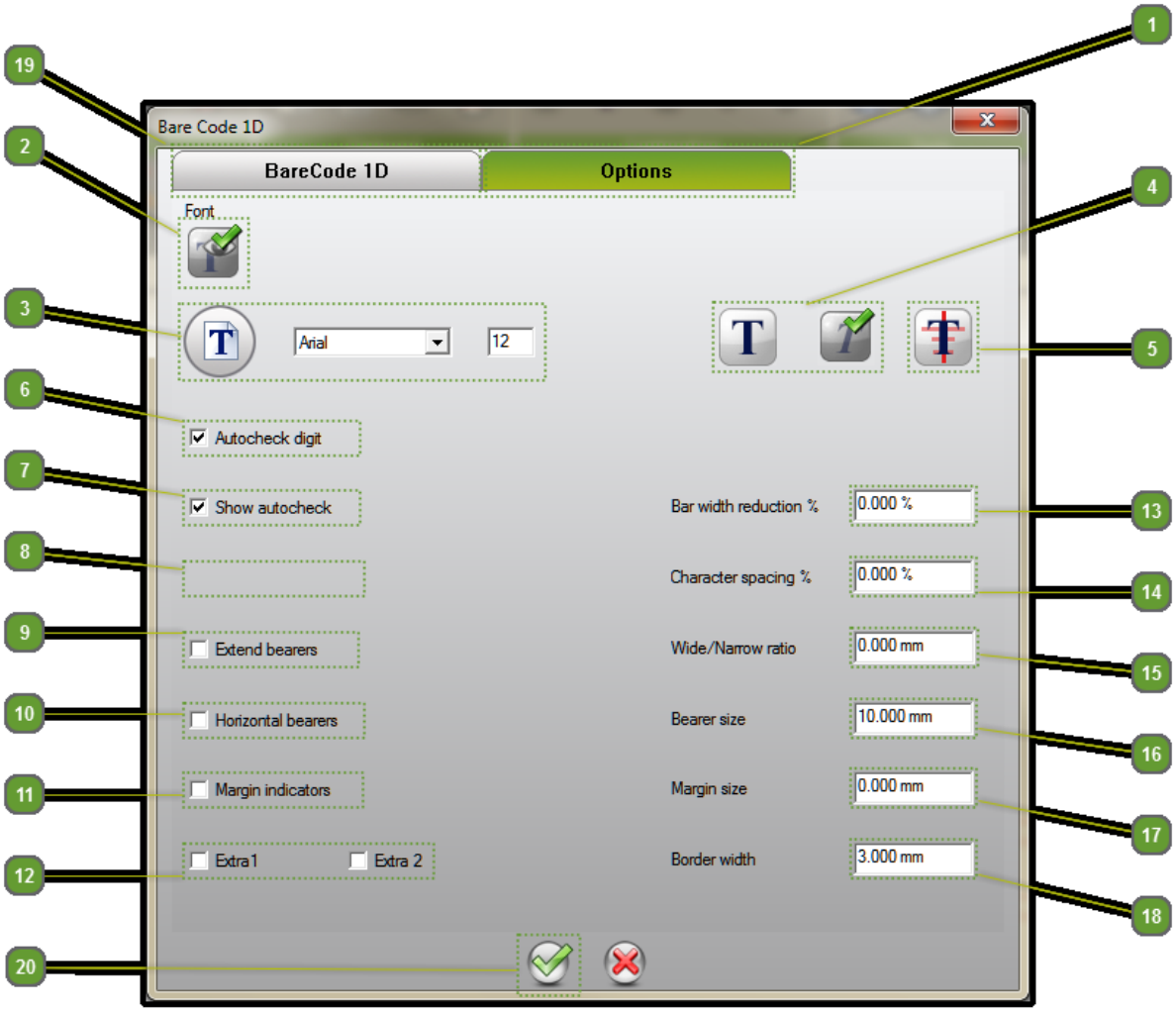
14 Options upon the barcode contents



Click the tab to continue the configuration

15 Click to produce the object

1D Barcodes: Contents options



1 1D Barcodes: Contents options

Options

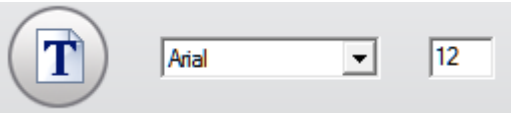
Key in numerical values complying with min., max. and nominal dimensions of the barcode according to the chosen standard. They are computed for an optimal barcode reading.

2 Text to convert

Click to engrave the initial text below the final barcode.

Adding initial text under barcode automatically reduces the bar height.

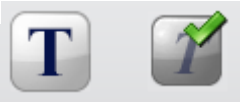
3 Font of the initial text



a. Click its name in the drop-down list

b. Key in text height (12 points is default)

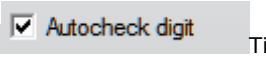
4 **Styles of the initial text**


Click to display bold and/or italics text

5 **Position of the initial text**

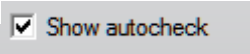
Click to centre between left and right margins or to align text against a margin of the barcode

6 **Checksum character**



Tick to automatically obtain the character fitting the barcode

7 **View checksum**



Tick to add the character into initial text

8 **Transparent background**

Tick to hide the background color of the bars

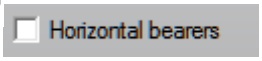
9 **Extending bearers over margins**

Tick to enlarge bearers used to calibrate a barcode reader

Bearers lay at the middle and the ends of the barcode. Every bearer encloses a black bar, an empty bar and a black bar.

The bearer height is fixed, even with initial text.

10 **Optional bearers**



Tick to add bearers according to the chosen standard

11 **Margin indicators**

Tick to end the barcode using character >

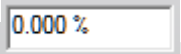
The arrow tip shows the position of the barcode right margin.

According to the chosen standard, the character < can be added to start the barcode.

12 **Additional characters**

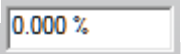
Tick to add characters proper to the chosen standard

13 **Reducing bar thickness**



Key in a value between 0 and 100%

14 **Space between characters**



Key in a value between 0 and 99%

15 **Ratio between narrow and large bars**

0.000 mm Key in the thickness gap between a large bar and a narrow one

16 **Scaling ratio**

10.000 mm Key in a value. 1-ratio produces the barcode at its default size.

17 **Left and right margins around barcode**

0.000 mm Key in a positive or negative value

Bearers can overstep margins.

18 **Border around barcode**

3.000 mm Key in a value between 0 et 99

Barcode size increases compared to initial height.

Click each border to add (left, right, top, bottom)

19 Barcode engraving properties

BareCode 1D Click the tab to continue the configuration

20 Click to produce the object

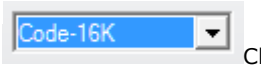
2D Barcodes: Engraving properties

A.

B.

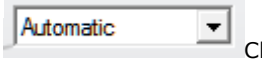
1 **2D Barcodes: Engraving properties**

2 **Selecting encoding standard**



Click its name in the drop-down list

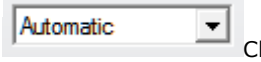
3 **Encoding mode**



Click its name in the drop-down list

The barcode size changes in relation to the chosen mode.

4 **Security level**



Click its name in the drop-down list

The level determines how the standard will reduce mistakes when reading the final barcode.

5 **Text to convert into barcode**

According to the chosen standard, type letters and/or ciphers.

6 **Inserting a variable**

Click to access available variables

Thus you will encode serial numbers generated by incrementation or by a list of names.

7 **Selecting the variable ton insert**

Click its name in the drop-down list (VAR1 is default)

The variable name displays inside the Text to convert.

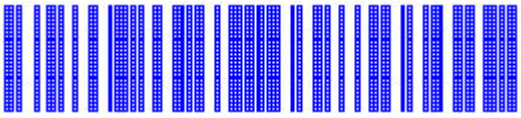
8 **Inverting areas to engrave**

Click to engrave the area around bars and to obtain a relief barcode

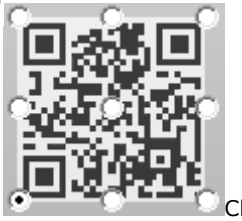
9 **Vectorizing bars**

Click to engrave every bar surface following a grid of grouped points

Click to display available path colors

Click to assign the pathcolor to points to engrave 

10 **Barcode origin**


Click the point position (bottom left corner is default)

11 **Origin position in workspace**

Key in the point coordinates (bottom left corner of the composition margins is default).

12 **Barcode orientation**

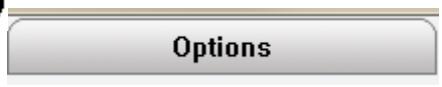
Click its name in the drop-down list

- Normal (horizontal is default)
- Inverted (rotation by 180°)
- Vertical, text leftward (rotation by 90° right)
- Vertical, text rightward (rotation by 90° left)

13 **Validation of the final barcode**

The status zone indicates if the barcode contents complies with the chosen standard.
If need be a message displays the kind of error to correct.

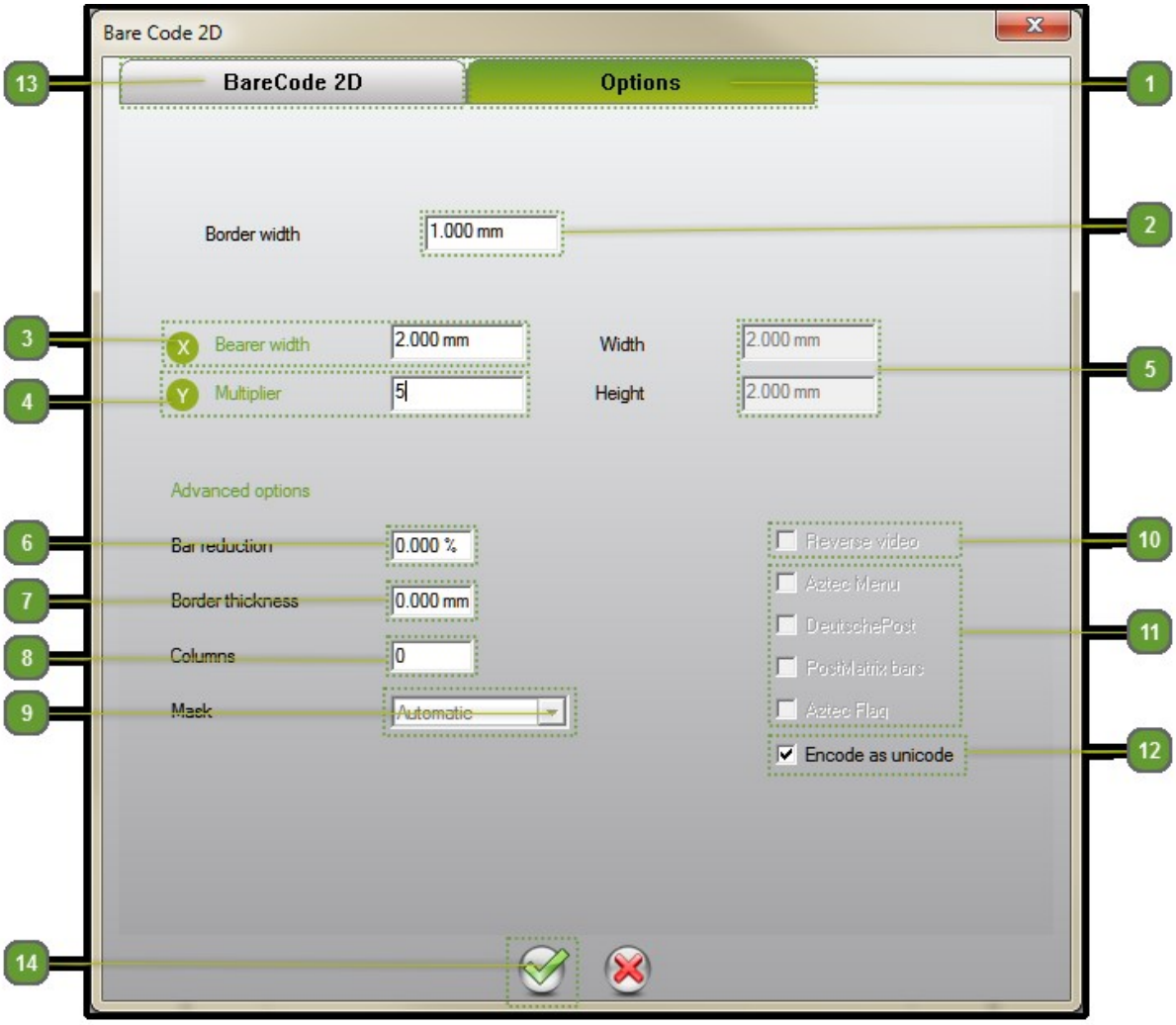
14 Options upon barcode contents



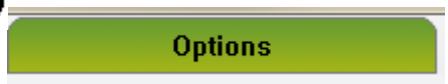
Click the tab to continue the configuration

15 Click to produce the object

2D Barcodes: Contents options



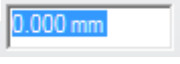
1 **2D Barcodes: Contents options**



Key in numerical values complying with min., max. and nominal dimensions of the barcode according to the chosen standard. They are computed for an optimal barcode reading.

Advanced options change according to the chosen encoding standard.

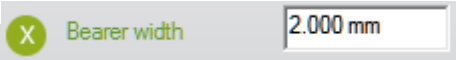
2 **Border around barcode**



Key in a value between 0 and 99

Barcode size increases compared to nominal height.

3 **Bearer width**



Key in a value. 1-ratio produces the barcode at its default size.

4 **Multiplicator**

Multiplier 5 Key in a value

5 **Height and width automatically computed**

6 **Bar reduction ratio**

0.000 % Key in a value

7 **Border thickness**

0.000 mm Key in a value

8 **Columns**

0 Key in a value

9 **Mask**

Automatic Click its name in the drop-down list

The level defines how the mask will correct errors when creating a barcode.

10 **Reverse video**

Tick if the reader can read an inverted barcode (a black bar is empty, an empty bar is black).

11 **Options proper to the standard**

Aztec Menu Tick to check an Aztec type-barcode, commonly-used for online sale of train tickets

Aztec Flag

DeutschePost Tick to check a barcode output by the German post

PostMatrix bars Tick to check the presence of bars in front of a DeutschePost type-barcode

12 **Encoding as Unicode**

13 Barcode engraving properties

BareCode 2D Click the tab to continue the configuration

14 Click to produce the object

Professionals: UID Datamatrix

The Unique coding IDENTIFICATION has been set up by the Defense Department of United States to optimize the management of supplies by the affectation of a unique identification in infrastructures, equipments, operational materials and stationery.

U.S. government defines UID coding as follows: "UID standard manages all the data that identify tangible assets in a unique way and without ambiguity, granting for life the integrity and the quality of these data in relation to multiple economic applications and their users.

In practice each standard of UID coding defines the required datastring for a unique and not ambiguous UII marking by referenced article. The required elementary data include manufacturer identification (SIREN or SIRET code) and article reference. When the manufacturer produces a referenced article in series the datum is also coded.

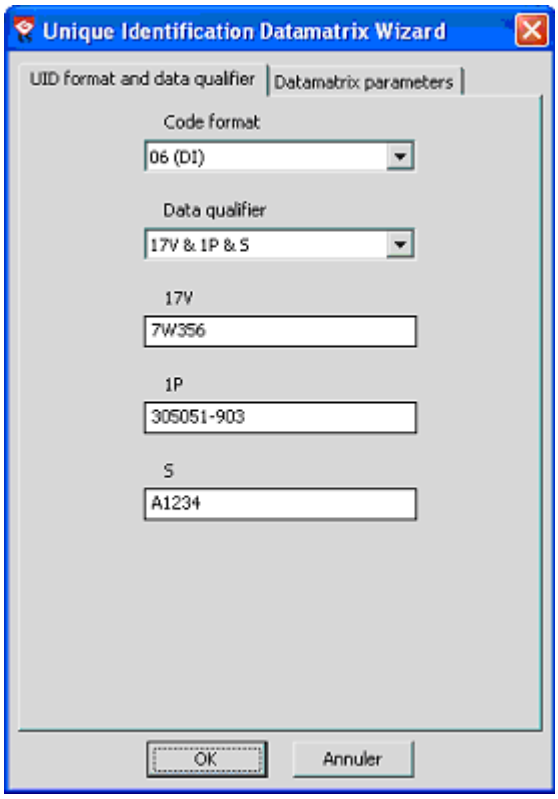
Below the decomposition of UII datastring in example.

[)>RS06GS17V7W356GS1P305051-903GSSA1234RSEOT

- **Header and code format**
- **Separators between elementary data**
- **Qualifiers of elementary data**
- **Elementary data**

Producing UII marking using wizard

1. Click to work in an unlimited workspace
2. Open DataMatrix for non-ambiguous identification wizard. Click in Professional bar
3. Format et qualificatif des données Click tab to select the **UID standard used to convert into UII marking the datastring you will supply.**



1. **Click the code Format.**
   06 (DI)
2. UID wizard lists the available data qualifiers according to the active format.
   Click the Data qualifier that defines the type of data to supply.
   17V & 1P & S
3. UID wizard displays fields to be filled according to the active data qualifier.
   Type the elementary data into each field.
   17V = 7W356
   1P = 305051-903
   S = A1234

Producing a serial UII marking using Matrix function

Producing UII marking in Expert mode (without assistance)

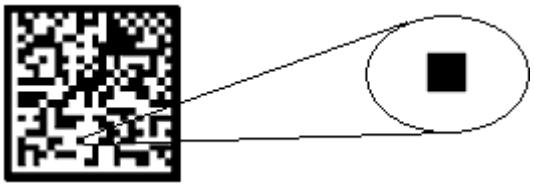
4. DataMatrix parameters Click tab to fix **Datamatrix marking settings.**

Square	UID object is by default a squared Datamatrix symbol. Untick to produce a rectangular Datamatrix symbol.
Invert colors	1. Click to produce a negative UID object. 2. Add a contour to delimit object surface.
Contour (0 is default)	Key in the border width around the object. The border allows a correct reading of cells in the surface of Datamatrix symbol.
Dimension of small bars (1mm is default)	Key in the width of a cell that builds UID object. Bigger cells increase the surface of UID object.
Position in XY	Key in the coordinates of the bottom left corner of UID object. (0, 0) coordinates set Datamatrix symbol in bottom left corner of the composition.

5. OK

UID object is a symbol Datamatrix which cells represent UII datastring.
Because UII Datamatrix symbol is identified by barcode reader UID coding reduces error rate and improves the precision of inventory and input recordings.

Double-click the object to edit properties.



An error message can ask to correct data in a specific field.

17V field has to contain 5 alphanumeric uppercase characters for example.

1. OK Close the error message.
2. Type data in relation to shown instructions.
3. OK Generate UID object.

UID: Producing a conform UII marking

Producing UII marking using wizard

Open DataMatrix for non-ambiguous identification wizard. Click in Professional bar UID

Producing a serial UII marking using Matrix function

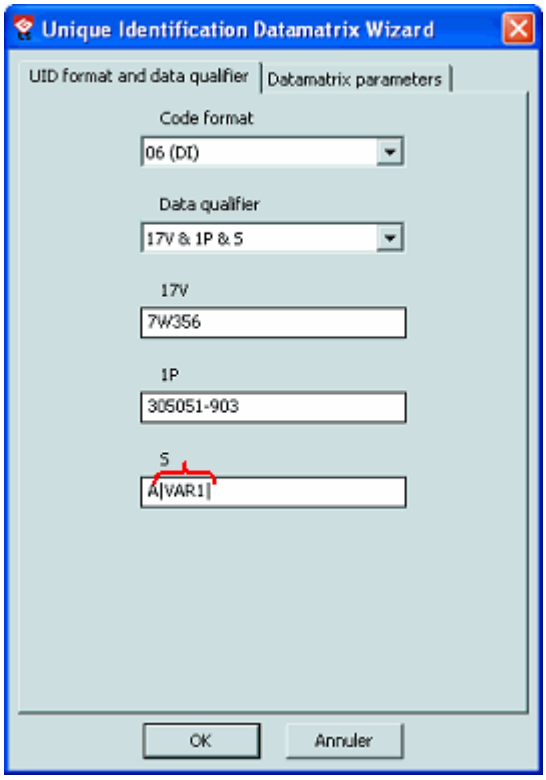
Insert a text variable into a UII datastring to mark serially a batch of identical items.

1. Configure the composition used as a template for UII marking.
2. Add the variable which values are a series of numbers extracted from an incrementation or a list of names.

	VAR1
1	1231
2	1232
3	1233
4	1234
5	1235
6	1236

VAR1 variable contains 6 numbers to insert one by one in UII string.

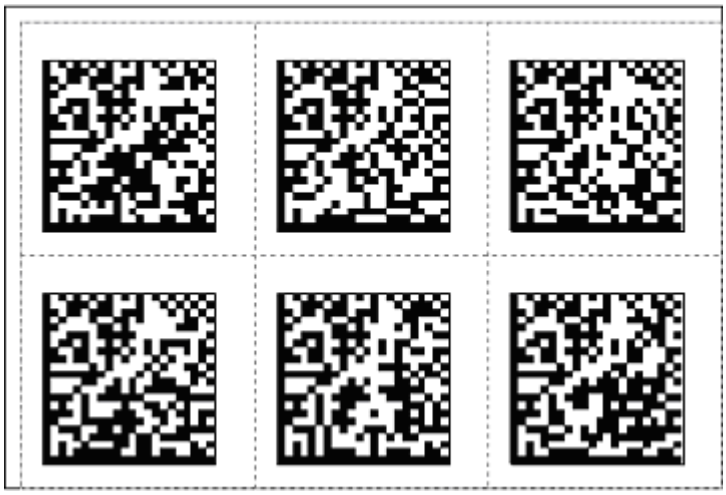
3. UID **Produce UII marking in DataMatrix for non-ambiguous identification wizard.**



1. **Click the code Format.**
   06 (DI)
2. UID wizard lists the available data qualifiers according to the active format.
   Click the Data qualifier that defines the type of data to supply.
   17V & 1P & S
3. UID wizard displays fields to be filled according to the active data qualifier.
   Type the elementary data into each field.
   17V = 7W356
   1P = 305051-903
   S = A1234/A1231/A1232/A1233/A1234/A1235/A1236
4. Insert the autonumbering variable. **In the reserved field type the name of the variable between two characters '|' (pipe)**
5. OK Generate UID object.

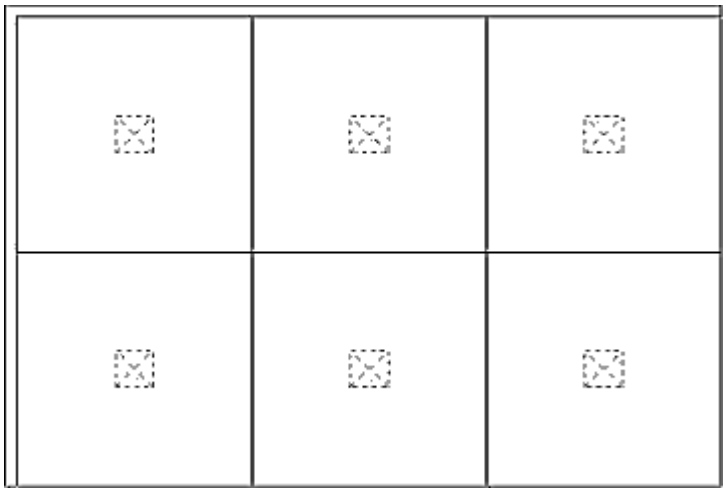
In S filed type A character then the variable name |VAR1| replaced by a number linked to each UID object

4. Produce Matrix series.



Untick Dynamic to distribute copies in static mode and to modify each UID object separately.

Matrix series counts 6 UID marked objects on a support-plate with borders and partial cutting axes.



When the values of variable are incompatible with UID standard no object is produced.

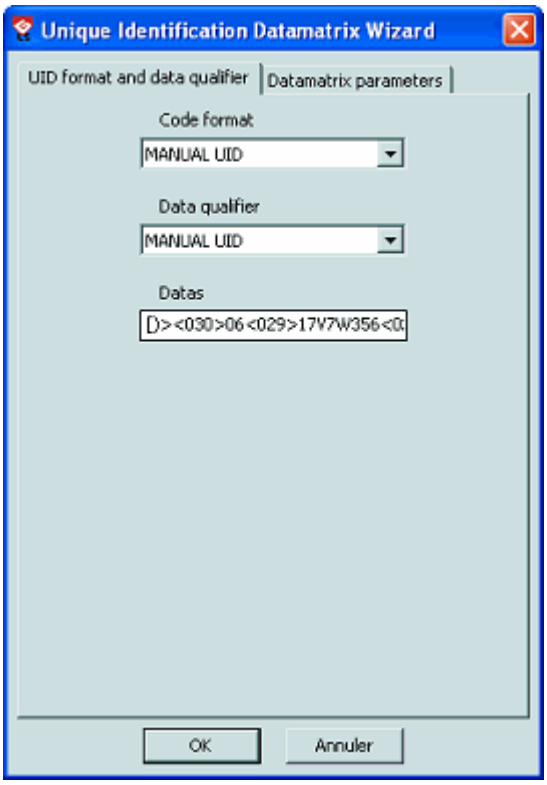
Producing UII marking without assistance

You have to master the UID standard, its code format and its qualifier that imposes the type of elementary data in your UII chain.

How to type fully UII datastring in UID wizard?

[)>RS06GS17V7W356GS1P305051-903GSSA1234RSEOT

1. **Click MANUAL UID code Format**
2. **Click MANUAL UID Data qualifier**
3. **Type the characters matching each component of UII string (special characters and elementary data).**



Component	Description	Characters to type
[)>	Start of UII string	**[)>**
RS	Start of UID coding	**<030>**
06	Format of UID code	**06**
GS	Field separator	**<029>**
17V	Champ #1	**17V**
7W356	Elementary data	**7W356**
GS	Field separator	**<029>**
1P	Champ #2	**1P**
305051-903	Elementary data	**305051-903**
GS	Field separator	**<029>**
S	Champ #3	**S**
A1234	Elementary data	**A1234**
RS	End of UID coding	**<030>**
EOT	End of UII string	**<004>**

4. Shift Key down click to check the coherence of UII datastring OK
[)><030>06<029>17V7W356<029>1P305051-903<029>SA1234<030><004>
5. OK Generate UID object.

References

Gravostyle: References

File formats	What are the external file formats • you can import and open in program? • you can export a composition to use it in a third program?
About Windows	Refer to the topic if you're not familiar with Windows operating system.
Gravograph Fonts	How to manage the fonts used to display the text in composition
Adding a Gravograph font buyed online	Buy a Gravograph font and set it up to type text into Gravostyle
Upgrading dongle firmware for version #8	Update the Gravostyle dongle that opens access to software

References: File formats

Bitmap (*.bmp, *.jpg, *.tif, *.png)	Vectors (*.pdf, *.dxf, *.cmx, *.dwg)	Gravotech Marking (*.EGO, *.job, *.vnx, *.vna)

Click to find a format.

Vector files generated from geometrical shapes

Before importing:
- Convert text into curves. You can no longer edit it, but you can apply geometric transformation.
- Smoothen contours whether they consist of lines or curves.

Export this type of document as DWG, DXF or PDF format.

***.pdf**

Universal format to share documents including text, images and vectors

1. In Import PDF Parameters window click

   ☑ **Import preview for each page** e.g. page thumbnail from PDF file
   ☐ Untick to import only pages

   ☐ **Import on current layer**
   ☑ Tick to import all the pages onto active layer

   ☑ **Pages to import (1,5,8,9 or All by default)**
   ☐ Untick to key in each number of a page to import separated by a comma

2. Click each **Object to Import**
   ☐ **Images**
   ☐ **Boxes bounding a text block or an image**
   ☐ **Vectors**

3. Click **Text import mode.**
   ◉ With substition of mssing font
   [ttf Arial] Select each the font that will replace the fonts missing to display the text of the file imported in Gravostyle if need be.
   ○ No text

4.

What's to be done if the text does not import correctly?

The issue may occur when True Type or Open Type fonts used in the file are not recognized by Gravostyle.

a. Save as EPS file.

b. Import into Gravostyle.

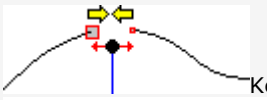
EPS (*.eps)

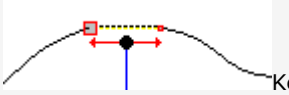
EPS (*.ai)

PostScript standard Format

The faster and optimized format reproduces contours and text as Beziers curves producing less elements to analyze.

☑ **Combine and auto-connect option is by default active in EPS Import.** Open contours are automatically closed to delimit surfaces to filled in the imported graphic.


Key in the merging distance


Key in the linking distance

Key in merging and linking distances that SET how open contours will be connected. When the distance between an open contour ends is
- at most equal to the linking distance, ends will merge into a single point.
- between the merging distance and the linking distance, ends will be linked by a line.
- higher than the linking distance, ends are not connected. The contour remains open.

☐ **Untick Combine and auto-connect to keep contours open** (no need to key in merging and linking distances).

If you fail to open correctly the file type import under generic PostScript format.

a. Exit the program.

b. Explore **Gravostyle folder.**

c. Open **FILTRES folder.**

d. **Drag and drop DPS folder outside FILTRES folder.**

e. **Run the program and import EPS file again.**

f. After importing reset DPS folder into FILTRES folder.

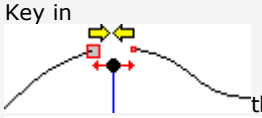
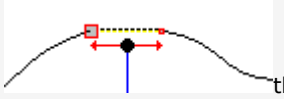
✓ ✗ **DXF 2D (*.dxf)**

✓ **Autocad (*.dwg)**

✓ ✗ **DXF 3D face (*.dxf)**

Default Autocad Format: Lvec DXF or Lvec DWG

1. Configure DXF Import.

Scaling ◉ **Automatic or** default unit ○ **from millimeters** ○ **from inches**	Click the active measure unit.
☑ **Combine and auto-connect**	☑ **Combine and auto-connect option is by default active in EPS Import.** Open contours are automatically closed to delimit surfaces to filled in the imported graphic. Key in  the merging distance.  the linking distance. **Key in merging and linking distances that fix how open contours will be connected. When the distance between an open contour ends is** - at most equal to the linking distance, ends will merge into a single point. - between the merging distance and the linking distance, ends will be linked by a line. - higher than the linking distance, ends are not connected. The contour remains open.

			Untick Combine and auto-connect to keep contours open (no need to key in merging and linking distances).
		Merge layers	The option is by default active. All the objects are set in a single layer. Untick box to keep objects on their respective layers.

2. OK

3. Use overlap markers to check that contours are correctly closed

   If need be close open contours using auto-connection

How to import a DXF file that contains text?

If the text has been typed with an **Asian font, select the country it belongs to.**

a. **In Control Panel open Local Options**

b. **Click the geographic zone in Standards and Formats.** OK

ttf Arial Select each font that will replace the fonts missing to display text of the file imported in Gravostyle.

