**ABC Gravotech SOFTWARE**

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**QUICK START 2020**

GRAVOTECH

EXPRESSION OF THINGS

# A. Legal notices

Last updated: 09/2020

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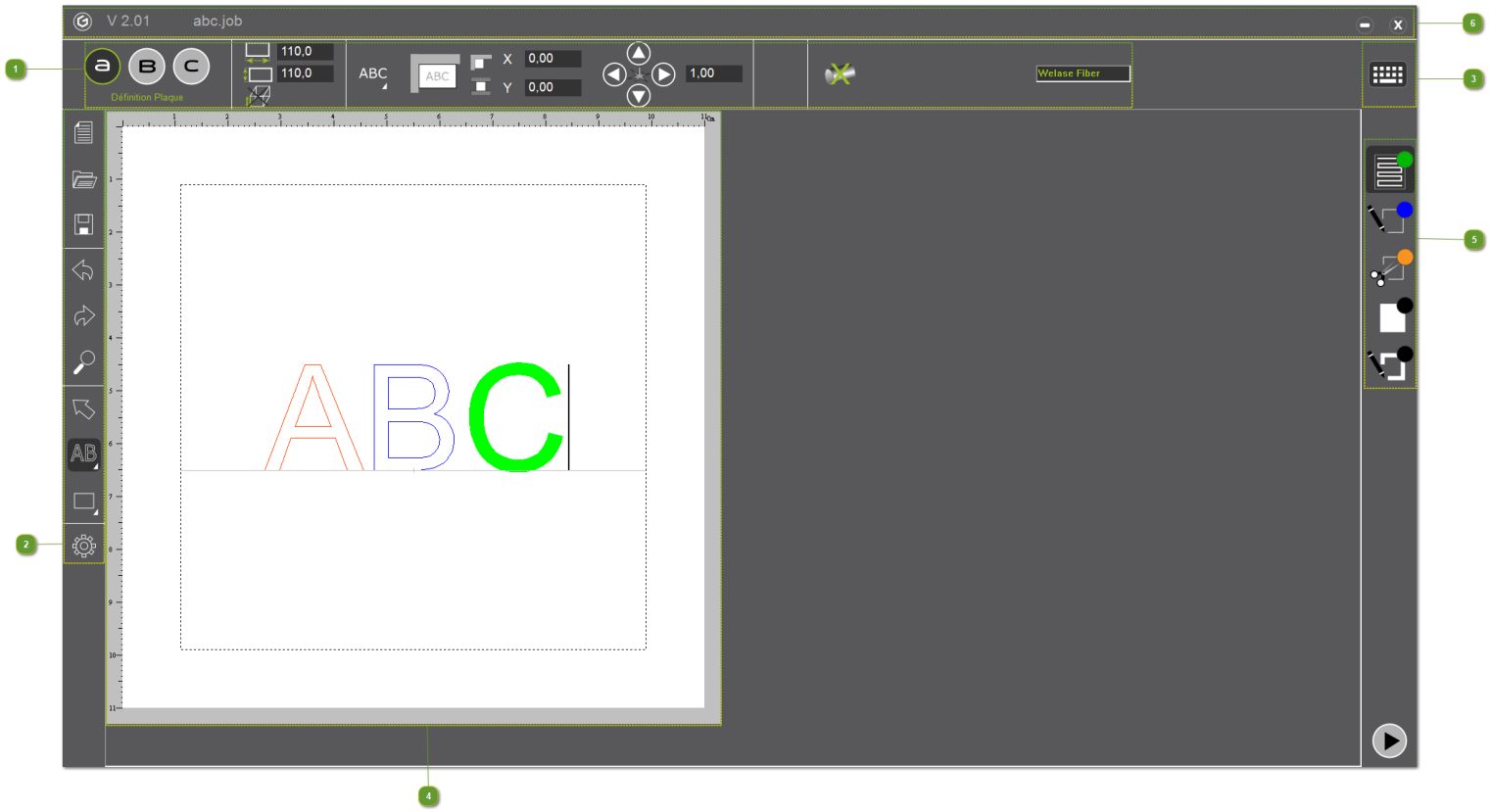
## CONTENTS

# Quick Start : Step by Step

1.  Custom unit, language and computer that rule the program.
2.  Add the powered machine connected to PC/tablet.
3.  Select it as active machine
4.  New document
5.  Material definition
6.  Composition
7.  Machining




Browse between A, B, C steps using arrows at the bottom of the main window 

Some dialogs open to achieve an operation. When done, close window 

Cancel operation 

Validate operation 

## 1 Material definition

[Set material size, orientation and origin]

