



# CNC1015-LASER

## User Manual

721P455 Rev.1 - CNC1015-LASER - User Manual.docx

Edition 09/24

---

## GENERAL CLAUSES/COPYRIGHT

---

This manual has been created with the utmost care and attention, but it is possible that some data (or technical characteristics) are incomplete or incorrect; therefore, changes in specifications or data may be required with respect to those reported here without the possibility of giving prior notice, but which will give rise to updates to the manual. If the User should highlight any problems or inaccuracies, please contact the following Office:

Technical Office – BDF Digital S.p.A.

e-mail: [info@bdfdigital.it](mailto:info@bdfdigital.it)

website: [www.bdfdigital.com](http://www.bdfdigital.com)

This manual may not be reproduced, in whole or in part, by any means without the written consent of BDF DIGITAL SRL.

## CONTACTS

---

### **BDF Digital S.p.A.**

Via dell'Oreficeria, 41 – 36100Vicenza (VI) – Italy

Tel: +39 0444 343555

[info@bdfdigital.it](mailto:info@bdfdigital.it)

PEC: [bdfdigital@pec.it](mailto:bdfdigital@pec.it)

VAT number 00516300241

---

## PREMISE

---

The CNC1015-LASER software provides the functionality to control fiber laser cutting machines, for 2D flatbed and 3D tube cutting.

Technical features:

- **Part program preview:** to view the cutting profile
- **Technological database:** for managing cutting parameters.
- **Height calibration cycles:** for automatic calibration of the height sensor.
- **Quick fly-cut:** for “on the fly” cutting (requires fast digital output).
- **Retrace mode:** to reposition the head on the cutting point.
- **DRF Mode:** allows real-time translation of the profile origin.
- **Height control management:** to maintain the programmed focal distance.
- **Zoom/Shift** of automatic real-time graphics.
- **Automatic resume** of the interrupted processing.
- **RTCP Head:** for 5-axis laser cutting with bi-rotary heads.
- **Multimedia contextual help:** to associate pdf files, images and videos with CNC errors and messages.
- **RTCP self-calibration cycles** (Optional. Available depending on machine configuration.).
- **Job scheduler** (Optional. Available depending on machine configuration.).

## RECIPIENTS

---

This manual describes the functions of the CNC1015 software for controlling laser cutting machines and is intended for qualified personnel responsible for the use and management of the machinery.

---

## STARTING AND STOPPING THE PROGRAM

---

The CNC1015 software starts automatically when the CNC is turned on, following the start of Windows.

To stop the software, click on the Windows icon and press the EXIT button. For further information, refer to the paragraph [1.3.1 EXIT](#)

**Note:** the same software, when released in the PC simulator version (CNC1015PC version), starts with the icon on the desktop that appears after installation.

## NAVIGATION NOTES

---



*When an icon is gray and a padlock appears in the lower right corner, it means that the feature is disabled.*



*Exits the screen or context menu and returns to the previous screen or function.*

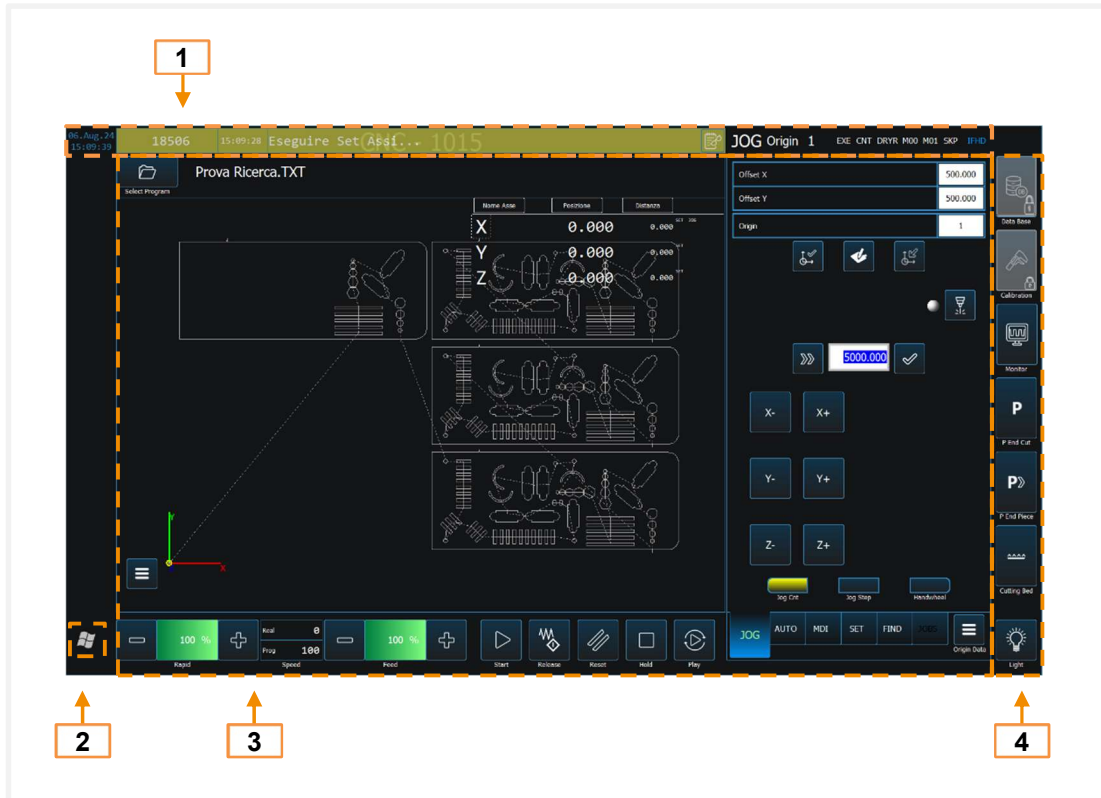
# SUMMARY

<b>1. SYSTEM OVERVIEW</b>	<b>6</b>
1.1 MAIN SCREEN	6
1.2 MENU OPERATING INSTRUCTIONS	7
1.2.1 STATUS AND ERROR MESSAGES	7
1.2.2 STATUS CHECK	9
1.3 START MENU	10
1.3.1 EXIT	11
<b>2. WORK ENVIRONMENT</b>	<b>12</b>
2.1 SELECT PROGRAM	13
2.1 GRAPHIC AREA	14
2.1.1 GRAPHIC CONTROLS	15
2.2 MANUAL SPEED ADJUSTMENT	17
2.3 CNC MANAGEMENT	18
2.3.1 PLAY BUTTON	18
2.4 OPERATING MODES	19
2.4.1 JOG	19
2.4.2 CAR	<b>ERRORE. IL SEGNALIBRO NON È DEFINITO.</b>
2.4.3 MDI	26
2.4.4 SET	26
2.4.5 FIND	28
2.4.6 JOBS	30
<b>3. MACHINE MANAGEMENT MENU</b>	<b>31</b>
3.1 DATABASE	32
3.2 CALIBRATION	32
3.3 MONITORING	34
3.3.1 MONITOR	34
3.3.2 PIERCING	35
3.3.3 CUT	35
3.3.4 MARK	36
3.3.5 VAPO	36
3.3.6 SELECT	37
3.4 PARKING RESERVATION	38
3.5 WORKBENCH MANAGEMENT	39
3.5.1 CUTTING BED	39
3.5.2 SCRAP BELT	40
3.5.3 TOP ROLL	41

# 1. SYSTEM OVERVIEW

## 1.1 MAIN SCREEN

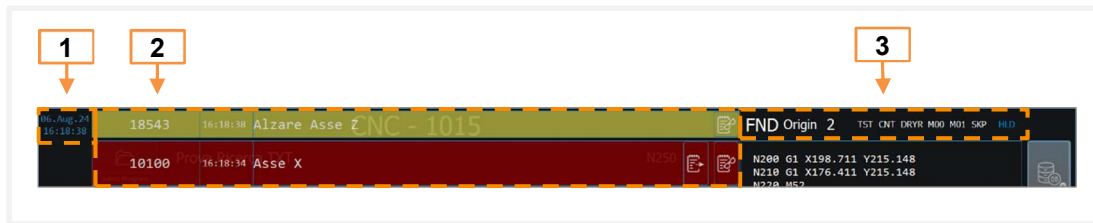
When you start the software, the following main screen will appear:



POS.	ELEMENT	DESCRIPTION
1	<b>STATUS BAR</b>	Allows you to view the machine's operating instructions.
2	<b>START MENU</b>	Allows access to system functions, accessory functions or shutdown functions of the software and/or CNC.
3	<b>WORK ENVIRONMENT</b>	It allows you to graphically view the work in progress and manage the operating modes of the program.
4	<b>MACHINE MANAGEMENT MENU</b>	It allows you to monitor, calibrate and manage the machine performance during processing.

## 1.2 MENU OPERATING INSTRUCTIONS

The upper part of the screen is reserved for the software operating instructions.

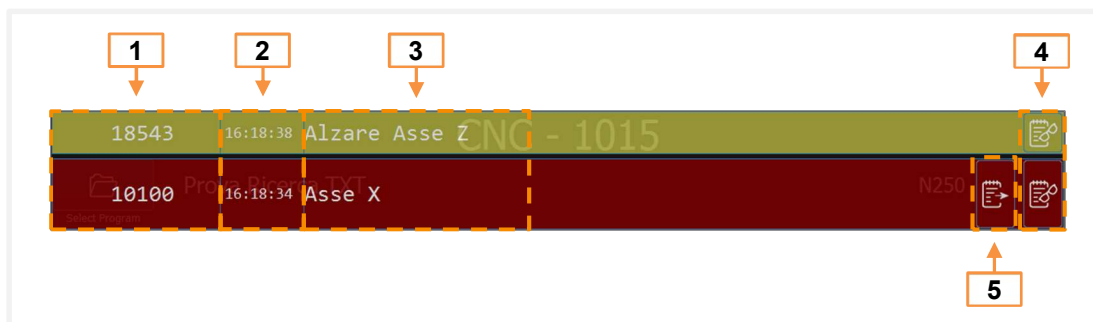




POS.	ELEMENT	DESCRIPTION
1	<b>DATE AND TIME</b>	Indicates the date and time.
2	<b>STATUS AND ERROR MESSAGE BAR</b>	Allows you to view machine status and error messages.
3	<b>STATUS CHECK</b>	Indicates CNC status information.

### 1.2.1 STATUS AND ERROR MESSAGES



The status and error message bar allows a clear and immediate view of the machine status and rapid resolution of problems.

Status messages, colored yellow on the screen, provide non-blocking information for the machine's operation. Error messages, colored red on the screen, provide blocking information for the machine's operation.





POS.	ELEMENT	DESCRIPTION
1	<b>ALARM ID</b>	Indicates the ID of the status or error message.
2	<b>TIME STATUS/ALARM</b>	Indicates the time the event occurred.
3	<b>STATUS/ALARM DESCRIPTION</b>	Indicates the description of the status/alarm.
4		Opens the status and error message log screen.
5		Error message bar minimize button.

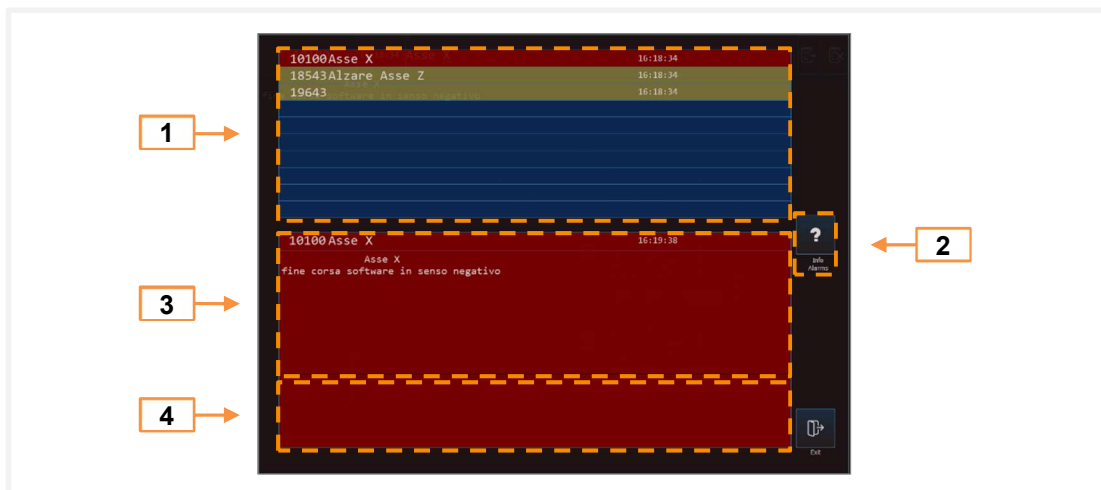
To reset an alarm, click one of the following icons:

-  **Release:** For all messages/alarms that are set to be cleared without using the Reset button, typically PLC alarms.
-  **Reset:** For all CNC/PLC alarms.  
**Note:** This operation resets the current processing cycle.

### 1.2.1.1 STATUS AND ERROR MESSAGE LOG

To access the status and error message log window, click one of these options:

- The text of the message.
-  Icon to access the status and error message log window.
-  Icon to access the status and error message log window.



POS.	ELEMENT	DESCRIPTION
1	<b>LIST OF STATUS AND ERROR MESSAGES</b>	Shows the list of all status and error messages present since the start of processing.
2	<b>INFO ALARMS</b>	Button to access the message description area. <b>Note:</b> You can also access the area by clicking on the message description in the status and error messages list.
3	<b>MESSAGE DESCRIPTION</b>	Indicates the detailed description of the status or error message.
4	<b>ADDITIONAL FILE AREA</b>	Additional file area for documentation of status and error messages. Click on the file name to download the document.