✔	✖	**Lvec (*.cmx)**	**Default Format for Corel Draw versions 8 and former** **How to copy-paste a vector graphic between Corel Draw and Laserstyle?** 1. **Open the Corel Draw file** which contains the graphic to import. 2. **Check that it contains 10000 vectors max.** Beyond, simplify the graphic to reduce the number of objects. 3. **Select all** objects in graphic. 4. **Copy** selection. 5. Click LASERSTYLE tab. 6. Click in the composition where you want to **paste the selection.** 7. To edit the objects which compose it convert the graphic into curves
✔	✔	**HPGL (*.hpg)** **HPGL Vector**	**Hewlett-Packard Standard Format** Commonly used in CAD sector, the format reproduces contours using small vectors. The quality may decrease, particularly in curve smoothness.
✔	✖	**HPGL (*.plt)**	If the graphic import is not correct, export again under HPGL Vectors format. The format reproduces contours with line segments. Lines are simplified, but more faithfully reproduced.
✔	✔	**IGES (*.igs)**	**4CAM Surface description standard format**
✔	✔	**ISO**	**Surface recognition format**

		(*.iso) ISO Vector	1. Depending on the precision required key in in **Digitized ISO window** **NbX,** number of grid points on X axis. **NbY,** number of grid points on Y axis. 2. OK
✔	✖	**STL (*.stl)** **STL - Unwrapped**	**Surface recognition format** Click a view in **STL Import window** or 1. **Click Customize.** 2. Orient the surface projection. Key in a. **Alpha, Beta or Gamma rotation angles** b. **projection Resolution** 3. OK
✔	✖		**Other Surface recognition formats** **3DStudio ASCII (*.asc)** **Picza (*.pix)** **Digitized ISO and Renishaw (*.iso, *.asc, *.ASD)** **LVec GERBER (*.gbr)**
			Bitmap files: Images produced from a grid of pixels or colored points on-screen
✔	✖	**(*.bmp, *.dib)** **(*.ico)** **(*.dig)** **(*.tif, *.tiff)**	**Commonly-used format for Windows images**
✔	✖	**(*.png)** **(*.jpg)** **(*.gif)**	**Commonly-used format for Web images**
✔	✖	**(*.wmf, *.emf)**	**Microsoft Office formats** **Avoid importing this type of bitmap file. It can't be modified before sending to engraving.** a. Open the file in Microsoft Paint. b. Save under any format hereover. c. Import in Gravostyle.

			Gravotech Marking files in relation to *.gnh files
✓	✓	**Gravostyle (*.gnh)**	Composition created and saved in Gravostyle The set of objects to engrave is imported at the composition bottom left corner.
✓	✓	**ISO (*.iso, *.u*)**	Engraving saved as a file later transferred to the machine
✓	✓	**Toolpath (*.0*, *.P*)**	CAM toolpath
✗	✓	**Symbol (.syb, .smb)**	Object stored in Symbols library
✓	✗	***.EGO, *.LGO**	Documents created and saved in New Hermes OpenSoftware
✓	✗	***.job**	Composition created and saved in Gravostyle for Windows 3.1/95
✓	✗	**Gravostyle'98 (*.vnd)**	Composition created and saved in Gravostyle for Windows NT Arial Select each font that will replace the fonts missing to display text of the file imported in Gravostyle.
✓	✗	**Neutral (*.vnx)**	Composition saved under neutral format to be open between Gravostyle or TypeEdit software from the same generation (former *.vnn format)
✓	✓	**TypeArt (*.vna)**	Volume surface with grayscale preview

References: About Windows

Configuring screen

1. **Right-click on Windows Desktop.**
2. **Click Properties.**
3. **Click Parameters tab in Display Properties.**
4. **Click True colors (24 bits or more).**
5. Apply Click. A message informs you that the color display using the selected number is going to be tested.
6. After a few seconds, a message asks if you want to keep the new display parameters.
7. Yes Click.
8. Click to enable the new display palette.

Acting on a tool bar/palette **Unlike bars which size and position remain fixed floating palettes can be fully manipulated.**	Each bar/palette gives a set of commands in form of square buttons. A greyed button shows that the command is disabled. To enable a command click the button that remains in depressed position. To disable a command click a depressed button that will lift up. Some buttons automatically lift up to make the command immediately available.
dock/undock	Double-click the palette to display it outside or inside program window.
hide	Click.
move	Drag and drop the palette.
resize	Drag and drop a corner or a border of the palette.
Using mouse	Actions involving the mouse are often performed using left button.
click	
double-click	
Mouse and keyboard	For some actions the mouse has to be combined to a key Ctrl or Shift Hold the key down until you release mouse button.
Mouse right button	Right-clicking may be necessary • to scroll down a contextmenu with additional commands • to run a special action.

Enabling a menu command

Click the menu, then the command (a gray command is unavailable).

Type the hotkey linked to the command.

Ctrl

Key down, type the character underlined in matching command.

Setting a parameter/an option in dialog box

Each parameter is represented by an icon or an editable field containing a numerical value or a list of options.

Key in the numerical value of a parameter

A gray field shows that the parameter is disabled. 180.00

When the field has a selector, click arrows to increase or to decrease numerical value

You can perform operations on current value, adding a number for example.

1. + Press key.
2. Type the value to add.
3. Enter

1. Select the value in parameter field.
   180.00 Double-click.
   180.00 Drag and drop to select figures
2. Type the new value.
   Esc Cancel the value keyed in. Type the value again.
3. Enter Validate the new value.

To key in a value including a fraction such as "1 1/2", type 1 + 1/2. The equivalent numerical value is calculated automatically.

Enable or disable an option

Click the control before or after the option caption

to enable it.

to disable it.

Select an option in a drop-down list

1. The box shows a drop-down list. Click to display the list.
2. Drag and drop the pointer onto the required option.
3. Release the button. The selected option displays highlighted, the list closes automatically.

Gravostyle: Adding a Gravograph font buyed online

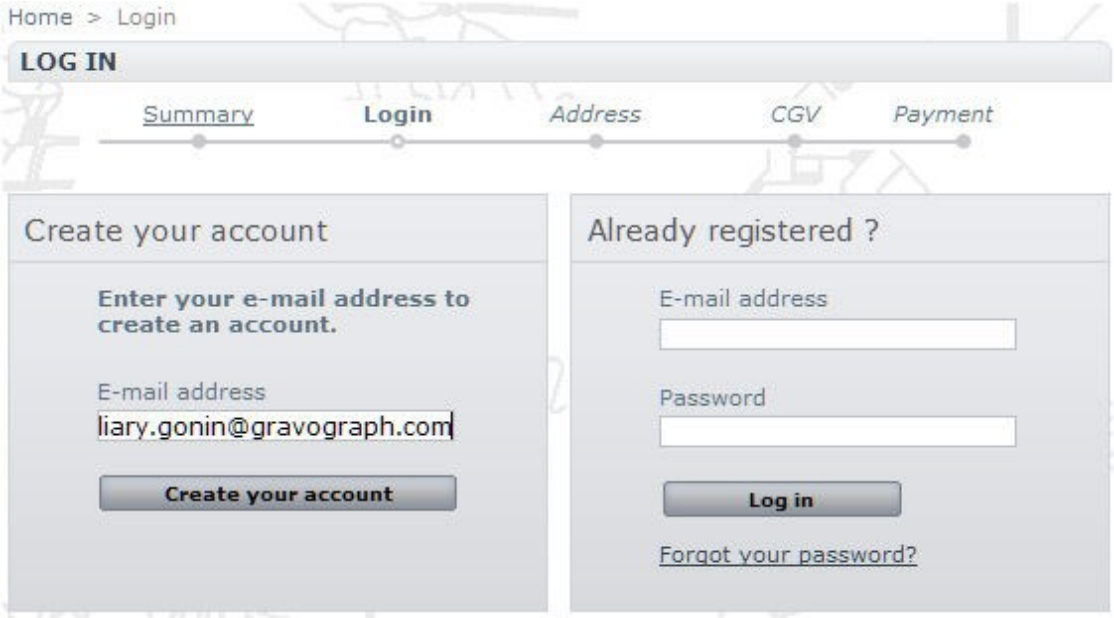
Buying online

1. Display Text ribbon in Gravostyle
2. Click opposite Gravograph Font menu
   The fonts.gravostore web site displays in web browser
3. To choose a font onscreen click **ALL FONTS**, **NEW PRODUCTS** or SPECIALS
4. View Click to display the sample of a font
5. **Key in the number of the Gravostyle dongle plugged to PC**

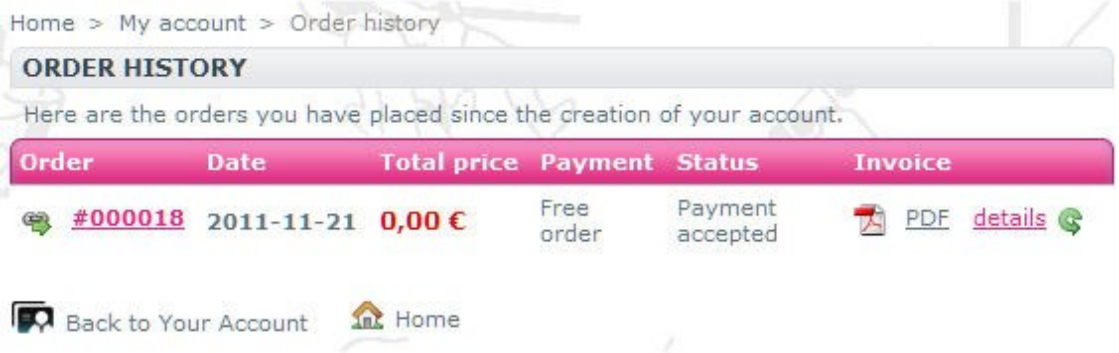
DONGLE*

6. Save Click to run dongle identification
7. Add to cart Click to add the chosen font into caddie

8. Check out Click to add your new customer account

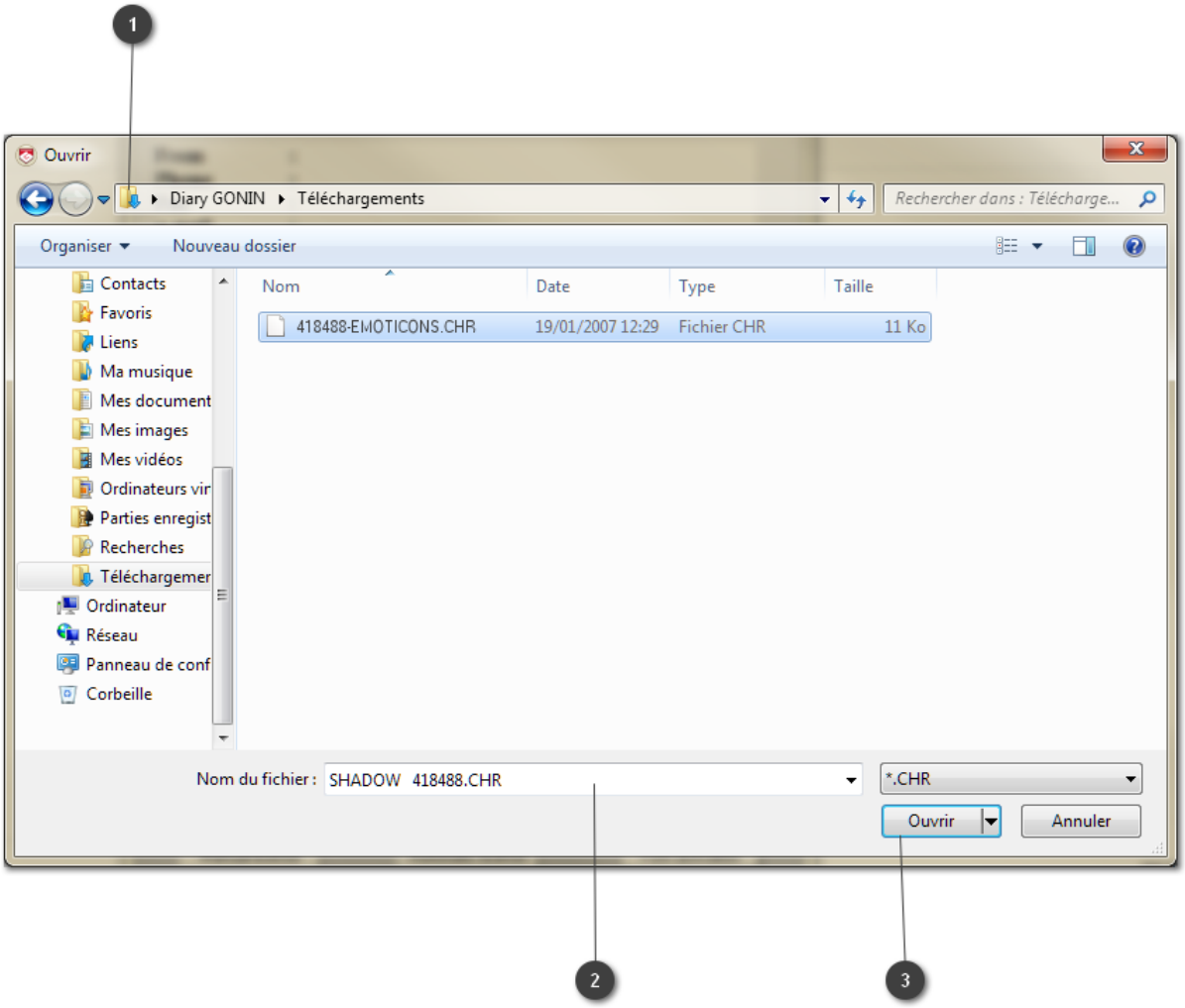


9. Type required information
10. Next>> Click to go to each step
11. At the end of order, a history of the operations displays.

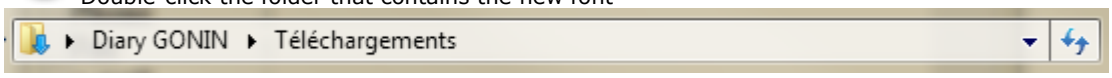


12. An e-mail is sent at the e-mail address of customer account to confirm order. Click the link to download the new font.
13. Run Gravostyle
14. Double-click to open About window
15. Font activation Click to enable the new police in Gravostyle

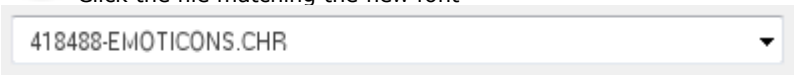
Enabling in Gravostyle



1 Double-click the folder that contains the new font



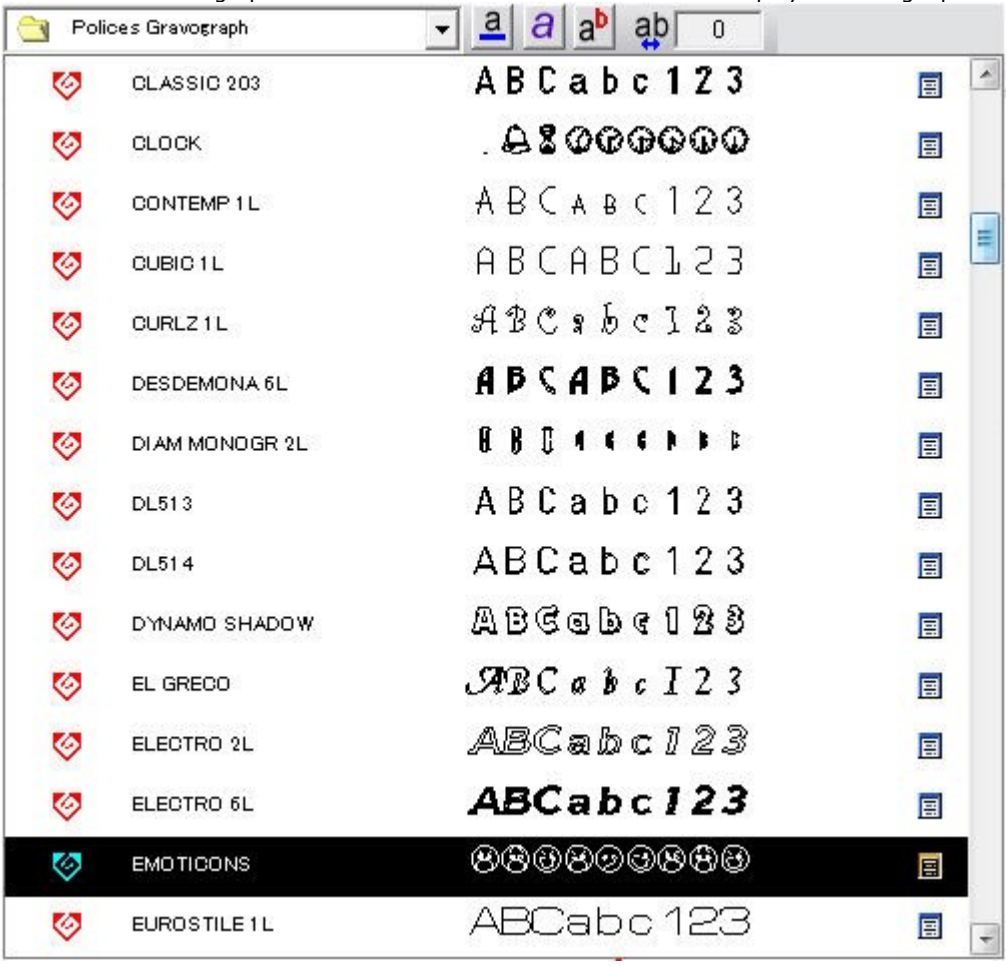
2 Click the file matching the new font



3 Open Click to add the font into Gravostyle.

Close About window

Click in Gravograph fonts menu of Text ribbon. The new font displays following alphabetical order.



References: Gravograph Fonts

Add in Gravostyle

Fonts from Standard Pack are automatically available, as well as fonts designed in Font Editor.

1. Execute Installation steps 1 to 8.
2. Click **FONTS to display the list of optional packs.**
3. Click the **Pack the required font belongs to.**
4. Next> Click and complete the setup.
5. Order the pack and activate the option.

After activating, you can select the fonts of the pack.

Delete a font

To use a deleted font reinstall the Pack it belongs to. When the pack has already been activated the font is immediately available. Otherwise order the pack and activate the option.

1. Find the drive where the program has been set up (C: is default).
2. Double-click **Gravostyle folder.**
3. Double-click **FONTS folder.**
4. Double-click **Gii folder.**
5. Click the **.CHR file that has the name of the font to delete.**
6. Del Press key.

Installing Braille fonts in Windows

Run the operation if the font NH Braille do not display in font menu.

1. Set the setup disk into PC drive.
2. In Start menu click **Control panel**
3. In Control Panel click **Fonts.**
4. In Fonts dialog box click **Install a new font in File menu.**
5. In Drivers click the **drive that contains the disk.**
6. In Folders double-click **Gravostyle.**
7. Double-click **fontbraille.**
8. Click **Copy all fonts.**
9. **Click NHBraille font.**
10. OK

Gravostyle: Upgrading dongle for version 8

Check the dongle number to know if it is compatible with this update.

When the dongle number is between 400001 and 402177, please contact the Gravotech dealer to replace the dongle.

Run A, B and C steps only for dongles 402178 to 409754

A. **Upgrading dongle firmware**

B. **Collecting information about the dongle**

C. **Updating software licence**

For dongles from #409755, carry out straight the B step, then C step

For dongles from #429929, mail the ABOUT file to set up then the LIC file

Upgrading dongle firmware

Reset the HL firmware under the SRM format using the firmwareupdate.exe utility.

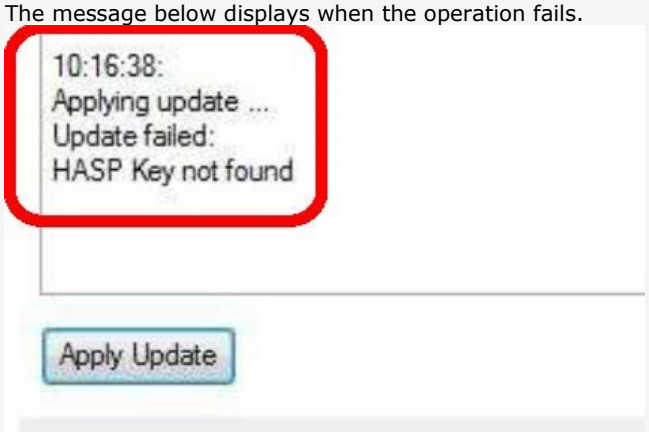
Close all the software, unplug all the USB keys
Connect only the Gravostyle dongle onto an USB port of the PC

1. From Gravostyle setup disk, double-click the utility **.\Gravostyle???\KEY\HL2SRM\firmwareupdate.exe as Administrator**
2. **Apply Update** Click to run the programming of the dongle

The dongle flashes during the programming. Do not unplug to avoid damaging the key.

The message opposite displays when the operation succeeds. Exit the utility

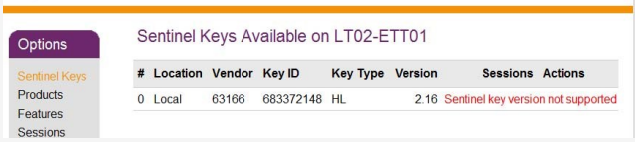
The message below displays when the operation fails.



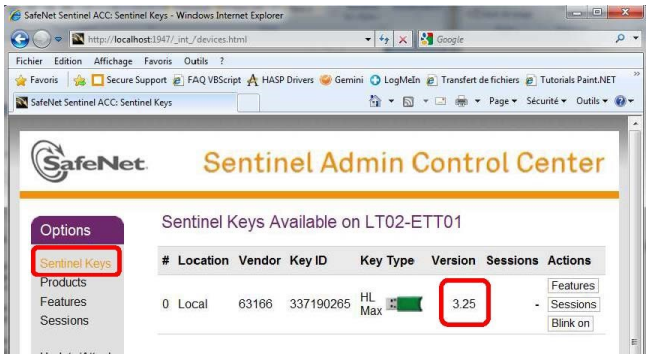
Either the dongle is plugged to the PC, or it is already SRM-programmed.
At need contact the Gravotech dealer.

3. Check that the programming is correct. Open the Web browser
4. Type into the **URL field '//localhost :1947' +** Enter
5. Click **'Sentinel Keys' to display the page**
6. Check that the **Version displays 3.25**

If the Version displays 2.16 or 'not supported', the firmware programming has failed.



Restart the firmware programming, otherwise contact the Gravotech dealer.



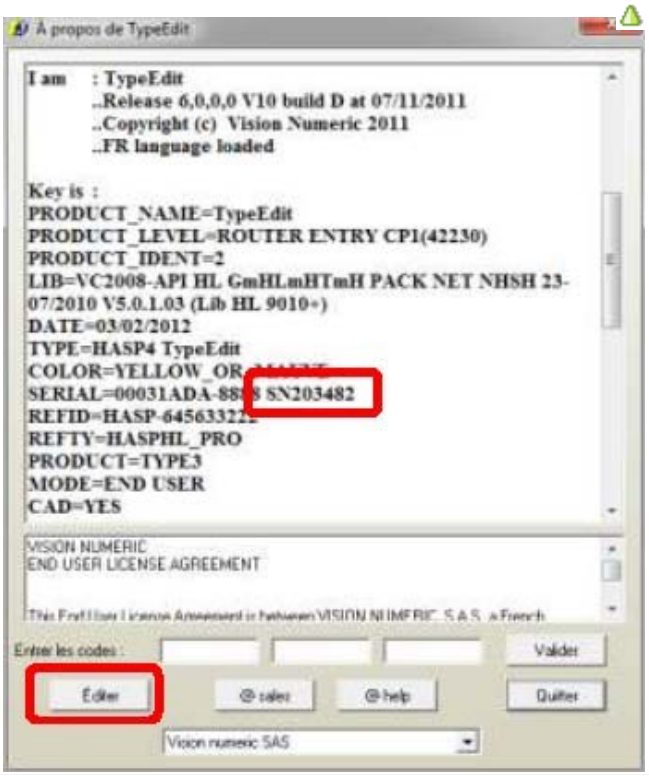
Collecting the information about the dongle

This allows to know your current rights as a Gravostyle software user.

Close all the software, unplug all the USB keys Connect only the Gravostyle dongle onto an USB port of the PC

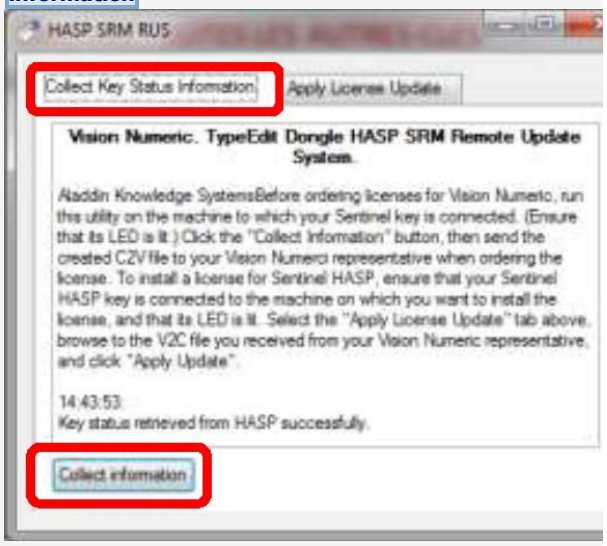
ABOUT file

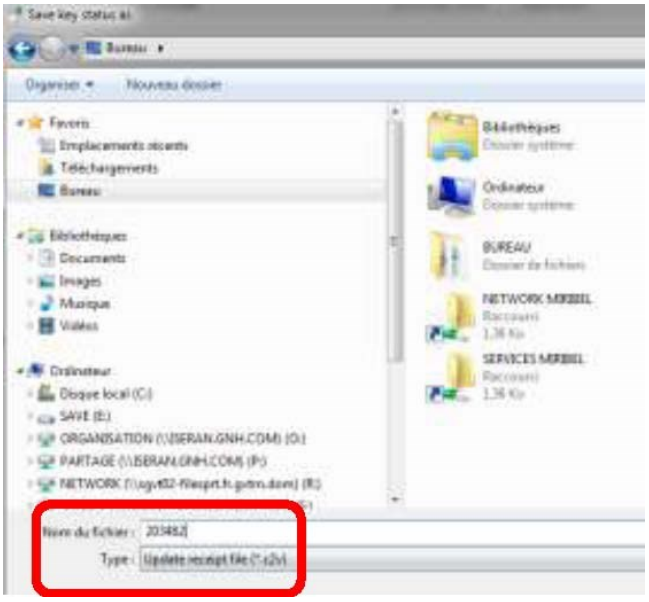
1. Open Gravostyle previous version
2. Open ABOUT window.
3. **Note the serial number of the dongle (here SN = 203482)**
4. Edit Click to display he information into Word
5. Save the file ORDER.RTF
6. **Mail the ORDER.RTF file to the Gravotech dealer**



C2V file

1. From Gravostyle setup disk, double-click the utility **.\Gravostyle???\KEY\HL2SRM\TE_RUS.exe as Administrator**
2. HASP SRM RUS window opens. Click **Collect information**





3. Save the file by renaming it **with the number of the dongle shown in the About window (here 203482.C2V)**
4. Exit the utility
5. **Mail the xxxxxx.c2v file to the Gravotech dealer**

Mail the both files to the Gravotech dealer
ORDER.rtf
xxxxxx.c2v

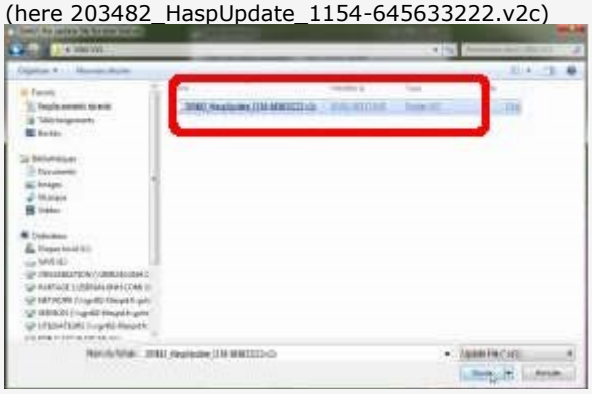
Updating the software licence

Enable your user rights in Gravostyle new version.

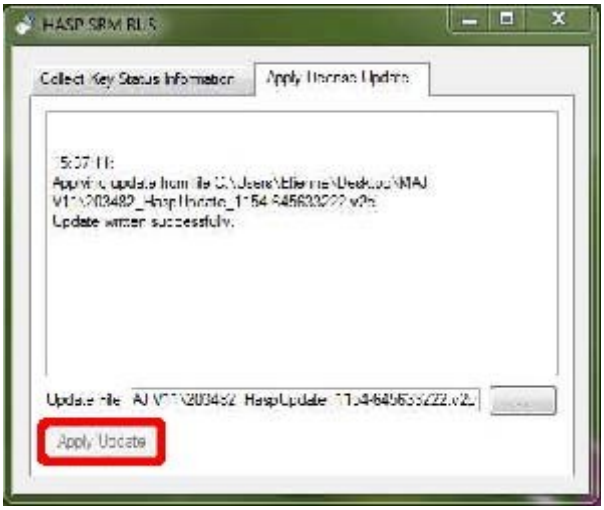
1. Install Gravostyle software as Administrator
2. Plug the dongle onto an USB port of the PC
3. Apply the V2C file sent back by the Gravotech dealer further to your mail
4. Set up the LIC file either using Internet, or by selecting the file sent back by the Gravotech dealer further to your mail

Applying V2C file

1. From Gravostyle setup disk, double-click the utility **.\Gravostyle???\KEY\HL2SRM\TE_RUS.exe as Administrator**
2. HASP SRM RUS window opens.
   Click **the tab Apply License Update**
3. ... Click to search the file
4. Double-click the file .V2C
   (here 203482_HaspUpdate_1154-645633222.v2c)



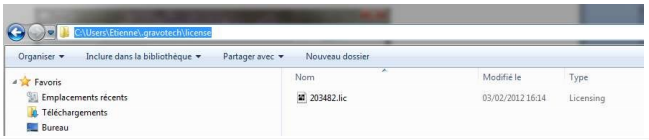
5. **Apply Update** Click. The message opposite displays when the operation succeeds.