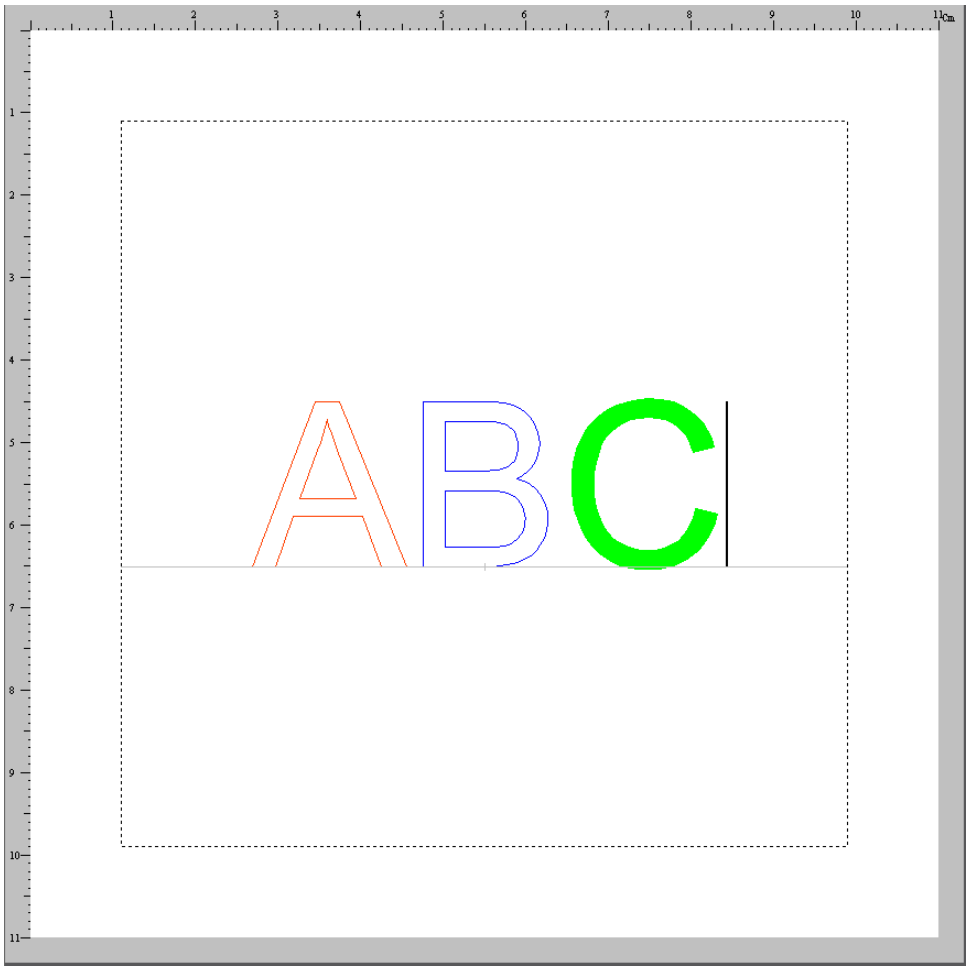
## 2 Toolbar : standard commands

Manage documents, actions or objects to machine

## 3 Display virtual keyboard for tablet

## 4 Composition

Add text, shapes or logos



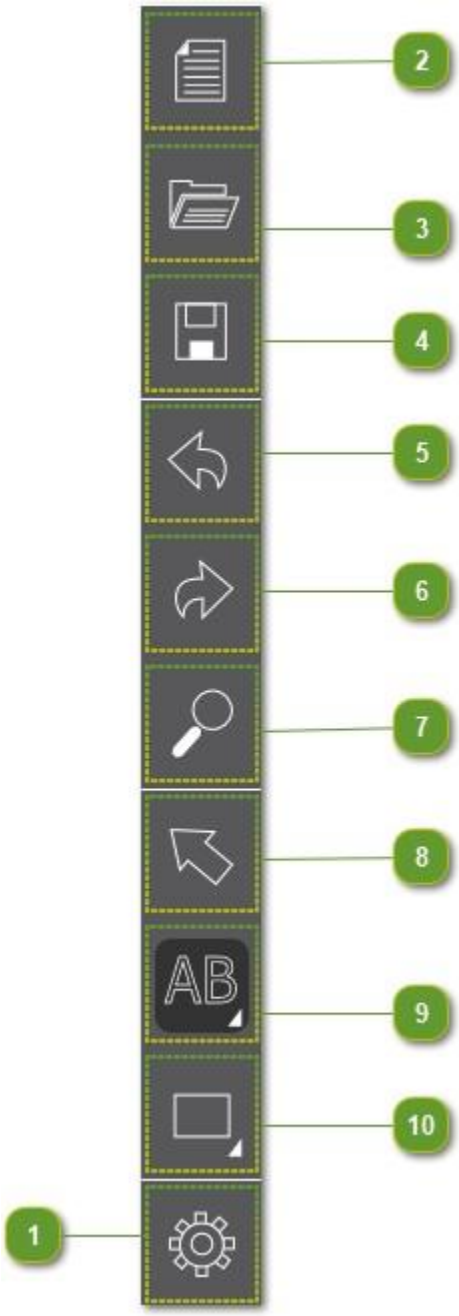
5 **Machining paths**

Assign path to selected text or shape

6 **Title bar**

Logo and Program version, Name of saved document, Buttons to Minimize and Close windows

## Toolbar : standard commands




### 1 Settings


Set user interface the first time the program starts.

### 2 New document


Work from scratch

### 3 Open *.job file


Edit a saved document

### 4 Save document


Save it as JOB file

### 5 Undo


Cancel last action

### 6 Redo


Restore cancelled action

### 7 Zoom in/out


Double or reset material view

### 8 Select and edit text or shape


Resize or shift the selection.