## 1.2.2 MACHINE STATE DISPLAY

The CNC status information is displayed in the upper right corner of the screen.



POS.	ELEMENT	DESCRIPTION
1	CNC MODE	Indicates the selected CNC mode. For a description of the machine operating modes, refer to the section <a href="#">2.5 OPERATING MODES</a> .
2	ORIGIN NUMBER	Indicates the number of the active source.
3	CNC STATUS	Indicates the current state of the CNC. Possible values: <ul style="list-style-type: none"> <li><b>EXE</b> → The CNC is running.</li> <li><b>TST</b> → The CNC is in test mode.</li> </ul>
4	EXECUTION MODE	Indicates the mode in which the CNC is operating. Possible values: <ul style="list-style-type: none"> <li><b>CNT</b> → The CNC is operating in continuous mode.</li> <li><b>SNG</b> → The CNC is operating in single step mode.</li> </ul>
5	DRY RUN	Indicates that the machine is operating in DRY RUN mode. You can set the DRY RUN mode by following this path AUTO → OPTIONS → DRY RUN. For further information, see the section <a href="#">2.5.2 AUTO</a> .
6	M00 MODE	Indicates that the machine is in a conditional stop state.
7	M01 MODE	Indicates that the machine is in a conditional stop state. You can set the M01 mode by following this path AUTO → OPTIONS → M01. For further information, see the section <a href="#">2.5.2 AUTO</a> .
8	SKIP MODE	Indicates that SKIP mode is active. You can set SKIP mode by following this path AUTO → OPTIONS → SKIP. For more information, see the section <a href="#">2.5.2 AUTO</a> .

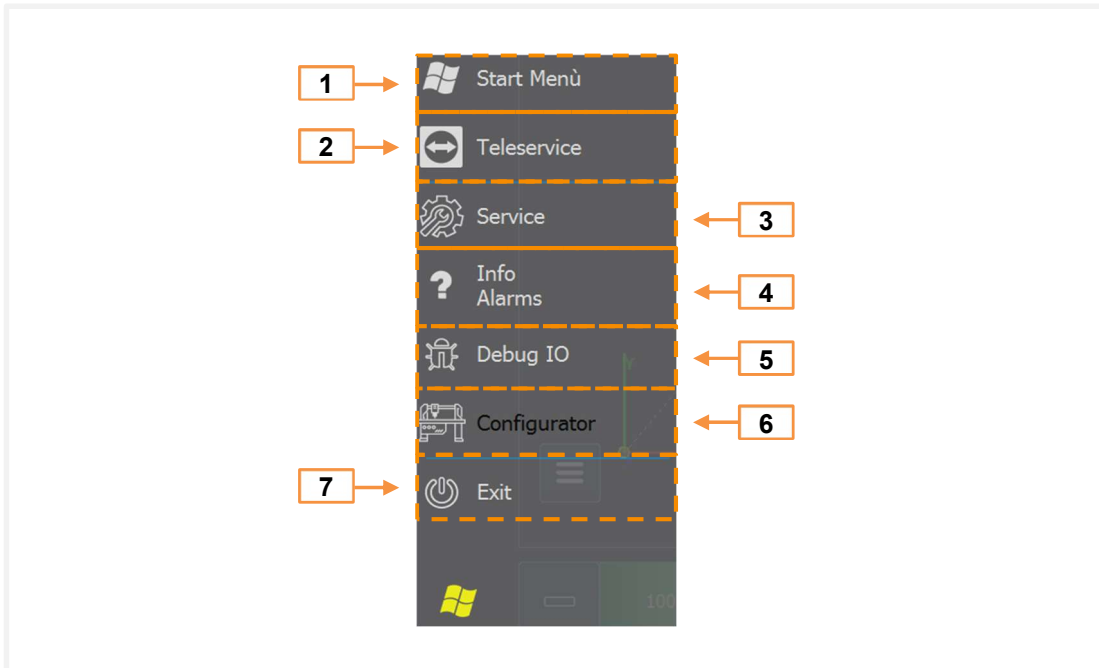
POS.	ELEMENT	DESCRIPTION
9	<b>CNC HOLD STATUS DISPLAY</b>	<p>Indicates the following CNC signals:</p> <ul style="list-style-type: none"> <li>- [ -- ]: no reports present</li> <li>- [HLD]: Hold the CNC</li> <li>- [IFHD]: Axes Feed Hold</li> <li>- [BLCAX]: Axes Locked/Disabled</li> </ul> <p><b>Note:</b> The HOLD mode identification code appears only after clicking the HOLD button. For a description of the button, see the section <a href="#">2.4 CNC MANAGEMENT</a>.</p>



The abbreviations *DRYR*, *M00*, *M01*, *SKP* and *HLD* are active only when illuminated.

### 1.3 START MENU

The **START** menu allows access to system functions, accessory functions or to stop the software and/or CNC.

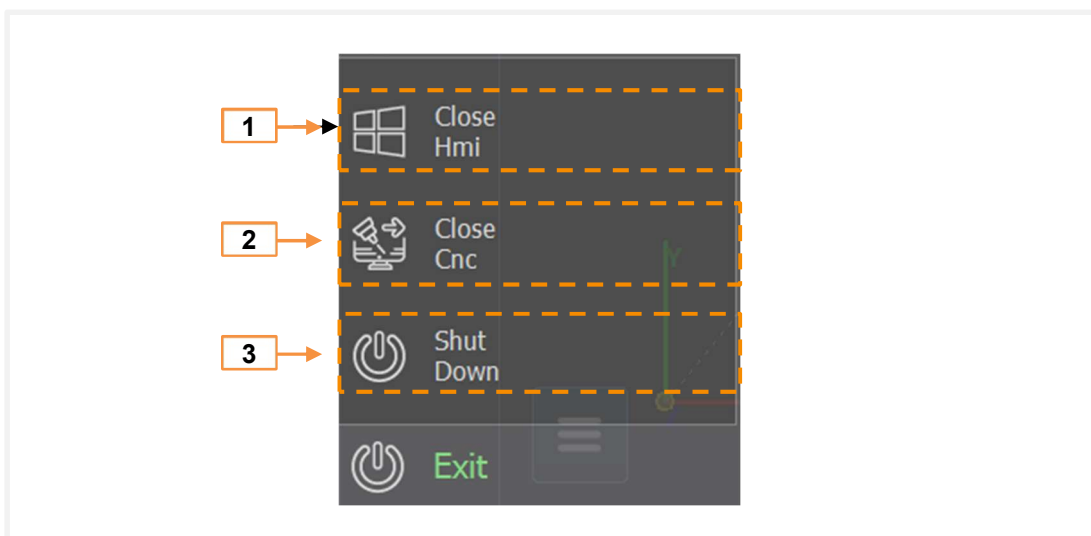


POS.	ELEMENT	DESCRIPTION
<b>SYSTEM FUNCTIONS</b>		
1	<b>START MENU</b>	Allows access to the operating system menu (Windows)
2	<b>TELESERVICE</b>	Allows access to the software tool for remote connection to the CNC.

POS.	ELEMENT	DESCRIPTION
<b>DEBUG AND CONFIGURATION FUNCTIONS</b>		
3	<b>SERVICE</b>	Allows access to the CNC debugging software tool.
4	<b>INFO ALARMS</b>	Allows access to the CNC status/error message details display window.
5	<b>DEBUG IO</b>	Allows access to the machine's IO visualization tool.
6	<b>CONFIGURATOR</b>	Allows access to the machine configuration tool.
<b>OPERATOR FUNCTIONS</b>		
7	<b>EXIT</b>	Allows you to access the shutdown or power off menu.

### 1.3.1 EXIT

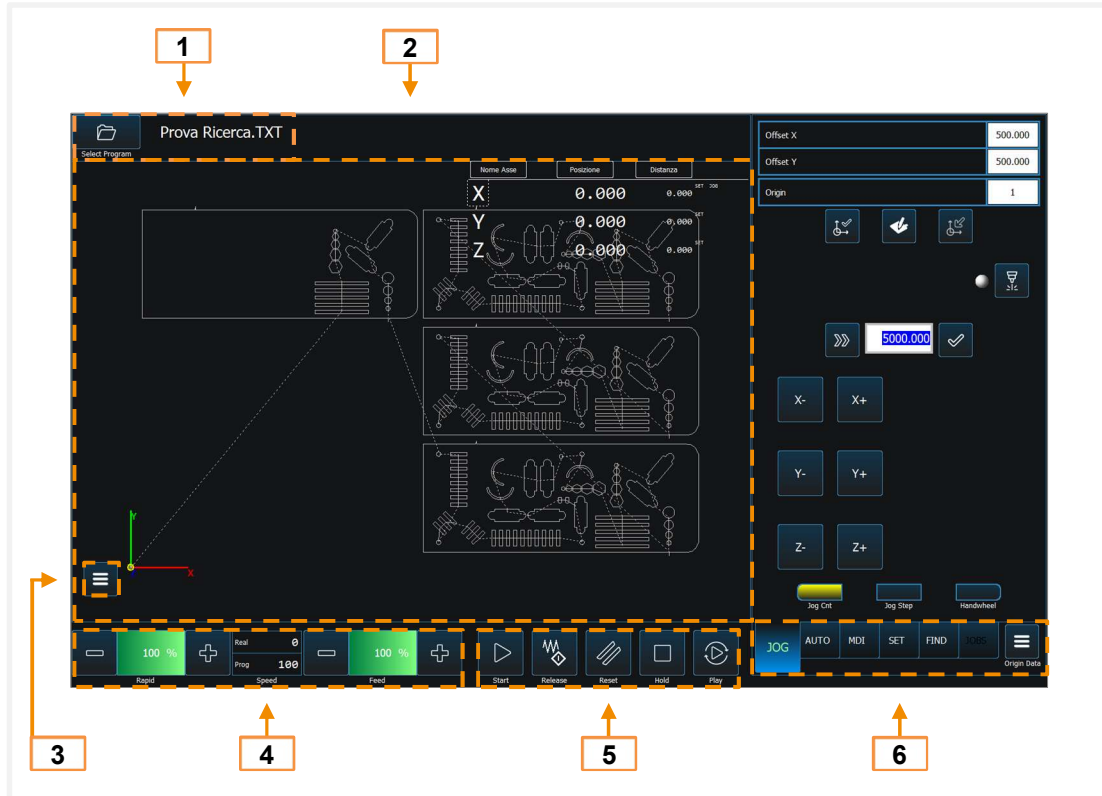
The **EXIT** menu allows access to the various ways of stopping and turning off the software and/or the CNC.



POS.	ELEMENT	DESCRIPTION
1	<b>CLOSE HMI</b>	Allows you to stop the HMI software user interface.
2	<b>CLOSE CNC</b>	Allows you to completely stop the CNC.
3	<b>SHUT DOWN</b>	Allows you to stop the software and turn off the system.

## 2.WORK ENVIRONMENT

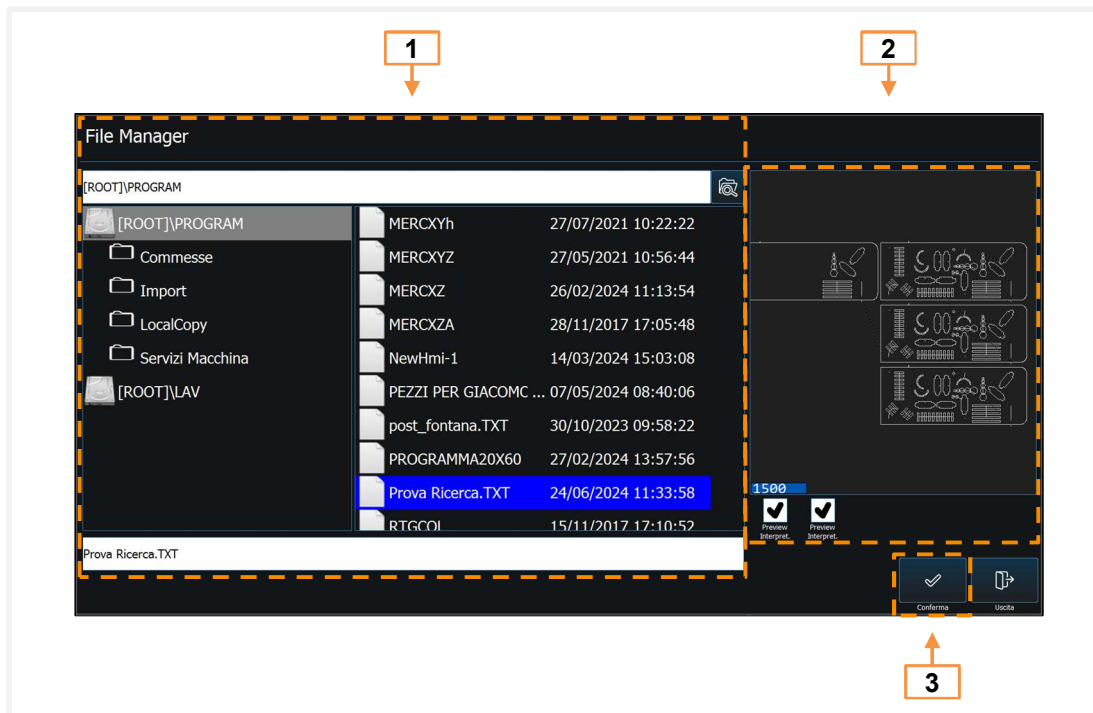
The **WORK ENVIRONMENT** allows the operator to graphically view the work in progress and to manage the operating modes of the program.



