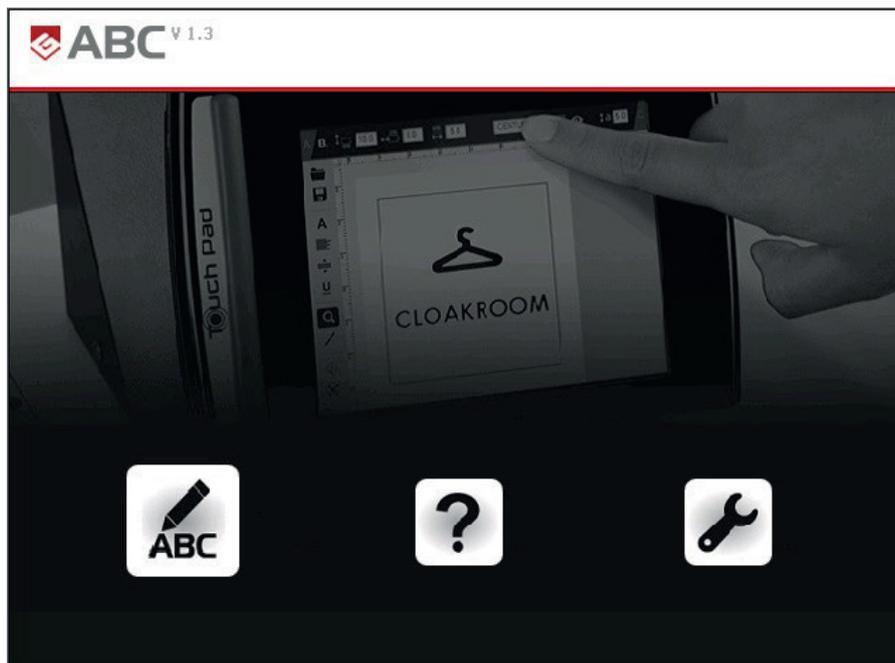


USER MANUAL

abc

Simplified engraving software



M_ABC_EN_A - Last updated: 03/2017 - Translation of the French original document

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A. Foreword

1. Appreciation

Thank you for choosing ABC - Gravograph.

Gravotech is pleased to count you among the users of its engraving and traceability solutions.

For help, contact Gravotech.

For more information on products, visit www.gravograph.com website.

2. Information



To ensure security and productivity, read this manual before starting-up the equipment. It provides details about the installation and use of the equipment.

Keep this manual in case you need to refer to it.



For the attention of users having an individual cardiac assist device fitted:

Our equipment is designed and manufactured with the greatest care in order to guarantee their compliance with the EMC Directive currently in force. This means that the levels of electromagnetic emissions produced by this equipment when in operation are limited and do not exceed the thresholds defined by the Directive.

However, multiple factors make it impossible to guarantee the total absence of risk for users having a cardiac assist device fitted. Consequently, it is recommended that standing for a prolonged period within less than 1 m (3.281 ft) of an operating machine should be avoided.

B. Legal notices

Last updated: 10/15

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The Product's specifications are altered by (i) any Product's modification or alteration, (ii) any adaptation and installation of accessories that are not recommended by Gravotech, (iii) the integration of a control system and (iv) the connection to an external device. Such specifications' alterations may lead to the non-compliance of the Product with applicable rules and standards. Shall the Product be non-compliant, the person in charge of the Product's installation shall be responsible of the final workstation's compliance. In no event, Gravotech shall be liable for any damages arising from such non-recommended or unauthorized Product's alterations. It is precised that the warranty shall not apply in such case.

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C. Regulation observance

Last updated: 12/2016

EC declaration of conformity or declaration of incorporation supplied with the machinery