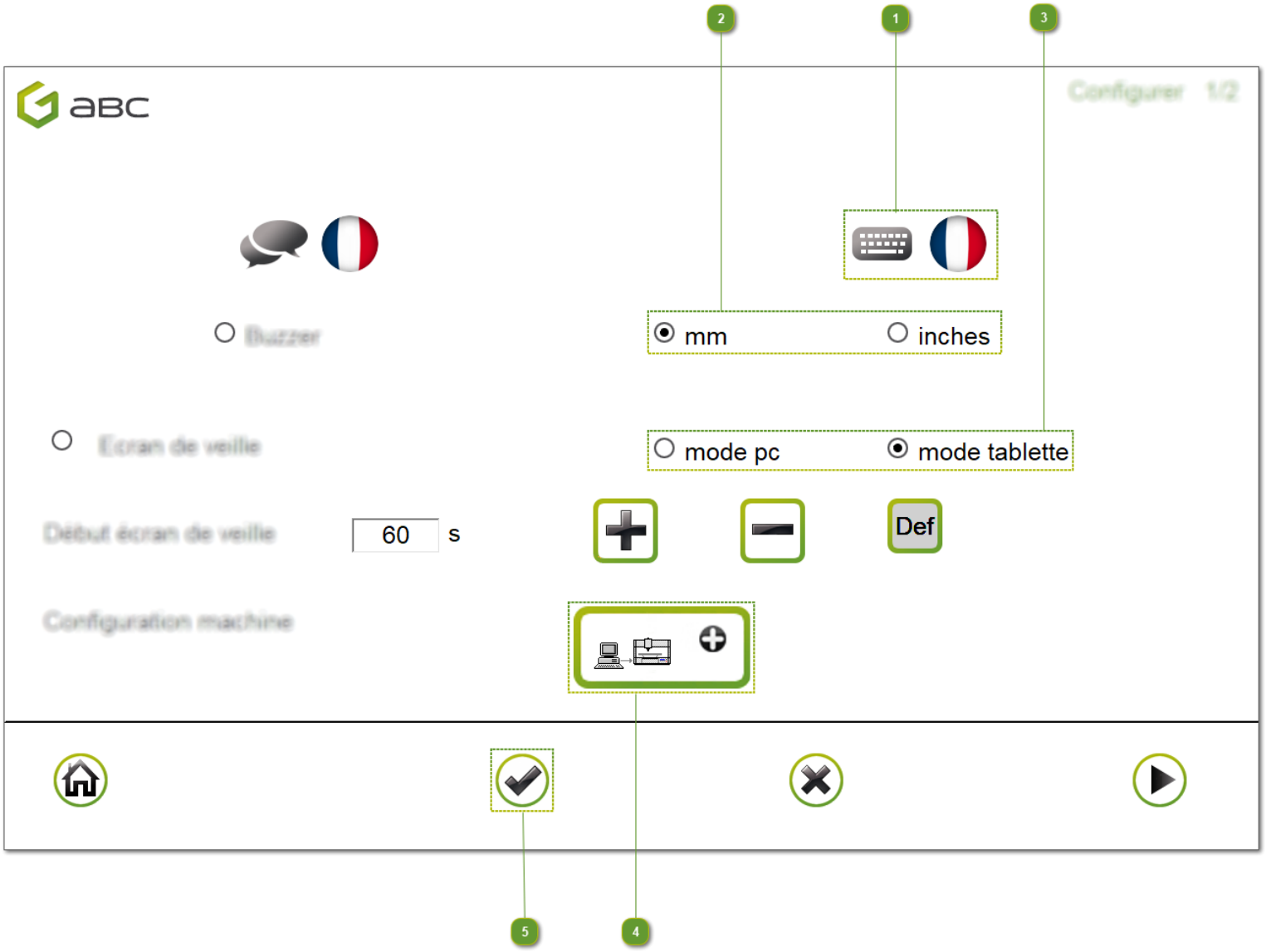
### 9 Non-horizontal text


Set text slant  , vertical  , or along arc 

### 10 Basic shapes


Draw a rectangle, a line  or a circle 

## Settings : User Interface




**1** **Select the current unit to measure distances and dimensions.**

◉ mm ○ inches

**2** **Select the current language to display program messages and dialogs.**

3 **Select the computer where program is set up.**

mode pc  mode tablette

When the tablet is enabled, the program fits to tactile mode and a virtual keyboard gets available to type text. 

4 **Add new machine**

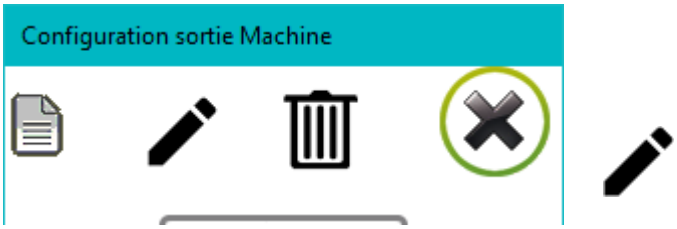
Select the powered machine connected to PC/Tablet.