POS.	ELEMENT	DESCRIPTION
1	<b>SELECT PROGRAM</b>	Allows you to select the program to run.
2	<b>GRAPHIC AREA</b>	Graphical representation of the running program.
3	<b>GRAPHIC COMMANDS ENABLE BUTTON</b>	Allows you to enable the display of the command icons in the graphics area.
4	<b>MANUAL SPEED CONTROL BUTTONS</b>	Control buttons for manual speed adjustment during processing.
5	<b>CNC MANAGEMENT KEYS</b>	Control keys for managing the CNC work cycle.
6	<b>OPERATING MODE DISPLAY/SELECTION</b>	Tabs that allow you to select and manage the machine's operating modes.

## 2.1 SELECT PROGRAM

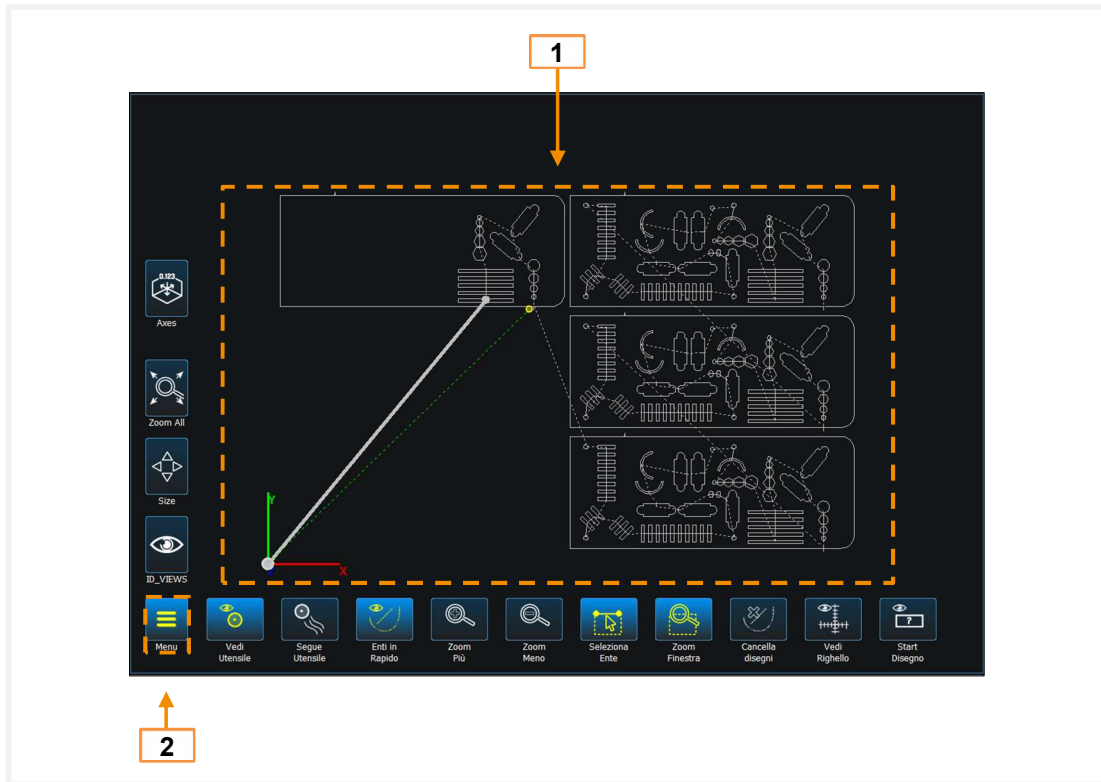
Click the **SELECT PROGRAM** command icon to select the program to run.



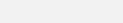


POS.	ELEMENT	DESCRIPTION
1	<b>FILE MANAGER</b>	Allows you to view and select the program to run.
2	<b>PREVIEW AREA</b>	Graphic display area of the selected program. <b>Note:</b> This is an additional licensing option.
3	<b>CONFIRMATION BUTTON</b>	Allows you to confirm the program selection. <b>Note:</b> the program confirmation icon is activated when the chosen program is selected.

## 2.2 GRAPHIC AREA

The **GRAPHIC AREA** allows the operator to interpret the work carried out by the CNC:



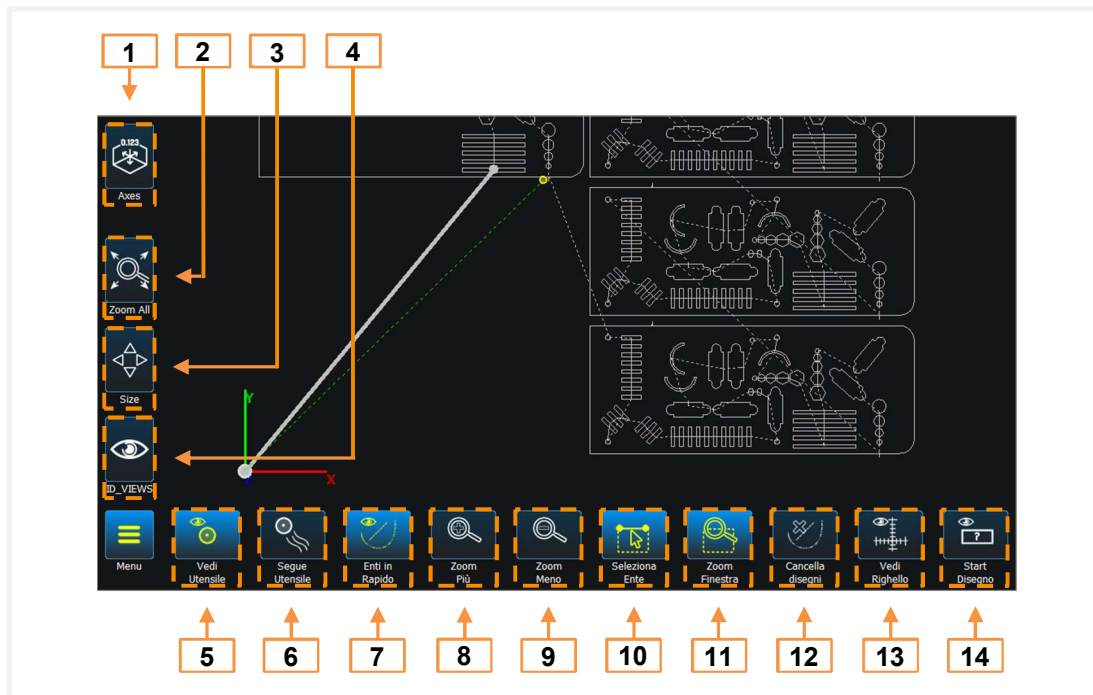
POS.	ELEMENT	DESCRIPTION
1	GRAPHIC AREA	Area where you can graphically view the running program and the processing status.
2	GRAPHIC COMMANDS ENABLE BUTTON	Allows you to access the command menu to manage the graphic representation of the area. For the description of these commands, refer to the section <a href="#">2.2.1 GRAPHIC COMMANDS</a> of this manual.
	 <b>AXES ICON</b>	The representation of the axes varies according to the display of the work plane, to help the operator in the cutting program setup phases.
	 <b>CONTINUOUS LINE</b>	Indicates the cut that will be performed by the laser.
	 <b>DOTTED LINE</b>	Indicates the movements that will be performed by the CNC with the laser off.

## 2.2.1 GRAPHIC CONTROLS

The work area view buttons allow you to change the view to suit your needs. To access the buttons, click on the three-bar icon located at the bottom left of the graphics area.



*Changing the view does NOT change the work set in the program.*



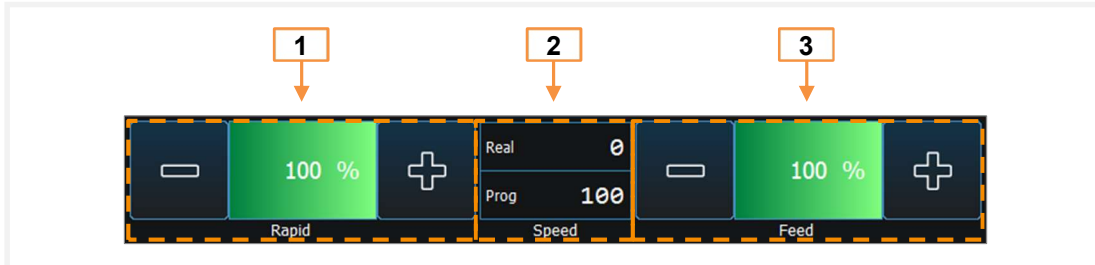
POS.	ELEMENT	DESCRIPTION
1	<b>AXES</b>	View axis dimensions while working or simulating.
2	<b>ZOOM ALL</b>	View the full-size work plan.
3	<b>SIZE</b>	View the footprint of the area that will be affected by the processing.
4	<b>ID_VIEWS</b>	Allows you to change the axial view of the work plane. The options are: <ul style="list-style-type: none"> <li>• XYZ axis with Z on the right</li> <li>• XYZ axis with Z on the left</li> <li>• XY Axis</li> <li>• XZ axis</li> <li>• YZ axis</li> </ul>
5	<b>TOOL DISPLAY</b>	Displays the tool icon.
6	<b>TOOL TRACKING</b>	Allows you to follow the tool during machining when the graphics area is zoomed in to a window.
7	<b>RAPID MOVEMENTS DISPLAY</b>	View/hide rapid movements. Rapids movements are graphically represented by a dotted line.

POS.	ELEMENT	DESCRIPTION
8	ZOOM MORE	Allows you to increase the zoom applied to the graphics area. <b>Note:</b> You can also zoom by placing the cursor on the work area and drawing a window.
9	ZOOM LESS	Allows you to decrease the zoom applied to the graphics area. <b>Note:</b> You can also zoom by placing the cursor on the work area and drawing a window.
10	SELECT ENTITY	Enables the selection of an entity graphically for searching.
11	ZOOM WINDOW	Enables zoom within the graphics area.
12	DELETE DRAWINGS	Allows you to delete the selected drawing from the graphics area.
13	SHOW RULER	Enables a matrix in the background that allows you to appreciate the dimensions of the drawing.
14	START DRAWING	It allows you to repeat reading and painting of the program.



## 2.3 MANUAL FEED OVERRIDE

The **MANUAL FEED OVERRIDE** buttons allow you to override the feed settings you have set. For information on how to set the speed, refer to the section [2.5 OPERATING MODES](#).



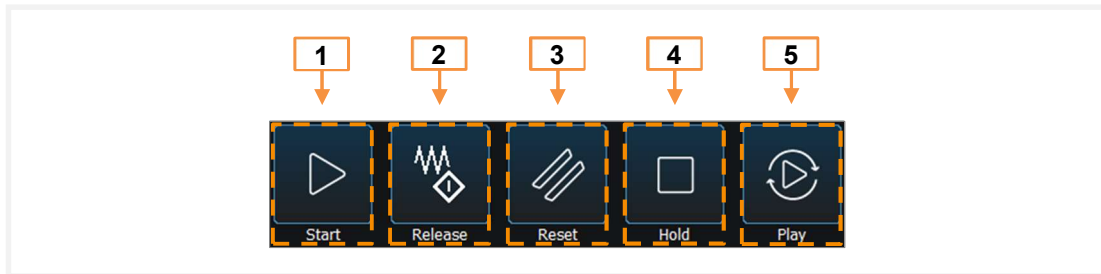
POS.	ELEMENT	DESCRIPTION
1	<b>QUICK FEED OVERRIDE</b>	Allows you to set a rapid speed override.  <b>Example:</b> if the maximum speed that the axes can reach is 50000 mm/min and an override of 50% is set, the axes will move at a speed of 25000 mm/min.
2	<b>SPEED/FEED</b>	Display the programmed and real-time feed of the process.
3	<b>OVERRIDE SPEED APROCESSING PROGRESS</b>	Allows you to set an override the machining feed.  <b>Example:</b> if the machining feed is programmed at 100 and an override of 50% is set, the machine will work at a feed of 50.



*The override buttons can also be set simultaneously with different percentages and at any time during processing. It is important to note that an override of 0% of one of the two speeds causes the suspension of the next processing.*

## 2.4 CNC MANAGEMENT

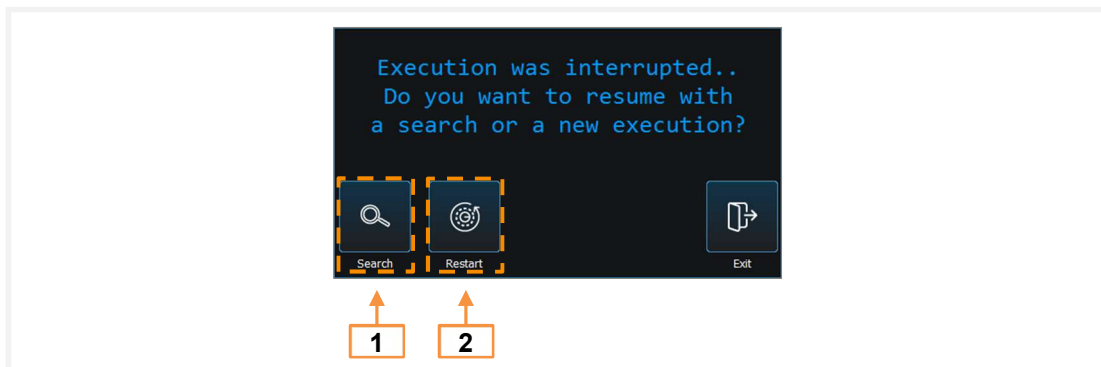
The CNC control keys allow the operator to start, reset and pause the machining.