Type of machine	Directives - Standards
<p>Dot peen marking: Machine XF500p, XF500m, Medrix Id, MR7000 P5000PN, P5000EM, Impact</p> <p>Scribing marking: Machine M10 Jewel, M20 Pix, B-Engraver RingCube, TagCube, MedalCube</p> <p>Sharpening by grinding: Machine CG30, CG100</p> <p>Bevelling: Machine B4, B6</p> <p>Engraving by milling: Machine IM3, TXL M20, M20 Jewel, M20 ABC, M20 Pen, M20 Energy M40, M40 Deep vice, M40 Gift, M40 ABC IS200, IS200 TX, IS400, IS400 Volume, IS900 IS6, 7, 8000 - XP - XP Milling</p>	<ul style="list-style-type: none"> - Machinery: 2006/42/EC - Low voltage: 2014/35/EU - EMC: 2014/30/EU - RoHS 2: 2011/65/EU
<p>Dot peen marking: Transportable machinery - Partly completed machinery XF520p, XF530p, XF530m</p> <p>Dot peen marking: Partly completed machinery XF510p, XF510m, XE310p</p> <p>Scribing marking: Partly completed machinery XF510r, SV510</p> <p>CCU, Rack, TouchPad UC500, UC500 SV, UC300, UC520, UC Laser Racks IS</p> <p>Laser fume extractor ES10, ES20, ES30, ES40, ES50 LE120HP, LE140HP, LE150HP, LE190HP, LNI900</p> <p>Accessory: Partly completed machinery APF Rotary, APF Laser PFD500 TAG3500 Cylinder attachment DMC DP</p>	<ul style="list-style-type: none"> - Low voltage: 2014/35/EU - EMC: 2014/30/EU - RoHS 2: 2011/65/EU
<p>Dot peen marking: Portable machine XM700 M7000</p>	<ul style="list-style-type: none"> - Machinery: 2006/42/EC - Low voltage: 2014/35/EU - EMC: 2014/30/EU - RoHS 2: 2011/65/EU - Cells and batteries: 2006/66/EC
<p>CO2, Yag and fiber laser marking: Machine (gantry) LS100 Energy, LS100 Ex Energy LS100, LS100 Ex, LS900, LS900 XP, LS1000XP LS100 Ex Fibre, LS900 Fibre</p> <p>CO2, Yag and fiber laser marking: Machine (galvo) Fibre100, Fibre200, Fibre300, Yag200 LW1, LW2 (LaserTop 2000) Laser Solution Hybrid-Series, Laser Solution Green-Series, Laser Solution CO2-Series</p>	<ul style="list-style-type: none"> - Machinery: 2006/42/EC - Low voltage: 2014/35/EU - EMC: 2014/30/EU - RoHS 2: 2011/65/EU - Safety of laser products - Part 1: Equipment classification and requirements: EN 60825-1:2008 - Safety of laser products - Part 4: Laser guards: EN 60825-4+A1+A2:2006
<p>CO2, Yag and fiber laser marking: Partly completed machinery (galvo) – Class 4 TC500 TD412, TG400 Laser Solution Fiber-Series, TF410, TF420, TF430, TF450</p>	<ul style="list-style-type: none"> - Low voltage: 2014/35/EU - EMC: 2014/30/EU - RoHS 2: 2011/65/EU - Safety of laser products - Part 1: Equipment classification and requirements: EN 60825-1:2008 - Safety of laser products - Part 4: Laser guards: EN 60825-4+A1+A2:2006

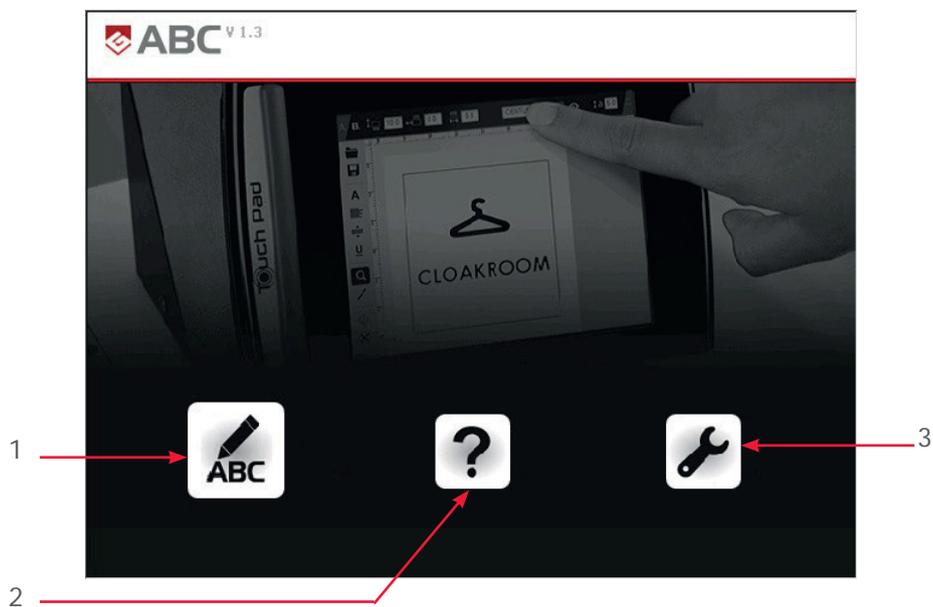
D. Presentation

The M20 ABC - M40 ABC machines operate with the ABC program. It allows simple adjustment of the various engraving settings (composition, machine adjustment etc.) with the use of a stylus and touch-screen.

It allows the user to control the machine for the flat engraving of texts and logos.

Program	Program ABC (version: 1.30 and more recent)
Firmware	Version: 1.64 and more recent
Operating system (program)	Version: 1.07 and more recent

1. Main menu



1. Engraving menu: composition of the engraving
2. "Help" menu
3. "System settings" menu

Presentation

2. "System settings" menu



1. "Configure" menu: configuration of the programme
2. "Update" menu: Software update - Operating System update
3. "Manage" menu: font management - logo management
4. "Adjust" menu: setting point zero