5 **Validate**

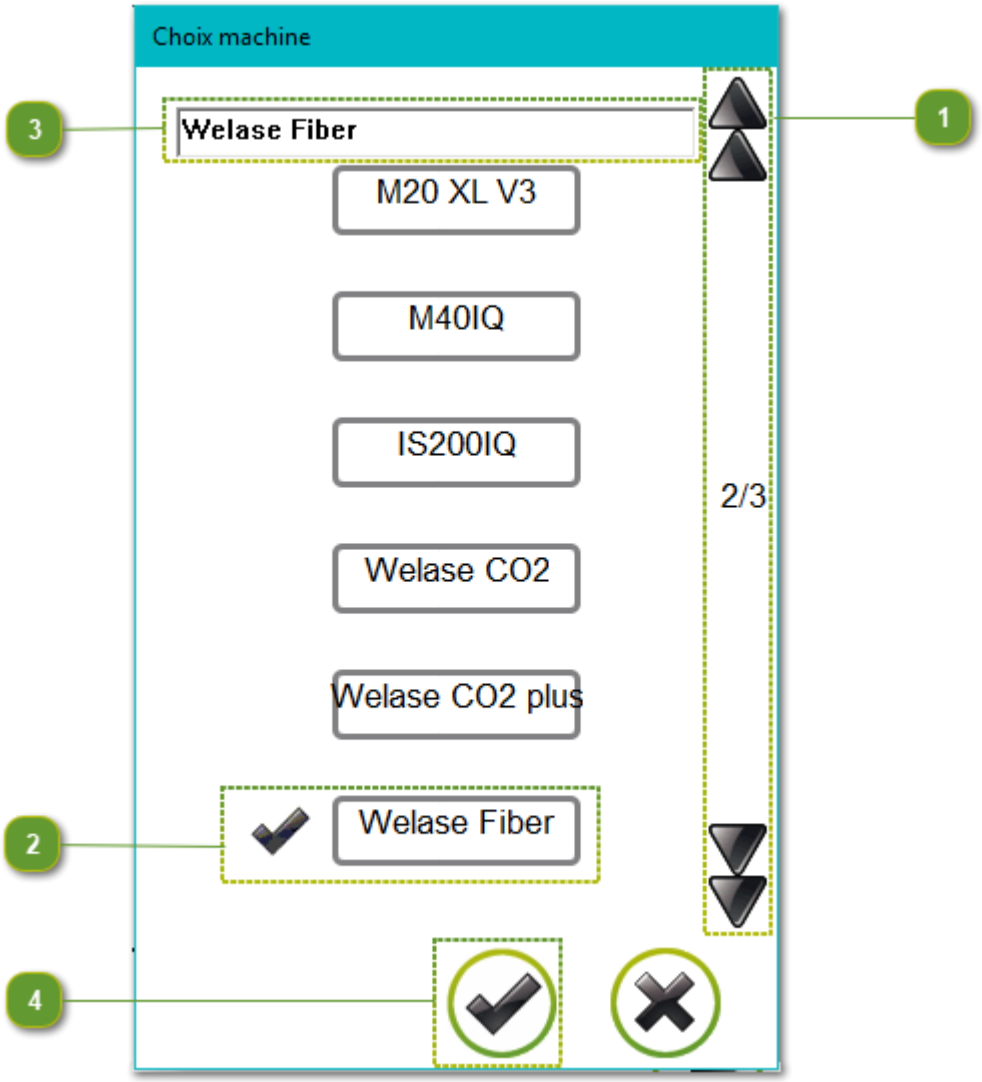
Back to main window

**Add new Machine**

***Check that the machine has already been identified in Windows either as a Bluetooth device or through Ethernet of WIFI connection (refer to machine user manual).***

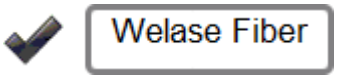



**Display the list of Gravotech machines**



1 **Scroll up or down the list.**

2 **Tick the connected machine.**




3 **At need, type your machine name.**


4 **Validate**

At need, select the machine driver :
- Gravotech Laser for WELASE machines
- GT Smartstream for M-series machines

The new machine displays in the list of current machines.