POS.	ELEMENT	DESCRIPTION
1	START	Allows you to run the program.
2	RELEASE	Allows you to resume the program after it has been suspended.
3	RESET	Allows you to reset the running program to the initial line.
4	HOLD	Allows you to pause the program at the current line.
5	PLAY	Allows you to resume the program after it has been interrupted.

### 2.4.1 PLAY BUTTON

The **PLAY** button opens a window in the graphical view that allows you to restart an interrupted program.



POS.	ELEMENT	DESCRIPTION
1	SEARCH	Allows you to perform a search for the program's breakpoint. For more information on the search tab, see the section <a href="#">2.5.5 FIND</a> .
2	RESTART	Allows you to restart the program from the beginning.

## 2.5 OPERATING MODES

This section describes the operating modes of the machine. The information is divided into tabs:

- **JOG** –Manual axis management settings
- **CAR** –View running program
- **MDI** –settings on previously created macros
- **SET** –settings to reset the axes
- **FIND** –display of the running program and a possible restart point after execution has been interrupted
- **JOBS** –Recipe Settings

### 2.5.1 JOG

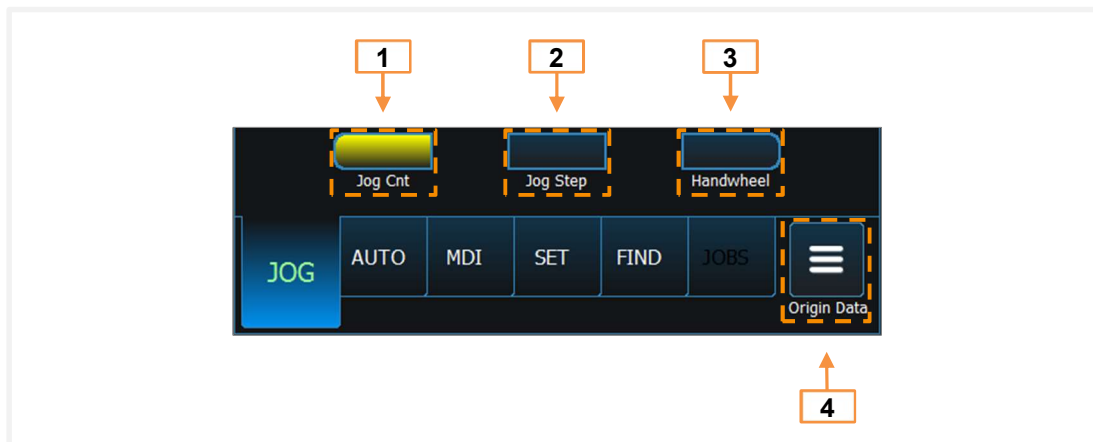
The **JOG** mode allows the operator to manually maneuver the axes by performing continuous movements, in space steps or with the handwheel both at rapid traverse and at working speed.

To access JOG mode, click on the relevant tab in the Operating Modes section of the screen.

The JOG tab is divided into three sub-sections:

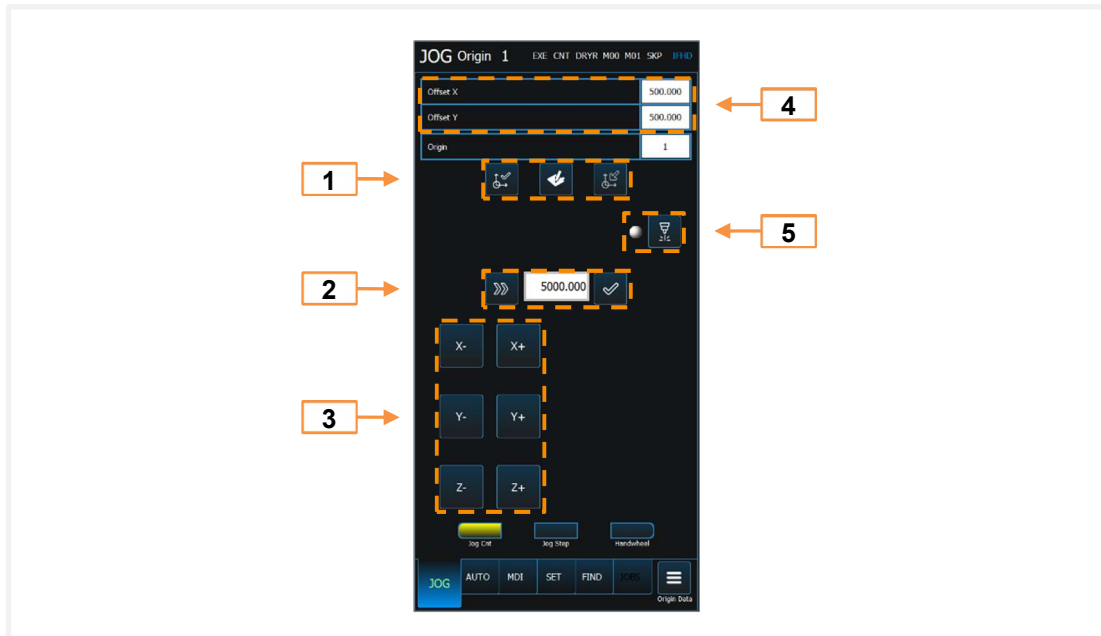
- **JOG CONTINUOUS**
- **JOG STEP**
- **HANDWHEEL**





The ORIGIN DATA button provides additional settings for managing machine origins.



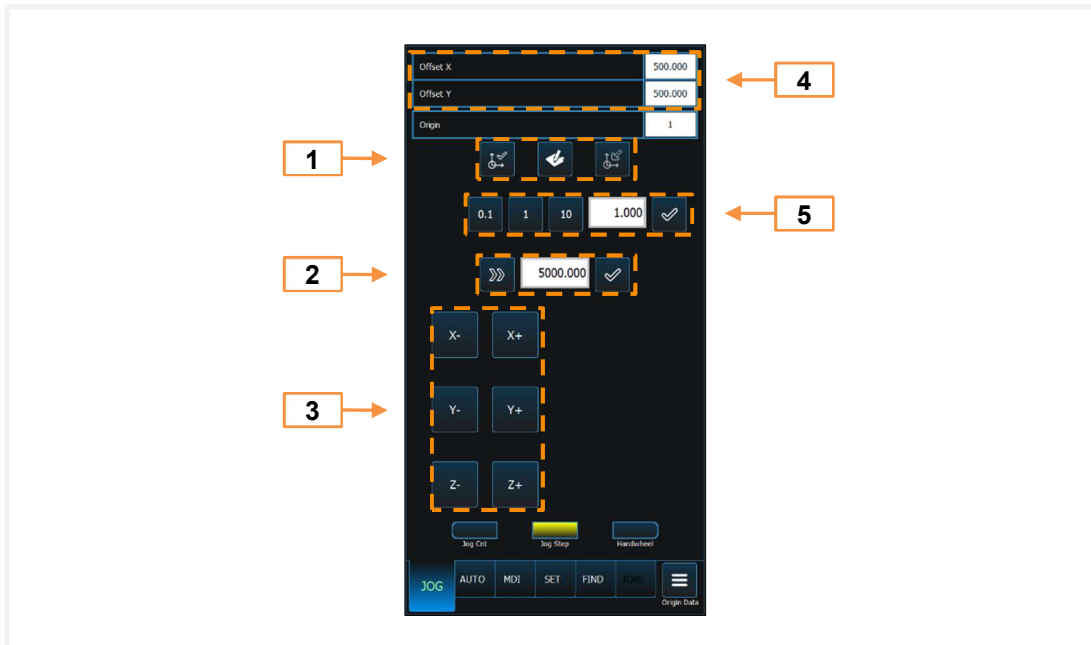
POS.	ELEMENT	DESCRIPTION
1	<b>JOB CNT</b>	Allows access to the continuous JOG mode settings.
2	<b>JOB STEP</b>	Allows you to access the step JOG mode settings.
3	<b>HANDWHEEL</b>	Allows access to the settings for the handwheel axis management mode.
4	<b>ORIGIN DATE</b>	Allows access to additional settings for managing machine origins.





## 2.5.1.1 JOG CONTINUOUS




POS.	ELEMENT	DESCRIPTION
1	<b>AXIS MOVEMENT KEYS</b>	They allow you to reposition the axes on the graphics area.
2	<b>JOG TYPE SELECTION KEYS</b>	<ul style="list-style-type: none"> <li> → the machine movement is set to rapid speed.</li> <li> → the machine movement is set to the working speed.</li> <li><input type="text" value="5000,000"/> → working speed. The working speed can be changed by clicking on the window and setting a new speed.</li> <li><input checked="" type="checkbox"/> → working speed confirmation button.</li> </ul>
3	<b>LASER POINTER</b>	Allows you to turn the bright laser pointer on or off.
4	<b>ORIGIN MANAGEMENT</b>	<p>Allows you to confirm the selected origin. The selectable origin points are from 1 to 20. For more information on origin points, see the section <a href="#">2.5.1.4 ORIGIN DATA</a>.</p> <p> Allows you to set an origin point. To form an origin, place the mouse over a point in the graphics area and press the form origin button.</p> <p> Allows you to reposition the axes on the selected origin point.</p>
5	<b>OFFSET MANAGEMENT</b>	Allows you to set origin points with coordinates other than 0.

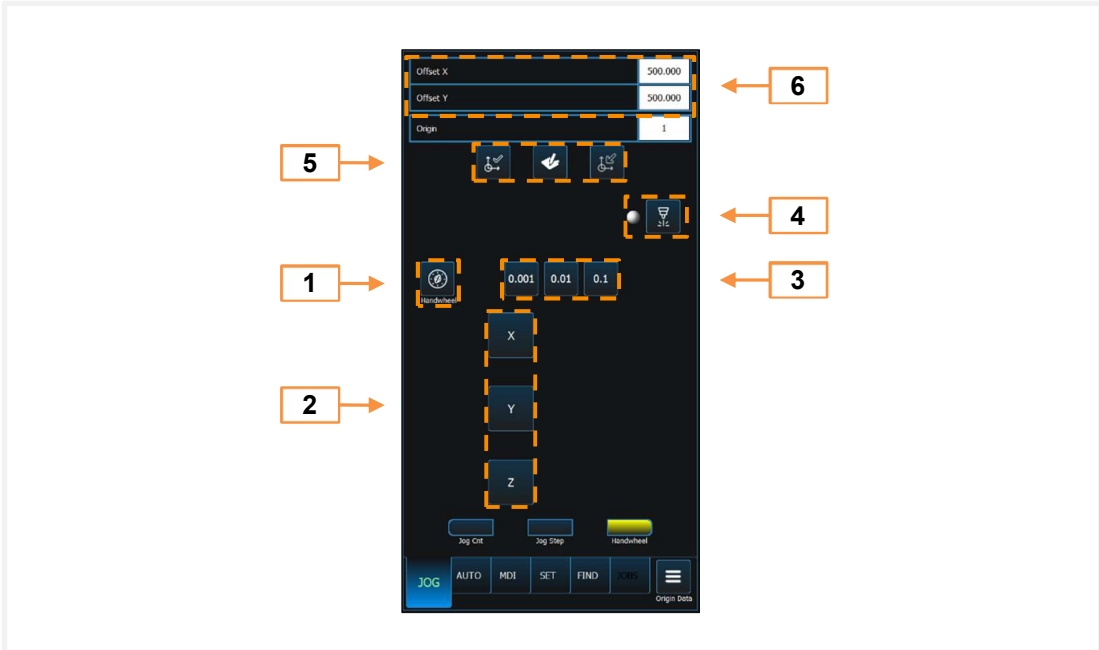
## 2.5.1.2 JOG STEP






POS.	ELEMENT	DESCRIPTION
1	<b>AXIS MOVEMENT KEYS</b>	They allow you to reposition the axes on the graphics area.
2	<b>JOG TYPE SELECTION KEYS</b>	<ul style="list-style-type: none"> <li> → the machine movement is set to rapid speed.</li> <li> → the machine movement is set to the working speed.</li> <li><input type="text" value="5000.000"/> → working speed. The working speed can be changed by clicking on the window and setting a new speed.</li> <li><input checked="" type="checkbox"/> → working speed confirmation button.</li> </ul>
3	<b>AXIS MOVEMENT INCREMENT KEYS</b>	<p>Allows you to set a default measurement (mm) of movement of the axes on the graphic area. Possible options:</p> <ul style="list-style-type: none"> <li>1 tenth</li> <li>1</li> <li>1 ten</li> <li>Other</li> </ul>
4	<b>ORIGIN MANAGEMENT</b>	<p> Allows you to confirm the selected origin. The selectable origin points are from 1 to 20.</p> <p> Allows you to set an origin point. To form an origin, place the mouse over a point in the graphics area and press the form origin button.</p>

POS.	ELEMENT	DESCRIPTION
		 Allows you to reposition the axes on the selected origin point.
5	OFFSET MANAGEMENT	Allows you to set origin points with coordinates other than 0.