Setting up LIC file using INTERNET (recommended)

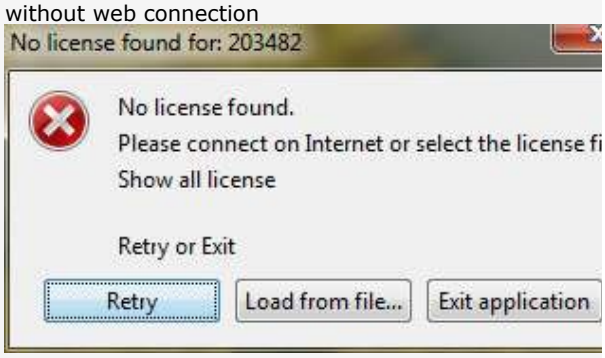
1. Open the Web browser
2. Double-click the icon on Desktop
3. Wait till the new licence is uploaded

The software copies the file into the folder C:\Users\UserXX\.gravotech\license

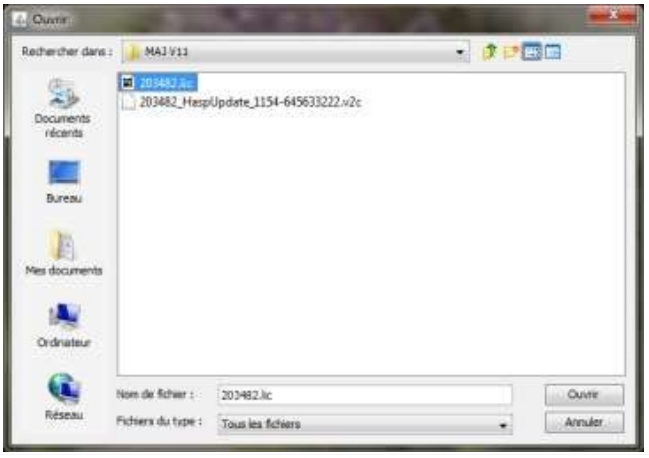


Setting up LIC file WITHOUT Internet

1. Double-click the icon on Desktop
2. A message warns that the licence can't be downloaded without web connection



3. Load from file... Click to search the file. Double-click the file xxxxxx.lic (here 203482.lic)



CAM Machining

CAM Machining: Advanced tool engraving management

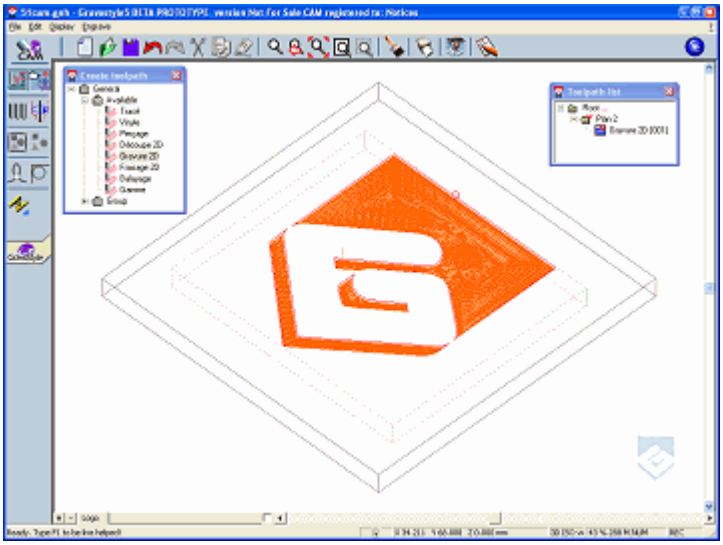
1. GRAVOSTYLE Produce the composition.
2. Convert into curves text and complex objects.
3. CAM

The composition displays in CAM window. The environment offers more flexibility and more productivity in managing, optimizing and simulating toolpaths.

- Add as many paths as required from Create toolpath window.
- Manage paths in Toolpath list. Show or hide some paths to combine, to compare them and to transfer paths to be machined.
- Fix path computing preferences to assign personal parameters and options to each new toolpath.

CAM toolbar gives a quick access to path creation control over objects to machine and, tool management.

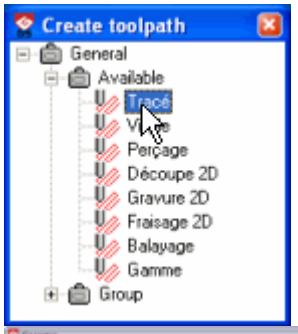
	Add toolpath
	Manage toolpaths
	Use Tool Database
	Add special tool
	Group/Ungroup objects
	Locate overlaps in contour lines
	Optimize tool choice
	Measure objects
	Edit contours to machine

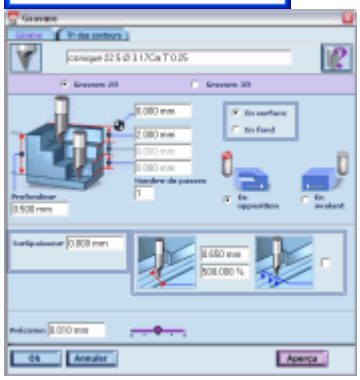


Click the picture for further information

Adding path

CAM path: Adding

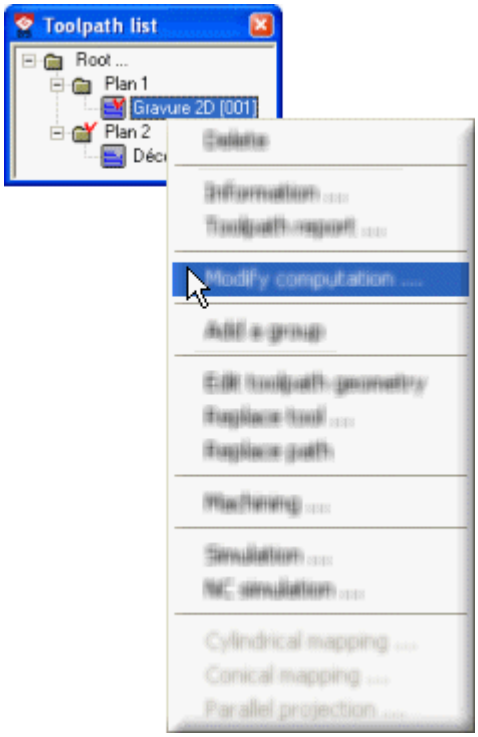




1. Select the objects you want to assign a toolpath to (all the objects in each layer are preselected).
2. CAM
   CAM LASER
3. **Open a library of paths.**
   Click to display or to hide available path types.
   Paths that do not suit the selection display in gray.
4. **Add each required toolpath.**
   a. Select the type.
   Double-click the path.
   Right-click the path. Compute
   b. Fix machining properties.

Ctrl **Key held down double-click a path to assign its machining properties automatically to another selection.**

5. **Save toolpaths and composition as file under *.gnh type**
   a.
   b. Locate where the file will be saved **(DRAWS is default).**
   c. Type Comments.
   d. **Click to Save toolpaths simultaneously.**
   e. **Type the Name of the composition.**
   • to replace an existing file, click its name in the list.
   • to save a new file, delete the "*" character and type a name different from those shown.
   f. Save Click. File name displays in title bar.



Open Toolpath list.

Each new path is stored in the group linked to the layer that contains the selection

Manage paths in Toolpath list.

Each new path is automatically saved in DRAWS folder as a file under the composition name, followed by the path rank (plate.000, plate.001, etc.).

Create a preset from a computed path

The path becomes a preset you assign directly to the selection without setting machining properties.

1. Select the objects.
2. Open a library of paths.
3. Right-click the required path. Compute
4. Fix machining properties.
5. **Right-click the computed path. Duplicate path**
6. **Drag and drop the copy of the path into General library** Rename the preset if need be.

Assign a machining preset

1. Select the objects.
2. **Ctrl Key down double-click the preset**

Assign a group of presets

1. **Right-click General library. Add group**
2. **Type the name of the new group.**
3. **Drag and drop each preset into the new group.**
4. Select the objects.
5. **Right-click the group of presets.**
6. **Key down click Compute**

Path properties

CAM path: Machining properties

1. Create a new path or edit an existing path.
2. Click the tab displaying the properties to define in path dialog box (a variable number of tabs display depending on path type).

   A message can indicate a wrong parameter.

   Click the symbol. Key in a correct value.
3. Fix standard properties (tool choice, depth, direction, path resolution, number of passes, overthickness, etc.).
4. Fix the parameters specific to path computing.
5. **Fix the other properties specific to the path.**

   2D group GRAVOSTYLE

   - **Plotting**
   - **Vynile**
   - **Drilling**
   - **Tapping/Threading**
   - **Gang drilling**
   - **Sweeping**
   - **Cutting**
   - **Engraving**
   - **Finishing**

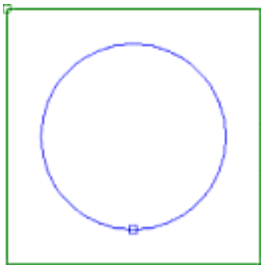
   2.5D group GRAVOSTYLE

   - **Cutting**
   - **Engraving**
   - **Sequence**
   - **Finishing**
   - **Intaglio**
   - **Prismatic letters**

   Laser group LASERSTYLE

   - **CAM Laserpath: Plotting - Sweeping - Engraving**
   - **CAM Laserpath: Cutting**
6. **Ok** Click.

CAM path: Overview



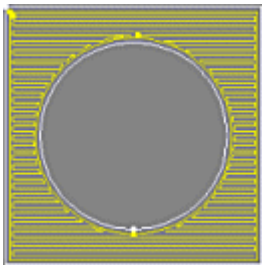
Key down click each contour to machine or drag and drop the pointer around all the contours.

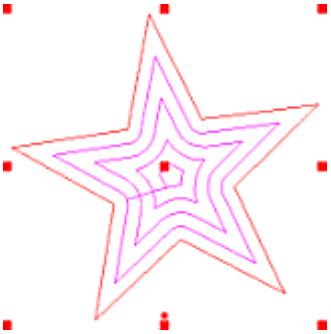
As a rule, a toolpath is computed for each pocket of the selection.

A pocket is a surface to machine delimitated by one or more nested closed contours. In this case, the external contour is the box bounding all the other contours.

Opposite, the circle inside the pocket closes **an island that will not be machined.**

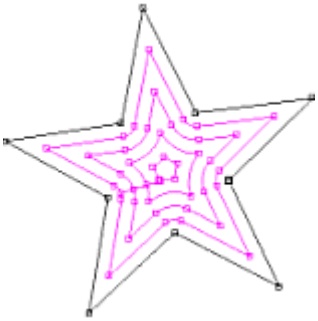
No path is computed for superimposed contours.





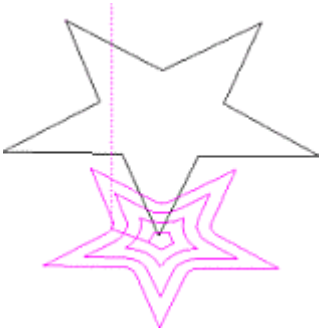
The machining path displays automatically over the selection it is assigned to.

The selection lines display the theoretical path in red.



The path is made of vector contours.

Each start point shows a high-speed movement of the tool onto next contour.



In 3D view the tool raising at the end of the path is represented by a vertical dotted line.

CAM path: Standard properties

General Click the tab in path properties.

Tool choice

Test the selected tool using tool cursor.

1. Click to open Tool Database.
2. **Display Available tools.** Only tools able to machine the path display.
   For a quick view filter tools
3. Double-click a tool. Add the tool if need be.
4.

Path precision

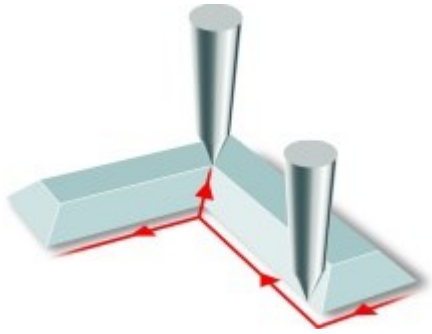
For a small-sized object, a message can suggest to increase automatically the precision.

Key in a Accuracy between 1 and 0.0001 depending on path complexity and required resolution (0.01 is default).
A low value increases the number of segments and path machining time.

2D path 3D path

Some paths can be 2D or 3D-machined (engraving, cutting, finishing, etc.).

Click 3D path to integrate following parameters whilst machining.



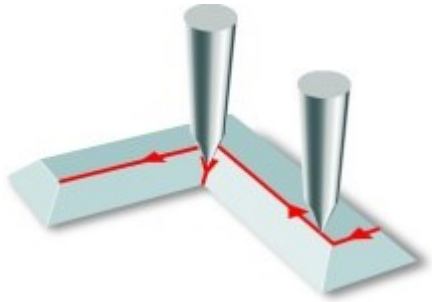
True angle at top: finishing inward angle by raising tool

True angle

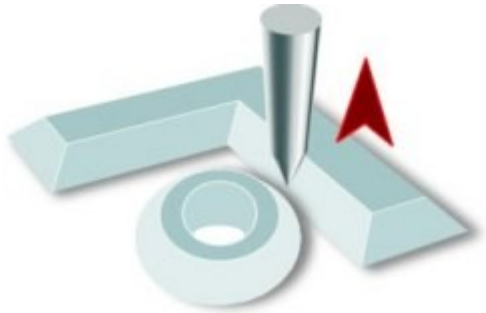
Use true angle to refine angles and to remove the burrs left by the previous machining.

A 3D path automatically ends on a true angle at top. A true angle at bottom can be added.

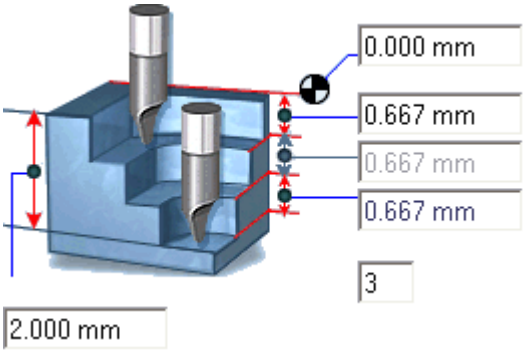
1. **Key in Max. Angle above which the True angle at top is not executed (135° is default, 180° max.).**
2. **Key in Z Limit or max. raising above material.**
3. Click to have **True angle at the bottom Activated.**
4. **Key in Min. and Max. angles** between which a true angle at bottom is machined.



True angle at bottom: finishing inward or outward angle by lowering tool



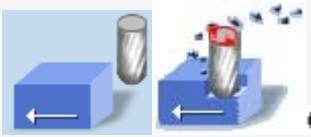
Common parameters



Managing collision by tool raising between paths

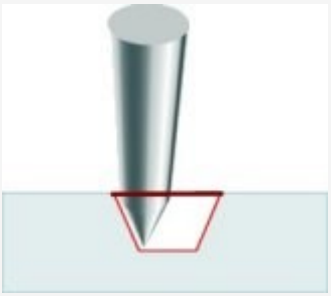
A tool collision occurs when the current path overlaps a machined path (between two letters for example).
Collision management raises the tool in each angle.

1. **Key in Total engraving depth** at most equal to material thickness.
   When a conical tool machines the path key in the depth that produces the cutting width expected at surface.
2. **Key in Z max. e.g.**
   • machining tip when several paths are machined.
   • max. thickness when the material has different relieves.
3. **Key in Pass depth or Number of steps.**
   The total depth divided by pass depth gives the number of passes, and vice versa.
4. **Click the machining direction** in relation to the tool forward motion in material.

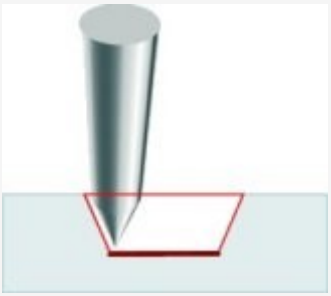
   

   Climb
   The tool rotates in its motion direction and the material passes through underneath as it moves forward (chips are thrown in front of the tool). Climb milling ensures a better finishing (due to the absence of vibration) but requires a high spindle power.

   Conventional
   The tool rotates opposite from its motion direction and pushes back the material as it moves forward (chips are dragged with the tool). Conventional milling produces a poor engraving but needs a low spindle power. It particularly suits to roughing because it reduces chip ejection.
5. **Click to machine a roughing path at surface or at bottom,** particularly with a conical tool whose cut is larger at the top than in ground.



◉ **Surface** fills the theoretical path at the engraving top.



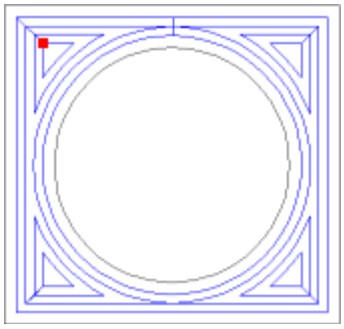
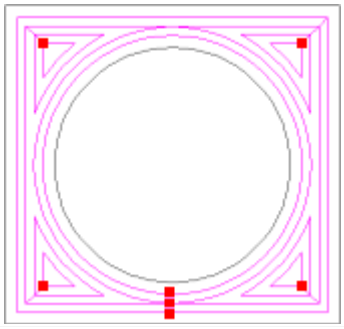
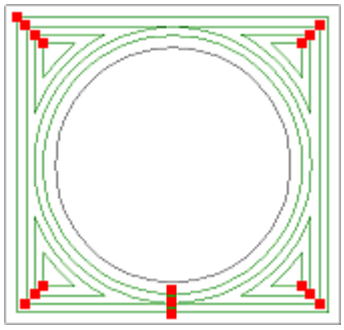
○ **Bottom** fills the theoretical path at the ground when engraving a material with a transparent surface (Gravoglas).

6. **Key in Allowance e.g.** material border that will be not machined inside a pocket.

CAM Machining: Computing parameters

Reset values Click to restore standard values.

General machining parameters

Computing Mode	Click ○ **Standard (is default)** to set the parameters that rule path computing. ◉ **Expert to configure** contour sorting or tangent entry/exit in path properties.
Order of contours	Select machining sorting according to Standard or Expert mode.
Multipass mode	For a multi-passes path click ○ **Pocket by pocket (is default)** so that the tool fully machines each pocket according to the number of passes keyed in. ◉ **Global** to machine each pass overall the theoretical path.
Linking between contours	Click the contouring mode **according to the tool stress and the machining time expected.**
	◉ **Total (is default)** The tool machines continuously a single line without raising. This reduces machining time and tool motions above material.
	○ **Partial** The tool machines several lines, some cover a larger contouring surface.
	○ **None** The tool machines a series of lines and raises systematically between 2 lines (each red square shows the start point of a line).

1 toolpath/group

No need to tick the option when objects are grouped by surface. The path is computed over the surface of the grouped objects, minus their intersection.

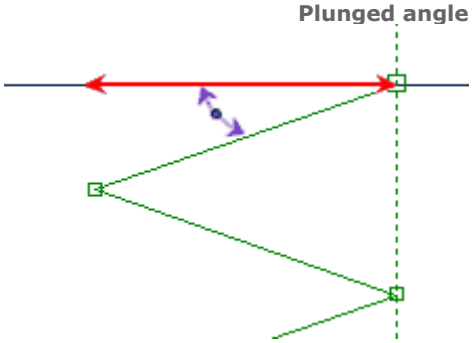
Click to compute a toolpath

☑ **1 toolpath/group** for each pocket of the selection.

☐ **1 toolpath/group (is default)** for each pocket delimited by a group of nested contours.

Machining parameters specific to a path

Plunged angle



The penetration mode makes the tool moving down in material as a dead leaf falling.

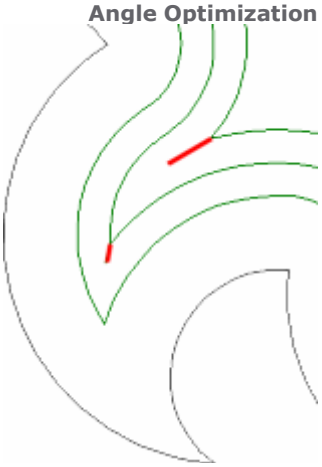
Watch the XZ view of the opposite path. The black line represents the material surface, the green zigzag line the tool descent on Z axis. When the tool has covered the max. plunge distance it slopes down in opposite direction according to the keyed in angle.

1. Click to have option **Activated. Key in**
2. **plunged Angle from 1° to 89°.**
3. **Max. descent Distance.**

Tangential Entry/Exit

Set the parameters of the tangent automatic entry/exit

Angle Optimization



According to the angle opening and the pass width **the tool overpenetration can be required to remove material remaining in an inward angle.**

1. Click to have option **Activated.**
2. **Key in Max. Angle into which the path is extended (135° is default, 180° max.).**

True angle at the bottom

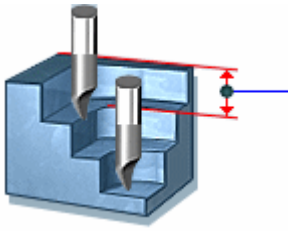
1. Click to have option **Activated.**
2. **Key in Min. and Max. angles between which** a true angle at bottom is machined.

True angle for 3D paths

1. **Key in Max. Angle above which** the True angle at top is not machined (135° is default, 180° max.).
2. **Key in Z Limit or max. raising above material.**

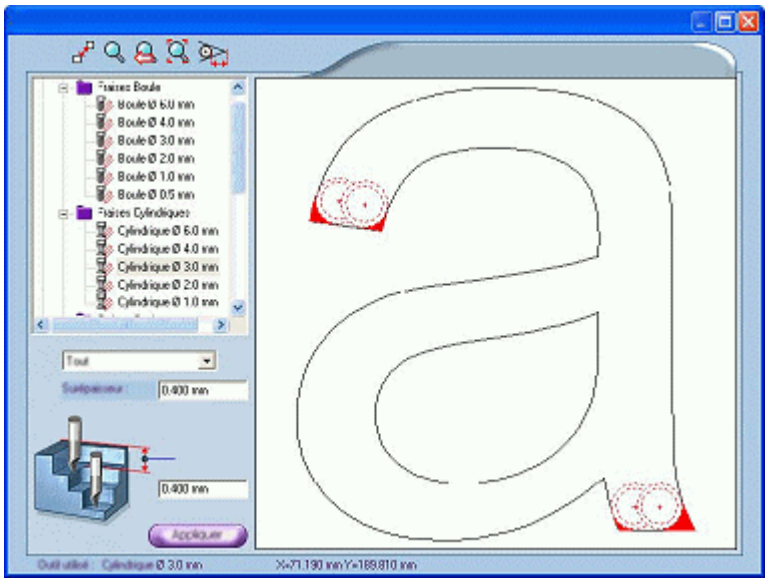
CAM path: Optimizing tool choice

1. Click the object to machine.
2. Click in CAM toolbox. **The Preview of remaining material displays.**
   The window automatically opens from path properties dialog box when you click **Preview**



3. **Key in machining depth**
4. **Double-click a tool** in Tool Database
   For a quick view **filter tools**

The preview shows the critical zones of the path
• by the tool using red dotted lines (the diameter is computed for keyed in depth).
• by non-machined surfaces displayed in red.



In case of a machining error test
• another tool.
• a different machining depth.
• new allowance parameters between theoretical and machined paths.

Edit path properties depending on solutions adopted.

Resizing view using Zoom tools

Zoom framed selection

Back to previous zoom

Zoom the overall path

Measuring a distance

Setting optimization preferences

1. Click in **Preview of remaining material**
2. Click **Color Settings.**
   1. **Unmilled area** (red is default) or **Background** (white is default).
   2. Color in **Windows palette.**
3. **Key in the Parameters of a segment machined from a curve of the theoretical path.**
   - **Corner error or max. height.**
   - **Discretization or max. length.**
4. Apply Click.

CAM path: Machining order

Sorting contours in Standard mode

Select the machining order for all the paths.

1. **Click Standard Mode** in path properties.
2. **Click the Order of contours.**

Automatic (is default)	The machining order is defined to limit machining distances and motions above material.
Manual	Selection order is machining order.

Click Arrow direction in View menu **to display the creation or the selection order of the contours.**

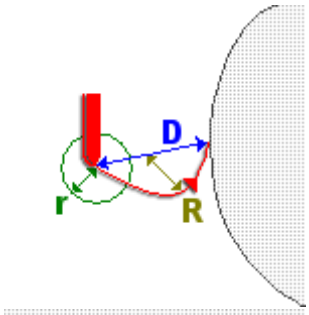
Sorting contours in Expert mode

Select the machining order for each path.

1. **Click Expert Mode** in path properties.
2. **Order of contours** Click tab.
3. **Click the sorting mode.**

Manual	Selection order is machining order.
Distance optimization **Global (is default)** **by pocket**	The order limits machining distances and motions above material for the whole theoretical path or for each pocket. **Distance optimization by pocket is not required when Plotting nor Cutting.**
Sort internal contours to external ones	The sorting mode concerns mainly Cutting.

CAM path: Tangent Entry/Exit



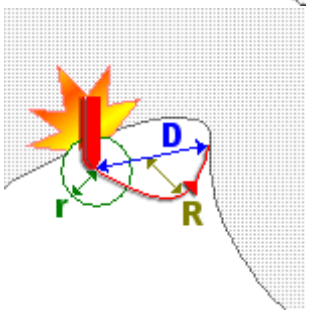
The option allows to machine a tangent curve upon entry or exit from a path assigned to a closed contour.

The tangent curve is calculated based on three key parameters.

(D) the entry/exit distance between the entry/exit point and the connection point on contour.

(R) the transition radius in relation to the machined contour.

(r) the drilling radius around the entry/exit point.



The line of the tangent curve is subject to a check intended to prevent collisions between the tool and the material during machining.

If a collision is detected within drilling radius, a new connection point is found to solve the problem.

Configure the tangent curve machining directly upon the path using Manual bridges and tang. Entry/Exit function.

Open Options dialog.

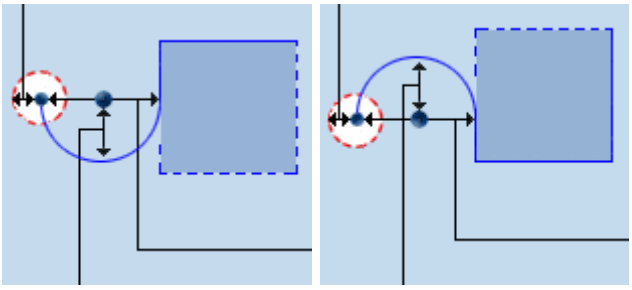
Automatic tangential entry/exit

1. Click Standard Mode in path properties.
2. Key in machining parameters for **Tangential Entry/Exit.**
   a. Transition radius **(R) at least equal**
      • to the radius for a cylindrical tool
      • to the tip for a conical tool
   b. Entry/exit distance **(D) at most equal to double the connection radius**
   c. Drilling radius **(r) less than the entry/exit distance**
3. **Click Automatic Tangential entry/exit in** General tab.

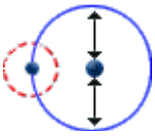
Manual tangential entry/exit

1. Click Expert Mode in path properties.
2. **Click Manual Tangential entry/exit in** **General** tab.
3. **Tang. Entry/Exit** Click tab.
4. Click to machine a tangent curve **at the start or the end of the path.**

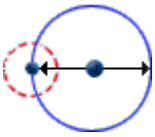
Entry **Exit**



5. **Key in the parameters of the tangent curve** (default is entry and exit are both machined using the same parameters).



1. **Tick Control drilling to avoid any collision in or out of the path.**
2. Key in Transition radius **(R) at least equal**
   - to the radius for a cylindrical tool
   - to the tip for a conical tool

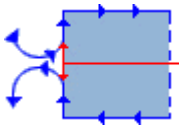


3. Key in Entry/exit distance **(D) at most equal to double the connection radius**

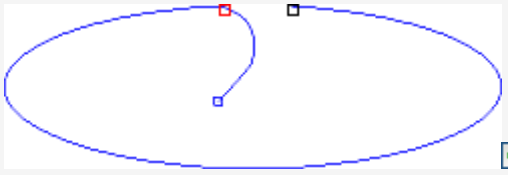
A message can warn that the entry/exit distance and the transition radius are null.

Click the symbol. Key in values different from 0.

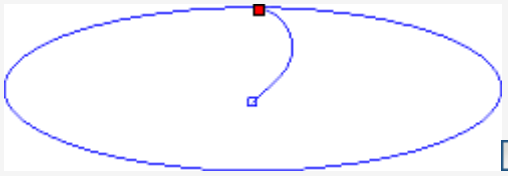
4. Key in Drilling radius **(r) less than the entry/exit distance**



5. **Tick Remaining material** to key in non-machined distance between the connection point and the opposite end of the path.
   The option avoids the fall of the part when machining ends.



Remaining material



Remaining material

CAM path: Bridges and tangential Entry/Exit upon path

A. Create a Plotting or a Cutting.

B. Right-click a path in Toolpaths list

C. **Manual bridges and tang. Entry/Exit**

D. Add upon the selected path precutting bridges or a tangent curve.

Get help

E.

Adding a manual tangential entry/exit

To machine a tangent curve at the start or at the end of path **use the entry and the exit points displayed in preview.**

The green square represents the path entry point. It merges by default with the exit point displayed as a blue square

Key in parameters

1. Double-click
   the green square when entry/exit points merge.
   the blue or green square when the entry and the exit points are separate.
2. Key in parameters in **I/O parameters.**
   a. Transition radius **(R) at least equal**
      - to the radius for a cylindrical tool
      - to the tip for a conical tool
   b. Entry/exit distance **(D) at most equal to double the connection radius**
3.

Move

Move the entry or the exit point
- **to keep non-machined material between the two points.**
- **to set the tangent entry or exit upon path.**

1. Click the entry or the exit point
2. Drag and drop the point onto its new position.

Orientate the curve

I/O menu to machine the tangent curve on the on the right or on the left side of the path (is default).

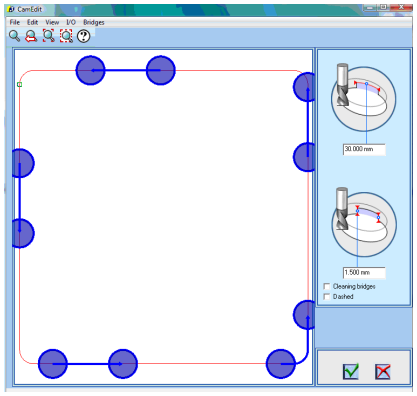
The orientation applies to all the tangent curves upon path.

Adding manual bridges

Distribute bridges upon path to carry out a precut. **These sections of partially machined material avoid the fall of the piece during cutting out.**

Bridges preset upon a cutting path display automatically in preview.

Insert automatically



a. Click the contours where you add bridges.

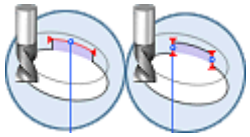
b. **Insert bridges on selection in Bridges menu**

c. Key in in Bridges parameters.
- **Bridge length and height**
- **Gap between bridges**

d. Click the mode of **Bridge insertion**
according to distance (is default). Key in the gap between bridges, Min. and Max. number of bridges.
according to number. Key in the total of bridges.

e.

Insert using mouse



a. Key in the **length and height of the new bridge.**

b. **Right-click the part of the contour where you add the bridge.**

Do not add bridge on start and end points of a contour.

Display

Draw radius of tool on bridges in View menu to display
the tool diameter at the ends of each bridge (is default).
the arrow that shows machining direction.

Size view

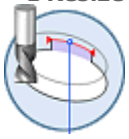
Use Zoom tools.

Delete

Double-click a bridge.

Delete all bridges in Bridges menu

Resize



a. Click the bridge end that has the arrow.

b. Drag and drop the end to the new position.

The new length of the bridge displays.

Move

a. Click the bridge.

b. Drag and drop the bridge to the new position.

Do not superimpose bridges.

Machining

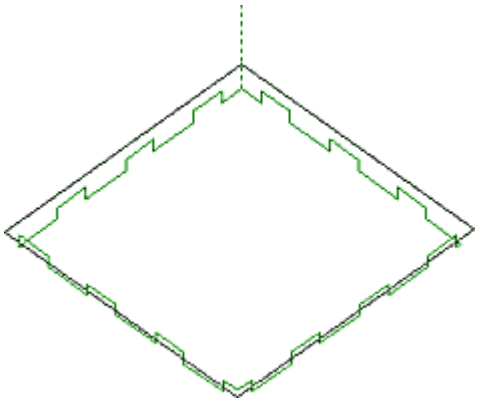
Smooth bridges in Bridges menu to select bridge machining shape (non-contractual simulations below).