# Adding a Gravotech machine as Bluetooth device

Power on the machine

In Windows, open Control Panel

## In Windows 10

1. In Hardware and Sound, open Device and Printers
2. Add a device

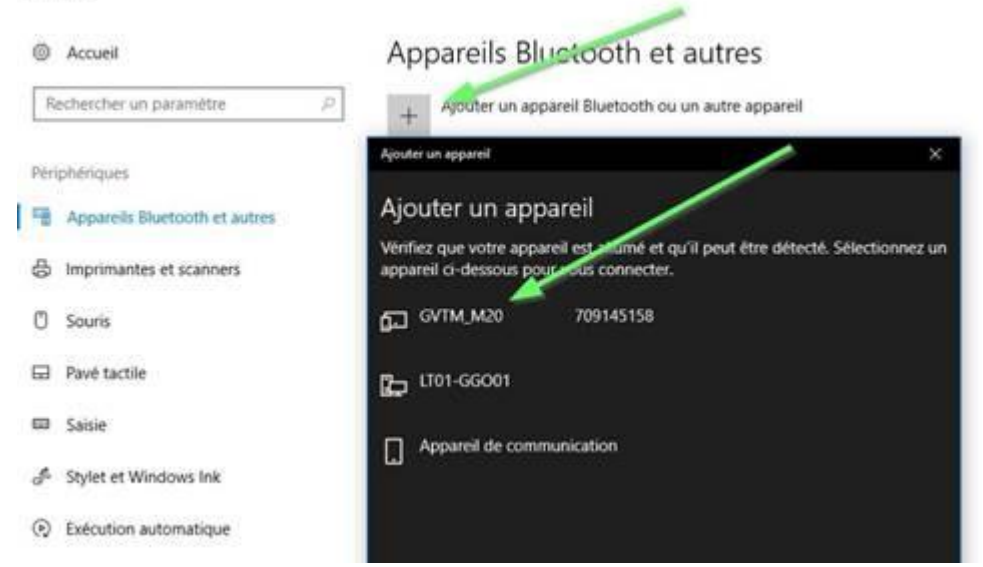

3. Select the machine.

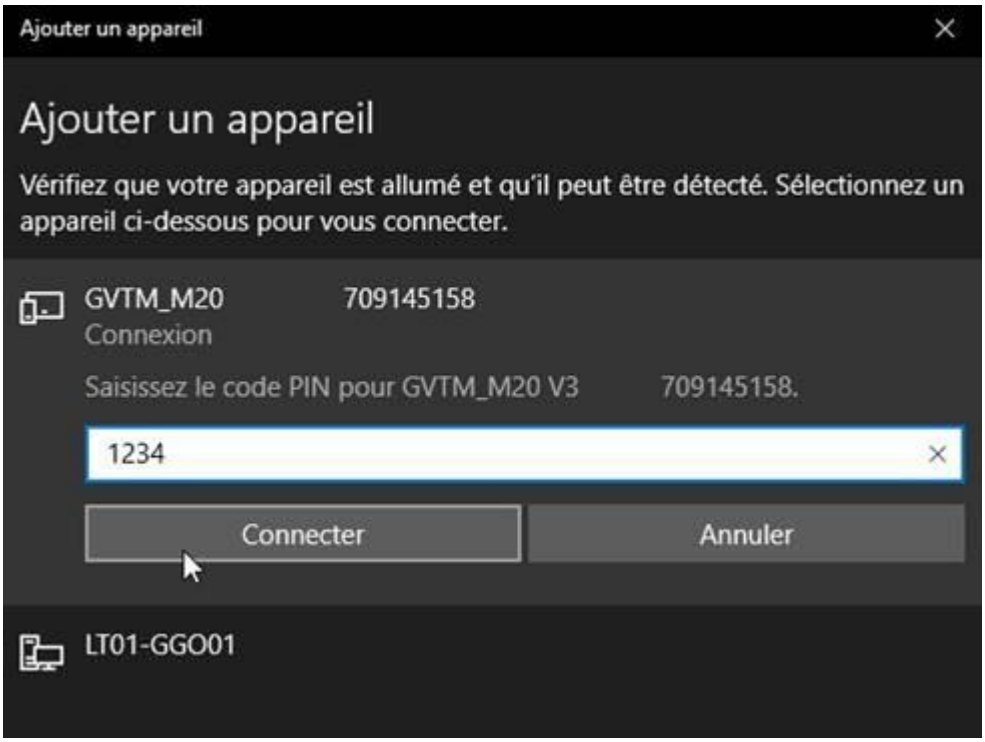

4. Next

**5. Enter the device's pairing code e.g. 1234**

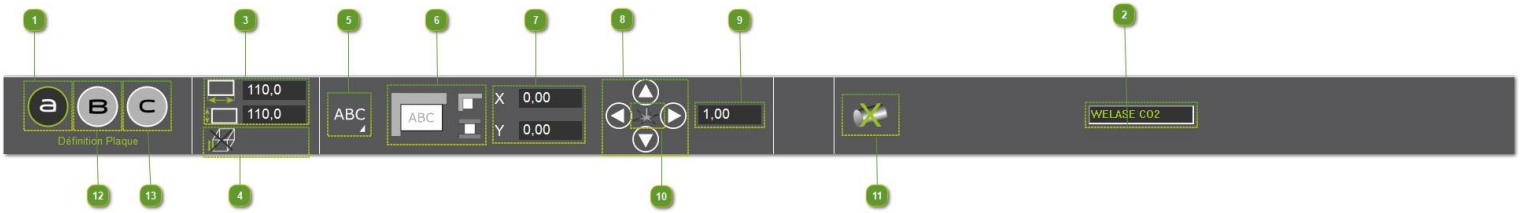
## In Windows 7

1. In Peripherals, open Bluetooth devices
2. ⊞ Add the machine
3. **Type the PIN code e.g. 1234**
4. Connect



## Material definition




### 1 Set parameters and options below

Set material size, orientation and origin

### 2 Enable the active Machine


Select the powered machine connected to PC/Tablet. Parameters and options will fit the active machine.

### 3 Size the material inside machine area


### 4 Material Height

Set it when using any WELASE machine. This will raise or lower the material to fit in machine.

### 5 Orientation

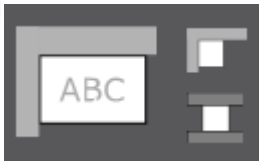

Select normal (is default) or mirror 


, 90° 


or 180° 

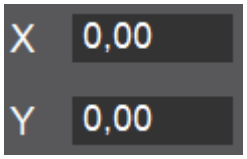

orientation.

### 6 Material origin according to the clamping accessory



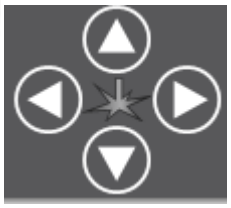

Select the matching icon : Top left corner of table or Vice center

### 7 Origin coordinates

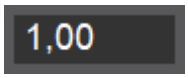



Top left corner is default at (0,0). Center is the machine area one.
When default values are edited, the origin gets floating and set by user. Arrows around icon confirm the floating status.

8 **At need, shift the floating origin using arrow keys**



9 **Origin offset**



View arrow shifting or key in value

10 **Target the floating origin or bound the composition surface using arrow keys or Point&Shoot function**



Enable red pointer and move it over material 

11 **Cylinder settings**

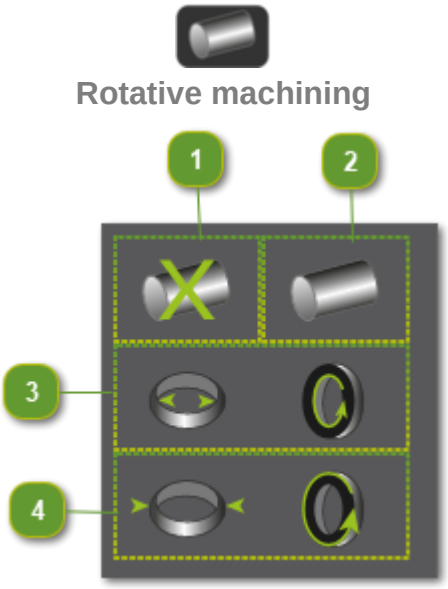

At need, configure rotative marking or ring engraving

12 **Composition**

Add text, shapes or logos

13 **Machining**

Settings for M-series or WELASE machines




**A. Set parameters, according to the item to machine**

1 **Flat material**


Back to machining using table or vice

2 **Cylinder or Pen**


Key in the diameter and length


Key in the pen diameter for M-series machines

3 **Inner ring**


Key in the finger size or inner diameter, and engraving length


Select the type of jaws on M-series machines

4 **Outer ring**


Key in the perimeter or outer diameter, and engraving length


Select the type of jaws on M-series machines

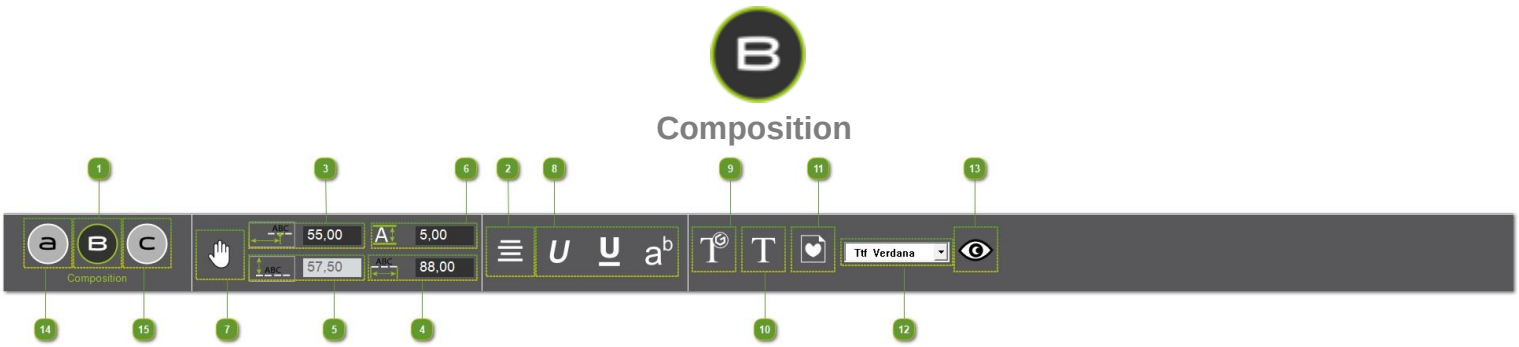
**B. Enable the rotation mode :**

 indexed (is default)

 or combined

C. Key in the focal distance for laser marking 

D.  **Validate**




## 1 Composition


Add text, shapes or logos

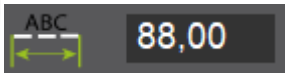
## 2 Align text


Text lines are centred by default. Display text from the left or right end of baseline.