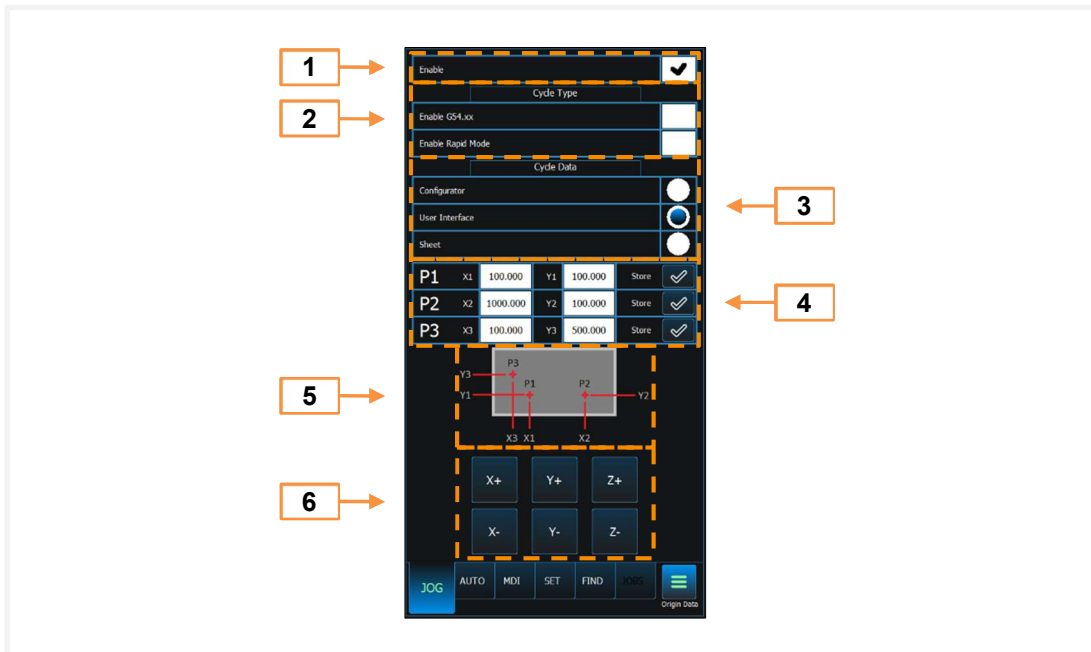
**2.5.1.3 HANDWHEEL**




POS.	ELEMENT	DESCRIPTION
1	WHEEL ACTIVATION BUTTON	Allows you to activate the flyer.
2	AXIS MOVEMENT KEYS	They allow you to reposition the axes on the graphics area.
3	AXIS MOVEMENT INCREMENT KEYS	Allows you to set a default measurement (mm) of movement of the axes on the graphic area. Possible options: <ul style="list-style-type: none"> <li>• 1 thousandth</li> <li>• 1 cent</li> <li>• 1 tenth</li> </ul>
4	LASER POINTER	Allows you to turn the bright laser pointer on or off.
5	ORIGIN MANAGEMENT	 Allows you to confirm the selected origin. The selectable origin points are from 1 to 20.  Allows you to set an origin point. To form an origin, place the mouse over a point in the graphics area and press the form origin button.

POS.	ELEMENT	DESCRIPTION
		 Allows you to reposition the axes on the selected origin point.
6	OFFSET MANAGEMENT	Allows you to set origin points with coordinates other than 0.

### 2.5.1.4 ORIGIN DATA



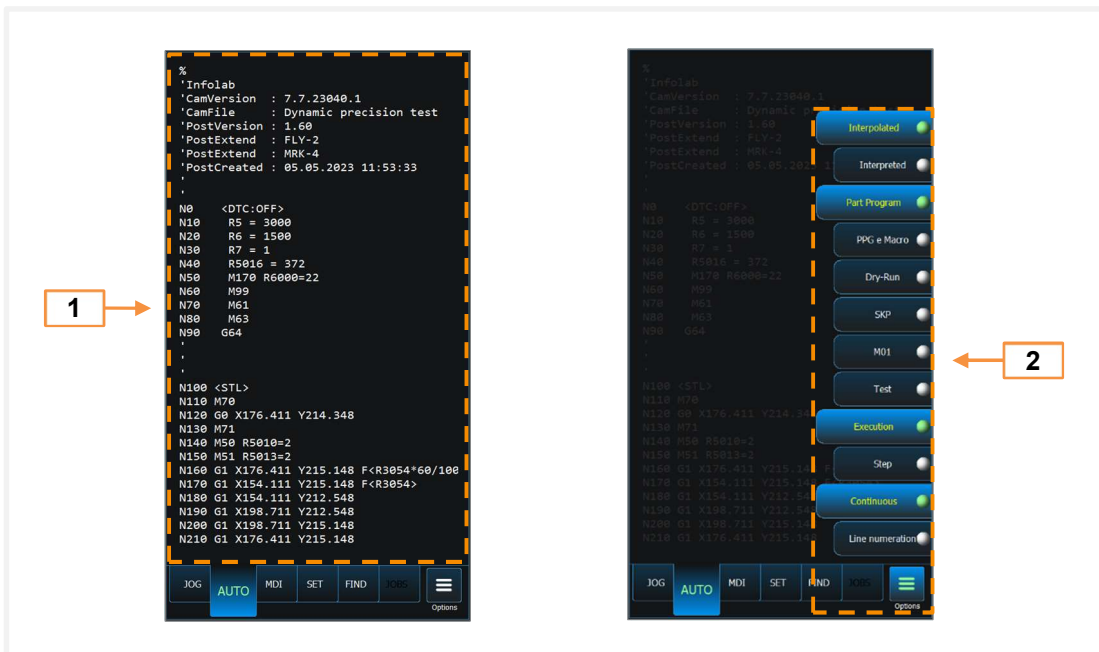
POS.	ELEMENT	DESCRIPTION
1	<b>AUTOMATIC RESET OF THE ORIGIN</b>	Allows you to activate the automatic origin reset function at the start of processing.  Allows you to select the type of coordinates used during the automatic origin reset cycle. Possible options: <ul style="list-style-type: none"> <li>• <b>Enable G54</b>→ Additional coordinates, the maximum number of additional coordinates is 20.</li> <li>• <b>Enable Rapid Mode</b>→ Enables the execution of the point search cycle by rapidly positioning outside the sheet metal (based on the dimensions declared in the part program).</li> </ul> <p><b>Note:</b> Cycle Type options are enabled only when the check box for automatic origin reset is checked.</p>
2	<b>CYCLE TYPE</b>	

POS.	ELEMENT	DESCRIPTION
3	CYCLE DATA	<p>Allows you to configure the starting coordinate values of the automatic origin reset cycle.</p> <p>Possible options:</p> <ul style="list-style-type: none"> <li>• <b>Configurator</b>→ Machine coordinate values defined by the manufacturer. These values are NOT editable.</li> <li>• <b>User Interface</b>→ Operator-editable coordinate values.</li> <li>• <b>Sheet</b>→ Coordinate values defined by the program used.</li> </ul>
4	COORDINATE VALUES	<p>Allows you to enter the values of the coordinates that can be changed by the operator.</p> <p> → click this icon to set and store the current coordinate values.</p> <p><b>Note:</b> The value entry table is active only when the User Interface option is selected.</p>
5	GRAPHIC REPRESENTATION OF AXES	Allows you to graphically identify the axis points to be modified.
6	AXIS MOVEMENT KEYS	They allow you to reposition the axes on the graphics area.

## 2.5.2 AUTO

**AUTO** mode allows the operator to view the program in progress. To access AUTO mode, click on the relevant tab in the Operating Modes section of the screen.

## 2. WORK ENVIRONMENT





POS.	ELEMENT	DESCRIPTION
1	<b>PROGRAM GRAPHIC DISPLAY AREA</b>	<p>Area where the running program is displayed.</p> <ul style="list-style-type: none"> <li>• <b>Interpolated</b>→ Program display mode where the cursor is positioned at the point where the tool tip is located.</li> <li>• <b>Interpreted</b>→ Program display mode where the cursor is positioned where the CNC interpreter is located.</li> <li>• <b>Part Program</b>→ Allows you to view the active program without PPG and Macro details.</li> <li>• <b>PPG and Macro</b>→ Allows you to view the active program with PPG and Macro details.</li> <li>• <b>Dry Run</b>→ Allows you to run the selected program in simulation and with the axis speed in rapid.</li> <li>• <b>SKP</b>→ Allows you to enable SKIP mode in programs with barred blocks.</li> <li>• <b>M01</b>→ Allows you to enable M01 mode.</li> <li>• <b>Test</b>→ Allows you to run a simulation of the machining process without performing any movements.</li> <li>• <b>Execution</b>→ Allows you to run the complete program.</li> <li>• <b>Step</b>→ Allows you to run the selected program in single preset steps.</li> <li>• <b>Continuous</b>→ Allows you to run the selected program continuously.</li> <li>• <b>Line Numbering</b>→ Allows you to activate a progressive line number in the program display.</li> </ul>
2	<b>OPTIONS</b>	

## 2.5.3 MDI

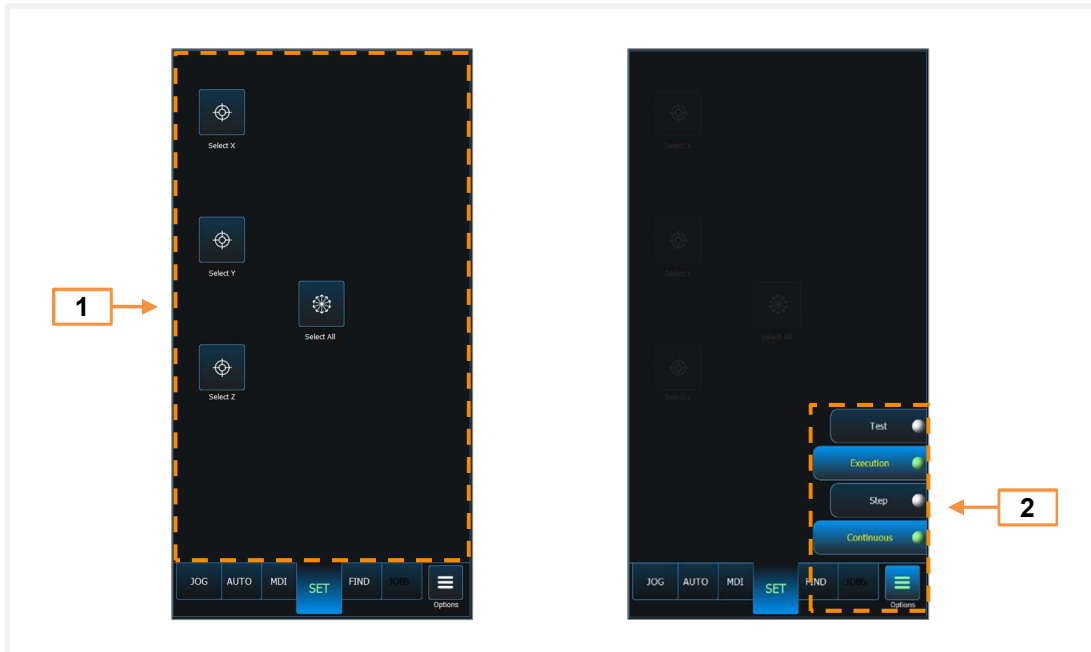
MDI mode allows the operator to execute single CNC command lines such as: axis movements, M or G Function calls and MacroP calls. To access MDI mode, click on the relevant tab in the Operating Modes section of the screen.



POS.	ELEMENT	DESCRIPTION
1	FUNCTION MANAGEMENT KEYS	<ul style="list-style-type: none"> <li>• <b>Add</b>= Allows you to insert new rows.</li> <li>• <b>Delete</b>= Allows you to delete existing command lines.</li> <li>• <b>Delete All</b>= Allows you to delete all existing command lines.</li> </ul>
2	FUNCTION INSERTION AREA	Area where you can enter specific command lines
3	FUNCTION DISPLAY AREA	Area where you can view the command lines you entered.
4	SCROLL KEYS	Allow you to scroll through the lines in the program.
5	OPTIONS	<ul style="list-style-type: none"> <li>• <b>Test</b>→ Allows you to run a simulation of the machining process without performing any movements.</li> <li>• <b>Execution</b>→ Allows you to run the complete program.</li> <li>• <b>Step</b>→ Allows you to run the selected program in single preset steps.</li> <li>• <b>Continuous</b>→ Allows you to run the selected program continuously.</li> </ul>

## 2.5.4 SET

SET mode allows the operator to perform axes zeroing. To access SET mode, click on the relevant tab in the Operating Modes section of the screen.



