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BELT EDGE POLISHERS FOR NATURAL STONE

TYPE: OMEGA 60 PENCIL

S.N.:



PROGRAMMING MANUAL

CUSTOMER:



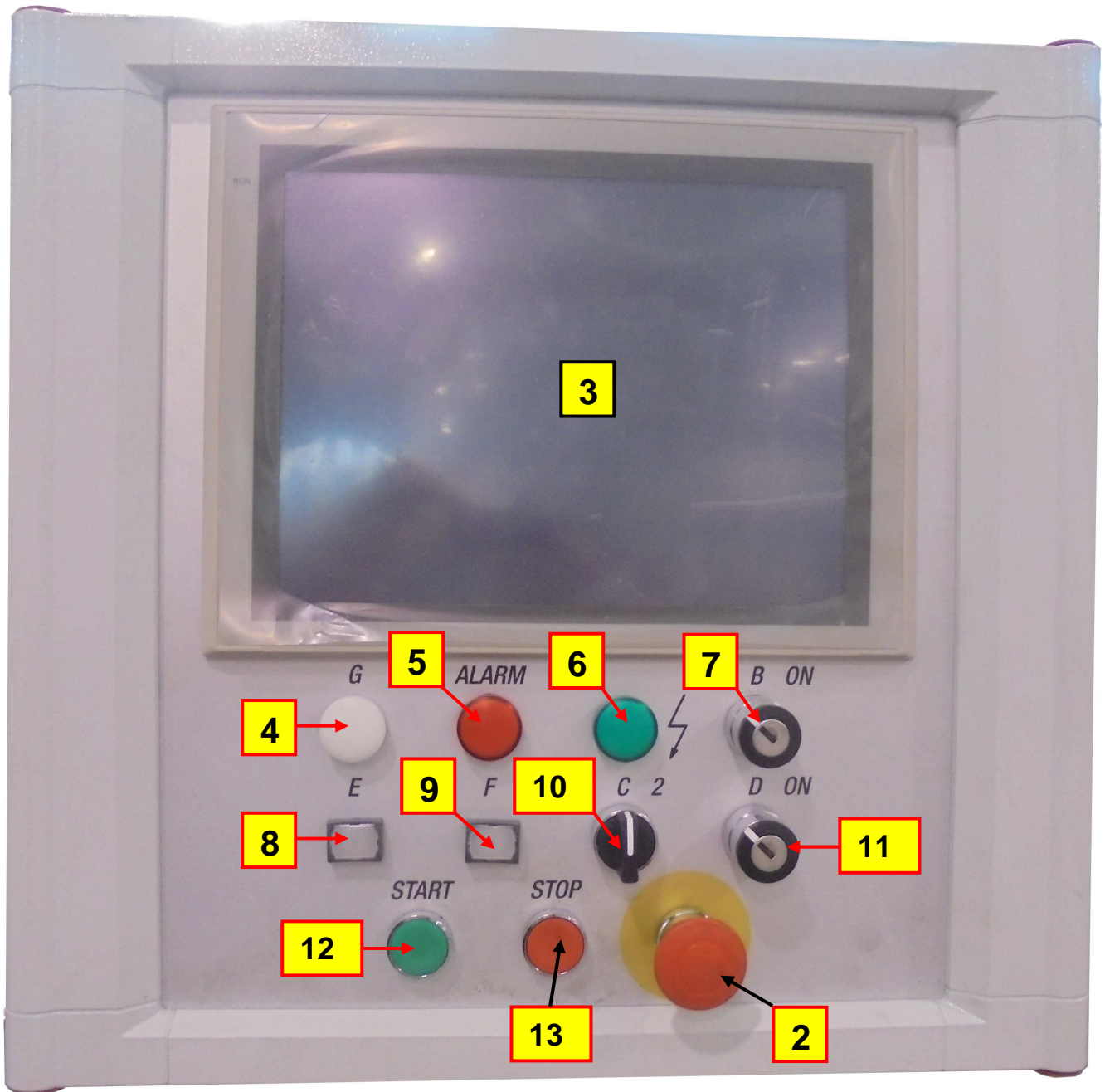
INDEX

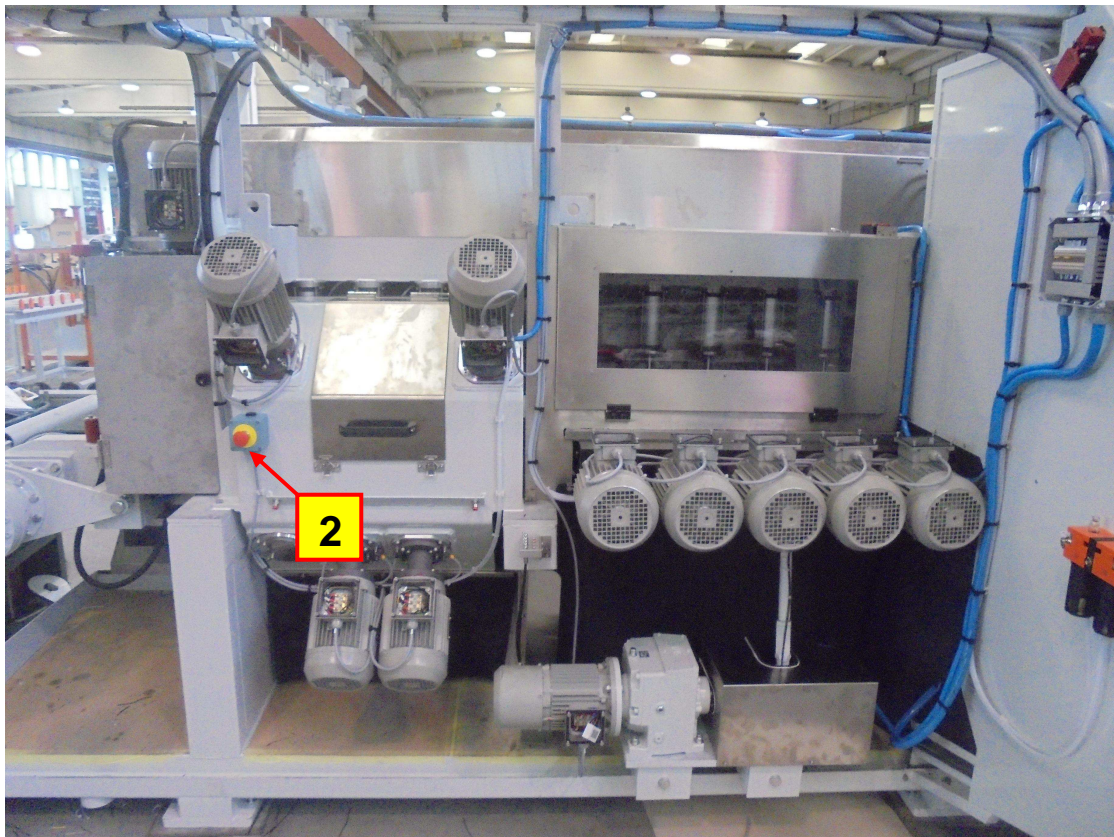
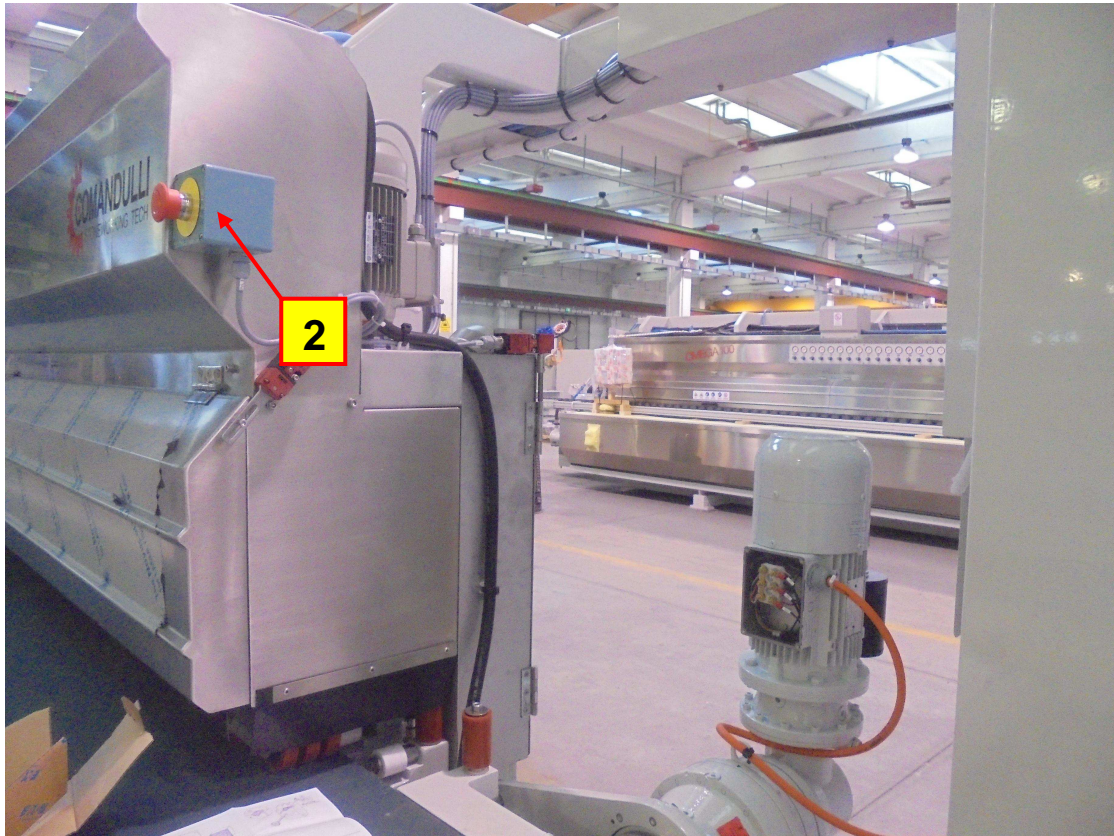
Table 1