## 3 Shift text origin

Distance between the origin of the current baseline and the left border of material

## 4 Maximum text length



Distance between left and right ends of current baseline

## 5 Maximum text height

Distance between the current text baseline and the top side of the material

## 6 Text height

Distance between current baseline and top of the uppercase top

## 7 Switching to manual mode

Enable manual mode when you want to set text anywhere on material.


Manual mode will be automatically enabled when drawing shapes.
Go back to auto mode when text lines should be centred inside material surface.

8 **Text styles : Italics - Underlined - Exponent**

Select style before typing text or apply style to the selected text

9 **Gravograph fonts**

Select the font to type with 

10 **True type fonts**

Select the font to type with 

11 **Series of Logos**

Select the logo to insert 

12 **List of available fonts and logos**


The name of the active font/logo displays by default.

13 **View the active font/logo**

Select the character to insert into text

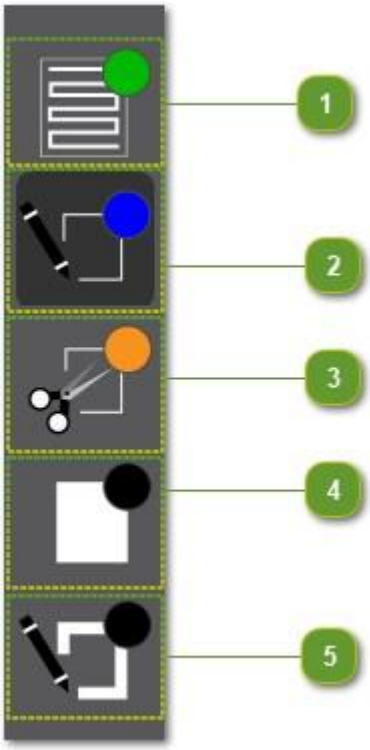
14 **Material definition**

Set material size, orientation and origin

15 **Machining**

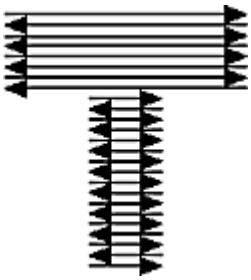
Settings for M-series or WELASE machines

# Assign a machining path to selected text or shape



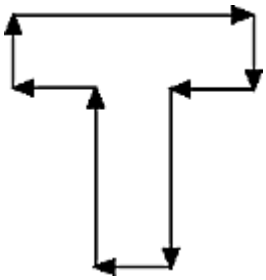

**Select text, shapes or logos**

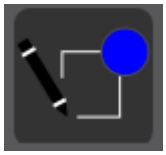
## 1 Surface sweeping



Sweeping a bound zone using vector round trips

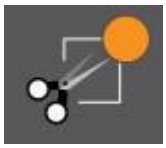
## 2 Contour marking





Vector plotting lines

### 3 Contour cutting



Vector cutting lines

### 4 Surface raster

Filling up a closed contour automatically

### 5 Contour raster

Filling up lines according to the thickness keyed in. Key in a Thickness higher than 0.1 mm.

# Machining

Assign a machining path to every object to machine (filling, plotting, cutting).

## Set machining properties

 Marking settings for WELASE machine

 Engraving settings for M-series machine


## Connect the dongle allowing communication between the program and the machine

The GS dongle is the permanent protection key that manages data transfer from the program to the machine.

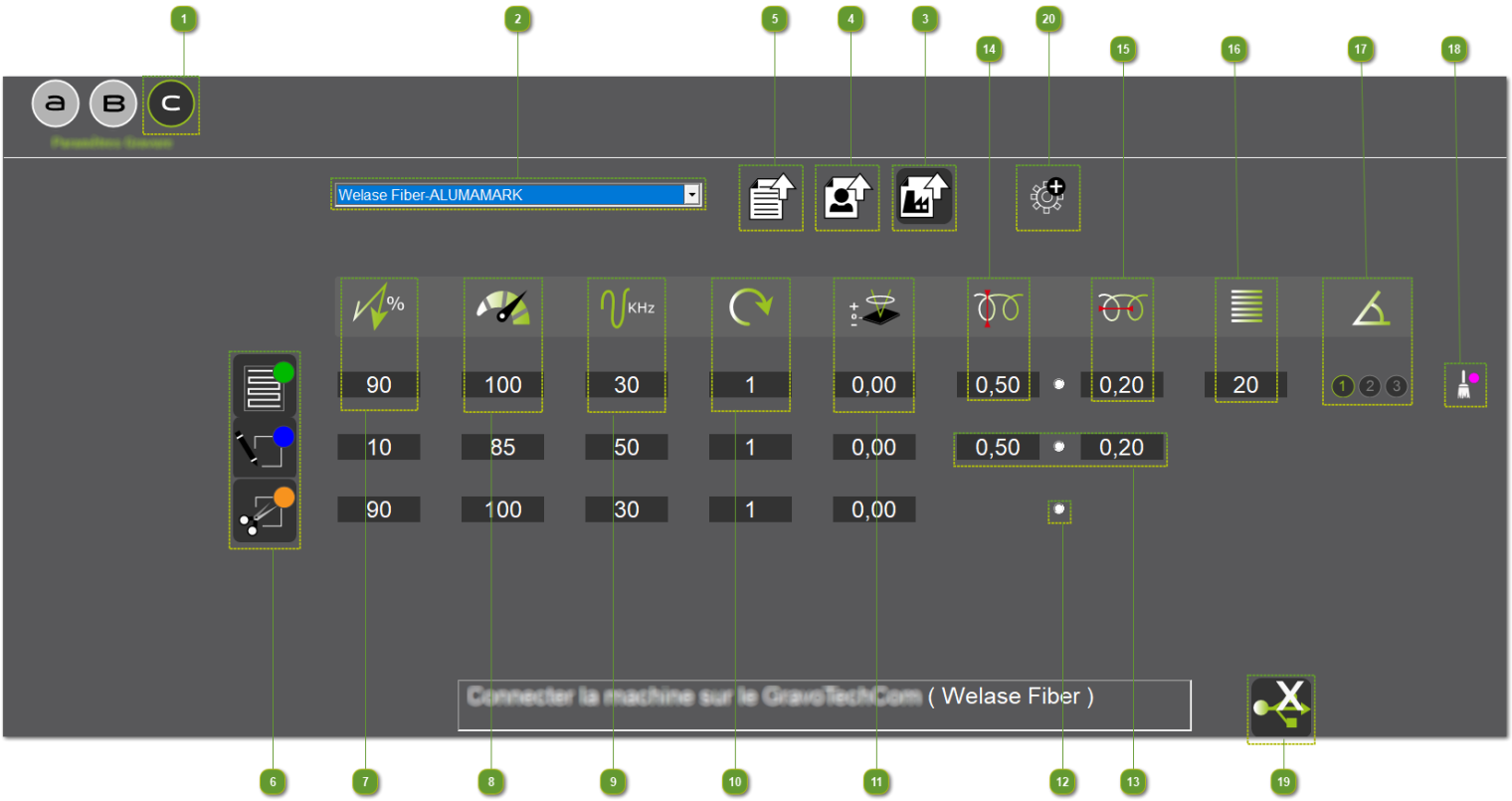
**The dongle must be connected to a USB port on the PC before you can perform the following operations:**