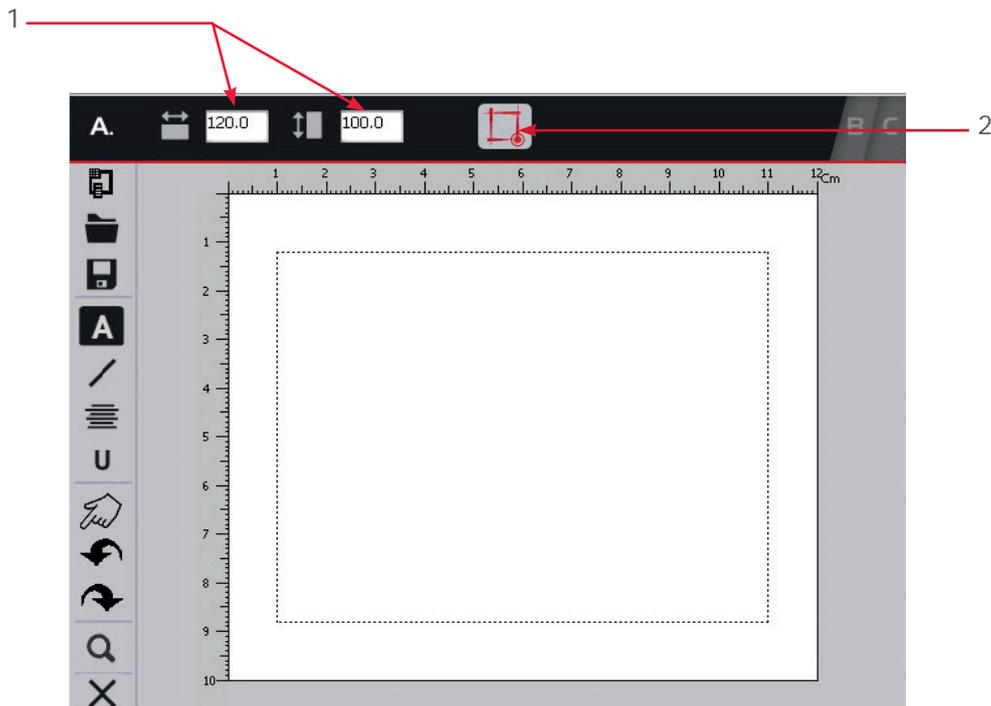
E. Creating the composition

1. Switch on the machine.

2. Select this menu from the main menu, represented by the icon:



1. Step A: Definition of the engraving zone - Menu A



1. Plate dimensions (in millimeters or in inches, depending on the unit chosen)
2. Point and shoot

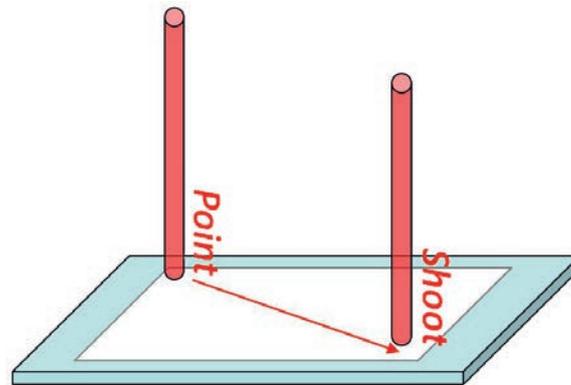
Define the engraving zone by entering the plate dimensions.

2 possibilities:

- Manually enter the dimensions with an external keyboard (not supplied).
- Use the Point and shoot function.

Creating the composition

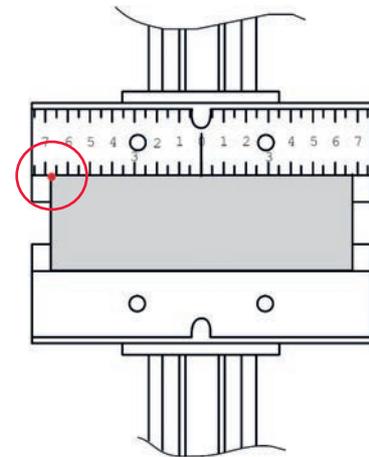
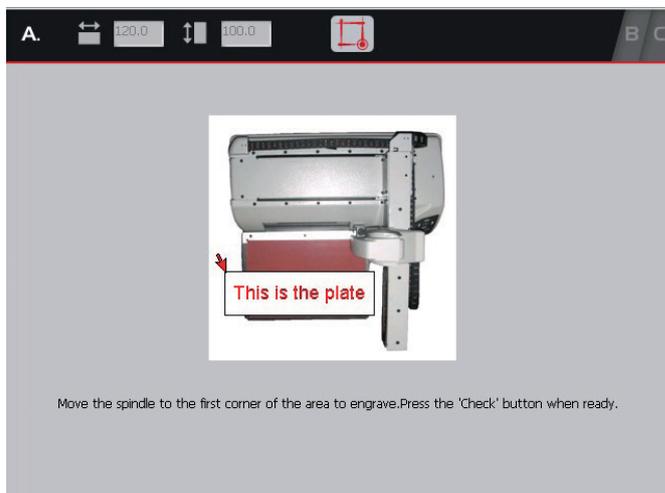
- Point and Shoot function: definition of the engraving zone



1. Select the corresponding icon: 

2. The following message is displayed: "Move the spindle to point 1 on the engraving area. Press the "Check" key. "

Move the red pointer on the machine to the location indicated, using the arrow keys (joystick) on the machine.