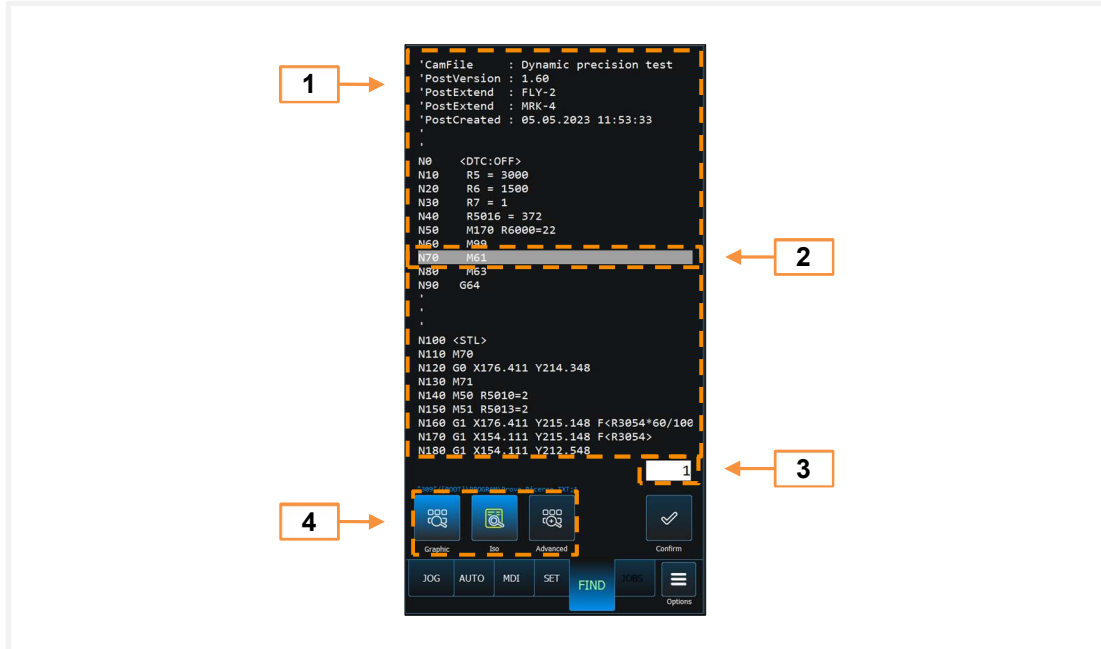
POS.	ELEMENT	DESCRIPTION
1	<b>AXES SELECTION AREA</b>	Area where you can select the axis or axes to be zeroed.

**2 OPTIONS**

- **Test**→ Allows you to run a simulation of the machining process without performing any movements.
- **Execution**→ Allows you to run the complete program.
- **Step**→ Allows you to run the selected program in single preset steps.
- **Continuous**→ Allows you to run the selected program continuously.

## 2.5.5 FIND

The **FIND** mode allows the operator to search for a program from any point of the program and possibly restart from that point. To access the FIND mode, click on the relevant tab in the Operating Modes section of the screen.



POS.	ELEMENT	DESCRIPTION
1	FUNCTION DISPLAY AREA	Area where the running program is displayed.
2	LAST COMMAND EXECUTED	Area where the last command executed before processing was interrupted is displayed.
3	COMMAND INSERT FIELD	Area where you can enter the first command to be executed after the reboot.


### 4 PROGRAM SELECTION KEYS

- **Graphic** → Allows you to graphically select an element from which to resume the interrupted program.
- **Iso** → Allows you to select a command line from which to resume the interrupted program.
- **Advanced** → Opens the advanced search window.


### 2.5.5.1 GRAPHIC

The **GRAPHIC** key allows the operator to search for a single element within the graphics area from which to restart the interrupted program.

To search using the GRAPHIC function:

-  click on the corresponding search icon,
- select a program element in the graphics area,




The selection of graphic elements is active only when the **SELECT ENTRY** key is pressed.  is active.

- Once you have selected the item from which to restart the program, click the **START** button.  
The program will restart from the selected point.

### 2.5.5.2 ISO

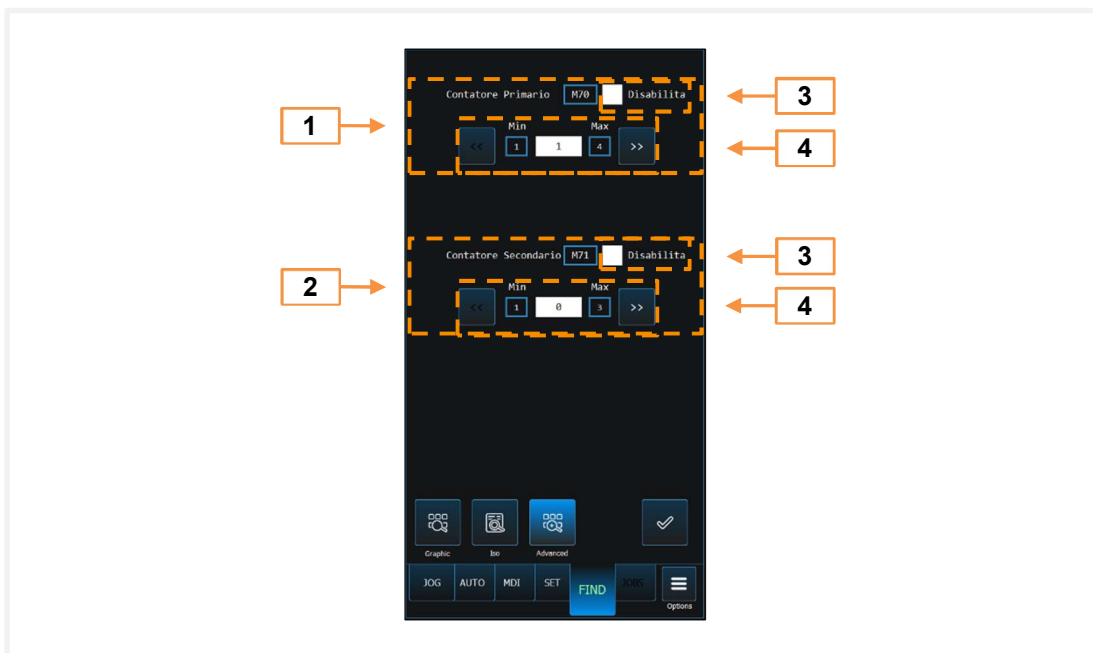
The **ISO** key allows the operator to search for a command line from which to restart the interrupted program.

To search using the ISO function:

-  click on the corresponding search icon,
- select a program element in the graphics area,
- Once you have selected the item from which to restart the program, click the **START** button.  
The program will restart from the selected point.

### 2.5.5.3 ADVANCED


The **ADVANCED** button allows the operator to perform an advanced search. The advanced search allows you to select the figure and the profile number of the figure itself from which to resume the interrupted program.



POS.	ELEMENT	DESCRIPTION
1	<b>PRIMARY COUNTER</b>	Identifies the number of figures present in the program.
2	<b>SECONDARY COUNTER</b>	Identify the number of profiles within each figure.

POS.	ELEMENT	DESCRIPTION
3	DISABLING COUNTER	Allows you to disable the counter.
4	FIGURE/PROFILE SELECTION	Allows you to select the figure/profile number.

To search using the ISO function:

-  click on the corresponding search icon,
  - select a program element in the graphics area,
  - Once you have selected the item from which to restart the program, click the START button.
- The program will restart from the selected point.



*It is possible to disable the secondary counter through the appropriate DISABLE checkbox. It is not possible to disable the primary counter.*

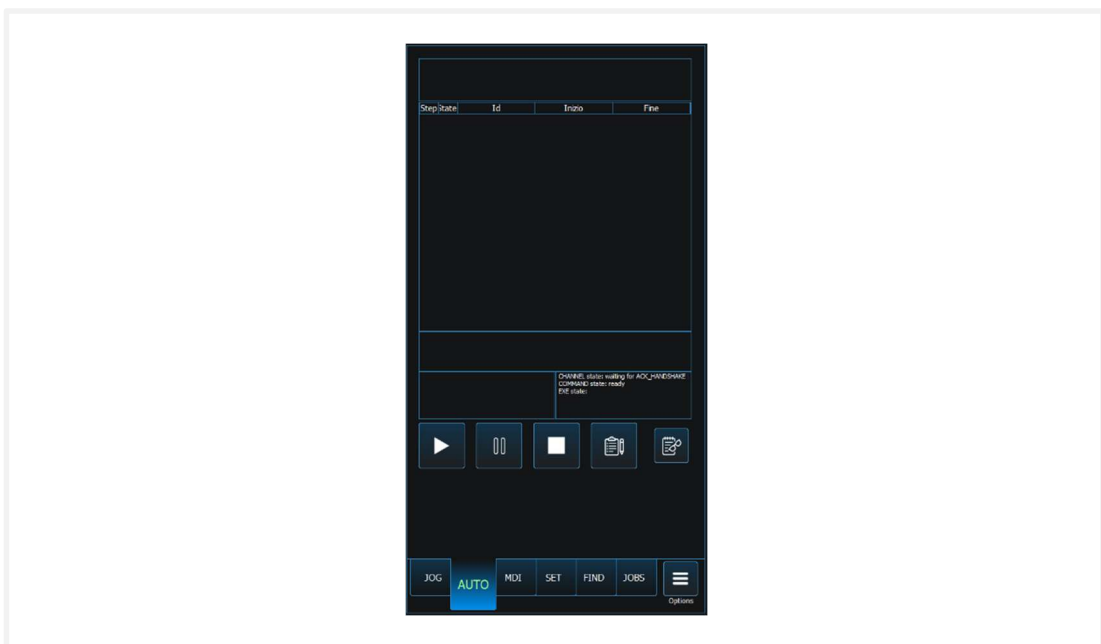


**Attention!**  
**When the primary counter is disabled, the profile number entered in the secondary counter will be searched for on the whole machining program and not on the single figure.**

## 2.5.6 JOB SCHEDULER

**JOB SCHEDULER** mode allows the operator to determine the execution sequence of programs and/or program sections. The functionality depends on the machine configuration and the specifications indicated by the manufacturer in the PLC software.

To access the JOBS mode, click on the relevant tab in the Operating Modes section of the screen.



## 3.MACHINE MANAGEMENT MENU

The right side of the screen is reserved for the machine management menus. The machine management menus allow the operator to monitor, calibrate and manage the machine performance during processing.

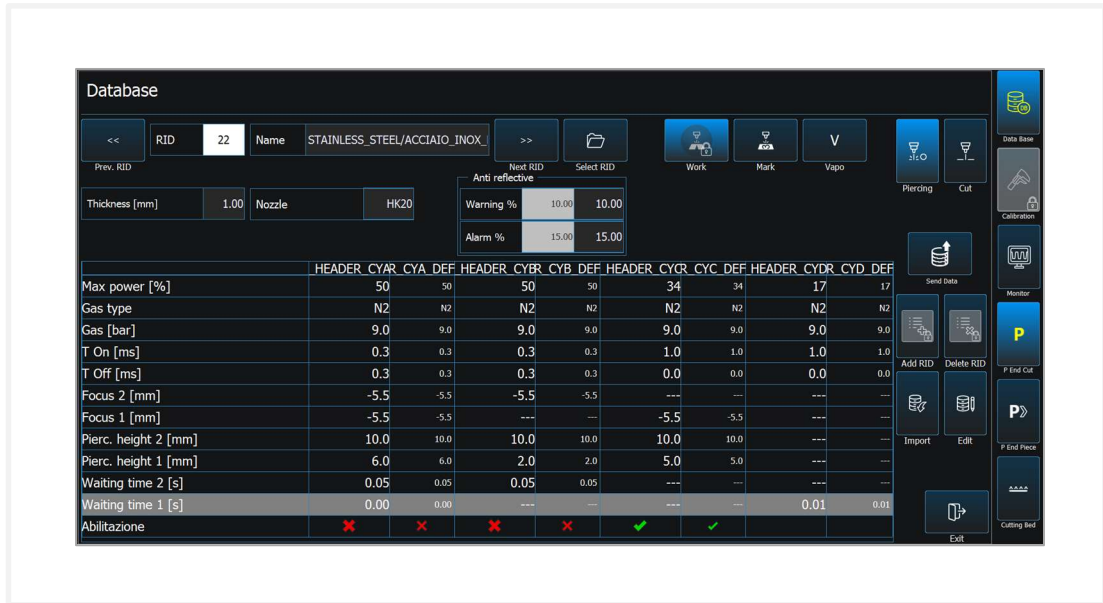
The menus are divided as follows:



POS.	ELEMENT	DESCRIPTION
1	<b>DATABASE</b>	Allows you to check the machine's working data.
2	<b>CALIBRATION</b>	Allows you to calibrate the laser.
3	<b>MONITOR</b>	Allows monitoring of machine data during processing.
4	<b>P END CUT</b> <b>P END PIECE</b>	They allow you to reserve parking at the end of the cut.
5	<b>CUTTING BED</b>	Allows the management of workbenches.
6	<b>LIGHT</b>	Allows you to turn the light on and off.

### 3.1 DATABASE

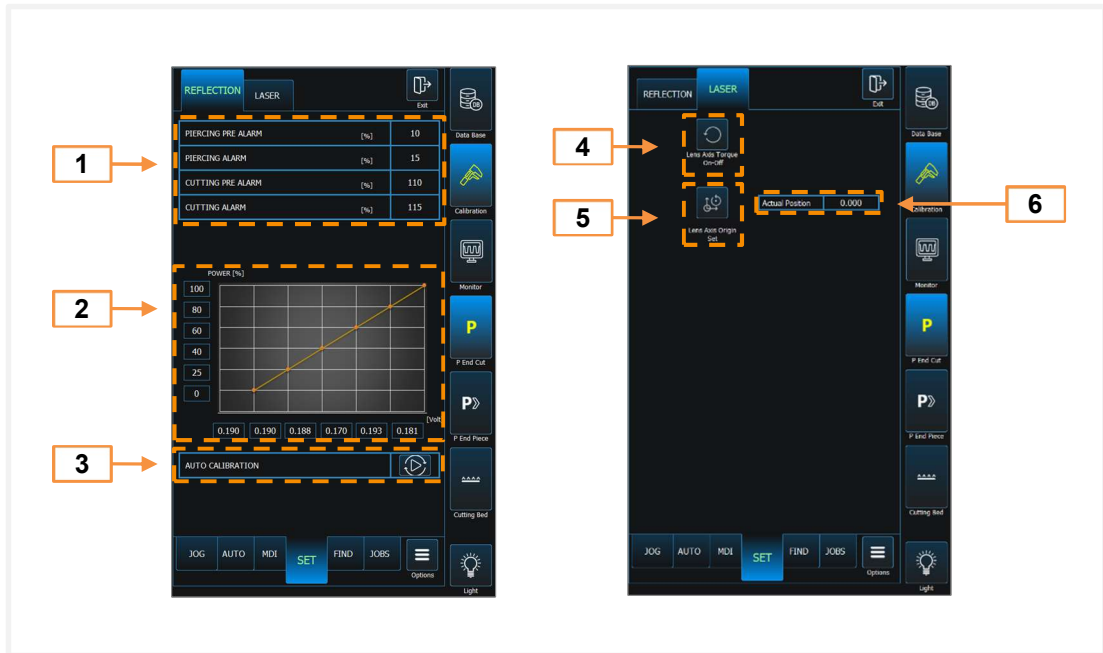
The **DATABASE** menu allows the operator to control all the default working parameters of the machine.