- sending a composition into machining
- simulation of a machining over the material
- positioning a block or plate by Point and Shoot

**When the operation is triggered without the dongle, an error message signals the ban on access to the machine.**

A. End the operation on the machine
B. Connect the dongle to a USB port on the PC
C. Repeat from the program

# WELASE settings




## 1 Set parameters and options below

*Set values according to the technical features of machine. Refer to manual attached.*

## 2 Active preset


Select the standard settings that match the material (and the machine).

## 3 Gravotech presets

Default settings per material (and per machine)

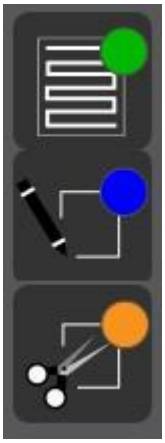
## 4 User presets

Saved settings specific to one material (and to one machine)

5 **Current machining settings**

6 **Machining paths assigned**

Every path applied to objects in composition displays with the linked properties.

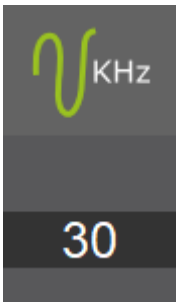


7 **Power : Key in a value between 0 and 100%, proportionally to the power of laser source.**


8 **Speed : Key in a value between 0 and 100%, proportional to max. speed of machine motion system.**

9 **Impulse rate : Key in a value between 5 and 200 KHz.**

The higher the frequency, the higher the number of shots per second.

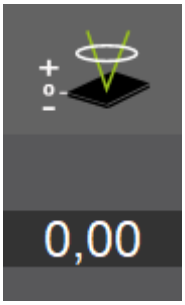



10 **Number of passes : Key in a number between 1 and 500.**

A pass equals one round of the laser beam to mark objects. Several passes can be required to gradually reach a given depth in some materials.


11 **Defocusing : Key in a negative or positive distance.**

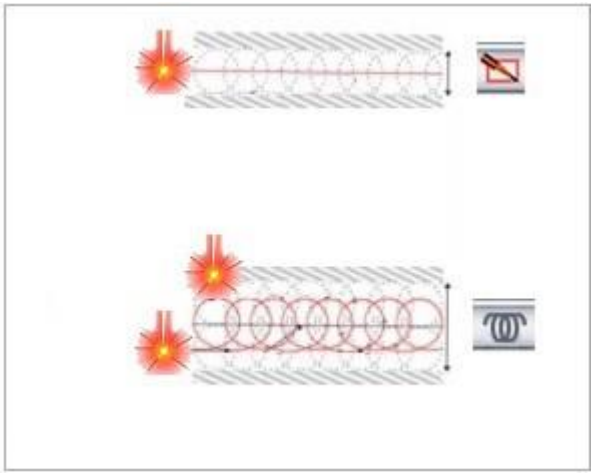
Lower or raise the material, before marking starts.



12 **Wobbling**

 Tick to enable the process. Common to thicken contour marking, this method makes the laser beam oscillate e.g. it marks in spiral the lines, according to a preset amplitude.

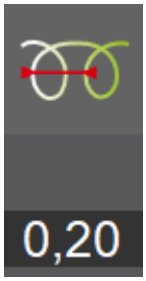
Compared to line plotting, wobbling does more readable text, when typed with filar caracters, like those from Gravograph fonts.