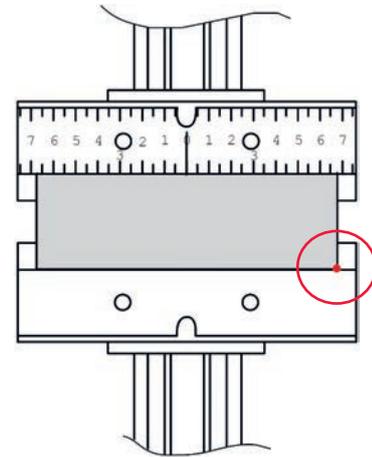
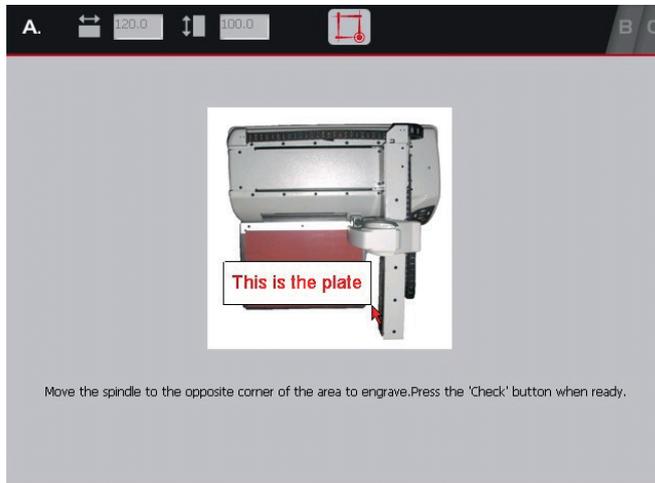


3. Press the following key on the machine: "Check" key.

Creating the composition

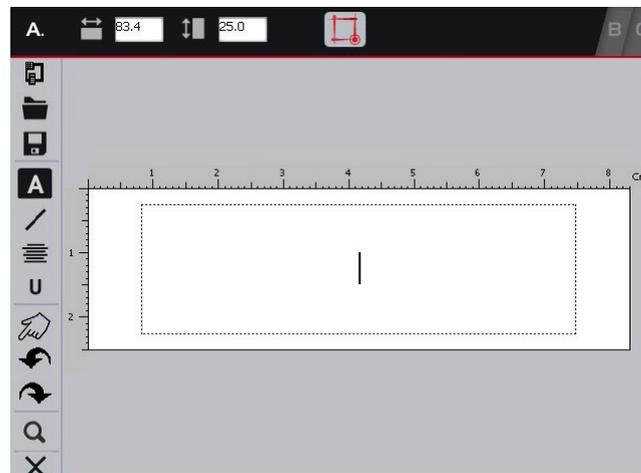
4. The following message is displayed: "Move the spindle to the point opposite the engraving area. Press the "Check" key. "

Move the red pointer on the machine to the location indicated, using the arrow keys (joystick) on the machine.



5. Press the following key on the machine: "Check" key.

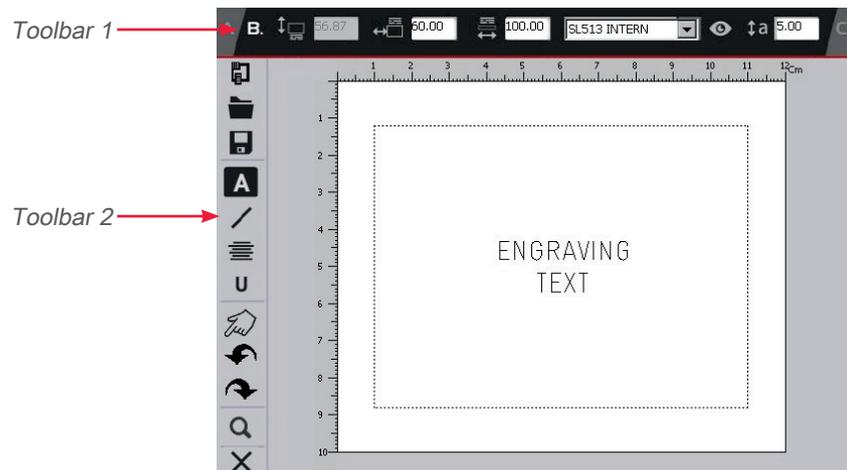
6. The engraving zone appears on-screen:



Creating the composition

2. Step B: Composition of the engraving (text / logos) - Menu B

- Description: Menu B



- **Toolbar 1**

Icon(s)	Description
	Top margin distance
	Left margin distance (the reference point varies according to the chosen text alignment)
	Line length
	Preview of the selected font
	Character table display
	Character height (in millimeters or in inches, depending on the unit chosen)

Creating the composition

- **Toolbar 2**

Icon(s)	Description	Function
	Creation	Create a new engraving job.
	Opening	Open an engraving job
	Save	Save an engraving job
	Mode: text	Activated
		Deactivated
	Mode: Drawing	Deactivated
		Activated - Selection: selection of a graphic object - Polyline: creation of connected lines - Rectangle: creation of rectangular shapes
	Justification	Centred text
		Left alignment
		Right alignment
	Formatting	Normal text
		Underlined text
		Italic text
		Underlined italic text
	Automatic mode <-> Manual mode	Automatic mode: the margins appear and the position of the text is automatically centred.
	Undo (Undo)	Undo the last action
	Restore (Redo)	Go back to the last undone action
	Zoom	Zoom disabled
		Zoom enabled on the cursor
	Quit	Quit the ABC menu and back to the main menu of the machine

Creating the composition

■ Text position

1. **Briefly touch the text with the stylus in order to select it.**

A frame appears with handles around the selected text. The number of handles and possible action depend on the choice of alignment and positioning settings.