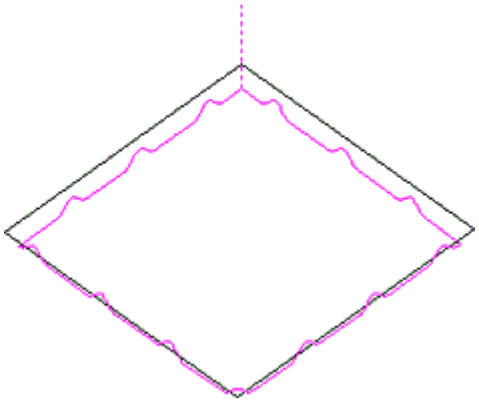
Click

Dashed to add flat bridges. Bridge areas will not be cut out

☐**Clean to cut bridge areas.** Spaces in-between bridges will be step-machined.

☐**Tick the two options to cut out only bridge areas.**



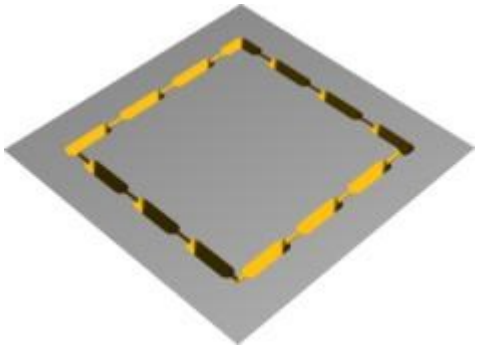


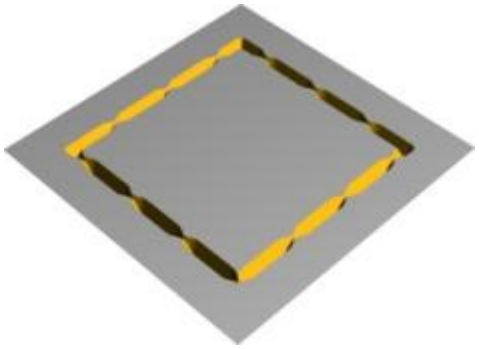
Display bridges using 3D view.

Default bridges are step-machined.

✔**Smooth bridges**

Displayed in grayscale, bridges are curved machined.





CAM path: Managing

A. Create the machining toolpaths required.

B. Open Toolpath list. Click in toolbox

The window displays

the paths assigned to objects in the current composition.

the groups where the paths are stored.

Click to display or to hide the paths of a group.

Display paths Compare different paths hiding or showing them.	Double-click • **a path** to show to hide • **a group** to show all the paths to hide all the paths
Edit	1. Select the objects to machine. The path is computed by default for all the objects over all the layers. 2. Right-click a path. 3. • **Modify computation to edit path properties.** • **Replace tool to edit tool properties.** • **Manual bridges and tang. Entry/Exit to configure directly upon path the machining of bridges or of tangent entry/exit.** • **Information or Report to read path properties.**
Rename	1. Right-click a path a group 2. Click the name. 3. Type the new name.
Display render	1. Right-click a path a group 2. **Simulation or NC Simulation** to simulate the path
Send to engrave	1. Right-click a path. 2. **Machining** to transfer the path to the machine
Delete **Deleting a group deletes all the group toolpaths.**	1. Right-click a path a group 2. **Click Delete**

Duplicate	1. Right-click a path. 2. • **Copy to duplicate the path one time.** • **Multicopy to produce a set of copies of the path.**
Merge paths	1. Right-click a path. 2. **Merge** to create a new path from existing paths
Store into a new group **Group toolpaths by type or by machining range.**	1. Create the group. a. **Right-click.** b. **Add a group** 2. Drag and drop each path into the group
Manipulate a path	1. Right-click a path. 2. • **Edit toolpath geometry to convert the path into a Gravostyle curve object.** • **Replace path to delete theoretical path.**

CAM path: Merging

Combine several paths to optimize machining distances and motions above material. When paths are machined with the same tool, time required to change tool also decreases.

Create the machining toolpaths required.

1. **Right-click initial path** in **Toolpaths list**
2. **Merge**
3. In list of available paths, **click each path that will be merged with the initial path.**
   The default list displays **Only toolpaths with same tool.**
   Untick the option to display the list of all the toolpaths.

   Select all Click to select all the paths available

   Deselect all Click to cancel the current selection

4. **Manage the paths to merge.**

   Add Click to send selection from the left to the list on the right.

   Remove Click to delete path.

   Up Down Click to set a path in required merging order.

   It is recommend to **Keep original paths (is default).**
   Untick the option if you want to delete merged paths.

5. Click. Merging produces a new path

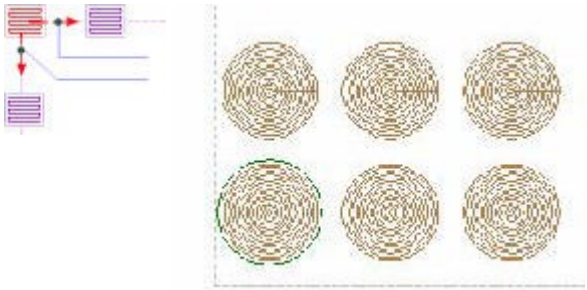
When merged paths are machined with different tools, the tool of the initial path is assigned to the final path.

If need be, click to restore each path deleted after merging.

CAM path: Multicopy

Create the machining toolpaths required.

1. **Right-click initial path** in **Toolpaths list**
2. **Multicopy.** Set the properties for the Multicopy of a toolpath.
3. **Click the computing of distances between copies.**
   Distance between reference points
   Distance between bounding boxes
4. **Key in each distance between copies along axes**
5. **Initial path included key in the number of copies per row and per column (2 are default).**



6. **Select the reference point that marks the start et gives the direction of the multicopy.**
   Click a corner of the box bounding the toolpath.

   The Bottom left corner is selected by default
   Multicopy runs downwards and rightwards.

   Set the position of the reference point.

   a. Tick to **Modify the reference point.**
   b. Click
      Move towards to compute the position in relation to the origin of the workspace.
      Relative distance to compute the shifting in relation to the lower left corner of the object.
   c. Key in the coordinates or the distances on axes

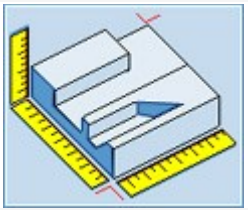
7. All the copies are attached to initial path.

CAM path: Information

Create the machining toolpaths required.

Path information

1. Right-click a path in Toolpaths list
2. **Information**



Path name **C:\Gravostyle\DRAWS\gnh1.029**	Location of the file where the toolpath is saved. The file has the composition name, followed by the number matching the path creation order.
Name	Path type is default
Machining length	Total distance covered by the tool in material
Fast machining length	Distance for tool motions along XYZ axes
Machining time	Machining delay estimated in relation to tool features in Tools Database
XMin YMin ZMin **XMax YMax ZMax**	Bounding box or min. and max. coordinates of the toolpath on XYZ axes
Depth	Engraving depth defined in toolpath computing

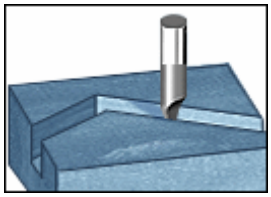
Path report

1. In **Toolpaths list** right-click
   a group
   a path
2. **Report under PDF format**
3. For each path, find above information, tool profile, standard machining properties (precision, common parameters, tangent entry/exit).

Save PDF report if need be.

Rotary paths

CAM path: Plotting



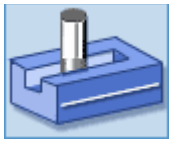
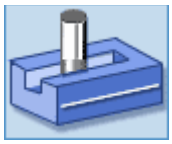
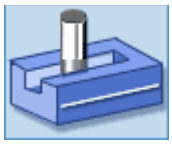
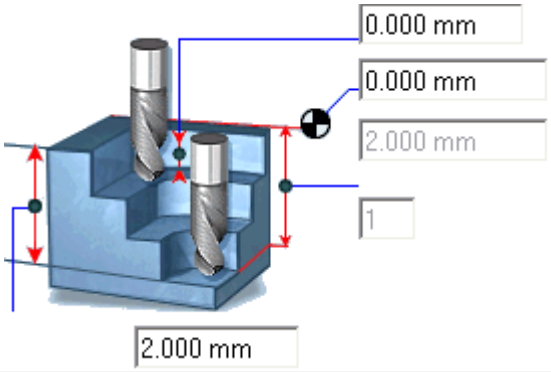
Particularly adapted to Gravograph filar fonts, the path machines open and closed contours following their lines.
The tool centre is exactly aligned on the theoretical path.

Contours are machined by default following the creation order.

Add upon the path precutting bridges or a tangent curve using Manual bridges and tang. Entry/Exit function.

1. Create the path.
2. **General** **Click. Set specific properties.**
3. Set standard properties.
4. **Options** At need modify
   - machining order
   - computing parameters

General **Specific properties**

	Click tool motion. **One way (is default)**
	**Forward and backward**
	**Forward and backward on last slice**
	With a round trip each pass is machined using constant depth.

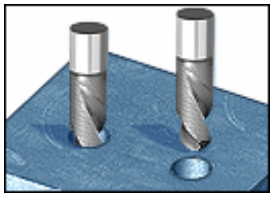
Tangential entry/exit

Click
○ **None**
◉ **Automatic (is default)** to machine a preset tangent curve.
○ **Manual:**

a. Click **Tang. Entry/Exit**

b. Configure the tangent curve machining.

CAM path: Drilling - Tapping/Threading



Each drilling point is represented as a start point.

Drilling

A. Create the path.

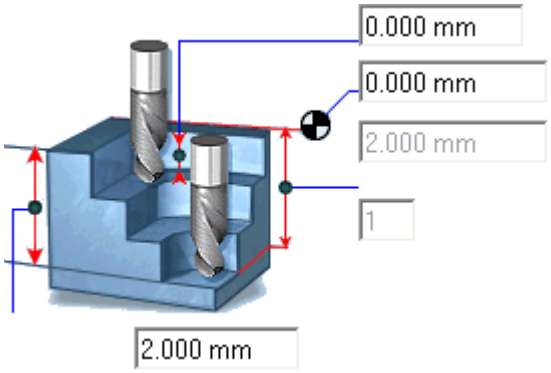
B. **General** **Click. Set specific properties.**

C. **Options** Configure machining order if need be.

D. Run a simulation to view the machining.

Mode

Multi-pass drilling removes material chips between two passes.



Click the drilling mode.

Spot drill pointing in a single pass

Multi-steps with Z up between two passes

Multi-steps without Z up (possible Z clearance)

Tick High speed clear move to raise the tool at max. speed between two drilling points (set in tool **Technologies** tab).

1. Select a cylindrical tool
2. **Key in max. machining Depth.**
3. **Key in Z up** or max. tool raising between two drilling points.
4. **Key in pass depth or the Number of passes for multi-steps drilling.** Max. depth divided by pass depth gives the number of passes, and vice-versa.

Selection filter

Click the points to drill.

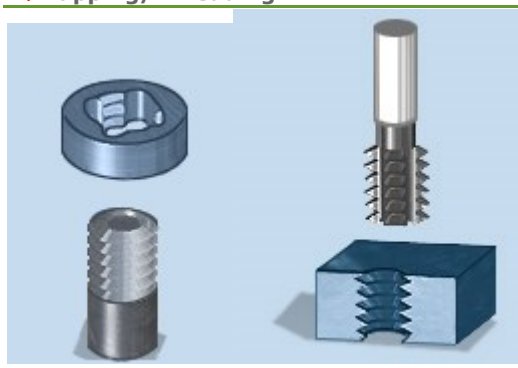
Markers (incl. drilling points)

Start point on contours

Start/End points on open contours

Braille dots or centres of closed contours

Tapping/Threading



The tapping completes the drilling machining a series of grooves in helix inside a smooth hole, in order to screw a threaded rod.

The threading machines a thread e.g. a series of grooves in helix around a cylinder.

The nut/screw assembly is a current example of tapped hole/threaded rod.

A. GRAVOSTYLE Set the marker through which the vertical machining axis goes.

B. Click the marker.

C. CAM Click to display the selection in CAM window.

D. Create the path.

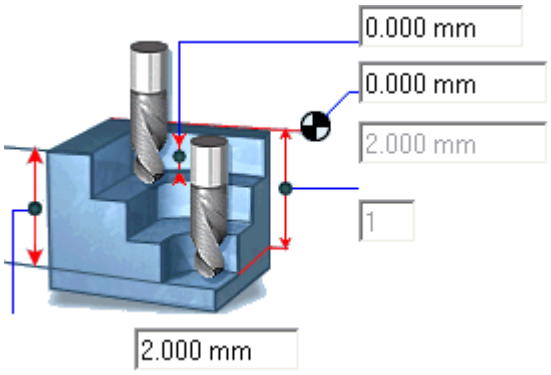
E. **General Click. Set Standard properties.**

F. **Tapping/Threading Click. Set specific properties.**

G. **Options** Configure machining order if need be.

H. Run a simulation to view the machining.

Standard properties

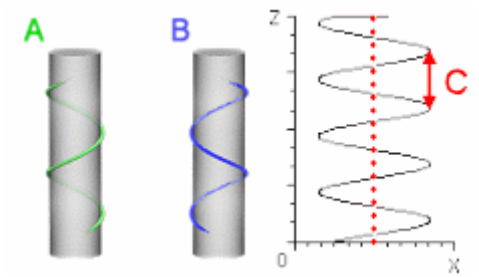


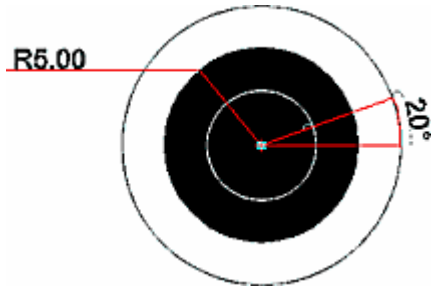
1. Select a cylindrical tool
2. **Tick Tapping/Threading in General**
3. Click the drilling mode.
4. **Click Markers as Selection filter.**
5. **Key in max. machining Depth.**
6. **Key in Z up position or max. tool raising between two drilling points.**
7. **Key in pass depth or the Number of passes for multi-steps drilling.** Max. depth divided by pass depth gives the number of passes, and vice-versa

Specific properties

1. Tapping/Threading Click tab in Drilling dialog box.
2. Click path type.
   Tapping
   Threading
3. **Key in a Accuracy between 1 and 0.0001** depending on path complexity and required resolution (0.01 is default).
   A low value increases the number of segments and path machining time.
4. **Key in following parameters.**

Machining parameters



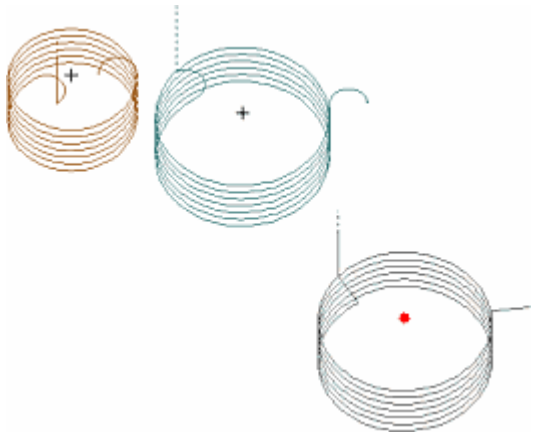


- ☑ The thread is machined **Clockwise (A)**
  Untick to machine anticlockwise **(B)**
- **Helix step** or distance between two thread ridges **(C - XZ view)**
- **Start angle** to machine the thread that sets the point linked to the tangent entry **(= 20° - XY view)**
- **Helix radius** around the vertical axe going through the marker **(R = 5)**

The cylindrical tool radius defines the thread width and is used to compute
- **the tapping radius = (Helix radius – Tool radius)**
- **the threading radius = (Helix radius + Tool radius)**

With 2.18-tool radius and 5-helix radius
- the tapping radius is 2.82
- the threading radius is 7.18

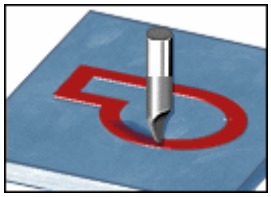
Tangential entry/exit



- The path by default starts and ends with a tangent curve to configure.
  ☑ **Enable input**
  ☑ **Enable output**
  Untick to remove the entry/exit tangent to path.
- **Key in entry/exit Distance.**
- ☑ The transition between the path and the tangent entry/exit is machined by default as **arc of Circle.**
  Untick to machine a line at path entry or/and exit.

☑ **Clearance equal to Z max.** triggers by default the tool raising at the tangent exit.
Untick when you disable the tangent exit.

CAM path: Cutting



Add upon the path precutting bridges or a tangent curve using Manual bridges and tang. Entry/Exit function.

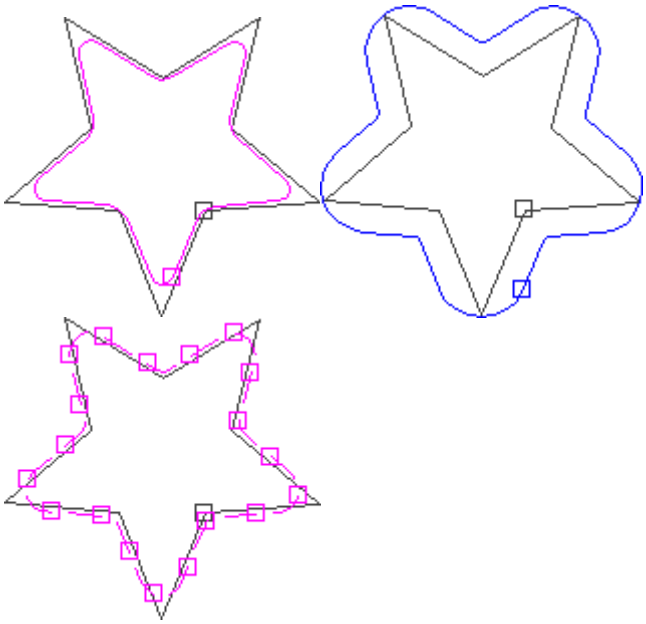
1. Create the path.
2. **General** **Click. Set specific properties.**
3. **S**et standard properties.

   Select a conical tool with a small diameter
4. **Loops** Click. Add loops to cut outward angles.
5. **Options** At need modify
   - machining order
   - computing parameters

General Specific properties

Path type	**2D Cutting cuts inside the theoretical path** with a distance equal to the tool tip at keyed in depth. **3D Cutting completes the machining** with a true angle at the top. There is no tangent entry/exit. It is recommended to cut words or names for jewelry.
Cutting type	Click to cut **inside (is default)** **outside the theoretical path**

2D cutting



a. Key in a **negative or positive Offset to shift the cutting in relation to theoretical path.**

b. **Key in the radius of Round angles** (zero value produces quite sharp angles). Click to **Fit for tool. The radius is recomputed according to tool profile.**

c. Click to **Add bridges for precut.**

d. Click tab to display bridge parameters.

e. Key in
- **bridge Length and Height.**
- **Gap between bridges.**

f. Click again to close tab.

g. Key in **Overthickness e.g. border of non-machined material inside pocket.**

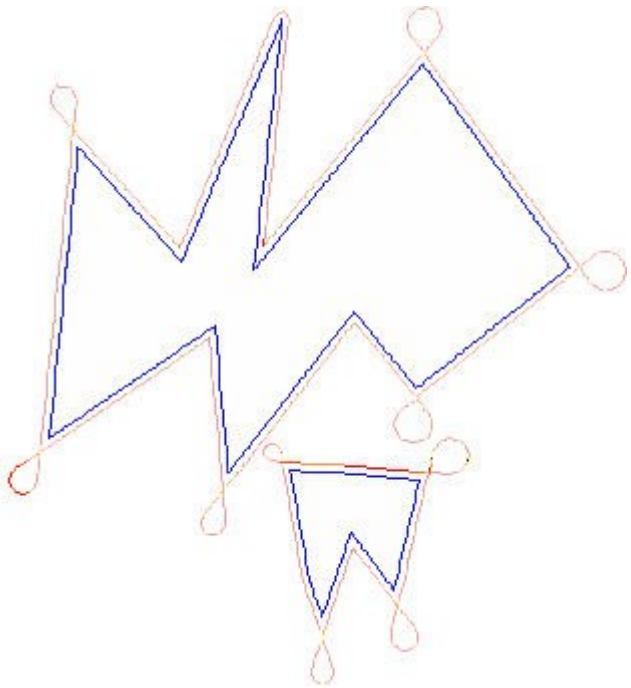
Tangential entry/exit

Click
None
Automatic (is default) to machine a preset tangent curve.
Manual:

a. Click **Tang. Entry/Exit**

b. Configure the tangent curve machining.

Adding loops



Each outward angle is cut using constant speed, by extending the path along angle edges and connecting both edges with an arc.

a. ☑ Click to add **Loops when cutting outward angles.**

b. Key in loop dimensions.

Loop radius e.g. max. radius of the transition arc

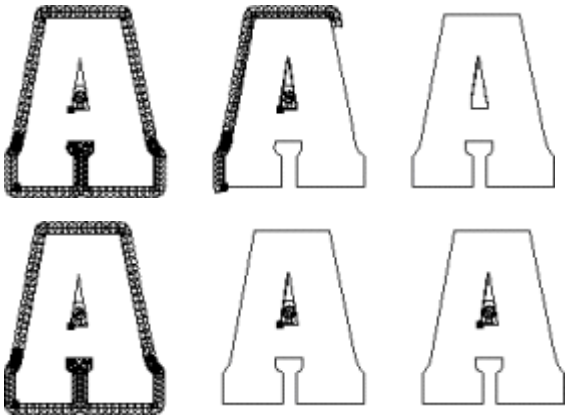
Loop length e.g. max. distance between angle point and the apex of the transition arc

c. Key in the parameters setting loop machining.

- **min. Angle** below which no loop is machined.
- **max. Angle** beyond which no loop is machined.
- **min. Loop length** below which no loop is machined.

d. ☐ **Click to Manage collisions. Loop size can be reduced** to avoid collision with theoretical path.

Sorting contours in Expert mode



Whatever the sorting mode, internal contours will be machined before external ones.

Item by item (by default)

Click to cut objects one by one in relation to

○ **the manual selection**

○ **the automatic selection e.g. creation order**

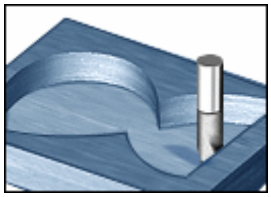
All internal contours to external ones

Click to cut objects simultaneously in relation to

○ **the manual selection**

○ **the automatic selection e.g. creation order**

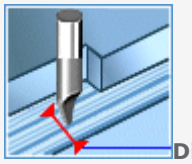
CAM path: Sweeping



The roughing path fills in each pocket using **rectilinear paths oriented according to the sweeping angle.**
The angle allows to limit tool motions above material.

1. Create the path.
2. **General** **Click. Set specific properties.**
3. **S**et standard properties.
4. **Advanced** Click. Key in advanced properties.
5. **Options** At need modify
   - machining order
   - computing parameters
6. **Preview** Click to optimize tool choice.

General Specific properties



Distance between steps (or pass width)

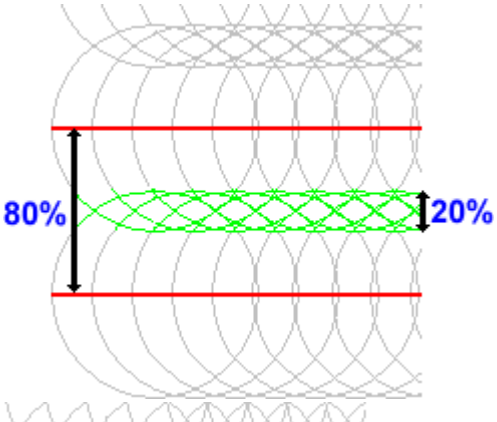
The gap between pass width and tool diameter is the **pass overstep.**

The distance between two consecutive lines is measured from tool center.

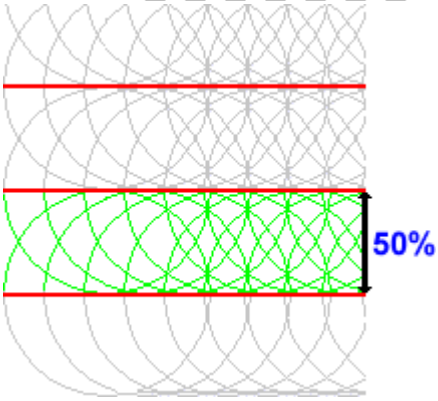
Key in **value in chosen unit.**

Key in a **percentage** (50% is default to machine the whole material)
• of radius for a cylindrical tool
• of tip for a conical tool

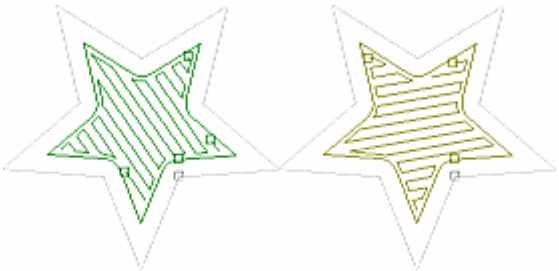
Pass width = 80%
Overstep = 20%



Pass width = 50%
Overstep = 50%



Sweeping angle



Optimized. The machining angle automatically changes for each pocket.

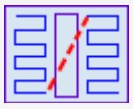
Start angle. Key in an angle from 0° to 360°.

X and Y. Key in a Rotation angle for a cross sweeping on several passes.

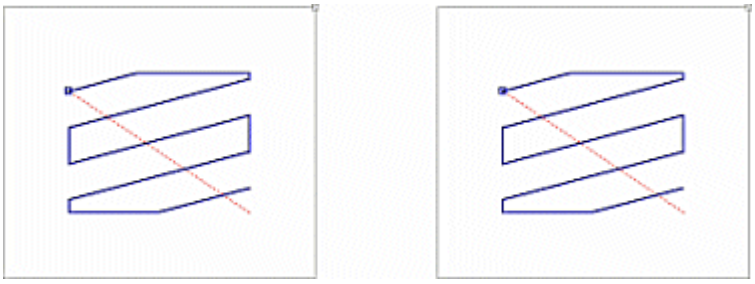
Advanced properties

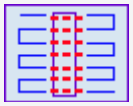
Sweeping type

Click

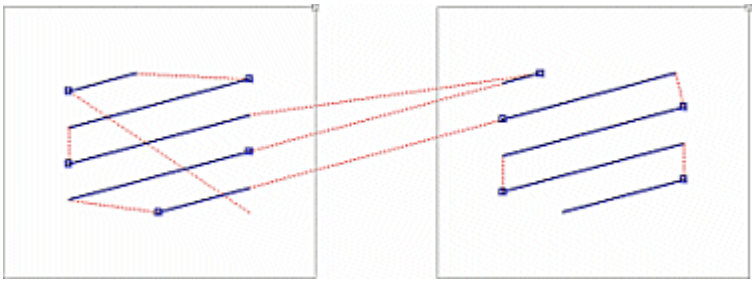


By area. The tool completely fills in each pocket which limits clearances above material and the machining time.





Island jumping. The tool simultaneously fills in two pockets jumping between pockets (red dotted lines).

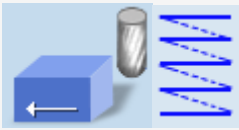


Sweeping direction

Click the machining direction **in relation to the tool forward motion in material.**

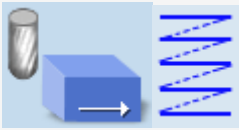
Forward and backward

The tool machines continuously by round trip without raising.



Conventional

The tool rotates opposite from its motion direction and pushes back the material as it moves forward (chips are dragged with the tool). Conventional milling produces a poor engraving but needs a low spindle power. It particularly suits to roughing because it reduces chip ejection.



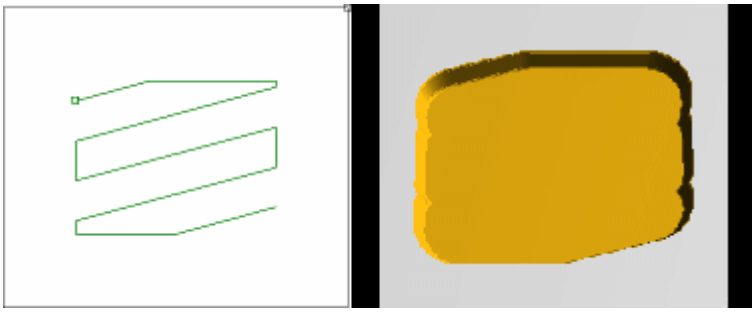
Climb

The tool rotates in its motion direction and the material passes through underneath as it moves forward (chips are thrown in front of the tool). Climb milling ensures a better finishing (due to the absence of vibration) but requires a high spindle power.

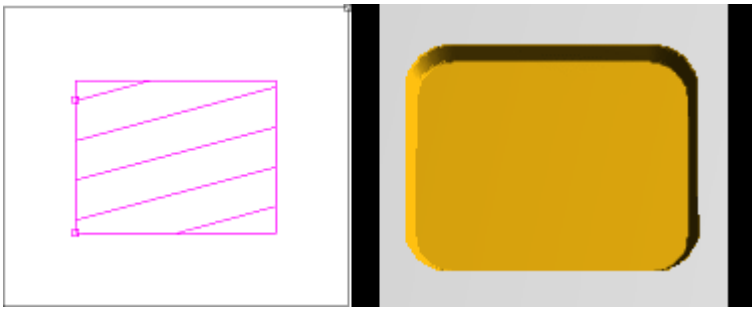
Angle breaking

Click to complete sweeping with angle breaking.

None. Material left in angles after pocket sweeping is not machined.



Before or After. The breaking refines angles using contouring.

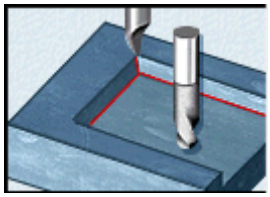


1. Click to machine overthickness **Allowance on hatchings only. In this case key in a non-void overthickness at most equal to sweeping one.**
2. Click the machining direction of angle breaking.

conventional

climb

CAM path: Engraving



The roughing path fills in each pocket **using concentric lines.**

1. Create the path.
2. **General** **Click. Set specific properties.**
3. **S**et standard properties.

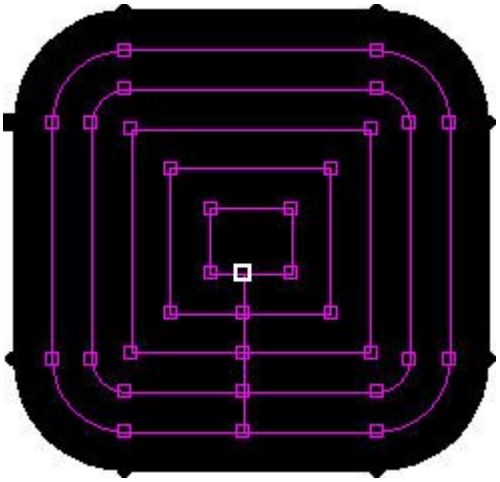
   Select a conical tool with a small diameter
4. **Options** At need modify
   - machining order
   - computing parameters
5. **Preview** Click to optimize tool choice.

General **Specific properties**

Path type

2D Engraving fills a pocket
- **in the whole surface, from centre to periphery.**
- **using parallel concentric lines** eventually linked together.