Table 1 References

Machine ignition

Main Menu-----	page 1
Profile programming-----	page 4
Units enabling-----	page 19
Tools programming -----	page 20
Partial processing -----	page 48
Special pieces-----	page 52
Centring -----	page 53
Piece deletion -----	page 55
Work programs -----	page 57
Manual controls and diagnostics-----	page 62
Alarms -----	page 77
Messages -----	page 89





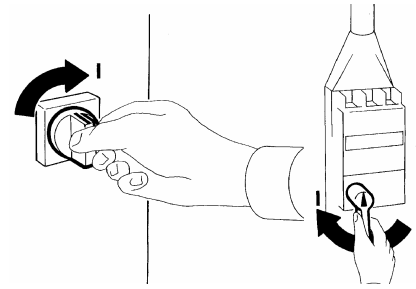


POS.	CODE	DESCRIPTION OF CONTROLS
1	QF1	<p>MAIN SWITCH ON POWER PANEL</p> <p>The main switch has two positions: at "O": MAIN SWITCH RELEASE POSITION DISCONNECTS power to the machine; at "I": MAIN SWITCH CONNECT POSITION Powers the machine.</p>
2	<p>SB1 SB1A SB1B</p>	<p>MUSHROOM-SHAPED BUTTON: EMERGENCY STOP button When pressed, it blocks any machine function.</p> <p>a. power is interrupted to the control circuits and to the auxiliary circuits; b. the line voltage remains in the input terminals inside the power panel on board of the machine;</p> <p>To cancel the emergency status, reset the mushroom shaped EMERGENCY STOP button, then rotate the selector switch 7 (SA1).</p> <p>If any process was interrupted, it is necessary to restart the cycle from the beginning.</p> <p>NOTE: The causes of the alarm are indicated by the messages on the terminal display.</p>
3	PLT	<p>OPERATOR PANEL</p> <p>For the identification of the guide, alarms and use of the terminal functions, refer to the Programming Manual.</p>
4	HL5	<p>WHITE "CYCLE IN PROGRESS" INDICATOR LIGHT</p> <p>Off: the machine in stand-by. On fixed: Cycle in progress. Flashing: machine positioning.</p>
5	HL2	<p>RED "MACHINE FAILURE" INDICATOR LIGHT</p> <p>Off: no fault. On: Machine in fault. See the message that appears on the programming terminal</p>
6	HL1	<p>GREEN AUX VOLTAGE ON INDICATOR LIGHT</p> <p>The machine is ready for operation. Off: machine in emergency mode or control circuit not enabled. On: auxiliary circuit active</p>

7	SA1	<p>KEY SELECTOR TO RESET THE EMERGENCY CIRCUIT. Turn it clockwise to ON to reset the emergency circuit. The operator must never leave the key unattended. He must always keep it when not used.</p>
8	HL.E SB.E	<p>MULTIFUNCTION LUMINOUS WHITE BUTTON On: Activation of the function indicated on the programming terminal. Refer to the paragraph of the manual controls of the programming manual.</p>
9	HL.F SB.F	<p>MULTIFUNCTION LUMINOUS WHITE BUTTON On: Activation of the function indicated on the programming terminal. Refer to the paragraph of the manual controls of the programming manual.</p>
10	SA3	<p>STABLE 3-POSITION SELECTOR Selector switch for manually moving axes and motorised units. Refer to the paragraph of the manual controls of the programming manual.</p>
11	SA2	<p>KEY SELECTOR TO RESTORE THE SAFETY CIRCUIT OF THE DOORS AND OF THE GUARDS. Rotate clockwise to reset the safety circuit of the gates and guards equipped with safety microswitches.</p> <p>The operator must never leave the key unattended. He must always keep it when not used.</p>
12	SB3	<p>GREEN CYCLE START BUTTON Pressing the button starts the Machine.</p>
13	SB4	<p>RED CYCLE STOP BUTTON When pressed, it stops the functions of the machine, completing the work cycle in automatic mode. With these precautions:</p> <ul style="list-style-type: none"> a) it does not put the machine in emergency status; b) it does not disconnect power to the control panel or to the electrical cabinet. c) It does not discharge the pneumatic system