2. **Touch and hold the stylus in contact with the text in order to move it on the touch-screen.**

■ Text height

The height of the text can be defined by moving the handles on the selection frame with the stylus on the touch-screen:

1. **Briefly touch the text with the stylus in order to select it.**

A frame appears with handles around the selected text. The number of handles and possible action depend on the choice of alignment and positioning settings.

2. **Touch and hold the stylus in contact with one of the handles on the selection frame.**
3. **Move the selected handle with the stylus on the touch-screen in order to change the size of the text.**

The character height is indicated throughout the enlargement action:



Creating the composition

■ Precise selection of a section of text

The text selection can be defined more precisely by selecting only a section of the text with the stylus:

1. **Touch and hold the stylus at the beginning of the desired selection.**
2. **Move the stylus on the touch-screen until the end of the selection is reached.**

The selected letters appear in red.

3. **Apply the desired change to the selection.**

Examples:

- define a new character height on the keyboard.
- define new formatting for the selected text (underlined, italics etc.).



EN **GRAVING**
TEXT



■ Creation of drawings with the stylus

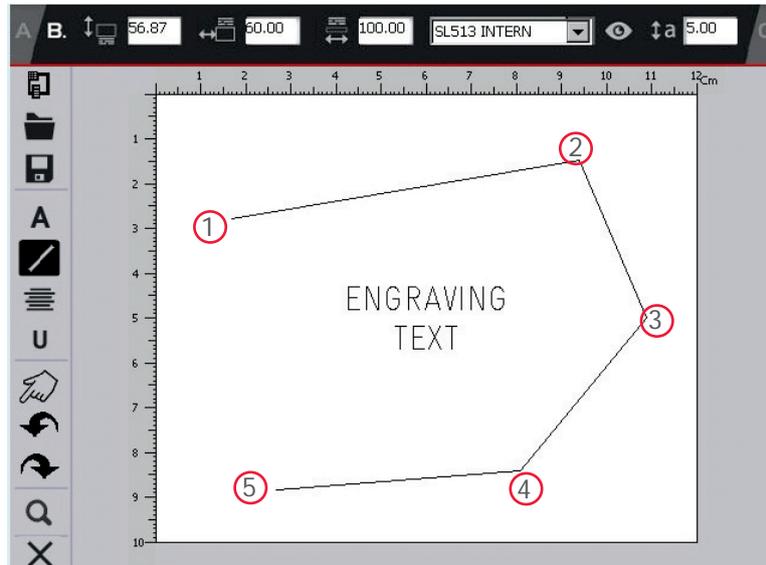
It is possible to draw with the stylus directly on the touch-screen.

Manual mode: 

1. **It is possible to draw with the stylus directly on the touch-screen.**
2. **Select the following functions:**
 - **Polyline:** creation of connected lines.
 - **Rectangle:** used to draw a rectangle.
 - **Selection:** selection of a pre-existing graphic object in order to move or modify it.

Creating the composition

- **Polyline:**
 1. Place point 1 in position by briefly touching the screen with the stylus.
 2. Place point 2 in position in the same way: the line between these two points appears on-screen.
 3. Place a point 3 in position. A second line appears, and so on.



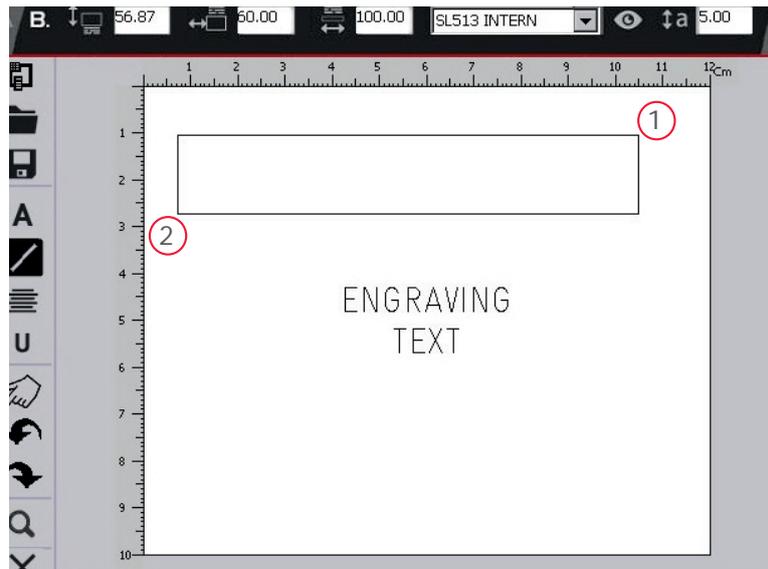
To exit "Drawing" mode: click on the icon **A**

Creating the composition

- **Rectangle:**

1. **Place the corner 1 of the rectangle 1 in position by briefly touching the screen with the stylus.**
2. **Position the opposite corner in the same way.**
3. **The rectangle appears on-screen.**

Briefly touch the screen with the stylus and repeat the operations above for the desired number of rectangles.