### 3.2 CALIBRATION

The **CALIBRATION** menu allows the operator to calibrate the laser reflectance, enable/disable the lens motor torque, and zero the lens origin.

3. MACHINE MANAGEMENT MENU





POS.	ELEMENT	DESCRIPTION
<b>REFLECTION</b>		
1	<b>TABLE OF LIMIT VALUES FOR WARNINGS AND ALARMS</b>	Allows you to consult the limit values for warnings and alarms.  <b>Note:</b> These values are set by the manufacturer and cannot be changed.
2	<b>REFLECTION VALUES GRAPH</b>	It graphically reports the values acquired during the laser reflection cycle.
3	<b>AUTO CALIBRATION BUTTON</b>	Allows you to perform an automatic laser reflection cycle.
<b>LASER</b>		
4	<b>LENS MOTOR TORQUE BUTTON</b>	Allows you to enable and disable the lens motor torque.
5	<b>LENS AXIS RESET BUTTON</b>	Allows you to reset the origin of the lens axis.
6	<b>CURRENT POSITION</b>	Displays the current position of the lens.

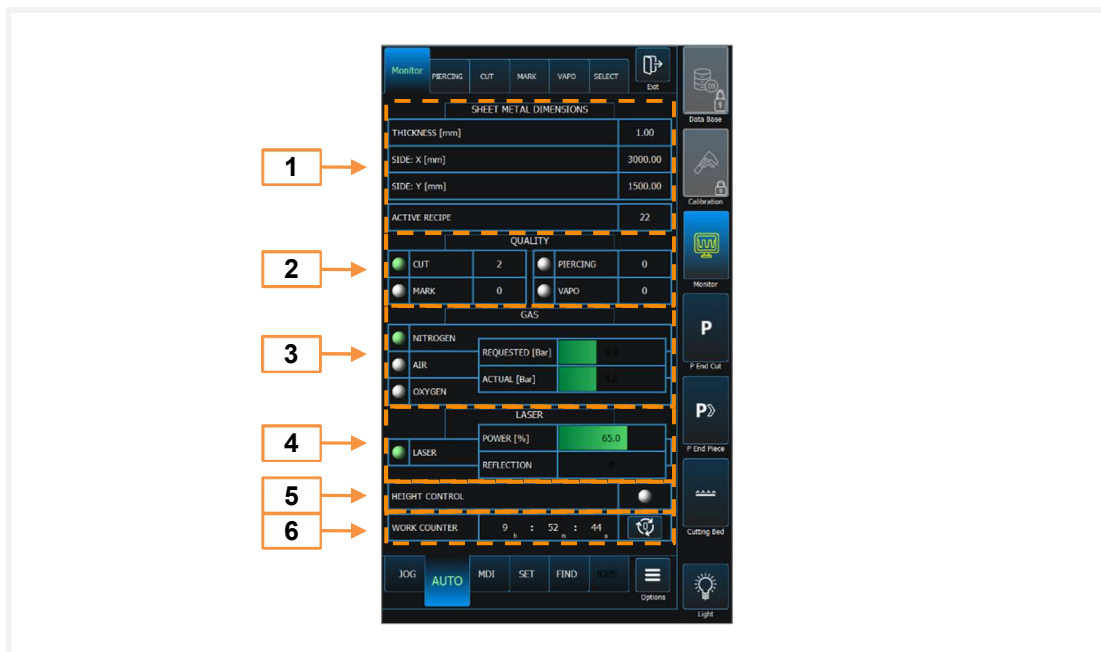
## 3.3 MONITORING

The **MONITOR** menu allows the operator to monitor machine data in real time during processing. The menu is divided into the following tabs:

- **Monitors** → provides general information about the machine's status.
- **Piercings** → provides information about the laser drilling phase.
- **Cut** → provides information on the laser cutting phase.
- **Mark** → provides information about the laser marking phase.
- **Vape** → provides information about the vaporization phase of the laser.
- **Select** → provides information about the laser drilling phase.

### 3.3.1 MONITOR

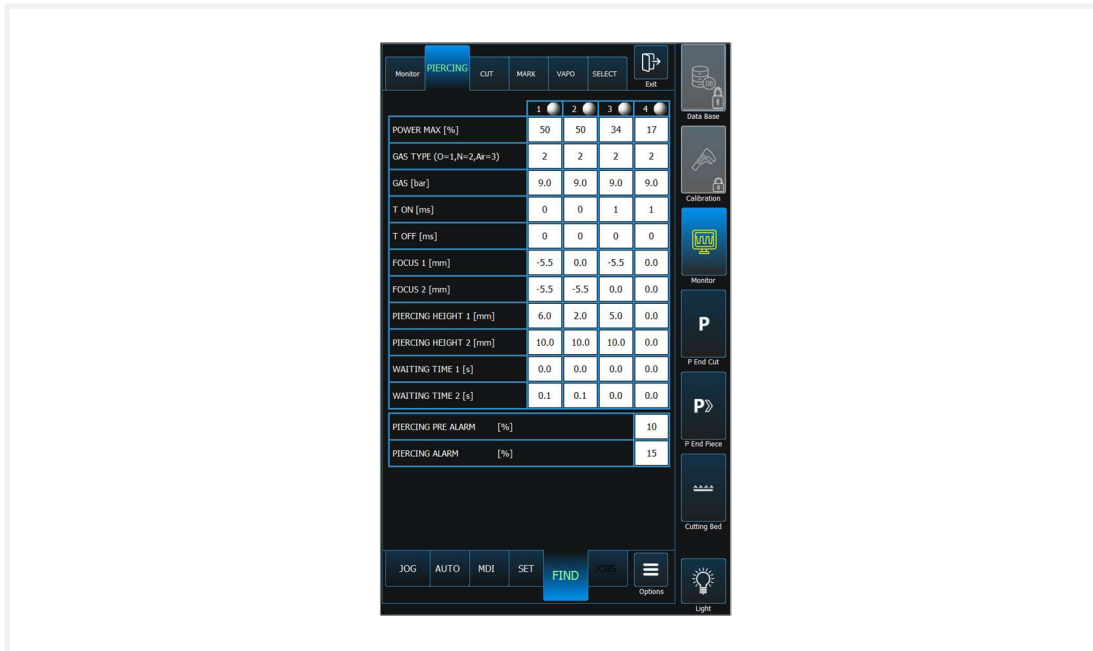
The **MONITOR** tab provides information on the general progress of the machine during processing.



POS.	ELEMENT	DESCRIPTION
1	<b>SHEET METAL DIMENSIONS</b>	Reports the dimensions of the metal sheet placed on the workbench.
2	<b>QUALITY</b>	Reports data on the quality of laser operations.
3	<b>GAS</b>	Reports the requested and current values of the gases used by the machine during processing.
4	<b>LASER</b>	Reports data relating to the laser power and reflection.
5	<b>HEIGHT CONTROL</b>	Reports the laser height data.
6	<b>WORK COUNTER</b>	Reports data relating to the duration of the current work cycle.

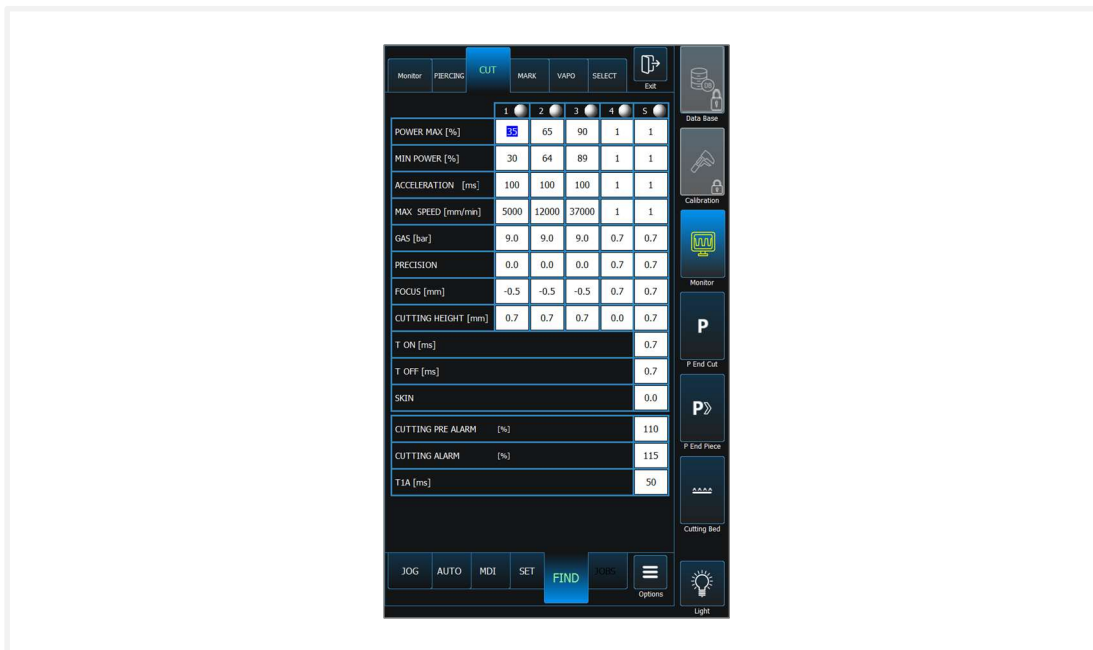
### 3.3.2 PIERCING

The **PIERCING** tab provides information on the laser piercing phase. The data table shown is divided into 4 columns relating respectively to one of the 4 set processing lines. At the top of each column there is a light indicator. When the light is white the line is not active, when the light is green the line is active.



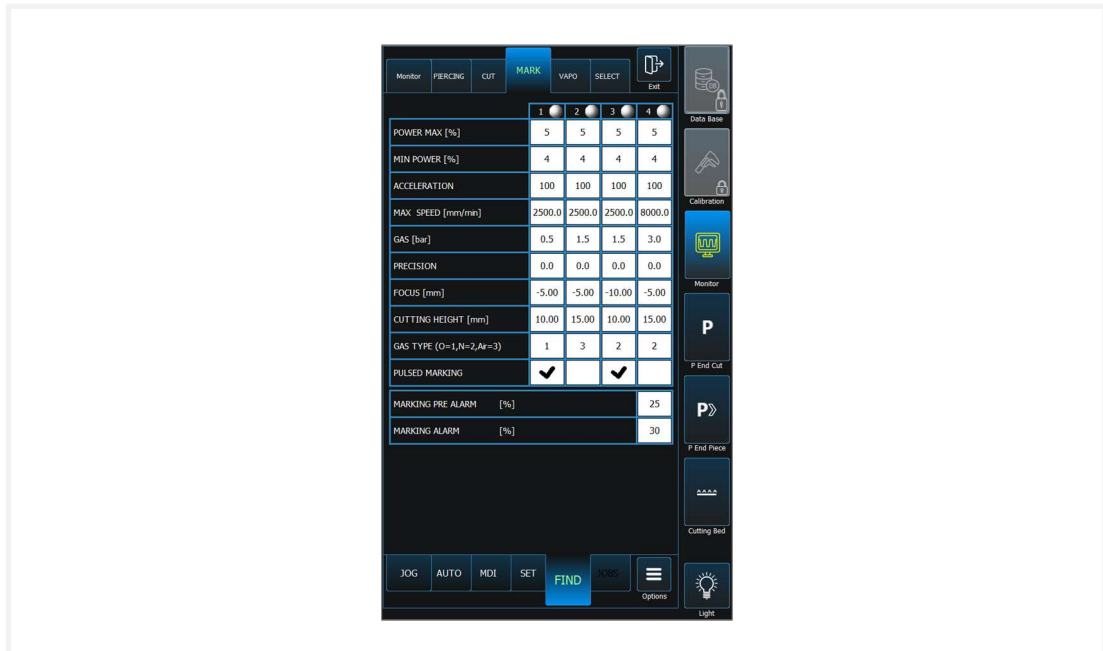
### 3.3.3 CUT

The **CUT** tab provides information on the laser cutting phase. The data table shown is divided into 5 columns relating respectively to one of the 5 set processing lines. At the top of each column there is a light indicator. When the light is white the line is not active, when the light is green the line is active.