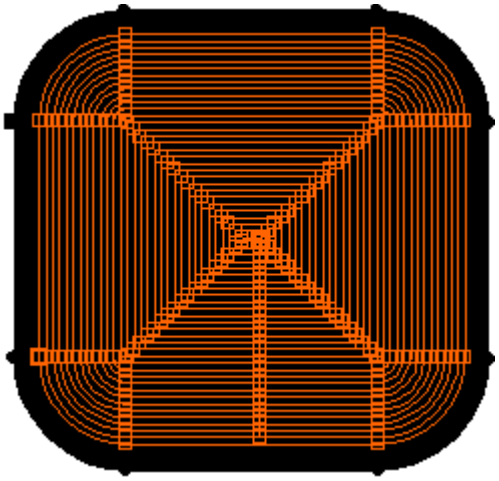
The machining starts at the white square.

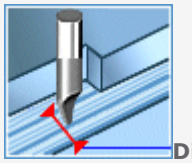


3D Engraving completes contouring by refining each inward angle (round trip of the tool between angle base and top).

One path is reserved to contour a pocket along the periphery.

Click to **Skip external frame only for 3D Engraving.** It removes periphery contouring.





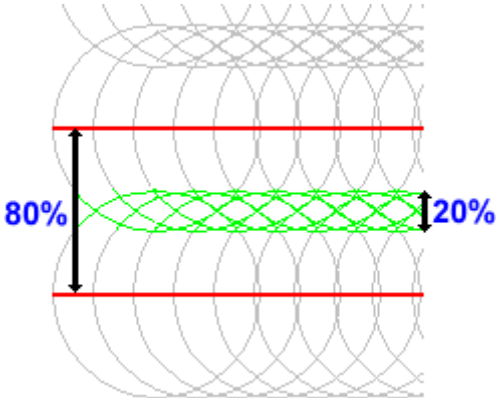
Distance between steps (or pass width)

The distance between two consecutive lines is measured from tool center.

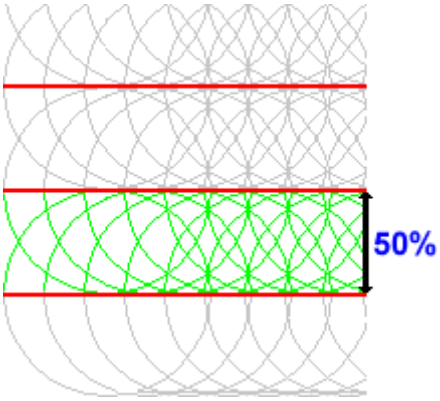
Key in value in chosen unit.

Key in a percentage (50% is default to machine the whole material)
• of radius for a cylindrical tool
• of tip for a conical tool

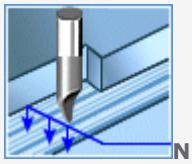
The gap between pass width and tool diameter is the **pass overstep.**



Pass width = 80%
Overstep = 20%

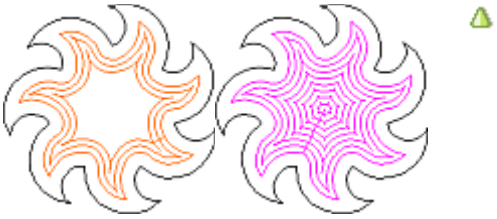


Pass width = 50%
Overstep = 50%



Number of lines

The tool fills in the whole pocket surface.

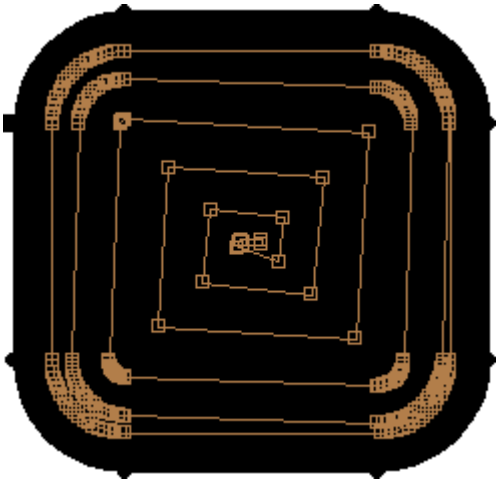


Click to key in the **number of lines needed to partially fill the pocket. Validate.**

Contouring mode

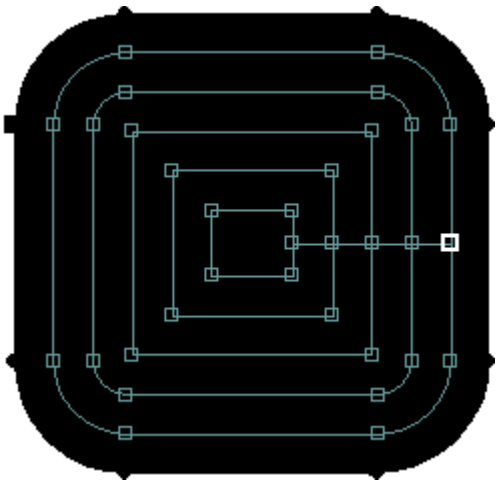
Click to machine **a Spiral for 2D Engraving only.**

The contouring fills in a whole pocket by a single optimized path.



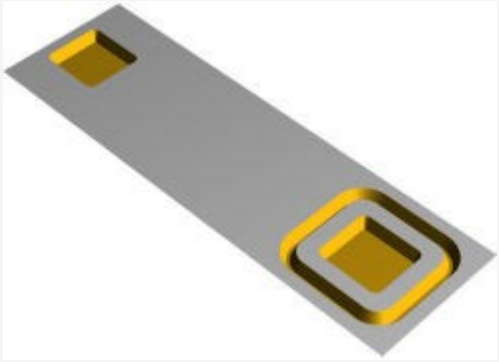
Click to machine **From the outside towards pocket center.**

The machining starts at the white square.

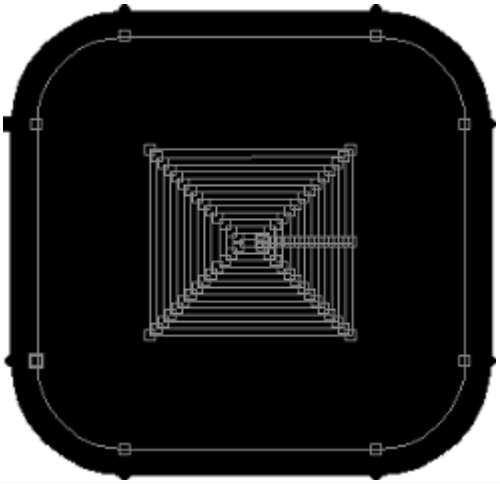


Overthickness

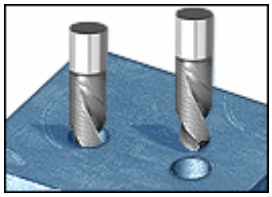
Key in the border of non-machined material inside pocket (non-contractual simulations hereunder).



Click **2D only for 3D Engraving only to machine a pocket along the periphery.**



CAM path: Braille with driven Dispenser

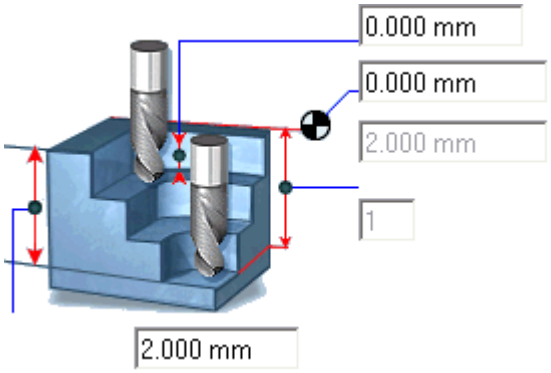


Each drilling point is a start point at the centre of a circle.

Each circle is a cell that builds a Braille character according to transcribing standards per geographical area.

1. Select objects you will machine using Braille path.
2.
3. **Open US Braille library or Braille overseas.**
   Click to show or to hide the groups of presets available for Braille machining.
4. **Right-click the group of Braille presets matching the material to drill.**
   Each group contains 2 presets
   Drilling the centre of cells that build Braille text
   Inserting beads into machined cells
5. Ctrl **Key down click Compute command** in contextmenu.
6. Open Toolpath list. Click
   The group linked to the layer that contains the selection encloses
   a Braille_Drilling path
   a Braille_Bead_Insertion path
7. Run a simulation to view the machining.

Describing Braille_Drilling path



Options **Do not edit any property in the tab.**

General **Do not edit any property in the tab.**

The cylindrical tool is preset.

Pass depth or the Number of passes for multi-steps drilling. The value divided by the number of passes gives the drilling depth per pass.

Z up or max. tool raising between two drilling points

Multi-steps with Z up removes material chips between two passes.

High speed clear move raises the tool at max. speed between two drilling points (set in tool **Technologies** tab).

Selection filter systematically enable **Braille dots e.g. centres of closed contours.**

Describing Braille_Bead_Insertion path

Options **Do not edit any property in the tab.**

General **Do not edit any property in the tab.**

The bead dispenser is preset.

Max. depth for bead insertion

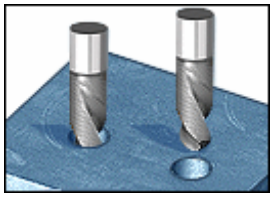
Z up or max. tool raising between two cells

Simple drilling is used to insert beads in a single pass.

☐ High speed clear move is disabled to **let the tool raise with a normal speed between two cells.**

☑ Selection filter systematically enable **Braille dots e.g. cell centres.**

CAM path: Gang drilling



Create path to machine with a machine equipped from 1 to 9 drilling heads (bits or brooches).

You can execute several drillings in different materials by activating simultaneously several heads.

1. Create the path.
2. Fix Drilling properties.
3. **Tick Gang drill in General tab.**
4. **Gang drill** Click. Key in specific properties
5. **Options** Configure machining order if need be.
6. Run a simulation to view the machining.

Distributing drilling heads according to a matrix mode

1. Key in the
   Number of columns (32 max.)
   Number of lines (8 max.)
   The drilling matrix displays in bottom left corner of the tab, built using checkboxes.
2. **Key in**
   Spacing between lines (vertical Y distance between heads)
   Spacing between columns (horizontal X distance between heads).
3. Tick option **Identical heads to assign the first selected tool to all the active heads.**

Assigning a tool to a drilling head

1. Tick a **box of the matrix to assign the tool corresponding to the selected head.**
2. Click to open database.
3. Click an available tool.
4. **Key in**
   - **a Number of head.**
   - **a unique Number of command** because it identifies the head activated on the machine.
5. Tick option to select the **current drill as Reference head.**
   Key in if need be the initial Position of Reference head e.g. XYZ coordinates to search the fist point to drill.

The option **Identical heads is ticked, tick the boxes of the matrix to activate the heads of drilling and assign them the selected tool.**

The option **Identical heads is unticked, repeat the operation of phases 1 - 5 for every head to be activated.**

Enabling or disabling a drill head

The Number of configured heads displays equal to boxes ticked in the matrix.

Untick a box to deactivate a configured head. The Number of heads is automatically updated.

If you tick a box which parameters are set, the parameters of the activated head display.

Click to save all the drilling properties as *.gang file

Click to open a GANG file (XML format) which automatically configures drill heads.

Computing Gang Drill path in relation to axe gaps and diameters

To be drilled in a blow the selected holes must have the same axe gap as the drills of the used head.

The distance between holes does not need to be exact. When the distance is in a tolerance equal to ±1/100 of the smallest head axe gap, holes are considered on head axe gap.

Example: if a head is set with a 32mm-axe gap, holes set at X distances of 0.0 - 32.1 - 63.9 - 96.1 will be drilled in a blow, because distributed using the same axe gap with +/-0.32mm tolerance (32.0/100mm)

A Gang Drill head can be defined with drills of different diameters.

When holes to drill are set using drilling markers their diameter is considered to select drills to be used.

Tolerance between diameter hole and drill one is 1/100th mm. When Diamhole-Diamdrill ≤± 0.01mm, hole and drill have the same diameter, the drill will machine the hole.

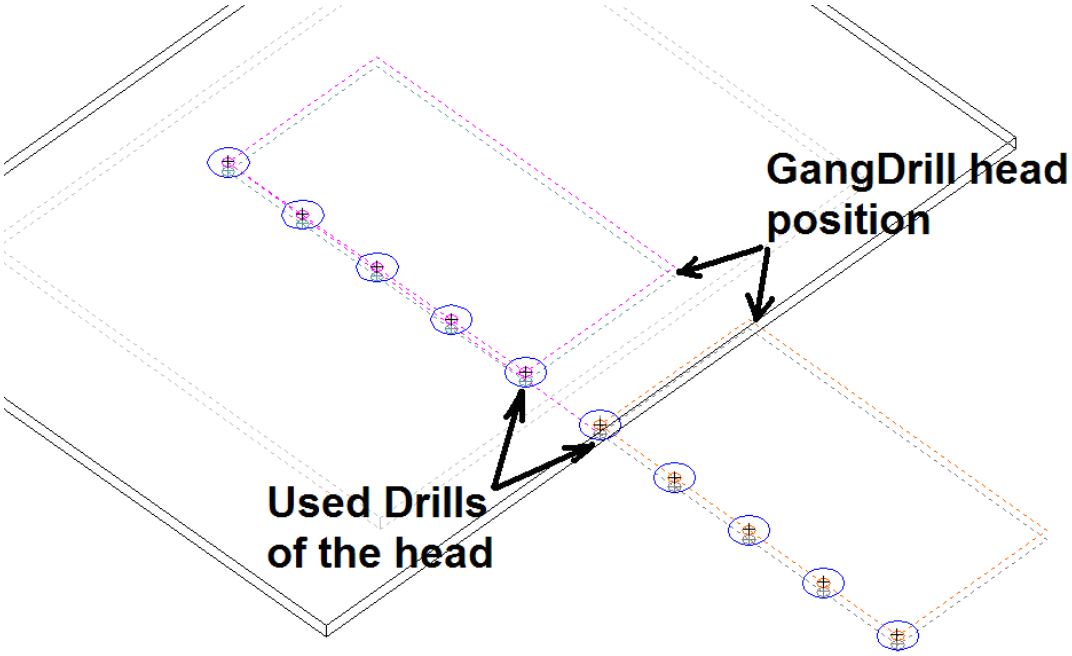
In a drilling mode different from marker one or when used markers are not drilling ones, all the drills are used without diameter control.

Viewing Gang Drill path

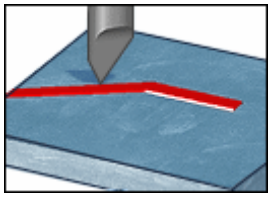
The head is represented by its XY bounding box drawn in dotted lines.

Only drills used for every drilling are drawn with a circle.

The color changes every head movement to show the simultaneous drillings.



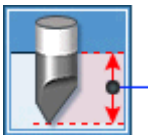
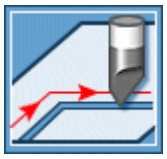
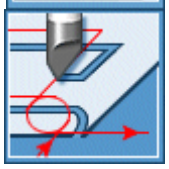
CAM path: Vinyle



1. Create the path.
2. **General** **Click. Set specific properties.**
3. **S**et standard properties.

   Select the quarter round tool that suits the path
4. **Advanced** **Click for a driven or floating cutter.** Set advanced properties.
5. **Options** At need modify
   - machining order
   - computing parameters

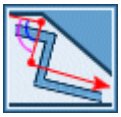
General **Specific properties**

	Key in **cutting depth.**
	Click the **Kind of cutting.** **Plotting** The tool remains fixed and follows the contour.
	Driven cutter The tool remains fixed and follows the contour. At each angle the cutter is raised, changes direction and drops again into material. Key in angles between which the tool is raised and repositioned in **Advanced** tab.
  	**Floating cutter** The tool is mobile and follows the contour via successive tangents. Upon each sharp angle, it machines a loop tangent outside the material to reposition itself on the path. Key in angles between which the tool executes a loop in **Advanced** tab. Click to **Add a tangential entry/exit upon path.** Configure the machining of the tangent loop in **Advanced** tab.

Advanced Advanced properties for a driven or floating cutter

Driven/floating cutter parameters

Key in angles between which the tool will change its trajectory.

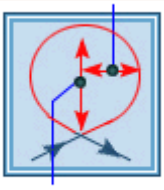


For each inward angle higher than **Min. side angle**
- the floating cutter machines a loop.
- the servo-cutter is raised and repositions itself.

For each outward angle lower than **Max. side angle**
- the floating cutter machines a loop.
- the servo-cutter is raised and repositions itself.

The tool machines a tangent at each angle with a width lower than **Min. length for sides.**

0.000 mm



0.000 mm

Configure the tangent curve **to machine at each angle of the floating cutter.**

1. Key in **Transition radius.**
2. Key in **Entry/exit distance.**

Check intersections

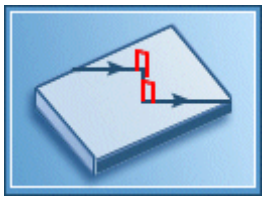
☐ Tick option to check that machined loops do not interfere with theoretical path.
If they do, loop size and orientation will be automatically adapted to avoid collisions between the path and the material to cut.

For open contours

The options determine how the tool adapts the machining trajectory.

◉ **Normal**

The tool remains fixed and follows the contour.



○ **Driven tool**

The tool is raised at each angle, and then drops into material.

○ **Arcs on exterior angles**

A repositioning loop is machined at each outward angle.

○ **Arcs on inner angles**

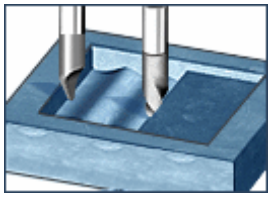
A repositioning curve is machined at each inward angle.

Arc on all angles

A repositioning curve is machined at each inward angle.

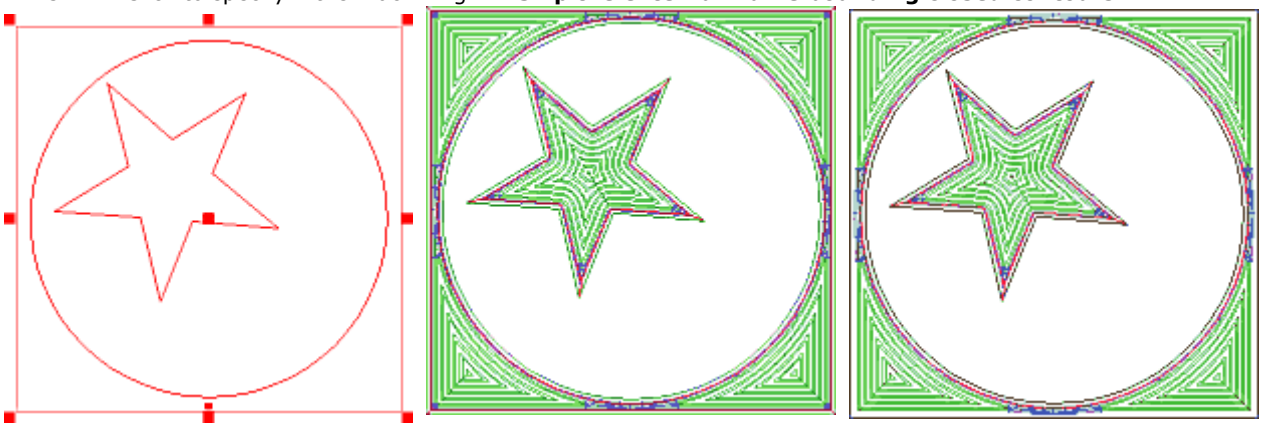
A repositioning loop is machined at each outward angle.

CAM path: Multi-tools sequence



The function manages the combination of three or more machining paths.
- **2D roughing** is a fast filling rather far from theoretical path.
- **2Dsemi-finishing** cleans the islands of remaining material.
- **2.5D finishing** is a contouring very close to theoretical path.

1. Create the path.
2. Key in the machining properties of the sequence.
3. Click to specify if the machining will **Skip the external frame bounding closed contours.**



Selection | **Skip external frame** | **Skip external frame**

4. **Options** At need modify
   - machining order
   - computing parameters
5. **Manage the paths of the sequence.**

Add path

The two last tools must have the same coning half-angle. The tip of the finishing tool should not be less than half of the semi-finishing tool tip.

Automatic filling is particularly efficient when the depth is the same for all the selected tools.

Double-click the sequence to show paths.
to hide paths.

Yes Confirm the deletion of existing paths before **Modify computation of the sequence.**

1. Click
2. In Tool Database **click the tool adapted to the path (roughing, semi-finishing, finishing)**
3. **Set the machining properties of the current path.**
   a. Key in standard properties (number of passes or pass depth).
   If need be tick to **Change machining depth Key in path Depth.**
   b. **Click the filling mode when roughing.**
   Concentric contouring
   - Click machining direction.
   - Key in pass width.

   Rectilinear sweeping
   - Key in sweeping angle.
   - Key in pass width.
   - Click the machining direction of broken angle.

   c. **Click the angle refining mode when finishing.**
   2D Finishing
   3D Finishing
   d.

Repeat the operation for each path of the sequence.

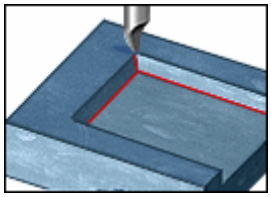
Edit path

Click the matching tool and then

Delete path

Click the matching tool and then

CAM path: Finishing



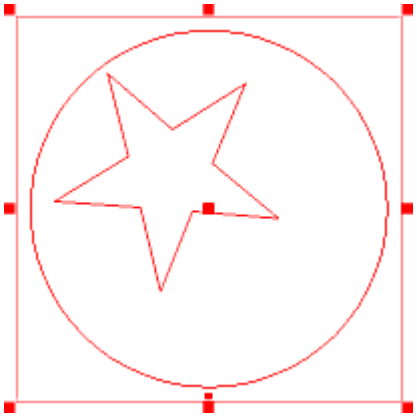
The path completes pocket machining using **2D or 2.5D angle refining.**

1. Create the path.
2. **General** **Click. Set specific properties.**
3. **S**et standard properties.

   Select a conical tool with a small diameter
4. **Options** At need modify
   - machining order
   - computing parameters
5. **Preview** Click to optimize tool choice.

General Specific properties

Angle refining mode	◉ **2D Finishing refining angles using concentric contouring of each pocket.** **Before defining path specify if the contouring will machine contour linking.** ○ **3D Finishing extends tool penetration into each inward angle.** No need to define machining direction.
Skip external frame	Click to specify if the path will machine the box bounding closed contours.

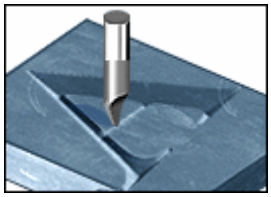


Selection

☐ **Skip external frame**

☑ **Skip external frame**

CAM path: Intaglio



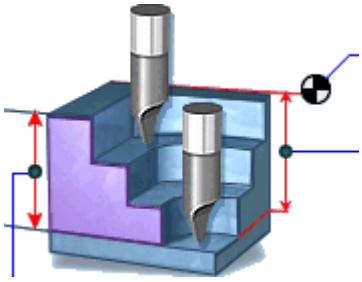
The 2.5D path machines pockets according to a **depth which varies with pocket width and machining thickness.**
You obtain a recess machining with downstroke and upstroke, ideal for decorative engraving in wood or Plexiglas.

To machine a quality lettering, select text with an over 50mm height and rather typed with a script font.

1. Create the path.
2. **General** **Click. Set specific properties.**
3. Set standard properties.

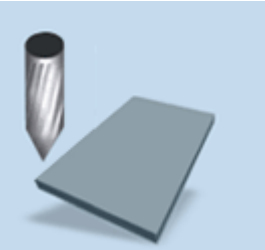
   Select a conical tool
4. **Options** At need modify
   - machining order
   - computing parameters

General **Specific properties**



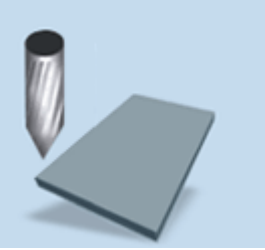
Key in machining **max. thickness, not the depth.**

Keep the automatic number of passes computed for the selected tool.



Standard

The tool machines each pocket **by contouring with a single centre line.**



Optimized (is default)

The tool machines each pocket with a **series of separate centre lines.**

Test different tools and machining parameters to define a quality path (non-contractual simulations below).

Selection

Font: Ttf Vianta

Text height: 70mm

Optimized intaglio

Depth: 10 mm

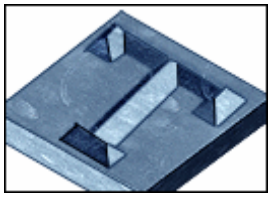
Number of passes: 2

Precision: 0.0001 mm (maximum)

Tool: Conical Carbide Ø 6.35 T 1.25
Diameter: 6.350 mm
Angle: 22.500 deg
Tip: 1.000 mm

NC Simulation

CAM path: Prismatic letters

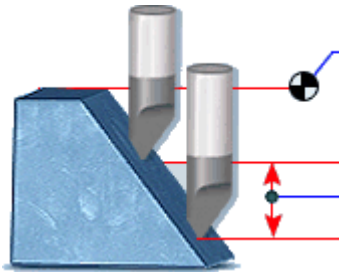


The 2.5D path **contours each pocket at a constant Z height.**
This machines a pyramidal section in recess or in relief, ideal for sign lettering.

To machine a quality lettering, select text with an over 50mm height and typed with a font which lines are large enough.

1. Create the path.
2. General **Click. Set specific properties.**
3. **S**et standard properties.

   Select a conical tool with an angle sufficient and a low tip to correctly machine the pyramidal section on each letter.
4. Options At need modify
   - machining order
   - computing parameters



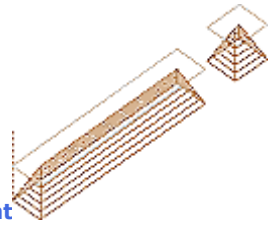
Edit pass depth to adjust the number of passes.

Click to obtain automatically machining **Max. and Min. heights** calculated for the width of selected contours.

Keep a **max. machining Depth**

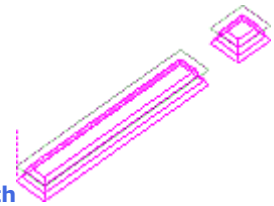
- **equal to Max. height** to machine the section with a central edge at each pocket top.
- **lower** to machine a **flat section at the top.**
- **higher** to machine **into deep.**

Max.

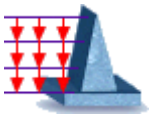


height

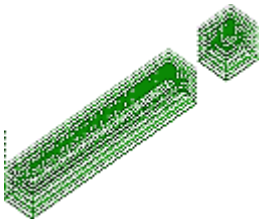
Low



depth



☑ Click to grind material around letters by **Lateral steps.**

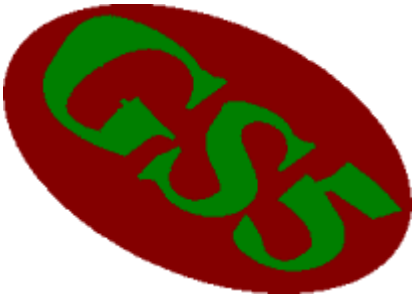


Click to machine path

○ **in recess**

◉ **in relief (is default)**

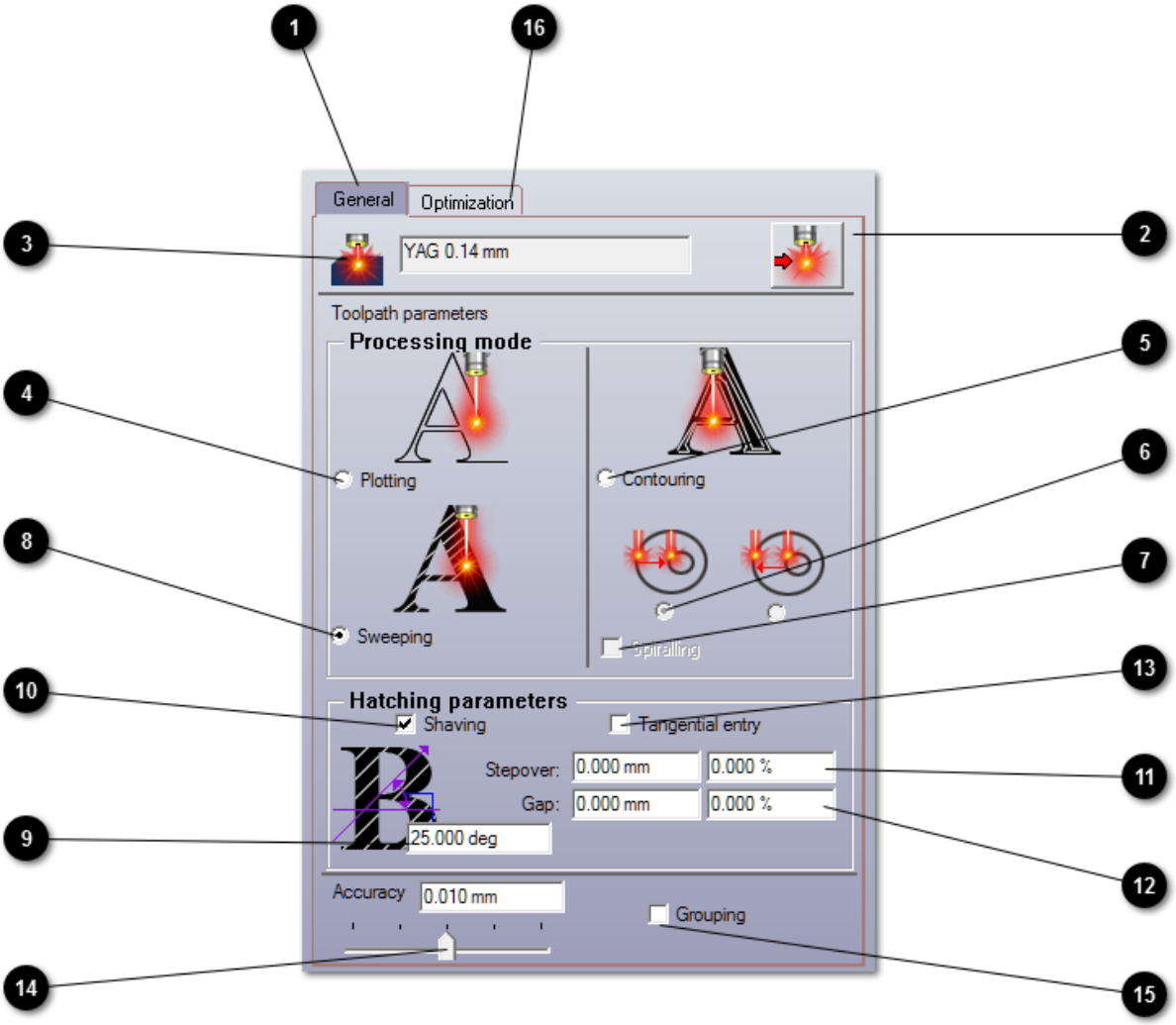
Test different tools and machining parameters to define a quality path (non-contractual simulations below).

	Relief path with pocket sweeping between ellipse and text	Recess path
Selection		
Path		
NC Simulation		

Laser paths

CAM Laserpath: Plotting - Sweeping - Engraving

Add the path.