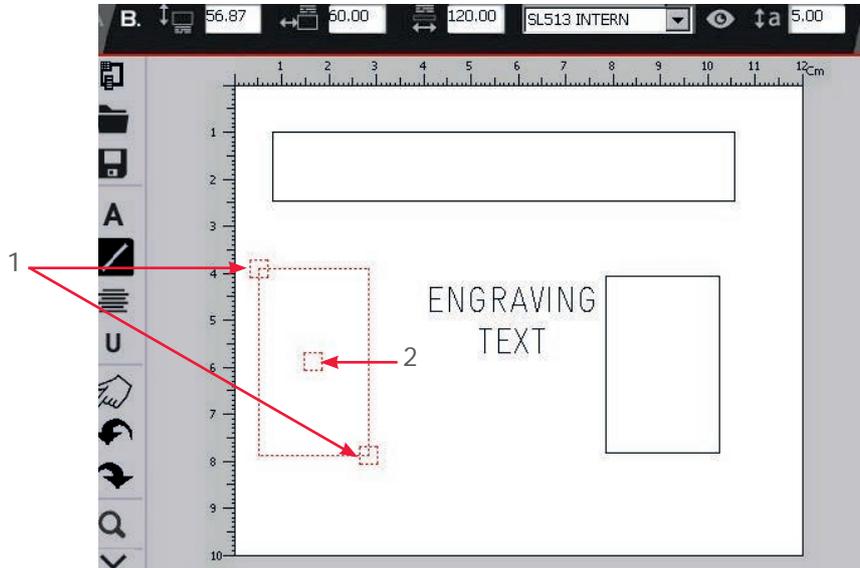


To exit "Drawing" mode: click on the icon **A**

Creating the composition

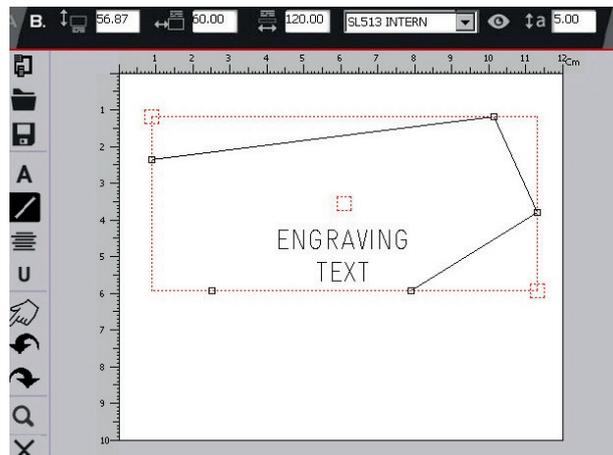
- **Selection:**

Select one of the graphic objects by touching it briefly with the stylus.



1. *Increase or reduce the size of the graphic object.*
2. *Move the design without modifying its size.*

In the case of a text block, a frame appears with handles around the selected text:



To exit "Drawing" mode: click on the icon **A**

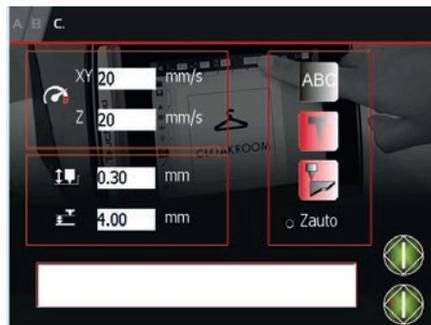
Remember to save the composition.

The number of handles and possible action depend on the choice of alignment and positioning settings.

Creating the composition

3. Step C: Engraving

■ Description: Menu C



Icon(s)	Description	Function	
	Speed	XY	Movement speed (XY)
		Z	Movement speed (Z)
	Marking depth	Adjusting the engraving depth	
	Z offset	Definition of the Z offset	
	Orientation	Normal	
		90°	
		Inverted	
	Rotation of the spindle	Activated	
		Deactivated	
	Engraving origin (X, Y)	Vice centre (M20 -by default)	
		Origin top left corner (M40 -by default)	
	ZAuto	Activated: automatic detection of the position of the object prior to engraving. Deactivated: manual adjustment of the machine along Z (see the user manual of the machine)	
	Start - LED	Transfer of the engraving job to the machine for an engraving simulation using the red LED.	
	Start - Engraving	Transfer of the composition to the machine	

Creating the composition

1. **Adjust the engraving settings (ZAuto recommended). From the program, transfer the composition to the machine.**

Select the corresponding icon:



Start - Engraving: Start-up marking



Start - LED: Marking simulation

The machine emits an audible signal.
The transfer is complete.