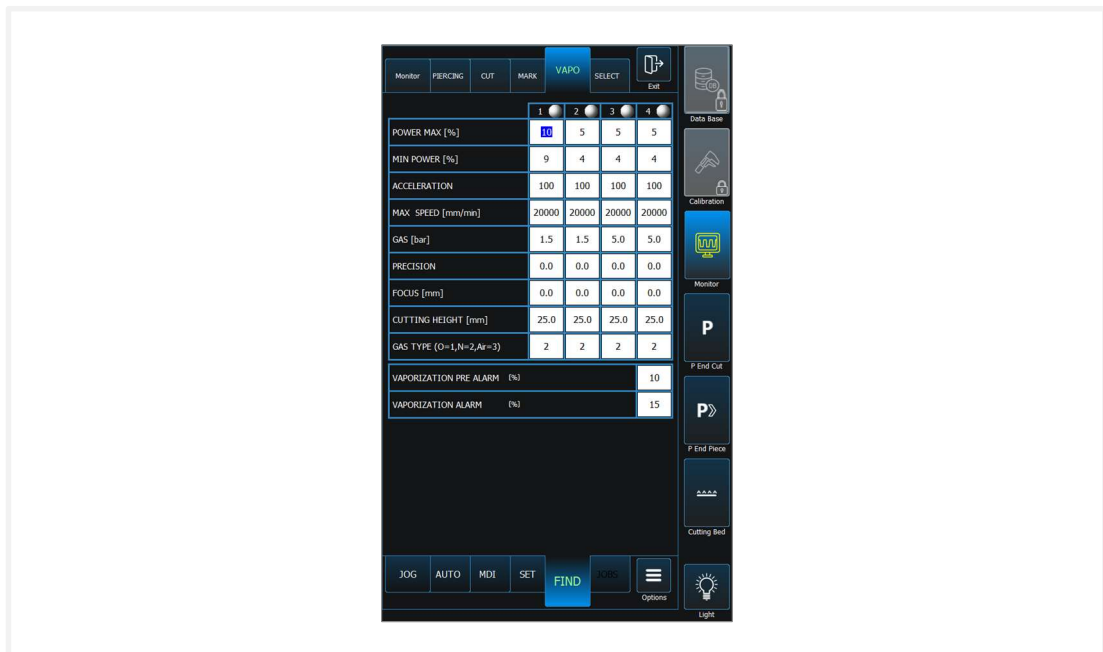
### 3.3.4 MARK

The **MARK** tab provides information on the laser marking phase. The data table shown is divided into 4 columns relating respectively to one of the 4 processing phases set. At the top of each column there is a light indicator. When the light is white the line is not active, when the light is green the line is active.



### 3.3.5 VAPO

The **VAPO** tab provides information on the laser vaporization phase. The data table shown is divided into 4 columns relating respectively to one of the 4 processing phases set. At the top of each column there is a light. When the light is white the line is not active, when the light is green the line is active.



### 3.3.6 SELECT

The **SELECT** tab provides the operator with the ability to enable additional machine functions such as nozzle cleaning, laser emission and phone-calling. It is also possible to perform gas tests and force machine calibration and lubrication cycles.



POS.	ELEMENT	DESCRIPTION
1	NOZZLE	<p>Allows you to enable a nozzle cleaning cycle after a preset number of cycles. The number of cycles can be changed using the CYCLES OF field. To force a nozzle cleaning cycle, click on the Nozzle Cleaning button.</p> <p>The Head maintenance button allows you to position the machine head in the position configured for maintenance.</p> <p><b>Note:</b> The Nozzle Cleaning and Head maintenance buttons are enabled only when the working mode is set to JOG.</p>
2	GAS TEST	<p>Allows you to launch test cycles of the pressure of the gases used by the machine. To launch the test cycle:</p> <ol style="list-style-type: none"> <li>1. Enter the reference pressure value in the REFERENCE field.</li> <li>2. Click on the gas button for which you want to test the pressure.</li> <li>3. The actual pressure will be displayed in the PRESSURE field.</li> </ol> <p>By clicking on the START TEST button, the system launches an automatic calibration cycle of all gases.</p>
3	LASER EMISSION	Allows you to turn on the laser emission.

POS.	ELEMENT	DESCRIPTION
4	HEIGHT CALIBRATION	<p>Allows you to calibrate the height of the machine. Click on the ENABLE CALIBRATION checkbox to enable a height calibration cycle at the beginning of each work cycle.</p> <p><b>Note:</b> by clicking on the icon with the check mark it is possible to force a height calibration cycle at any time during the process.</p>
5	LUBRICATION	<p>Allows you to force an axis lubrication cycle.</p> <p><b>Note:</b> lubrication is performed automatically by the machine after a set number of cycles set by the manufacturer.</p>
6	PHONE CALLING	<p>Allows you to enable the machine to make calls in the event of blocking error states.</p> <p><b>Note:</b> This function can only be enabled if the telephone dialer option is active on the machine.</p>

### 3.4 PARKING RESERVATION

The P END CUT and P END PIECE menus allow the operator to reserve the machine's parking position at the end of cutting a profile or figure.

POS.	ELEMENT	DESCRIPTION
1	P END CUT	<p>Allows you to reserve parking for your car at the end of the current cut.</p> <p><b>Note:</b> the button flashes from the moment it is pressed until parking is completed.</p>
2	P END PIECE	<p>Allows you to reserve the parking of the machine at the end of the cutting of the last profile of a single figure in progress.</p> <p><b>Note:</b> the button flashes from the moment it is pressed until parking is completed.</p>

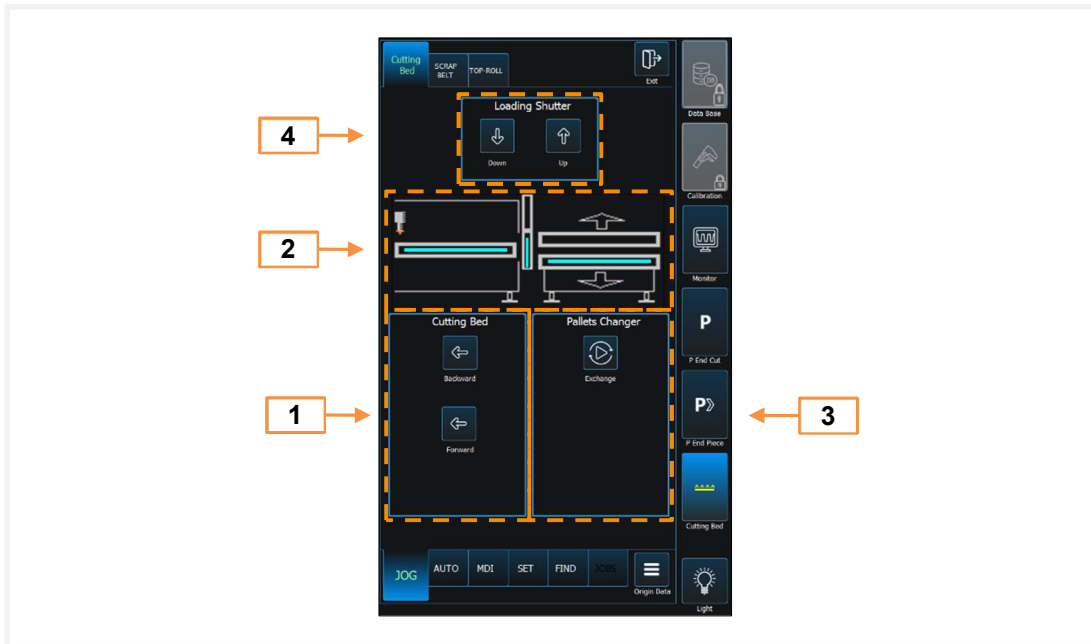
## 3.5 WORKBENCH MANAGEMENT

The **CUTTING BED** menu allows the operator to manage the workbenches. The menu is divided into three tabs:

- **CUTTING BED** →workbench change management
- **Scap Belt** →challenge tape management
- **Top roll** →top-roll shutter management

### 3.5.1 CUTTING BED

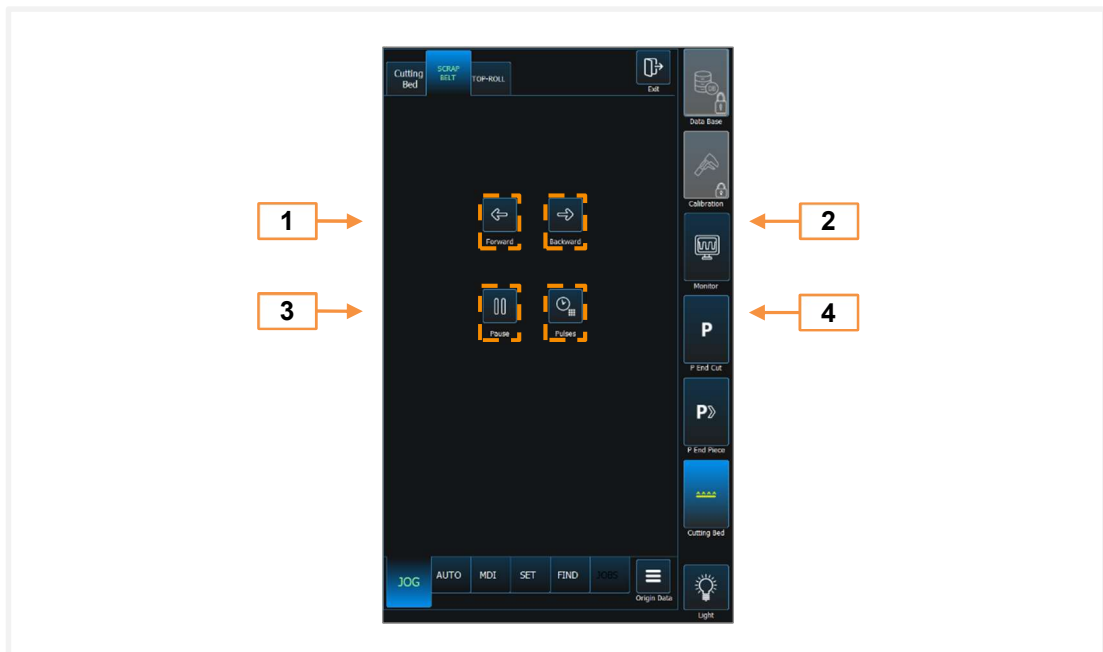
The **CUTTING BED** tab allows the operator to manage the change of work benches.



POS.	ELEMENT	DESCRIPTION
1	<b>CUTTING BED</b>	Allows loading and unloading of workbenches.
2	<b>SYNOPTIC SCHEMA OF WORKBENCH CHANGE</b>	Graphically represents the workbench change area.
3	<b>PALLET CHANGER</b>	Allows the exchange of workbenches.
4	<b>LOADING SHUTTER</b>	Allows the opening and closing of the bulkhead between the machine and the workbench changeover area.

### 3.5.2 SCRAP BELT

The **SCRAPT BELT** tab allows the operator to manage the scrap belts.

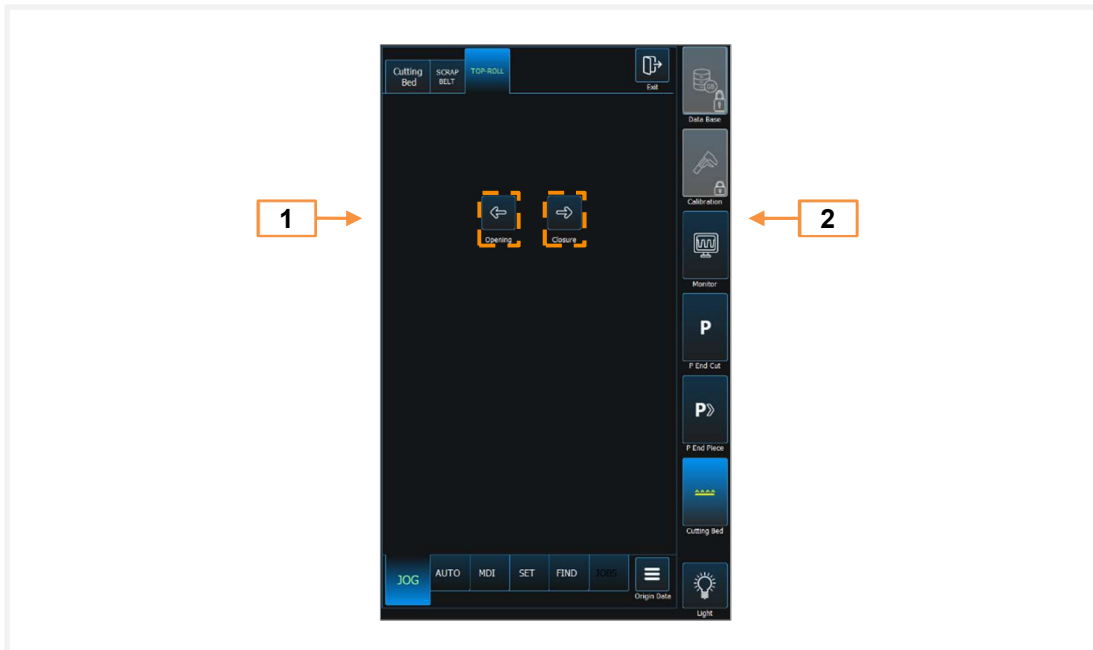


POS.	ELEMENT	DESCRIPTION
1	<b>FORWARD</b>	Allows the waste belt to advance.
2	<b>BACKWARD</b>	Allows the waste belt to retract.
3	<b>PAUSE</b>	Allows you to pause the waste belt.
4	<b>PULSES</b>	Allows you to advance the challenge tape in pulses.



### 3.5.3 TOP ROLL

The **TOP-ROLL** tab allows the operator to manage the top-roll shutter.



POS.	ELEMENT	DESCRIPTION
1	OPENING	Allows you to open the shutter.
2	CLOSURE	Allows you to close the shutter.