1 **General**

2 **Click to select the beam diameter**

Click to display the path colors available

Click the color path

3 Active beam diameter

4

Plotting

Click to machine contours following their lines. The beam centre aligns on theoretical path.

5

Engraving

Click to fill each pocket with concentric lines

6

Engraving direction

Click to machine each pocket

from periphery to centre (is default)

or vice-versa

7

Spiraling

Tick to machine spirals. The engraving fills completely every pocket by a single optimized track.

8

Sweeping (is default)

The path fills in each pocket using rectilinear lines oriented according to the sweeping angle.

9

Sweeping angle

Key in an angle between 0° and 90° to limit clearances above material.

10

Broken angle

Tick to machine a broken angle in each inward angle

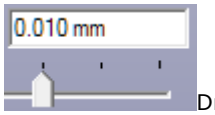
11 Key in the pass overstep as a distance (mm/inch) or as a percentage (%)

12 The pass width is automatically computed as a distance (mm/inch) or as a percentage (%)

13 **Tangential entry/exit for Plotting or Engraving**

☐ Tick to machine a tangent curve at the start or at the end of the path

14 **Adjusting accuracy**



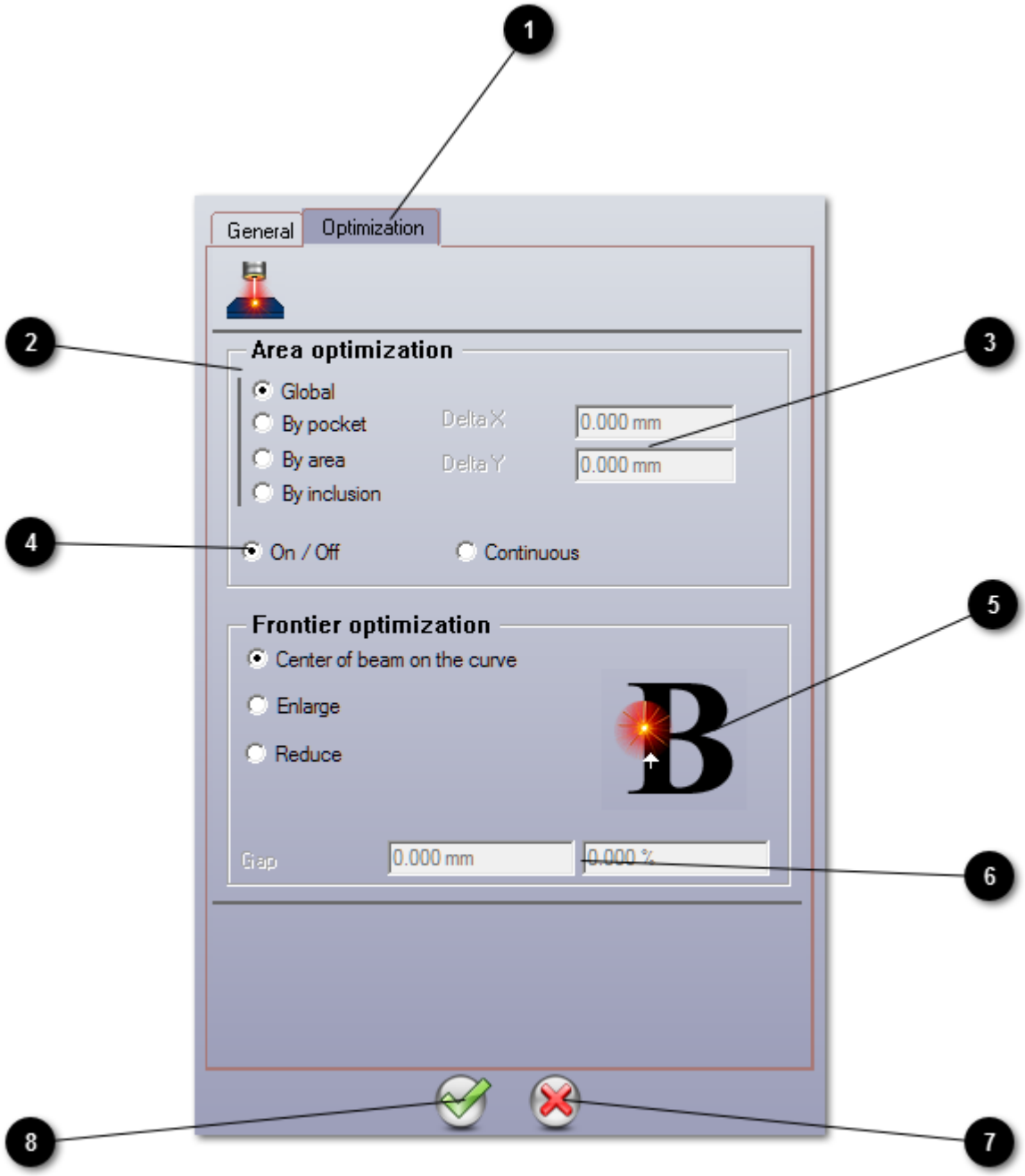
Drag and drop the cursor or key in an Accuracy between - 1 and 0.0001, according to the complexity of the path and the required sharpness (0.01 is default).
A low value increases the number of segments and the marking duration.

15 is default, machining all the objects inside selection produces a single path file

☐ Tick Group to get one path file per machined object

CAM Laserpath: 2D Optimization

Define the Laser path: Plotting, Sweeping or Engraving.



1 **Path Optimization**

2 **Click the Optimization mode**

Global (is default): All the objects of the selection will be machined simultaneously by a single rough sweeping (one trip downwards).

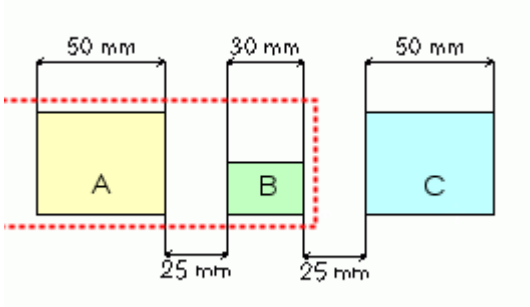
○ by pocket: Closed contours of the selection will be machined simultaneously by order of arrival.
○ by area: Pockets which distance between their bounding boxes is lower than Delta X or than Delta Y will be machined simultaneously.
○ by inclusion: From the first pocket, pockets completely included by the margins bounded by Delta X and Delta Y will be machined simultaneously.

3

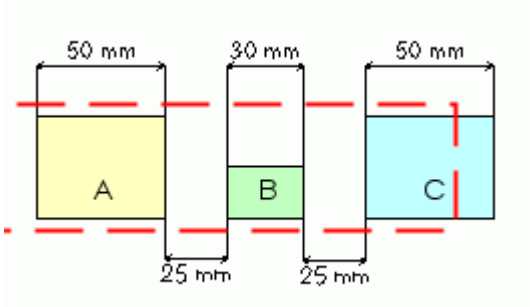
Delta X and Delta Y

Key in the values when optimizing by area or by inclusion

When the second object (rectangle B) is inside Delta X and Delta Y margins (short dots) around the bounding box of the first object (rectangle A), then the both objects will be grouped when machining.



Margins will be adjusted in relation to the bounding box of the two objects (long dots), and so for all the objects.



The third object (rectangle C) is partly outside the long dots, it will be machined separately.

4

Powering the laserbeam when sweeping

The sweeping is made of horizontal round trips.

◉ **The beam by default powers OFF then powers ON from a route to another, without connecting sweeping routes.**

○ TheContinuous beam remains powered on and sweeps connecting two routes.

5

Approaching path

Click the position of the laserbeam beside the theorical path

Centre: beam aligns on path (is default)

Enlarge: beam outside path

Reduce : beam inside path

Click for an automatic Orientation of the beam when Plotting

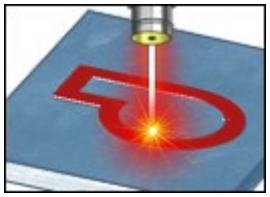
6

Overflow of laserbeam (Enlarge or Reduce)

Key in the percentage of the laser diameter (%) or the distance (mm) that sets the gap between the beam centre and the theorical path.

CAM Laserpath: Cutting

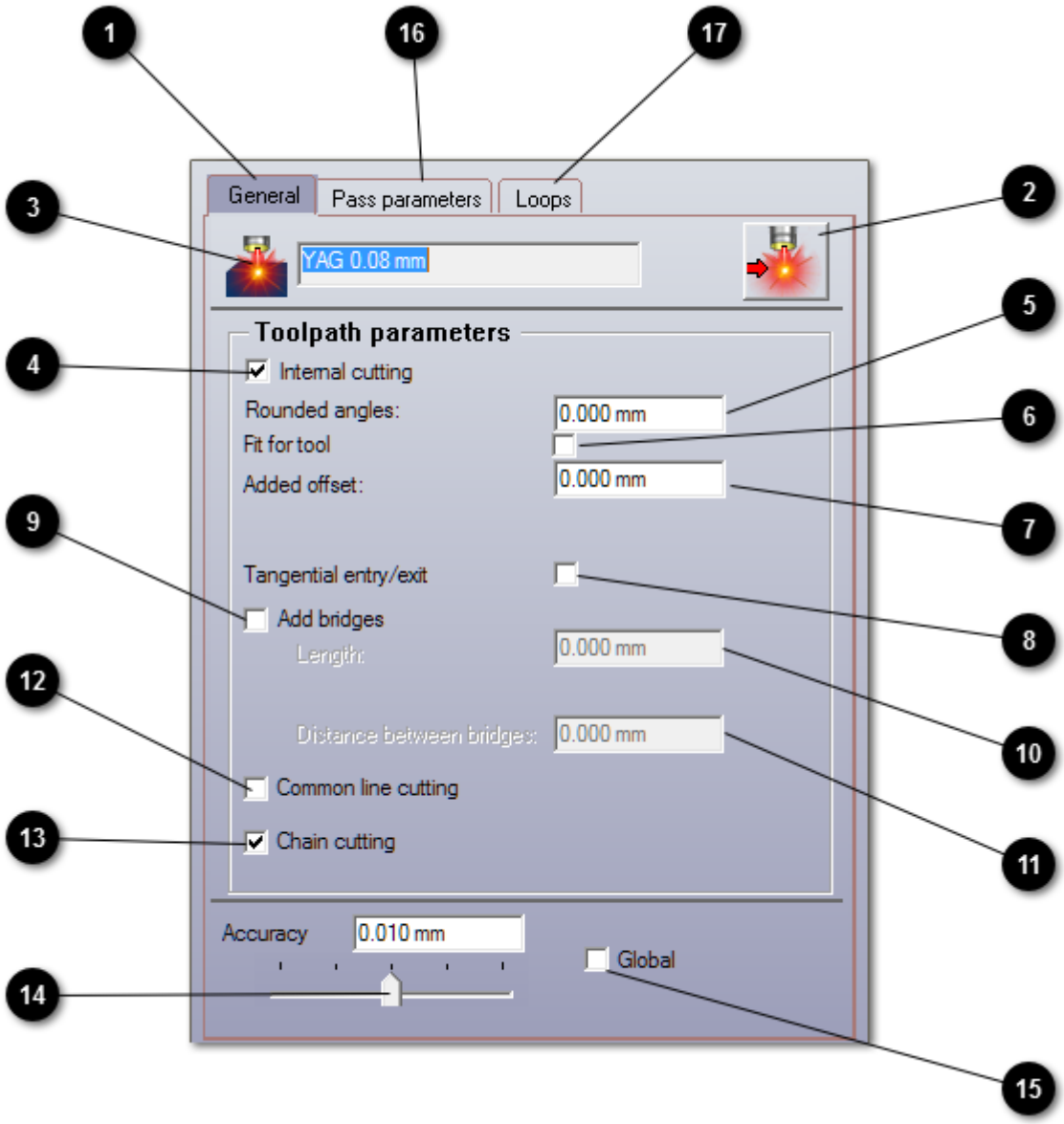
CAM Laserpath: Cutting



A. Add the path.

B. Fix pass settings

C. Add loops onto the cutting path



1 General

2 Click to select the beam diameter

Click to display the path colors available

Click the color path

3 Active beam diameter

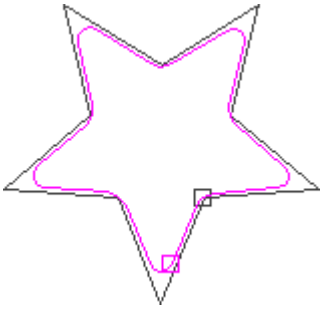
4 **Click to cut**

◉ **inside (is default)**

○ outside the theorical path

5 **Round angles**

Key in the rounding angle (zero value produces quite sharp angles).

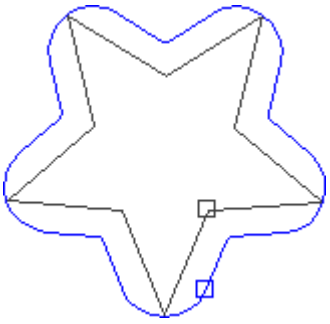


6 **Fit for tool**

☐ Tick to automatically recompute the radius for the tool profile.

7 **Adding offset**

Key in a negative or positive offset to shift the cutting in relation to theoretical path.

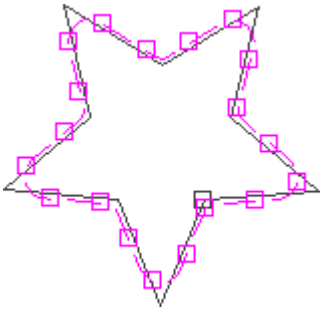


8 **Tangential entry/exit**

☐ Tick to machine a tangent curve at the start or at the end of the path

9 **Adding Bridges**

☐ Tick to **Add bridges for precutting**

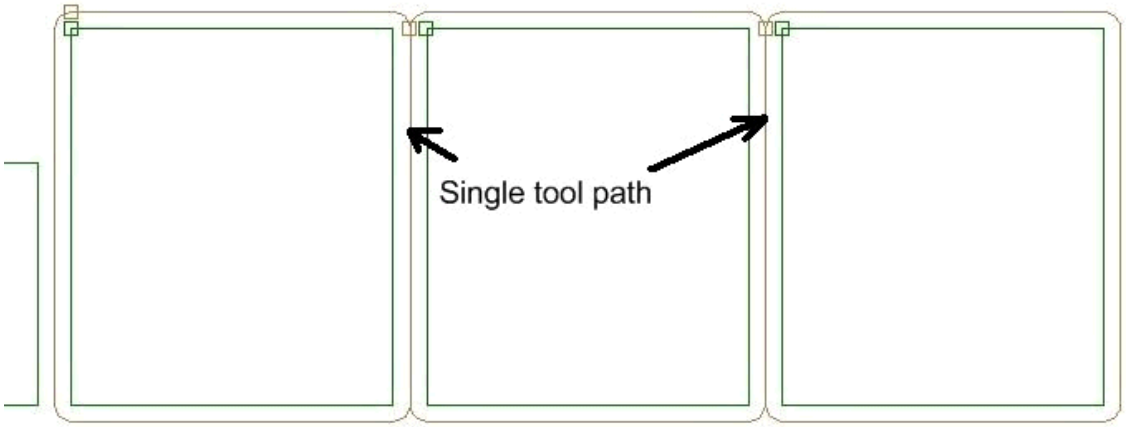


10 Key in the bridge Length

11 Key in the Gap between bridges

12 **Cutting along shared lines**

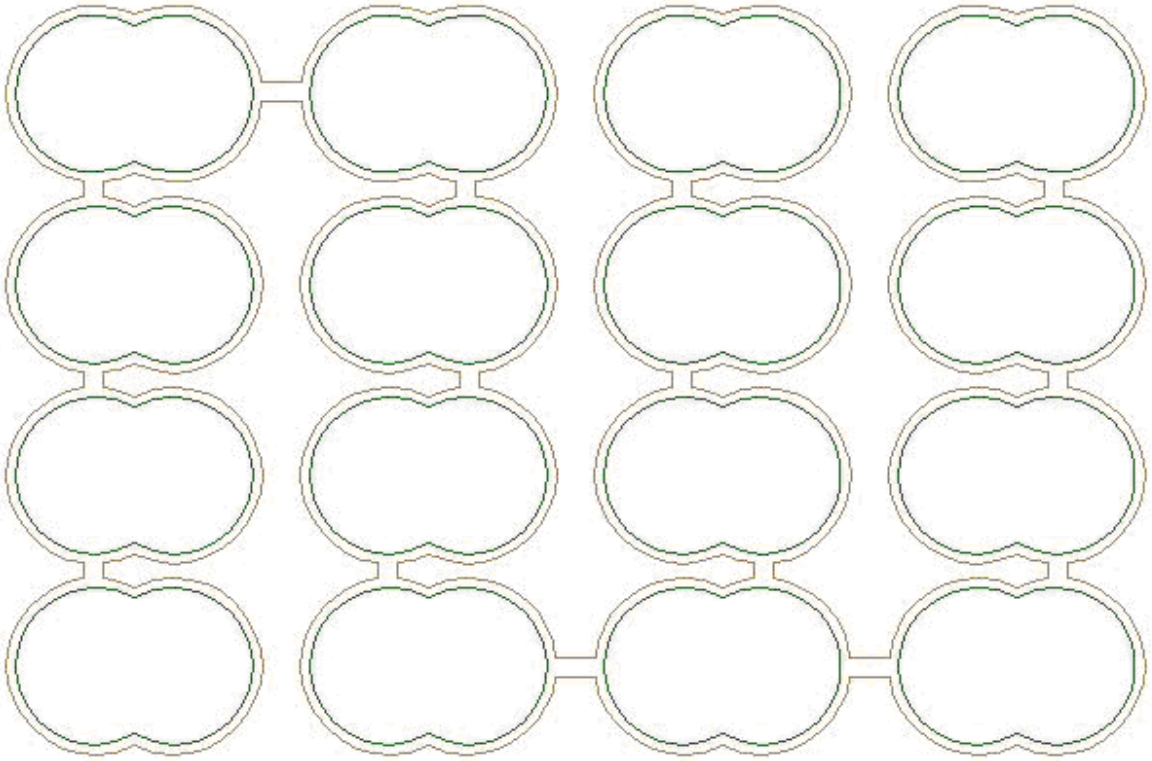
☐Tick to get a single cutting track between zones where the distance equals = Beam diameter + (Overthickness x 2)



13

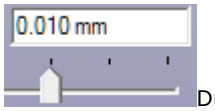
Serial cutting

☐Tick to get a flat single cutting track without lift nor descent of the beam.
The thickness of the short lines (or stalks) that connect objects equals the beam diameter, so that the beam does not lift when it marks connecting stalks.



14

Adjusting accuracy



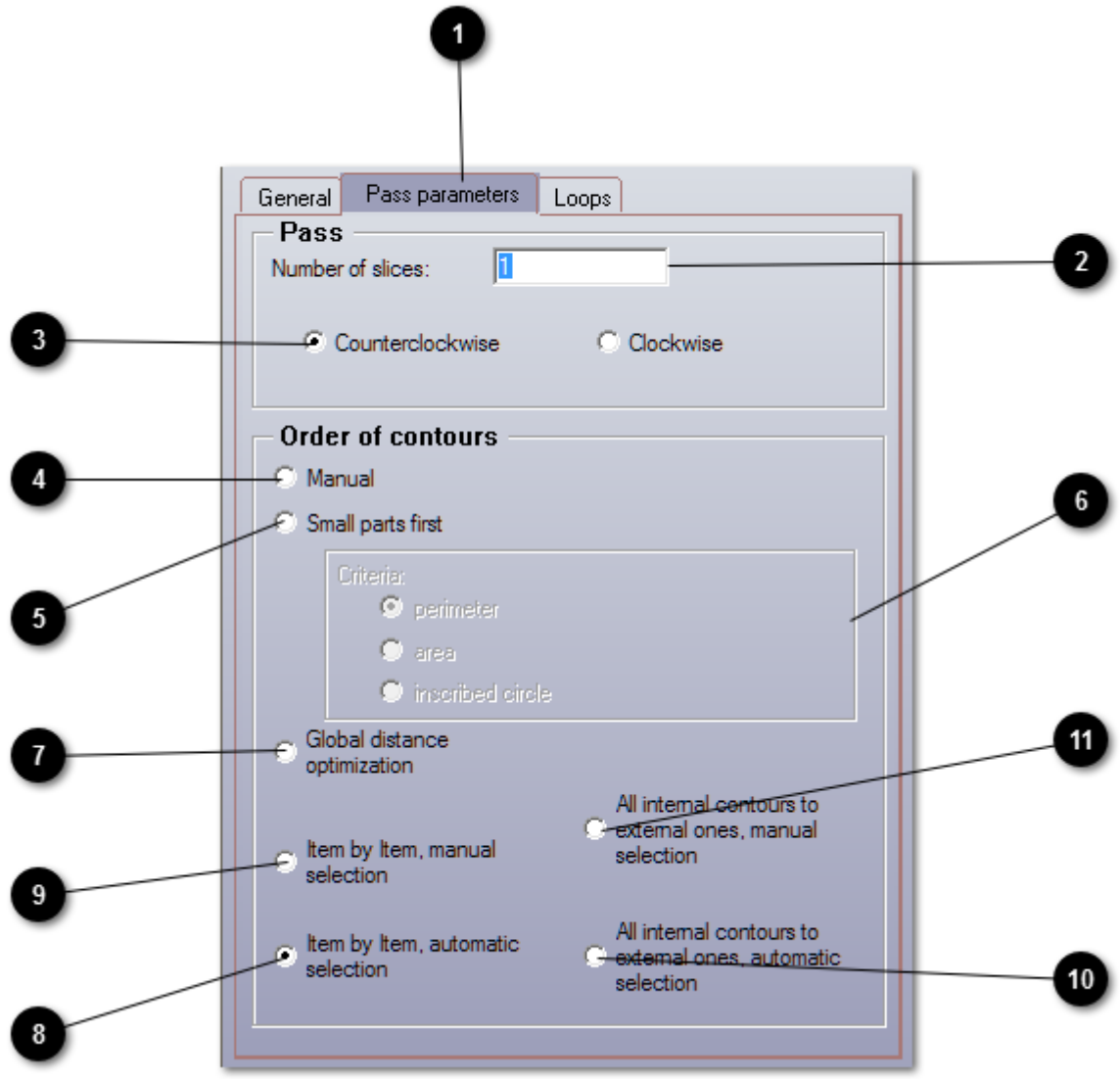
Drag and drop the cursor or key in an Accuracy between - 1 and 0.0001, according to the complexity of the path and the required sharpness (0.01 is default).
A low value increases the number of segments and the marking duration.

15 Each object is by default completely machined according to the number of passes.

☐**Tick Global to machine at the same time all the selected objects pass after pass**

CAM Laser Cutting: Pass settings

Define the Cutting laserpath.



1 **Pass parameters**

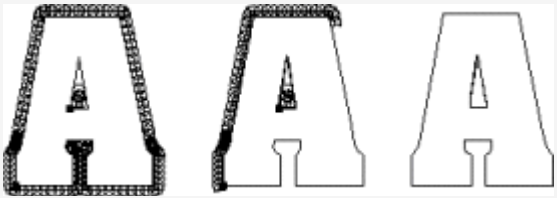
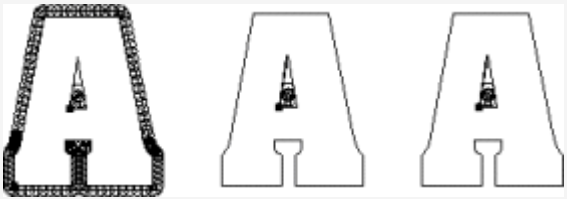
2 **Key in the number of slices (1 is default)**

3 **Click the machining direction**

anticlockwise (is default)
or clockwise

Choosing machining order

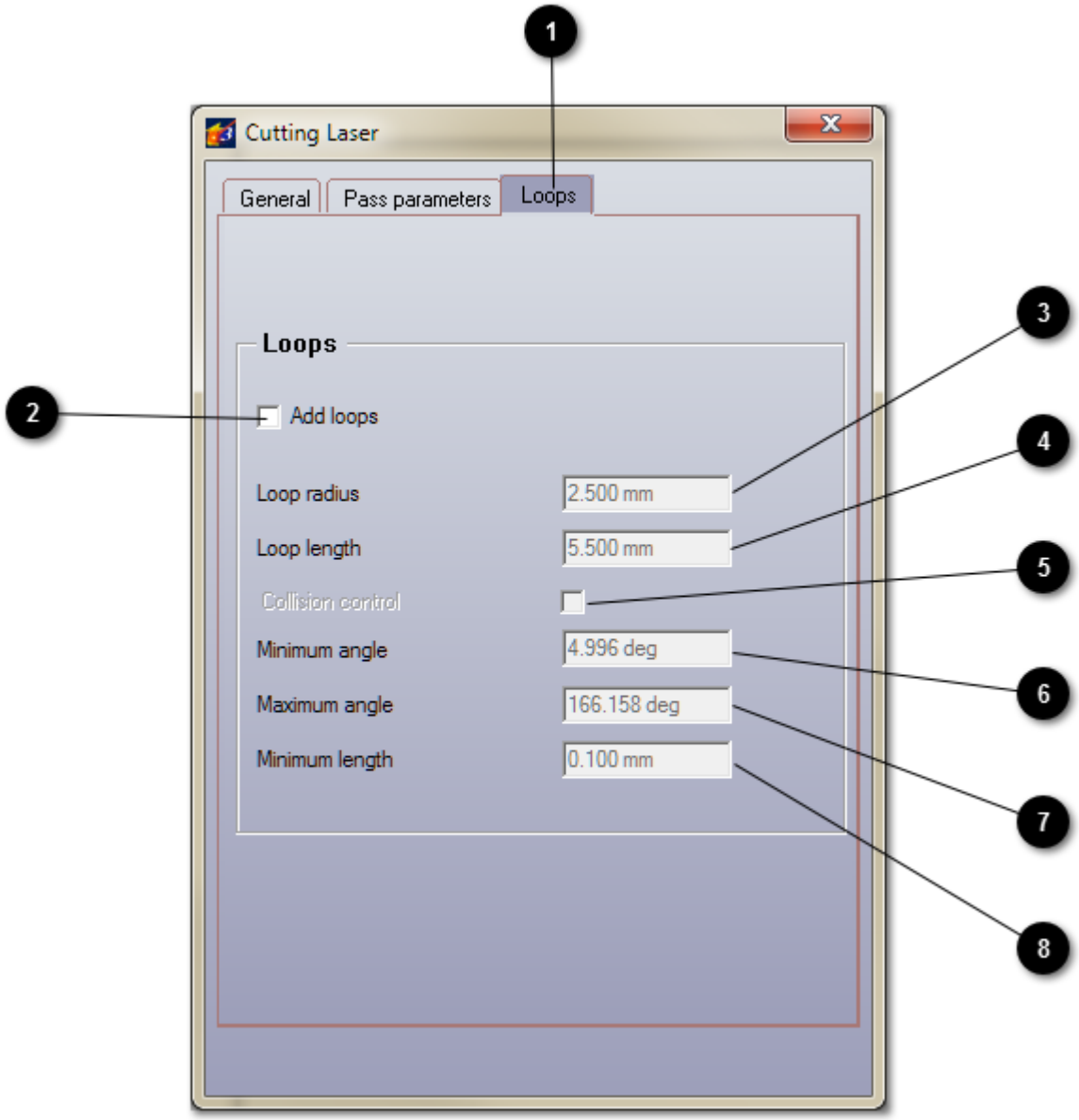
Whatever the sorting mode, inner contours will be machined before outer ones.

4 **Manual selection**	○ **The user's selection sets the machining order.** In automatic selection, object creation sets the machining order.
5 **Small parts first**	○ Click to cut first the small parts, to protect them and allow a correct cutting. 6 **Click the feature that identifies small parts inside the selection** ◉ Perimeter ○ Area ○ Drawn Circle
7 **Global distance optimization**	○ Click so that the order limits machining distances and motions above material for the whole theoretical path.
8 ◉ **Item by item, automatic selection (is default)** 9 ○ **Item by item, manual selection**	○ Click to cut objects one by one in relation to automatic or manual selection. 
10 ○ **All the inner contours then outer, automatic selection** 11 ○ **All the inner contours then outer, manual selection**	○ Click to cut objects simultaneously in relation to automatic or manual selection. 

CAM Laser Cutting: Loops

Define the Cutting laserpath.

Add upon the path precutting bridges or a tangent curve using Manual bridges and tang. Entry/Exit function.

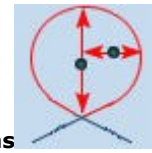


1 **Loops**

Click to add Loops when cutting outward angles.

Each outward angle is cut using constant speed, by extending the path along angle edges and connecting both edges with an arc.

2 **Adding loops**



☐**Tick to key in loop dimensions**

3 Loop radius e.g. max. radius of the transition arc

4 Loop length e.g. max. distance between angle point and the apex of the transition arc

5 **Collision control**

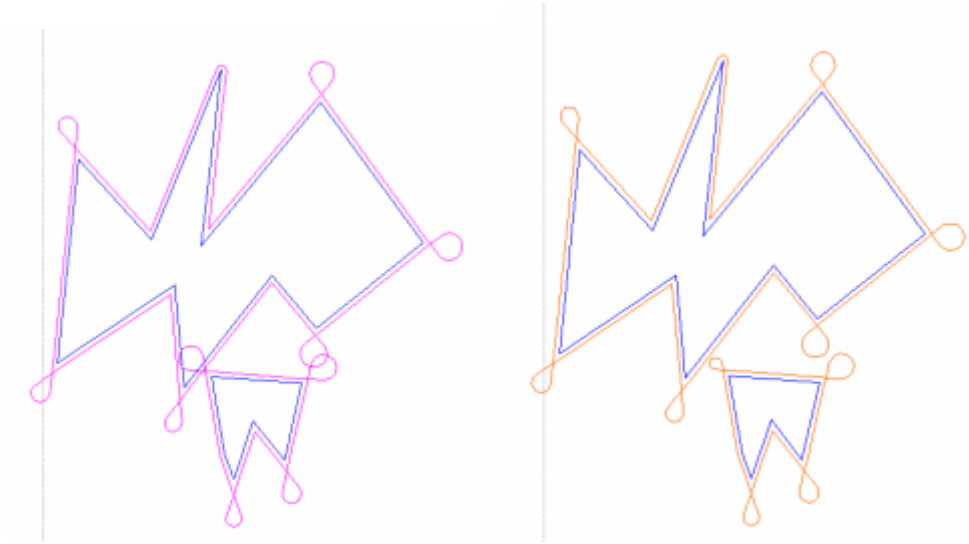
☐Click to Manage collisions between paths. **Loop size can be resized to avoid collision with theorical path.**

Key in control settings

6 min. Angle below which no loop will be machined

7 max. Angle beyond which no loop will be machined

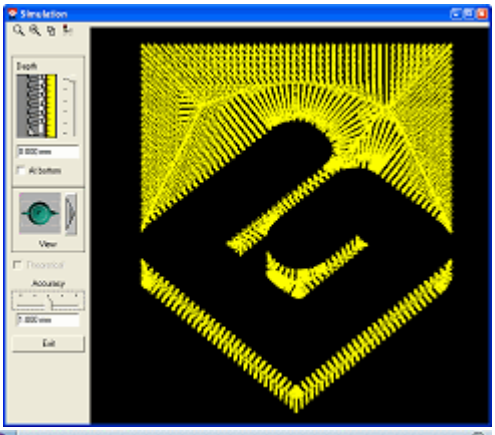
8 min. Loop length below which no loop will be machined



Collision control disabled **Collision control enabled**

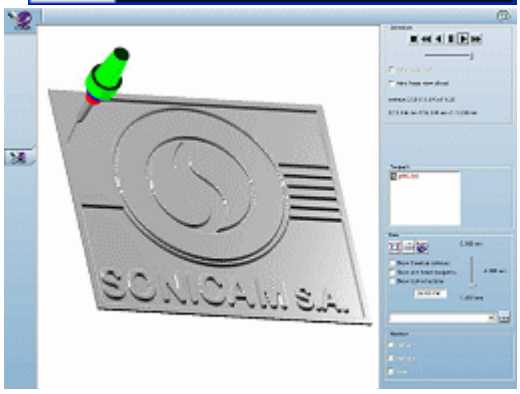
Simulation

CAM path: Simulation



- Surface render

Display surface simulation to view material machining in relation to the tool diameter at the depth keyed in.