2. **Press the following key on the machine: START.**

The tool holder stops above the material to be engraved at the point at which engraving is to start.

Follow the software instructions until engraving starts.

F. Preventive maintenance

1. Restoring the zero point from an SD card.

1. Switch on the machine.

2. Select this menu from the main menu, represented by the icon: 

3. Select the following menu: "Adjust" menu 



1. *Back to the previous menu*
2. *Undo*
3. *Loading*
4. *Save*

4. Insert the SD card.

5. Select the "Loading" icon.

6. The machine automatically detects and loads the file containing the factory-set zero points.

Loading is complete when the following message appears: "Operation Complete".

7. Select the following icon to go back to the "System settings" menu: 

Preventive maintenance

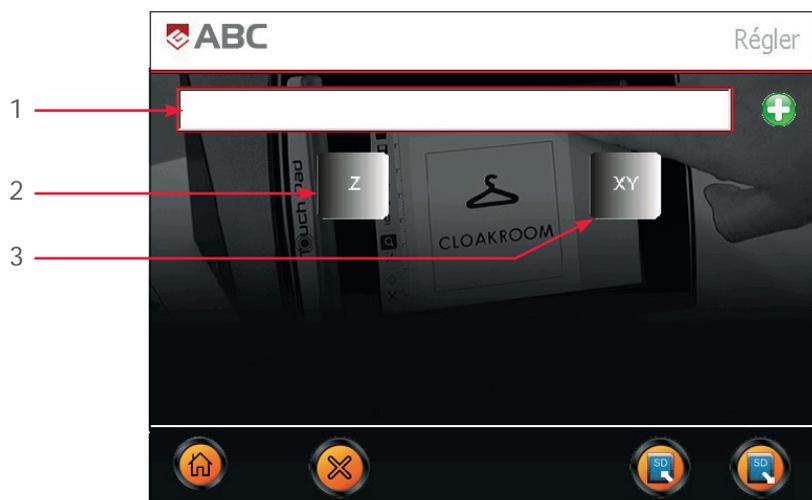
2. New adjustment of the zero point

1. Switch on the machine.

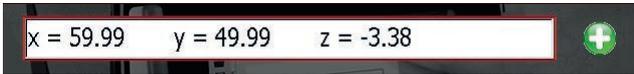
2. Select this menu from the main menu, represented by the icon: 

3. Select the following menu: "Adjust" menu 

This menu allows the user to adjust the zero point along XY and the zero point along Z of the machine (see the user manual of the machine):



1. Message box
2. Zero point along Z
3. Zero point along XY

	<p>For precise adjustment, use the position along X indicated on-screen.</p> 
---	--

4. Save all the zero point settings onto a different SD card to the one supplied with the machine (factory-set zero points) by inserting the card and selecting the "Load" icon.

The file is automatically saved, overwriting the previous settings file.

Preventive maintenance

3. Update

1. Switch on the machine.

2. Select this menu from the main menu, represented by the icon: 

3. Select the following menu: "Update" menu 

The screen below appears:



1. *Software update*
2. *Operating System update*

Preventive maintenance

■ Software update

1. Select the corresponding icon: 
2. Insert the SD card or a USB key containing the software update.
3. Press the update launch icon.

The machine automatically detects and loads the files required to update the software.

4. Switch off the machine.
5. Remove the SD card or USB key.
6. Switch on the machine.

7. Select this menu from the main menu, represented by the icon: 

The following message is displayed: "Machine programme update..."

8. Select "Update" to check whether the update has completed successfully.
9. The software update has completed successfully. To go back to the main menu or to the last screen, press the corresponding icon: 

■ Operating System update

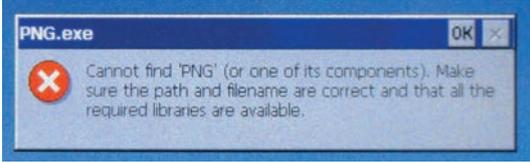
1. Select the corresponding icon: 
2. Insert the SD card containing the operating system update (OS).
3. Restart the machine using the start-up instructions.

The following message is displayed: "Machine boot update..."

4. Follow the instructions on the screen.
5. Switch off the machine.
6. Remove the SD card.
7. Switch on the machine.

The operating system update is in progress.

Preventive maintenance

	<p>This may take some time. Never switch off the machine before the following message appears:</p> <div data-bbox="620 376 1150 539" data-label="Image"></div> <p>This message indicates that the programme is no longer functional as components have been deleted by the operating system update.</p>
---	---

8. Insert the SD card or a USB key containing the software installation programme (setup.cab file).
9. Click on "OK".
10. Open the directory: "My Device".
11. Open the contents of the SD card or USB key.
12. Run the software installation programme (setup.cab file).

If necessary, move the keyboard on the screen in order to access the OK button in order to run the installation.

	<p>Never switch off the machine mid-installation. This could damage the UC card.</p>
---	---

13. When the installation is complete, power down the machine.
14. Remove the SD card or USB key.
15. Switch on the machine.

16. Select this menu from the main menu, represented by the icon: 

The following message is displayed: "Machine programme update..."