13 **Enabling wobbling will add two values.**

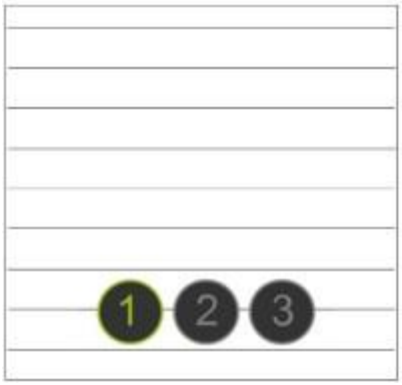

14 **Key in the wobbling diameter**

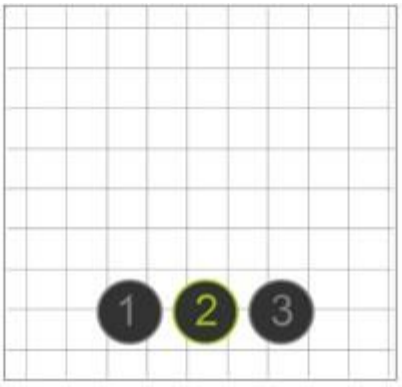

15 **Key in the gap between two contiguous circles**

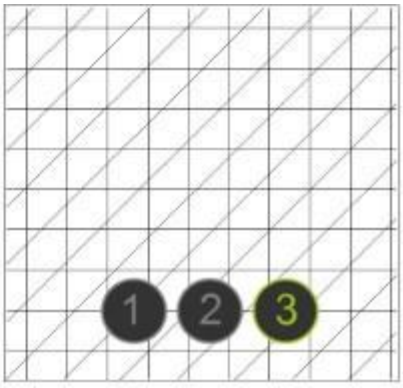


16 **Key in the filling density i.e. number of lines/mm**


17 **Drive the sweeping mode**


18 **Cleaning pass**


Enable this final pass to remove residue over marked surface

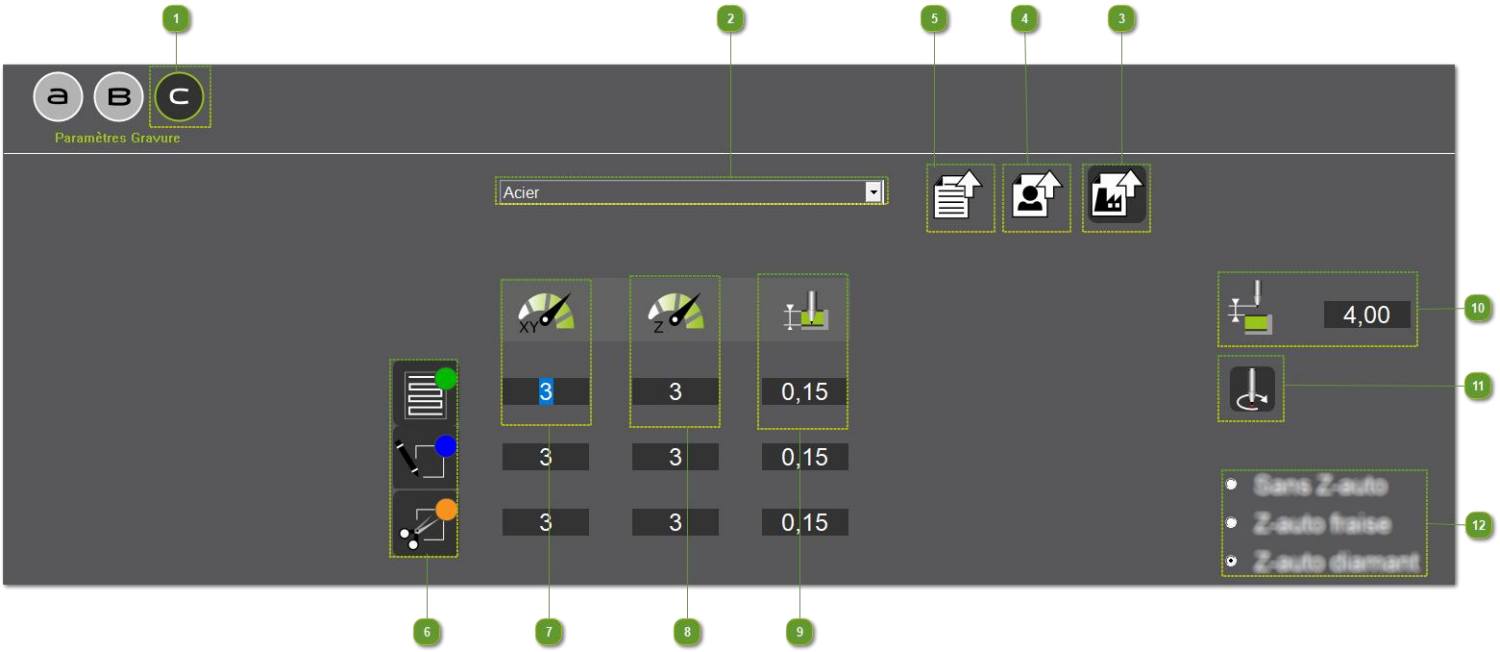
19 **Machine connection**


At need restart machine detection

20 **Expert settings**


Call out and configure Gravotech driver process

## M-series settings

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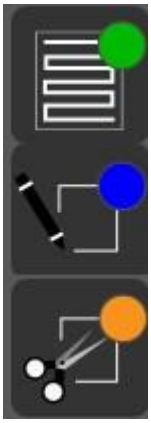


7 **XY speed : Key in a value between min. and max. speeds of the machine.**

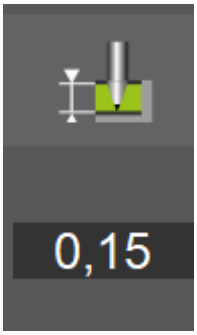
Tool horizontal motion speed when marking material


8 **Z speed : Key in a value between min. and max. speeds of the machine.**

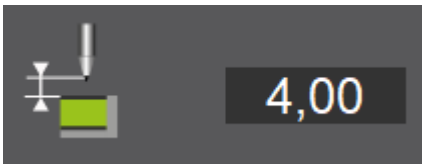
Tool drop speed when drilling material

9 **Engraving depth : Key in a value matching the machining mode.**

- To engrave using nose key in 0.02 and adjust engraving depth on machine.
- To engrave without nose key in a value between 0.01 and material thickness.




10 **Z clearance : Set the tool raise between an engraved line and the next line to machine.**




11 **Spindle rotation : Enable the function when matching the machining mode.**

- Diamond dragging excludes spindle rotation
- Engraving requires spindle rotation


12 **Auto Z-ref : Tick the machining mode that calls out the function.**

- ○ Diamond dragging enables auto Zref.
- ○ Engraving with nose enables auto Zref.
- ◉ Engraving without nose disables auto Zref.