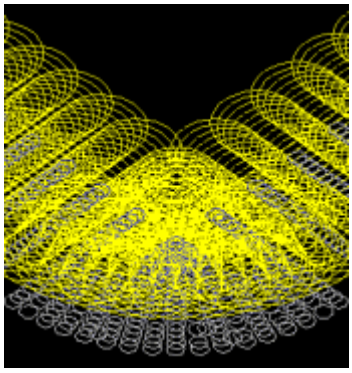


- Realistic render
- Animated render
- NC render

Run NC simulation to watch the toolpath and the machining progress in material.

CAM path: Surface render

1. Select the objects to display in the simulation.
2. In **Toolpaths list** right-click
   a group
   a path
3. **Simulation**



The path lines is a series of yellow circles which diameter is the tool one at the keyed in depth.

Click to display
in red **the Theoretical path of the selection.**
in navy dotted **motions over material.**

Recompute path

Stop simulation Esc

Quit simulation Exit

Sizing render

Use Zoom tools (zoom the framed selection, back to previous zoom, zoom the whole path).

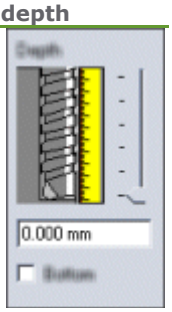
Right-click to double size on-screen.

Setting render resolution

Key in a **Precision between 1 and 0.0001 mm (max. resolution).**

Drag and drop the cursor to adjust the value.

Setting render depth



Click **to display the path at engraving Background.**

The path lines is a series of gray circles which radius equals
- the radius for a cylindrical tool
- the tip for a conical tool

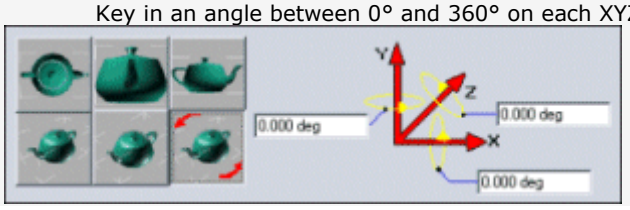
Key in a **negative Depth at most equal to total engraving depth.**

Drag and drop the cursor to adjust the value.

Orientating render

1. Click to open **View.**
2. Double-click a view (2DXY is default).

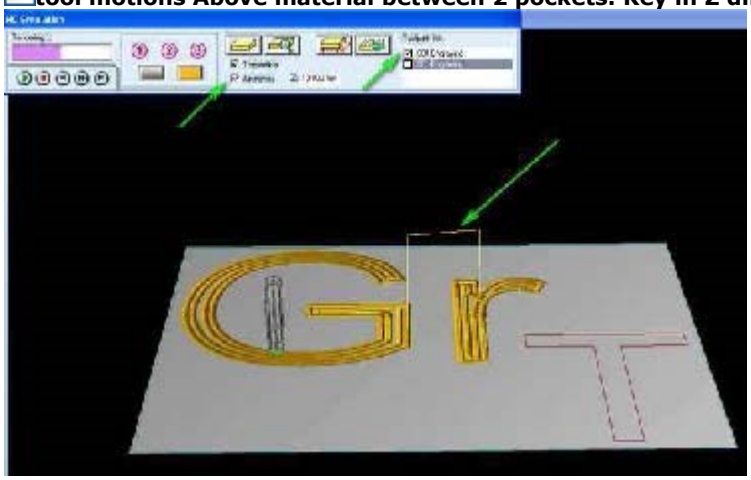
   Key in an angle between 0° and 360° on each XYZ axis



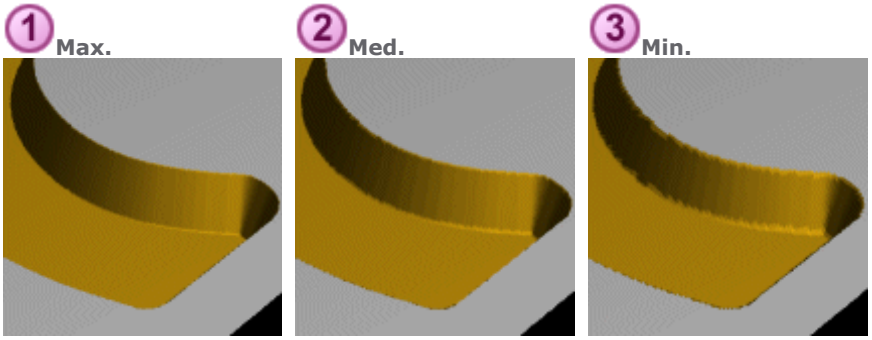
CAM path: Realistic render

When the simulation closes, a message suggests to save the render as bitmap file.

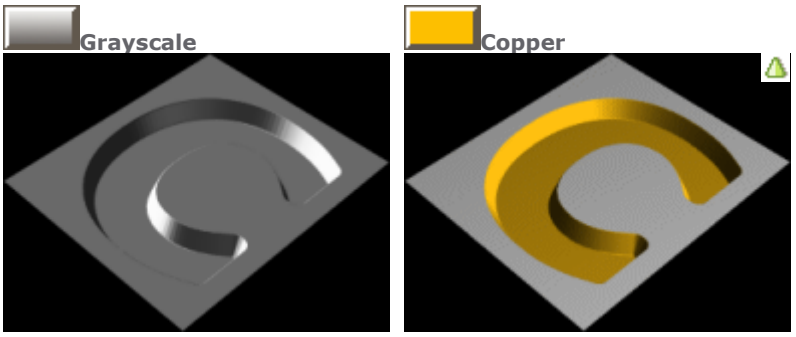
1. Select the objects to display in the simulation.
2. In **Toolpath list** right-click
   a group
   a path
3. **NC Simulation**
4. In Toolpaths list **click each path**
   to simulate
   to ignore
5. Click to display
   Theoretical machining surface
   tool motions Above material between 2 pockets. Key in Z dimension.



6. Click render resolution.



7. Click render color.

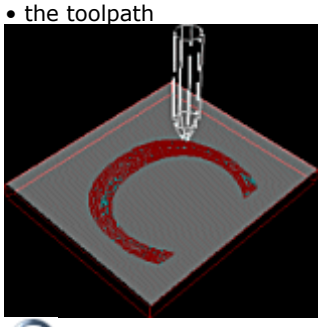


8. **Click the simulation mode.** The render calculation automatically starts. Click

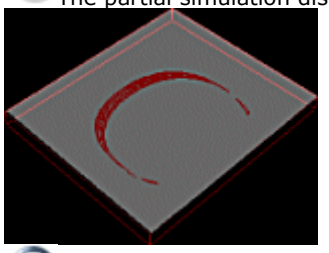
to suspend the operation

to cancel the operation

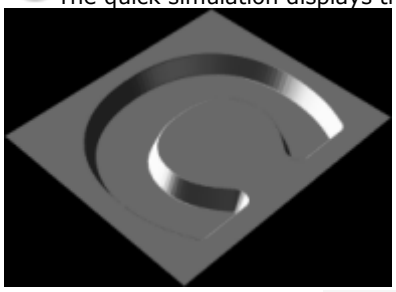
The full simulation displays
• path lines
• the toolpath



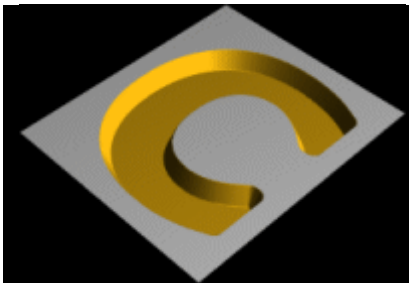
The partial simulation displays path lines.

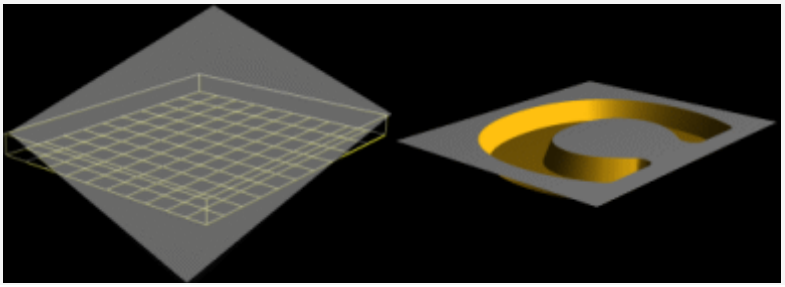


The quick simulation displays the final machining.



Orientating the render in simulation	Drag and drop the pointer to tilt or to rotate the render. Using right-click, drag and drop the render to zoom in.



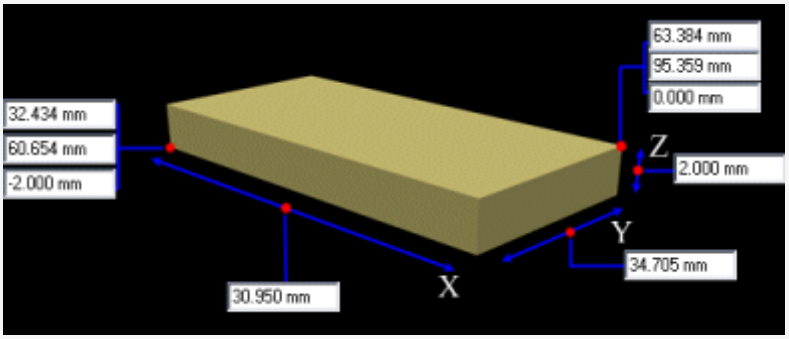


Setting material block

Setting before simulation

Key down click NC Simulation command in contextmenu.

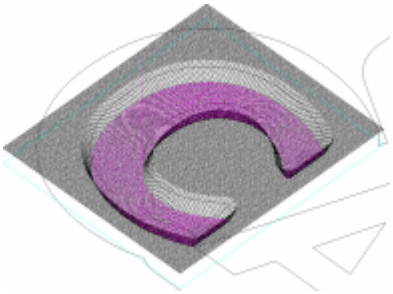
1. Click in NC panel.
2. Key in XYZ machining dimensions.



Box of paths Click to adjust the material block in relation to overall computed paths.

Clip to zero Click to align Z max. coordinate with the zero point of material block surface.

Converting the render into TypeArt object



1. Click in NC panel.
2. Close the simulation. The volumic surface is generated in workspace.

Simulate a partial machining

Simulate on a zone of the material

1. Click in NC panel.
2. Drag and drop the pointer around the zone to select in the render.
3. Run the simulation.

Click to display the whole material block.

Simulate a path section

Replacing initial path by the path section is definitive.

Double-click a path in toolpath list.

The machining is described point by point, from M start point at the beginning of left column.

At the end of right column the last point marks the machining end.

Each point is a tool descent into material at XY position into Z depth.

Drag and drop vertically a cursor to scroll the series of points.

1. To select a new machining start click a point in left column.
2. **Click M**
3. Click the new end point in right column.
4. Save Click to save the path section.
5.

Run the simulation on the path section.

CAM path: Animated render

1. Select the objects to display in the simulation.
2. In **Toolpaths list** right-click
   a group
   a path
3. **Key down click NC Simulation** command in contextmenu.
   Close the simulation to go back to environment CAM
4. **Click each path**
   to simulate
   to ignore
5. Set animation properties.
6. Click. Centre the simulation on a render zone if need be.

- The path in current simulation displays in red in the list.
- XY coordinates change with tool motions.
- Z coordinate equals max. machining depth.

Driving animation

	Pause in tool motion
	Run the animation
	Resume animation after a pause
	Invert tool motion after a pause
	Stop animation
	Delete render
	Display final render

Setting animation properties

Animation speed	Drag and drop the cursor to slow or to speed tool motion.
Wire view	Click to watch toolpaths machining inside material
Wire tool	Click to show the tool inside spindle using colors the schematized tool
Theoretical path	Click to show or to hide the theoretical machining surface.
Wire display	Click to show or to hide machining lines.

Show tool rises	Click to show **tool motions above material between 2 pockets. Key in Z dimension (10mm is default).**
Render depth	Drag and drop the cursor to watch the machining between • material surface (0). • the ground at max. depth.
Orientate view	Drag and drop the pointer to tilt or to rotate the render. Right-click to drag and drop the render horizontally or vertically.
Stage	1. Click to select the material to machine. 2. Double-click the *.jpg file matching the required material. 3. Click to select background color. 4. Click in Windows palette.
Capture render as bitmap image	1. Click to stop the animation at a specific image. 2. Click. 3. Type the filename using *.jpg type. 4. Save Click.

Centre the simulation on a render zone

Zoom render

1. Shift Key down drag and drop the pointer around the machining zone to zoom in.
2. Run the animation.

Click to show the whole material block.

Compute between 2 markers

1. Click to watch the machining progress using **Wire view.**
2. Run the animation.
3. Click to set upon path the **RED marker.**
4. Tick **Marker 1. XYZ coordinates automatically display.**
5. Run the animation again.
6. Click to set upon path the **GREEN marker.**
7. Tick **Marker 2. XYZ coordinates automatically display.**
8. Tick to **Save markers.**

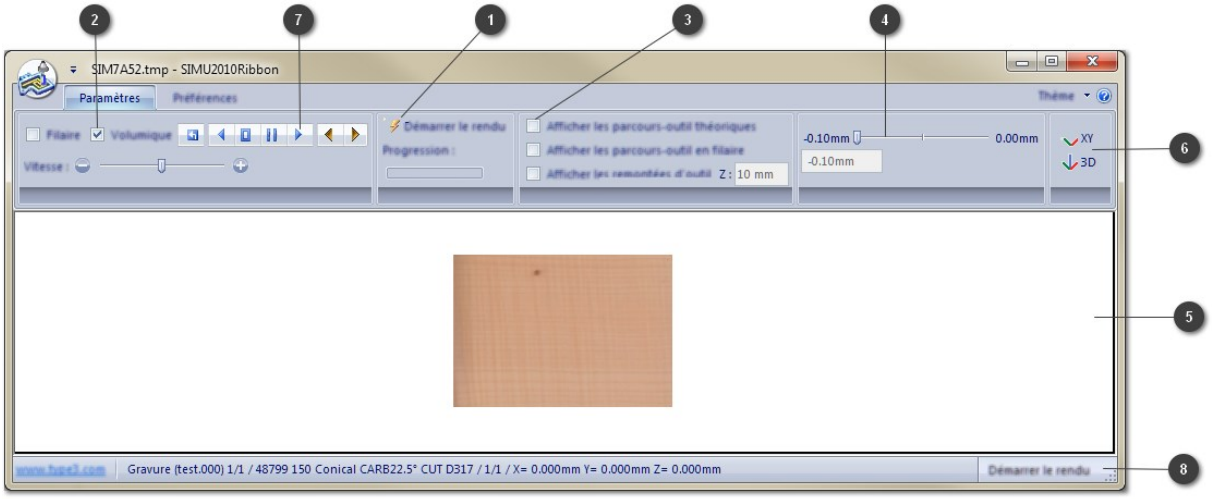
Machining is simulated between the 2 markers whatever the selected render.

CAM path: NC Render

A. Select the objects to display in the simulation.

B. In Toolpath list right-click
a group
a path

C. Shift **NC Simulation**



1 Generating a render

Click further to a change of value or of option. The advance of the green bar shows the computing progress.

Click in Preferences tab for an Autostart

2 Click the render type

Filar using a quick vectorization of the machining path and of tool rises

Volume by colors simulating the machining inside material

Click in Preferences tab the **Tool representation**
Volume by colors simulating the spindle and the tool
Wired vectorization according to the diameter and the tip of the tool
None

3 Tick display options

Theoretical toolpath e.g. red contours of the selection

Filar toolpath e.g. blue machining path

Tool rises in blue dots. Key in Z value (10mm is default).

4 Viewing machining profile

Drag and drop the cursor to adjust the value, at most equal to the total machining depth. **The volume render displays at the keyed in depth.**

Click in Preferences tab to choose the appearance (wood, stone, metal, etc.)

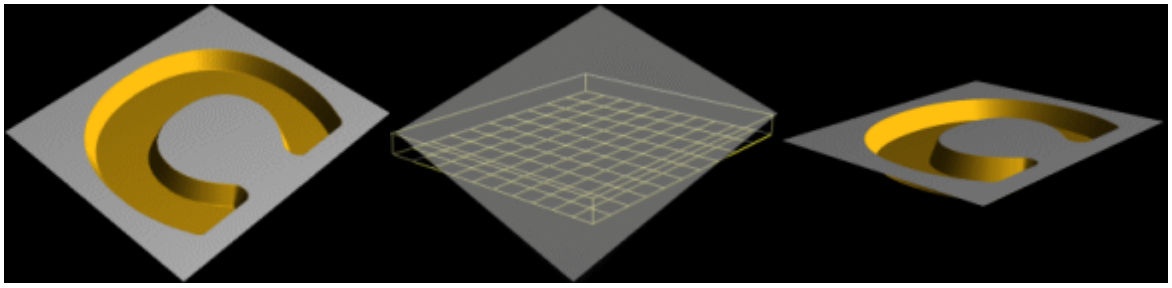
of the Material surface

of the machined Ground

5 Rendering zone

Drag and drop the render to tilt or to rotate it.

Using right-click drag and drop the render to zoom it.



6 Click the View

Click in Preferences tab to display a Background

Filled with the Main Color

Gradient between Main Color and 2nd Color

7 Viewing simulation

Commands from left to right

Reset rendering zone

Go to render start

Pause

Read

Go to render end

Drag and drop the cursor to adjust simulation speed

8 Reading status bar

- Name and number of the path being rendered
- Reference and technical features of the tool
- Position of the tool along XYZ axes

Click in Preferences tab to show or to hide the status bar

Sending to machining

Engraving: Sending composition

Before transfer check that
- **the computer and the engraving machine are correctly connected.**
- **the machine is powered up.**
- **the machine is not in engraving process.**

If you have not installed the machine follow the installation procedure and advice provided in manual attached.

GRAVOSTYLE Rotary engraving

1. Select the objects to engrave (all by default).
2. Assign the selection the required engraving paths.
3. Set the properties for tool engraving.

LASERSTYLE Laser marking

1. Select the objects to engrave (all by default).
2. Assign the selection the required marking paths.
3. Set the properties for laser marking.

CAM 2.5D Machining

1. Select the paths to machine (all by default) in Toolpath list
   Right-click
   a group
   a path
2. Set the properties for tool machining.
3. Set the properties specific to CAM machining.

4. **Click the active target machine** that will engrave the current composition. If need be
   add rotary machine.
   add laser machine.
5. Configure the transfer to the machine.
6. Simulate engraving over material.
7. Run Click to send the composition to the machine.
   The progress bar displays the percentage of data transferred.

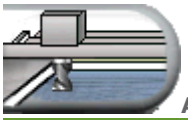
   To stop the transfer Esc
8. Execute the pre-engraving settings on the machine (refer to manual attached).
9. Run the engraving from machine control panel.

The order of path creation and selection determines the default engraving order. Closed contours are engraved before open contours.

Any modification made in composition will only apply to the engraving further to a new transfer that deletes the previous one.

Tool engraving: General properties

1. Open Machining window GRAVOSTYLE CAM
2. **Set engraving parameters.**



Active machine

Click to select a target machine different from the one chosen in Material dialog box.

Plate or cylinder engraving

Cylinder Engraving is automatically active when cylinder parameters are set in Material dialog box.

a. TS TC Click the button with the accessory name.

b.

Edit cylinder parameters.

Click Flat to restore engraving using vice or table.

c.
Click to select an origin different from the one chosen in Material dialog box.

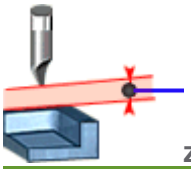
Origin

d. Click to select an origin different from the one chosen in Material dialog box**.**

e. **When you choose a floating origin key in coordinates**
X distance from origin to 0 point on X axis.
Y distance from origin to 0 point on Y axis.

Orientation

Click to select an orientation different from the one chosen in Material.



Z clearance

Measured from Zref point the parameter sets the distance the tool raises between an engraved line and the next line to engrave.
Refer to machine manual to understand the effect of Zref setting on clearance.

CAM **The parameter can be edited in Machining dimensions.**

Key in a clearance value at least equal to max. material thickness.

• To engrave a planar surface key in a low value that is sufficient to avoid engraving a line between two separate lines.

• To engrave a surface with reliefs key in a max. value so the tool never bumps material during horizontal fast motions.

Key in a clearance that complies with the machine technical features. Adjust Z-clearance to each new Zref setting.

Auto Zref

Refer to automatic Zref. setting in manual attached.

Click the Zref setting to carry out according to the active machine.

None: the setting is manually made by the user.

Diamond dragging: The detection of the contact between diamond tip and material onto the first point to engrave is automatic.

Regulating nose: The detection of the contact between tooltip and material onto the first point to engrave requires the intervention of the user.

a. Transfer the composition to the machine for engraving.

b. The tool-holder points onto the first point to engrave.

   Remove the cutter and turn the micrometer to the 0 position,
   <VALID> to continue

c. Save XY location of the point. The tool-holder drops down into contact of material.

   Insert the cutter,
   <VALID> to continue

d. Save auto ZRef point.

   Turn the micrometer to the indicated position,
   <START> to continue

e. Set engraving depth.

   Save the depth along Z-axis.

f. Run engraving.

3. **Set engraving options.**

Spindle motor rotation **The tool physically rotates when spindle motor rotation is enabled in Machining dialog box and the engraving runs on the machine.**	Click to enable or to disable spindle motor rotation. Material is taken out by tool rotation driven by spindle motor. Tool rotation is not necessary when there is no drilling or when no material is taken out. For example, engraving with a diamond scratches material surface and engraving with a pen draws inklines.
Lubrication	The option triggers the lubrication system to extend tool lifespan and to improve engraving quality.
Automatic plate feeder (A.P.F.) **Refer to manual attached to fully use A.P.F. accessory.**	Auto. plate loading gets available when you produce a plate series using Matrix function or inserting variable into text. a. Click to enable APF accessory. b. Display APF Manager. c. Set plate clamping and ejection properties. ▪ **Pressure strength** between 0 and 100 % ▪ **Nbr of plates** at most equal to the total • of elementary plates. • of plates containing a variable. ▪ **Move blank plate** to test plate clamping and ejection ▪ **Joystick move** to adjust plate clamping and motion without engraving d.
Auto. Tool changer (A.T.C.)	Auto. Tool changer (A.T.C.)

Engraving: Configuring transfer to the machine

Transfer to rotary machine GRAVOSTYLE CAM

Run Before clicking set transfer conditions in Machining dialog.

Selecting paths to send

1. Tool path sel Click. **Path selection dialog box** displays the list of tool paths assigned to selected objects. Each path has
   - the name or the number of the tool assigned to.
   - the rank of the layer [] it belongs to.
2. Selection Click. **Layers selection dialog box displays the** list of layers that contain the selected objects.
3. Click the paths to deselect or to select for engraving (all by default).
   All Click to select all.
   None Click to deselect all.
4.

Driving the transfer

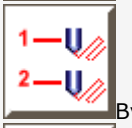
Click the engraving output.

Send the composition to **the Port of the active target machine.**

Check transferred data in **Test window.**

Close window Close

Grouping in transfer file

1. Collate Click.
2. Click the transfer group.
   None to transfer each path as a single file
    By layer to transfer each layer in a separate file
   All layers in a single file
3.

Managing transfer queue

When you run a series of transfers you can set their engraving order.

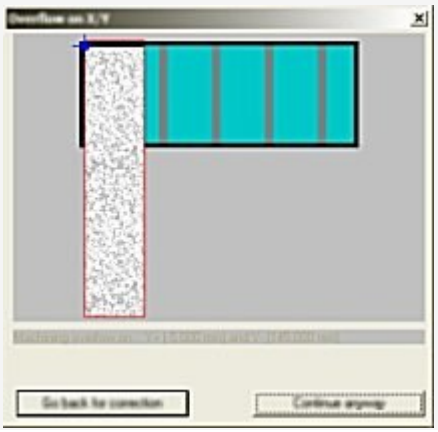
1. Spooler Open Windows manager for the target machine.
2. Right-click an engraving file.
3.
   - **Suspend** to temporarily interrupt transfer to the machine.
   - **Cancel** to stop the transfer.

XY overflow

During transfer the simulation displays any overflow of the composition outside engraving area.
The problem can be caused by an object set outside engraving area or a wrong composition configuration.

Back for correction Click to edit the composition.

Continue Click to force the transfer.



Transfer to laser machine LASERSTYLE

Run Before clicking set transfer conditions in Laser dialog.

Selecting paths to send

1. Selection Click.
   Layers selection dialog box displays the list of layers that contain the selected objects.
2. Click the paths to deselect or to select for engraving (all by default).
   All Click to select all.
   None Click to deselect all.
3. When you select at least two layers key in **Engraving delay between two layers (5 seconds are default).**
4.

Driving transfer

Click the engraving output.

Send the composition to engrave **to the Port of the active target machine.**

Save the engraving file in DRAWS folder to transfer it later to a machine.

Selecting another folder

1. Path Click. **Find File dialog box opens.**
2. Click a folder in Windows Explorer.
3.

Grouping paths in transfer file

1. Collate Click.
2. Click the transfer group.

   By layer to transfer each layer as a distinct file
   All to transfer layers as a single file.
   All in a page to engrave layers superimposed on the same surface.
3.

Managing transfer queue

When you run a series of transfers you can set their engraving order.

1. Spooler Open Windows manager for the target machine.
2. Right-click an engraving file.
3.
   - **Suspend** to temporarily interrupt transfer to the machine.
   - **Cancel** to stop the transfer.

Engraving: Simulating using Point&Shoot

GRAVOSTYLE CAM Open Machining dialog.

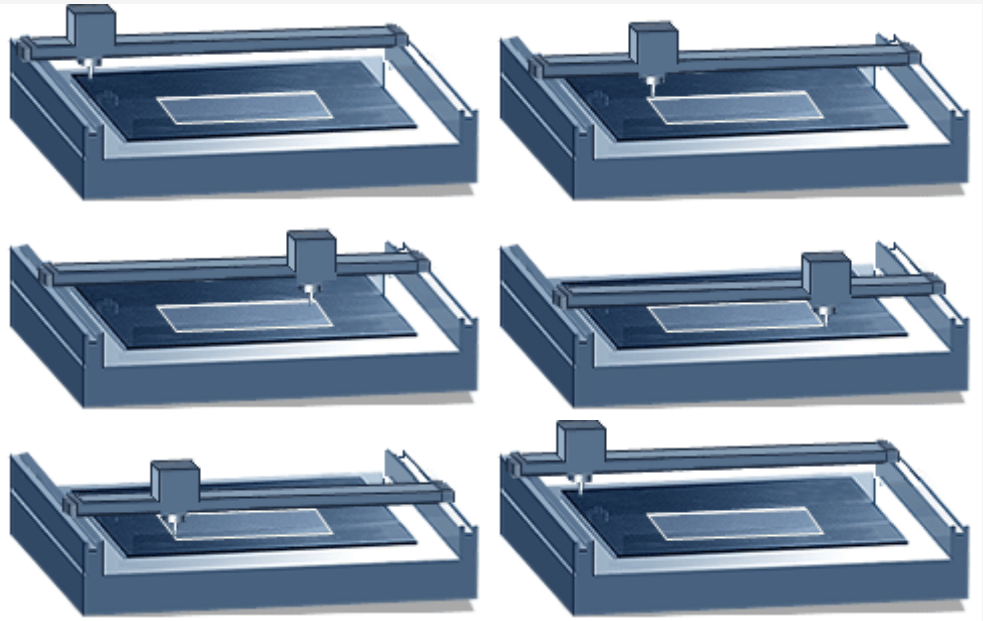
Do not modify any property in dialog.

LASERSTYLE Open Laser dialog.

Point&Shoot windows displays **when the active target-machine has the function.**

1. **Click Port** to send the composition to the active target-machine.
2. **If need be click a Point&Shoot marker (Led or Tool) different from the one clicked in Material.**
3. **If need be click to enable or disable Auto Zref or** automatic detection of the contact between tooltip and material on the first engraving point.
4. Click the chosen operation.

Test borders	Simulate engraving bounds over material



The simulation sends to the machine a rectangle drawn from its surface corners.
The red pointer outlines the rectangle so the user controls the overall engraving on material, with a pause between two rectangle edges. Watch the animation that guides you at each step.

Go to first point

Press Start key each time a message asks to set the tool-holder over one rectangle corner.

Normal	Restore physical engraving in material
Test inscription	Simulate engraving with tool-holder up over material

5. Run Click. The machine beeps when it is available et and the red pointer lights on.

6. Start the engraving from machine control panel.

   Press machine key to cancel operation.
   When simulation is cancelled or ends, the tool-holder runs back to machine origin, the machine beeps, the red pointer lights off.

CAM machining: Specific properties

CAM Open Machining dialog.

Machining coordinates

The table displays tool coordinates at the start and at the end of machining in relation to machine zero point.

Delta values are gaps between max. and min. coordinates, and consequently the fixed engraving dimensions.

1. **Click to access XYZ values.**
2. **Key in Min., Max., Med. coordinates of** composition floating origin. Modifying a value will recompute related ones.

Click to lock them.

Multi-passes machining for a sequence

1. Multi Z... Click to reset the number of passes required to machine a sequence.
2. Click the mode to compute number of passes.
   - **None.** The machining is executed on a single pass.
   - **Tool info.** The machining is executed in relation to the cutting depth of the used tool.
   - **Manual.** The machining is executed with a precutting in relation to Z step keyed in.