17. Select "Update" to check whether the update has completed successfully.
18. The software update has completed successfully. To go back to the main menu or to the last screen, press the corresponding icon: 

G. Other menus and settings

1. "Configure" menu

■ Language

1. Select this menu from the main menu, represented by the icon: 
2. Select the "Configure" menu.
3. Select the desired language and confirm.



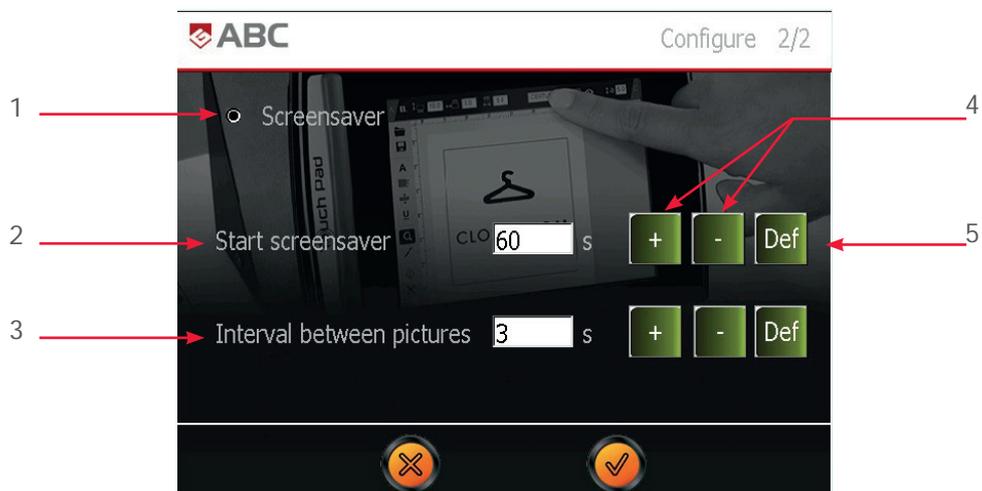
The language of the program and the language of the keyboard are chosen separately.

Other menus and settings

■ Other configuration settings



1. Choosing work units: millimeters or inches
2. Activation of the buzzer
3. Adjust the screen brightness
4. Choice of recording media (SD card / USB)
5. Type of machine (M20 ABC / M40 ABC)
6. Keyboard language
7. Launch of continuous-cycle engraving



1. Activation screensaver
2. Definition of the interval of inactivity before the screensaver is started
3. Definition of the speed of image scrolling on the screensaver
4. Set the value of the parameter
5. Restoration of the default value for each setting

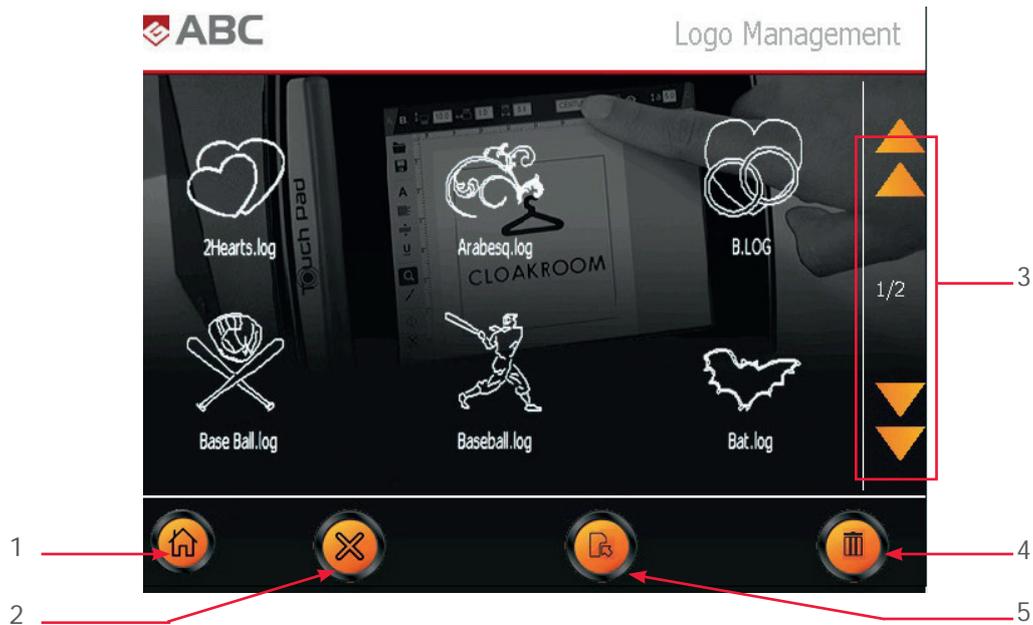
Confirm the settings.

Other menus and settings

2. "Manage" menu

■ Font management - Logo management

1. Select the "Manage" menu.
2. Select the "Logos" or "Fonts" menu.



1. Back to the "System settings" menu
2. Back to the previous menu
3. Page-to-page navigation bar
4. Deletion of the selected logo or font
5. Loading logos and fonts from an SD card or a USB key