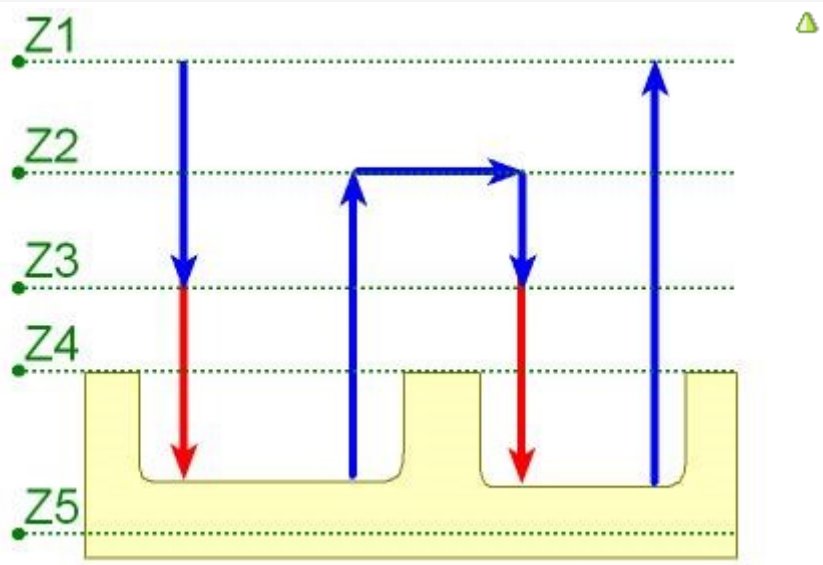
Keying in machining dimensions for a sequence

Cote... Click to configure motions for sequence machining

Plunge speed falling into material

High-speed motions above material

Material



Output curves as segments	Tick to machine the theoretical path as small lines instead of curves. Set the max. dimensions of a machined segment e.g. **Discretization and Chordal error** in Calculation parameters of F10 Options.
Z1 **Initial position** **Ending position**	Key in XYZ tool coordinates in relation to machine zero point • when machining starts • when machining ends
Change tool position	• where the tool has to be changed

Z4	**Z security beginning of machining**	Min. and max. machining motions
Z5	**Z security end of machining**	The value must be at least equal to Z max. coordinate in Machining dialog box.
Z2	**Z between contours (absolute value/machining file)**	Max. tool rising between two machined contours The value must be higher than Z max. coordinate in Machining dialog box.
Z3	**Z approach (relative value/piece)**	Max. tool drop in high speed

Tool Database

Use Tool Database

CAM

CAM LASER

The dialog box contains

the Tool Database that displays the engraving tools available.

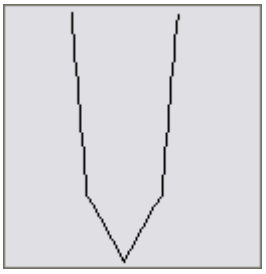
the Tools used by the machining paths.

Each group of tools matching an engraving profile (braille, finishing, diamond, etc.).

Click to **display or to hide a folder contents.**

- **Managing Tool Database**
- **Set tool properties**
  - Key in machining parameters. Key in correction parameters when you use a tool changer.
  - Beam/Marking

Adding a special tool



1. GRAVOSTYLE Draw the open contour **that represents tool profile.**
2. Centre vertically 2 markers **to shape tool axis.**
3. For the type of tool, check that the distance between the profile base and the axis is at most equal to half the truncation.
4. Select the profile, and then the markers.
5. Click to display the selection in CAM window.
6. The tool is automatically added into
   Special tools group
   Tool Database
7. Set tool properties.
   a. Key in machining parameters.
   b. Key in correction parameters when you use a tool changer.

Tools: Managing Database

Open Tool Database. Click when operation ends

Display tool by criteria CAM	**To view tool profile click** JDE reference Name Truncation **To sort by tool type a keyword:** **Steel** **Carbide** **Diamond** **Conical** **Braille** **Vynile**
Managing tools	A. **Display Tool Database.** B. **When the tool belongs to a group, open the group.**
Add	1. Add tool Click. 2. Key in machining parameters or correction parameters.
Edit	1. Click the tool. 2. Edit tool Click. or 1. Right-click the **tool.** 2. **Edit tool** 3. Key in machining parameters or correction parameters.
Save as template	1. Click the tool used as model. 2. Save model **Click.** 3. **Type the name of the *.ttpl file saved by default in PRESET folder**
Add from template	1. Load model Click. 2. **Click a file with *.ttpl type** 3. **Type the name of the new tool.** Enter 4. Key in machining parameters or correction parameters.
Delete	1. Click the tool. 2. Delete Click. or 1. Right-click the **tool.** 2. **Delete**

Import tools

When an imported tool has the name of a tool existing in the group, a number ends the name of the imported tool.

1. Right-click the group.
2. **Import tools into group**
3. **Double-click a file with *.dbt type in Import file.**

Tools referenced by the selected database are automatically added in the group

Managing groups

Add

1. Create the group.
   a. Display Tool Database.
   b. Add group Click.

or

   a. Right-click **Tool Database.**
   b. **Add group**
2. **Drag and drop each tool into the group**

Rename

1. Click the group.
2. **Click the name.**
3. **Type the new name.** Enter

Delete

The operation deletes the tools inside the group.

1. Click the group.
2. Delete Click.

or

1. Right-click the **group.**
2. **Delete**

Export tools

Import the DBT file obtained to add tools in the Tools Database of a Gravostyle program set up on another PC.

1. Right-click a group.
2. **Export group**
3. **Save the group of tools as file of type *.dbt in Export file.**
   a. Type file Name.
   b. Save Click.

Tools: Profile/Machining properties

A. Add or edit a tool.

B. **Technologies in Tool Editor**
The window opens automatically when you click **Replace tool command to edit the properties of the tool assigned to a path**

C. Configure tool profile.

D. Key in machining parameters.

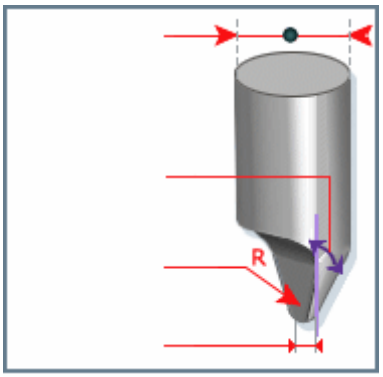
E.

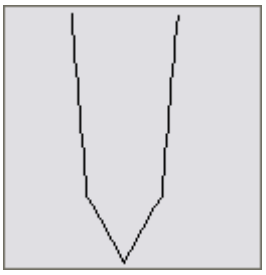
Configure tool profile

1. Click a profile

2. Key in cutting parameters.
   - **Tool Diameter**
     The distance between the theoretical path and the tool center equals the radius.
   - **Coning half-angle**
     Half the cutting angle
   - **Radius**
     Cutting roundness
   - **Truncation**
     Cutting width at the machining top (Z=0)

3. Identify the tool. Type following data:
   - **Description:** coning half-angle, tool diameter, truncation
   - **Reference:** Commercial designation
   - **Provider:** Item brand and series number



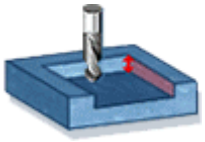
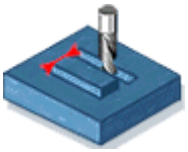


Setting machining parameters

Click **Setting**

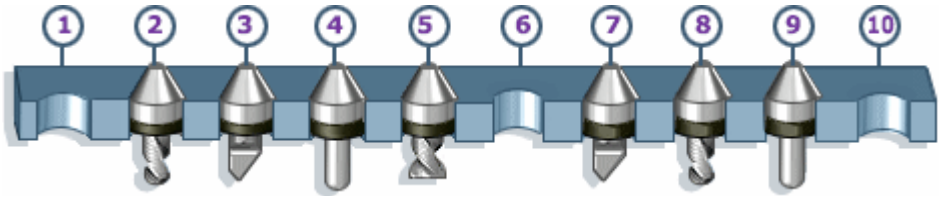
- ○ **Manual** to key in personal parameters.
- ○ **Standard to key in** some parameters with fixed drop speed.
- ◉ **Automatic** to key in some parameters with fixed drop and plunge speeds.

The rotation and engraving speeds are limited by the machine post-processor.

Nominal speed Min. and Max engraving speeds - Forward speed above material Key in equal Min. and Max. speeds to lock the speed.	
Max. drop speed above material	
Max. plunge speed allowed to attack material Max. drop angle in relation to horizontal plan	
Spindle speed in RPM (rotations/min) Min. and Max. rotation speeds For a conical tool take the rotation med. speed on the cutting depth keyed in. Key in equal Min. and Max. speeds to lock the speed.	
Cutting depth per pass Key in a value between Min. and Max. depths. The number of engraving passes required equals the engraving depth divided by the cutting depth.	
Cutting width Min. and Max distances between 2 passes The gap between passes matches the overstep in path computing.	
Number in tool changer	

Tools: Correction parameters for tool changer

1. Add or edit a tool.
2. **Turret in Tool Editor**
3. **Key in correction parameters** in the row relative to the tool (double-click a field to modify the value).

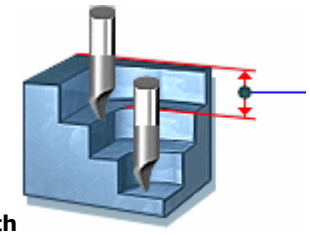


Tool index	Number assigned in Technologies tab
Corrector	Default is the tool number matches its physical location in tool changer. Click **Index=Corrector to key in different values.** For example, set tool 7 in rank 3 of the tool changer.
Max. length	Max. engraving distance allowed If this exceeds the path is cut into as many sections as necessary.
Used length	Total of the engraving distances covered When Max. Distance equals Machined Distance the tool is worn and has to be replaced.
Initializing correction parameters	1. Click the heading of a column. 2. Initialize a column Click to edit all the column values. 3. Key in **default column Value.** Enter

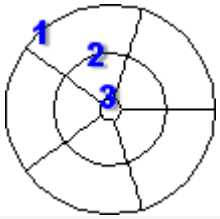
Tools: Test using tool cursor

CAM Create the machining toolpaths required.

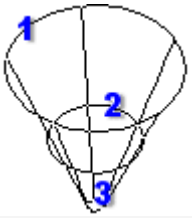
1. Click in Measure bar.
2. Select the tool. Add the tool if need be.
   a. **Open Tool Database**
   b. Display **Available tools.**
      For a quick view **filter tools per profile**
   c. **Double-click a tool**



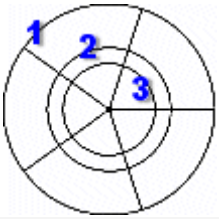
3. **Key in machining depth**
   To disable tool cursor key in zero value.
4.
5. **To locate path critical zones during machining** move the tool cursor along the theoretical path.



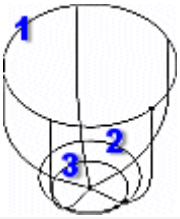
1. **Fixed tool shank diameter**
2. **Tool diameter at keyed in machining depth**
3. **Truncation at tool tip**



2D XY	Conical Tool cursor	3D ISO



1. **Fixed tool shank diameter**
2. **Tool diameter at keyed in machining depth**
3. **Radius at tool tip**



2D XY	Cylindrical Tool cursor	3D ISO

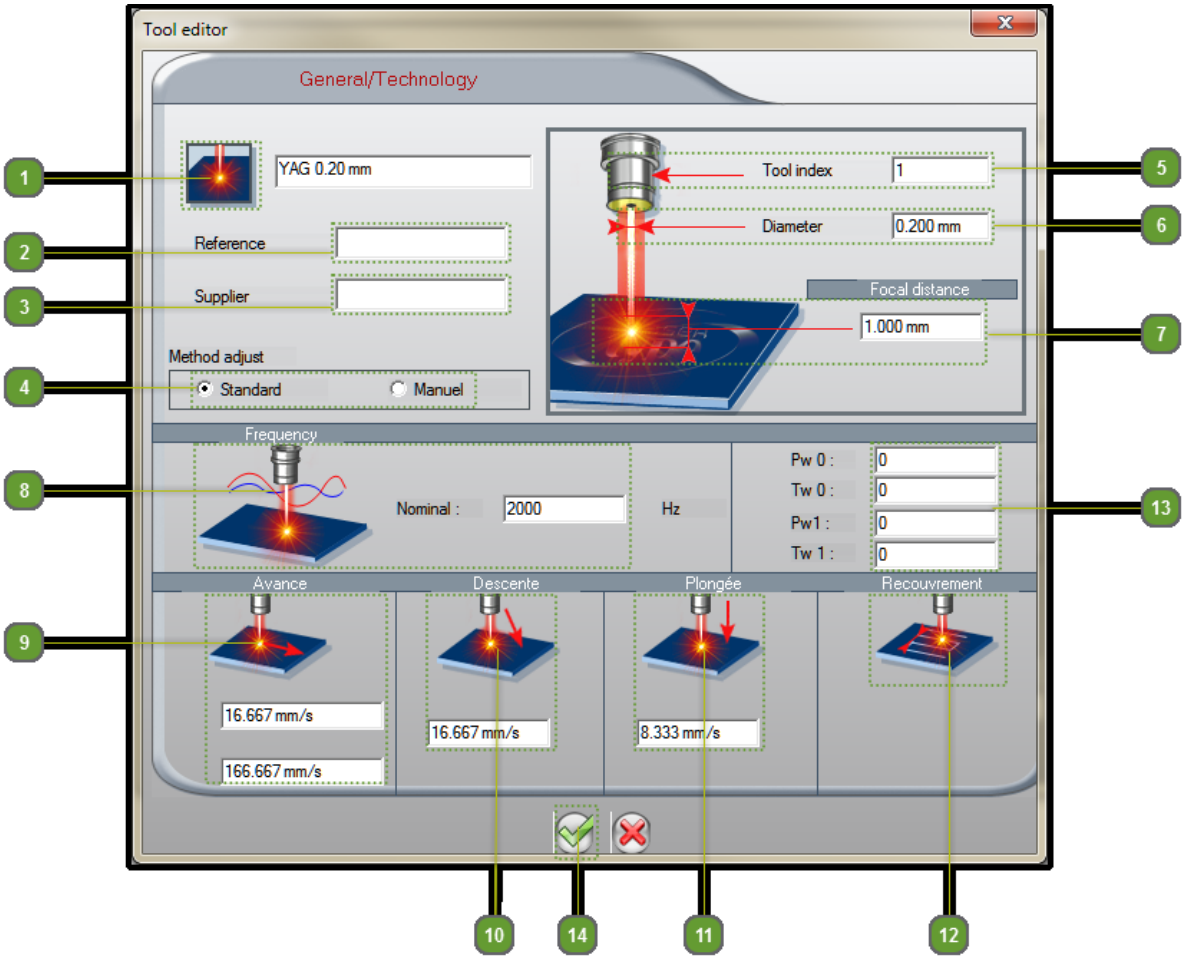
The tool simulation allows to test immediately
- another tool.
- a different machining depth.

Depending on solutions retained edit the contours to machine or, CAM edit path properties.

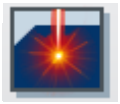
Tools: Beam/Marking properties

Add or edit a tool.

Marking speeds are limited by the machine post-processor .



1 Beam name



2 Sale reference

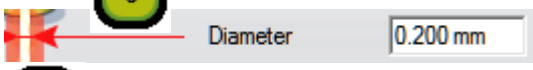
3 Supplier

4 Computing mode of the parameters (standard is default)

In manual mode, key in max. and min. values of the parameters

5 **Tool number**

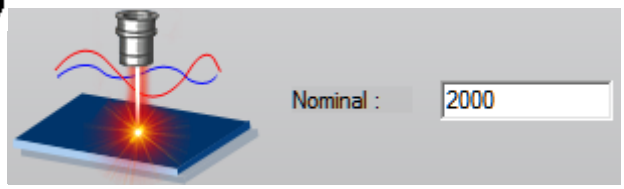
6 **Beam diameter**



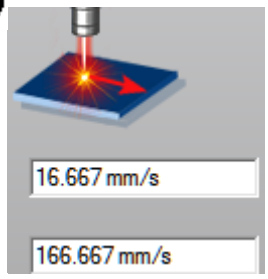
7 **Focal distance**

Gap between the centre of the focal lens and the concentration spot where the beam will mark the ever finest point onto material

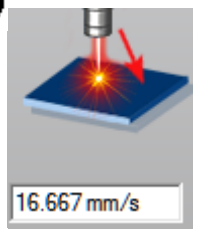
8 **Frequency : repetition ratio of the impulsion (Hz)**



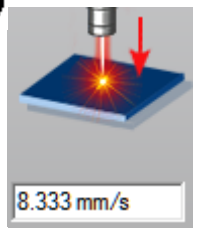
9 **Beam marking speed**



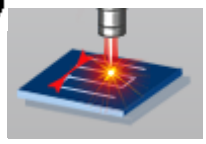
10 **Max. drop speed above material**



11 **Max. plunge speed allowed to attack material**



12 **Pass overstep : Gap between pass width and beam diameter, to set only in maual mode**



13 **Pw Tw values**

14 Click to add the beam

Gravostyle: Documentation

Definition of symbols

The use of symbols in the documentation reduces reading time, facilitates the understanding of the instructions and accelerates program learning.
The symbols correspond to the common tasks made with the mouse or with the keyboard when using the program.

Symbol	Mouse/Keyboard Task
	Type hotkey
	Click
	Double-click
	Right-click
	Click button
	Click OK button
	Click the button in ribbon
	Click the command in menu
	Click the command in contextmenu
	Click the tab
	Click to drop down the list
	Click option box
	Drag and drop cursor to set value
	Key in a number into field
	Type text into field

Main features

The non-contractual information of the present documentation can be modified without notice by Gravotech Marking.
The documentation evolves according to the major improvements brought to the program.
The reproduced illustrations may not correspond exactly to what you see on screen.
These minor differences depend on fonts and on the version installed and bother not at all the use of the program.
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Update #2 for Gravostyle8B2 versions and later

HTML Help system for
- **Windows© 10™**
- **INTERNET EXPLORER 11 and later**

..\Gravostyle????\Documentation\US\gsUS_1506.pdf

Rotary **Laser**

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If operation of a Licensed Program becomes, or in Company's reasonable opinion, is likely to become the subject of such an infringement claim, Licensee shall permit Company, at Company's option and expense, either to secure for Licensee the right to continue using the Licensed Program or to modify it, or replace it with another program which is functionally equivalent. If neither of the foregoing options is available on terms which are reasonable in Company's judgment, Licensee shall destroy or return said Licensed Program, and all copies thereof, to Company within one (1) month from Company's written request. In such a case, Company will not grant to licensee ,credit for the corresponding PLC or maintenance contract charge paid.

This Section 6 states Company's entire liability and Licensee's exclusive remedy for any claim of infringement of intellectual property rights under this Agreement.

7. WARRANTIES, LIMITATION AND DISCLAIMER OF WARRANTIES

Subject to continuing payment of the applicable charges, Company warrants for ninety (90 days from delivery to Licensee (the "Warranty Period"), that the Release of any Licensed Programs will materially conform to its Documentation. Provided that it is properly used in the operating environment specified by Company. If such Release of the Licensed Program does not conform, Company will attempt to make the Licensed Program perform as warranted. Company may

request Licensee to Install a Service Pack or a new Release for such performance. If after sixty (60) days from notice by Licensee of the non-conformity received within the Warranty Period, Company has not provided a conforming Licensed Program, Licensee's exclusive remedy and Company's entire liability for any breach of such warranty is for Licensee to terminate the license related to the non-conforming Licensed Program within thirty (30) days after such sixty (60) period and obtain a refund of paid charges for such Licensed Program.

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Company does not warrant that the functions of Licensed Programs will meet Licensee's requirements or will enable it to attain the Objectives Licensee has set for itself, or that they will operate in the combination or environment selected for use by Licensee, or that the operation of the Licensed Programs will be uninterrupted or free of Errors. In all instances, Licensee shall be responsible for ensuring that the results produced by Licensed Programs comply with quality and safety requirements of Licensee's products or services. No employee or agent of Company is authorized to give a greater or different warranty. Licensee shall have exclusive responsibility for (a) program selection to achieve Licensee's intended results, (b) Licensed Program installation taking adequate measures to properly test, operate and use each Licensed Program and results obtained therefrom. Licensee shall also have exclusive responsibility for selection, use and results of any other programs or programming equipment or services used in connection with the Licensed Program.

8. LIMITATION OF LIABILITY

Each party is independently and exclusively responsible for obligations undertaken by it under this Agreement. No party can be held jointly and severally liable with another pursuant to this Agreement. No party shall be deemed an agent of another party pursuant to this Agreement.

UNLESS OTHERWISE SPECIFIED IN APPLICABLE SPECIFIC TERMS FOR THIRD PARTY SOFTWARE, VAR AND COMPANY'S POTENTIAL LIABILITY TO LICENSEE, FOR ANY AND ALL CLAIMS IN ANYWAY ARISING FROM OR IN CONNECTION WITH THE SUBJECT MATTER OF THIS AGREEMENT, WHETHER BASED IN CONTRACT, TORT STRICT LIABILITY OR OTHER THEORY OF LIABILITY IS LIMITED AS FOLLOWS:

All legal actions against Company or a VAR must be filed with the appropriate judicial jurisdiction within two (2) years after the cause of action has arisen.

• COMPANY'S AND VAR'S AGGREGATE LIABILITY FOR DIRECT DAMAGES SHALL NOT EXCEED IN THE AGGREGATE THE AMOUNT CORRESPONDING TO CHARGES ACTUALLY PAID BY LICENSEE IN THE PRECEDING TWELVE MONTH PERIOD FOR THE USE OF THE LICENSED PROGRAM WHICH CAUSED THE DAMAGES.

LICENSEE EXPRESSLY AND IRREVOCABLY WAIVES AND NEITHER COMPANY NOR VAR SHALL HAVE ANY LIABILITY IN RESPECT OF, ANY AND ALL CLAIMS FOR INDIRECT, INCIDENTAL AND CONSEQUENTIAL DAMAGES, INCLUDING CLAIMS FOR LOST PROFITS. BUSINESS INTERRUPTION AND LOSS OF DATA, THAT IN ANY WAY RELATE TO THIS AGREEMENT. LICENSED PROGRAMS OR DOCUMENTATION, WHETHER OR NOT COMPANY OR VAR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND NOTWITHSTANDING THE FAILURE OF THE ESSENTIAL PURPOSE OF ANY REMEDY.

LICENSEE WAIVES ANY AND ALL CLAIMS FOR ANY DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR ANY REASON AND ON ANY BASIS, AGAINST ANY OS COMPANY PROVIDERS, OR SUBCONTRACTORS OR ANY OS GROUP COMPANY OTHER THAN COMPANY.

9. EXPORT AND REEXPORT LAWS AND REGULATIONS

Export to Licensee of Licensed Programs and Documentation is subject to all applicable countries' export and re-export laws and regulations, Licensee shall provide Company or VAR as the case may be with all necessary assistance for any application for such authorizations, licenses and other approvals, or other documentation related to the export or re-export of Licensed Programs, Company shall have no liability whatsoever towards Licensee if such authorizations, licenses or approvals are not obtained. Licensee shall not export or re-export, either directly or indirectly, Licensed Programs or Documentation when such export or re-export requires an export license or other governmental approval without first obtaining such license or approval.

10. TERM AND TERMINATION

10.1 Termination of access to Support Service

a) by Licensee: Licensee may terminate access to Support Service for licenses ordered under a PLC/ALC or MAINTENANCE CONTRACT pricing structure, subject to all of the following conditions:

Licensee shall provide notice to Company and VAR, if applicable, at least one month prior to the Anniversary Date of the License, such termination shall apply to all licenses of a given Licensed Program held by Licensee, and Licensee shall pay to Company or VAR as applicable a termination option fee of an amount corresponding to one (1) ALC paid for each license of each Licensed Program (or one maintenance fee) in respect of which access to Support Service is terminated. In such case, Licensee shall have no further obligation to pay the ALC (or maintenance fee) related to the corresponding Licensed Programs, Licensee shall duly certify in writing to Company that all copies, whether in whole or in part, of all Releases of the Licensed Programs and associated Documentation other than those of the latest Release of the Licensed Programs installed by Licensee, have been duly destroyed or returned to Company and Support Service for such Licensed Programs will terminate at the expiration of the then current term. Company will deliver, if applicable, the license keys necessary for Licensee to operate its perpetual licenses. Company shall have no further obligation to provide any service or deliver any Release in support of any such licenses, including for operation of the licenses in their hardware or software environment.

b) By VAR if applicable. In case of failure by Licensee to pay to VAR any ALC or maintenance fee, VAR shall be entitled to terminate the provision of Support Services related to all Licensed Programs, subject to ten (10) days prior written notice to Licensee and Company, and subject to VAR normal and usual prior action to collect payment from Licensee as per agreed terms.

c) By Company, if applicable. In case of failure by Licensee to pay to Company ALC or maintenance fee, Company shall be entitled to terminate the provision of Support Services related to all Licensed Programs, subject to ten (10) days prior written notice to Licensee and subject to Company normal and usual prior action to collect payment from Licensee as per agreed terms.

10.2 Termination by Licensee of licenses for Licensed Programs

Licensee may terminate any license to any Licensed Program ordered under either a PLC/ALC or a maintenance fee pricing structure, by providing written notice to Company and to VAR, if any, three (3) month prior to the Anniversary Date of the License, failing which such license shall automatically renew. In case of termination, Licensee shall immediately destroy or return all copies, in whole or in part, of the terminated or expired Licensed Programs and associated Documentation, and duly certify the same in writing to Company.

10.3 Term and Termination of this Agreement

This Agreement shall come into force on the Effective Date of the License in respect of the first License ordered by Licensee and shall remain in full force and effect until the expiration of all licenses granted under this Agreement, unless terminated as provided hereunder.

Either Company or Licensee may terminate this Agreement and/or any licenses granted under this Agreement, if the other is in material breach of any of its obligations and has failed to remedy such breach within one (1) month of receipt of written notice. The termination will not prejudice the rights and remedies of the non-breaching parties. In case of termination of the Agreement for uncured material breach by Licensee, Licensee shall provide promptly to Company a written certificate that all copies, in whole or in part, of the Licensed Programs and associated Documentation, have been destroyed or returned to Company.

10.4 Withdrawal of VAR

In the event Licensee fails to pay any ALC or YLC when due to VAR, VAR shall have the right, subject to a thirty (30) day prior written notice to Licensee and Company, to withdraw from this Agreement, provided it IS not in breach of any of its obligations hereunder. Consequently, VAR shall cease to be a party to this Agreement, and shall have no further right or obligation hereunder.

11. MISCELLANEOUS

11.1 Purchase Orders. Licensee's purchasing terms and conditions or wording on Licensee order confirmation if any, which may not comply with the Quote if any , shall not in any way supersede, modify, vary or otherwise supplement the terms of this Agreement.

11.2 Notices. All notices required hereunder shall be communicated in English and shall be personally delivered or sent by certified or registered mail or reputable express courier service, addressed to the parties at their addresses first mentioned above, or at such other address as either party may designate to the other by notice served as hereby required, or sent by facsimile transmission to the facsimile machine telephone number provided by the receiving party.

11.3 Force majeure. Except for a party's obligation to pay no party shall be liable for failure to perform its obligations hereunder if such failure results from causes beyond its reasonable control such as acts of God, war, riots, civil unrest, acts of terrorism, fire, explosion or labor disputes, delays by vendors or manufacturers, governmental acts, staff unavailability due to

illness or airline flight delay or similar causes.

11.4 Severability. In the event any part of this Agreement (other than the provision obliging Licensee to make payment) is found to be invalid, illegal or unenforceable in any respect, the remaining provisions shall nevertheless be binding with the same effect as if the invalid, illegal or unenforceable part was originally deleted.

11.5 Transfer, Assignment & Subcontract. Neither Licensee nor VAR shall subcontract, assign, delegate or otherwise transfer (including without limitation, by way of merger or contribution) all or part of its rights, duties, benefits nor obligations under this Agreement, or sublicense Licensed Programs to any third party. This Agreement shall be binding upon, and inure to the benefit of Company and Its successors and

assigns. Company shall be free to assign delegate or otherwise transfer (including without limitation, by way of merger or contribution), any of its rights or obligations hereunder and/or otherwise subcontract any of its obligations hereunder, in whole or in part, to Gravotech Marking, any Subsidiary and/or to any third party, without VAR's or Licensee's consent.

11.6 Amendments & Non-Waiver. No waiver, alteration, modification, or cancellation of any of the provisions of this Agreement shall be binding unless made in writing by all parties. Notwithstanding the foregoing, Company may add, modify or cancel any provision of this Agreement to the extent required by Company's agreements with its licensors by written notice to Licensee and VAR if applicable, at any time. Such additions, modifications and cancellations shall not require the separate consent of Licensee or VAR and shall be effective immediately upon receipt of such notice. A party's failure at any time or times to require performance of any provision hereof shall in no manner affect its right at a later time to enforce such provision.

11.7 Audit. During the term of this Agreement, Licensee shall establish and maintain accurate information records relating to the use, and when applicable, destruction of the Licensed Programs, and keep such records available for a period of three (3) years after the term of this Agreement. During the term of this Agreement and for a period of three (3) years thereafter, the Company shall have the right at any time at its own expense and under reasonable conditions of time and place, to audit and copy these records. Licensee also hereby entitles and authorizes Company to verify its compliance with the terms of the Agreement. For such purpose Company may conduct any review on Licensees premises during normal business hours, in a manner that minimizes disruption to its business. Company may require Licensee to provide it or any third party the Company engages to conduct such verification, with machine access, copies of system tools outputs, or other electronic or hard copy system information as appropriate. If the audit reveals that Licensee has underpaid charges to Company, Licensee shall promptly pay to Company such charges at the then current list price. In the event such underpayment is five percent or greater, then in addition to Licensee paying the applicable charges, Licensee shall reimburse Company for the cost of such audit. In a joint effort to prevent software piracy, Licensee shall comply with any changes In the Licensed Programs licensing security mechanism that aims at preventing fraud. By invoking the rights and procedures described above, Company does not waive its rights to enforce this Agreement or to protect its intellectual property by any other means permitted by law.

11.8 Order of Precedence. The terms and conditions of any Appendix shall supplement the terms and conditions of these General Terms with respect to the Licensed Programs licensed under the corresponding Brand. In the event of discrepancy, Inconsistency or contradiction between any Appendix and conditions contained in these General Terms, the provisions of the corresponding Appendix shall prevail.

11.9 Entire Agreement. This Agreement is the complete agreement between the parties relating to the subject matter hereof and supersedes all prior and contemporaneous proposals, agreements, understandings, representations, purchase orders and communications, whether oral or written. Licensee acknowledges that it has not relied on the future availability of functionality or product updates with respect to any Licensed Programs in entering into this Agreement. The terms of this Agreement shall have no force or effect with respect to any claim based on the use of any intellectual property rights of Company outside the scope of the licenses expressly granted herein. This Agreement may be modified only by written amendment signed by the parties and no other act, document, usage or custom shall be deemed to amend or modify this Agreement, including but not limited to Licensee's terms and conditions.

11.10 Governing law and jurisdiction. This Agreement shall be governed by and construed in accordance with, and the legal relations between the parties shall be determined in accordance with, the laws of France, without regard to any conflict of laws principles and excluding application of the United Nations Convention for the International Sale of Goods. All actions and proceedings arising out of or relating to this Agreement shall be exclusively heard and determined by the “Tribunal de commerce de LYON, FRANCE”, notwithstanding the foregoing, Company may, in its sole discretion, bring any claim or dispute (including but not limited to seeking injunctive relief and/or equitable remedies) arising out of, or in connection with the

validity, interpretation and/or performance of this Agreement before any courts and/or administrative authorities having jurisdiction over the subject matter of any such claim or dispute.

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