MACHINE IGNITION

To start the machine, position the main switch at "ON" and the switches on the electrical panel at "ON".



This way the machine is powered and the main screen appears on the Control panel.

Have the Safety Manager provide the keys of the selectors SA1 and SA2.



Stand in front of the main control panel.

Turn the key selector switch B (SA1) to the ON position to activate the emergency circuit.

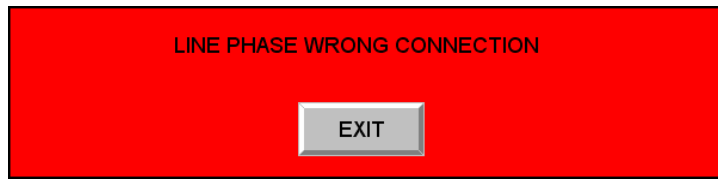
The HL1 warning light (GREEN) turns on.



Turn the key selector D (SA2) to ON to activate the circuit of the safety devices.

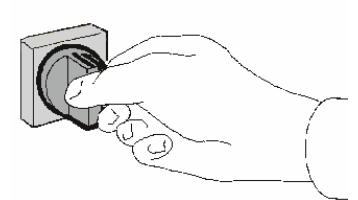


If it is the first time that the machine is switched on, after the electrical connection to the service line, a connection error is displayed with the following message:



In this case:

Move the main switch on the electrical cabinet to OFF.



Open the electrical cabinet and check the position of the circuit breaker protection FS.GS1:

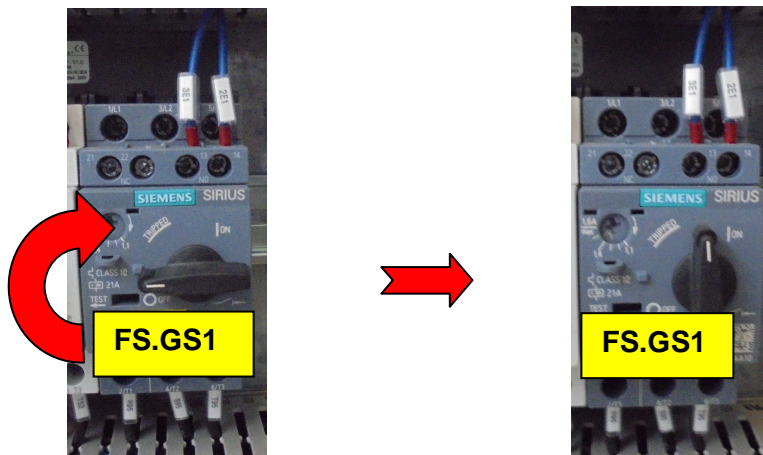


Correct position



Wrong position

If it is in the correct position, swap the phases of the line R-S (L1-L2) on the main switch "QF1" or turn it back on.

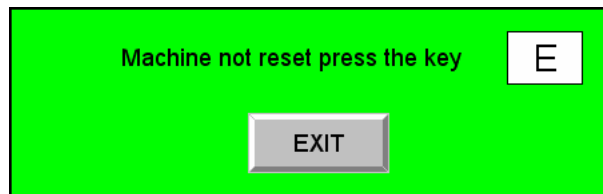


Repeat the ignition and start-up phases of the machine.

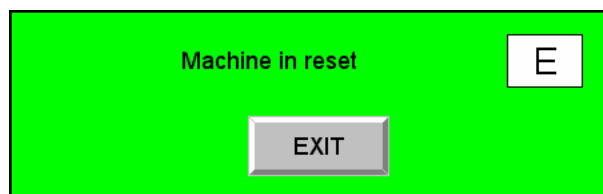
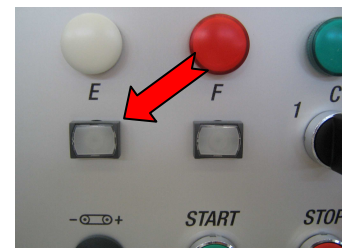
The display will show:



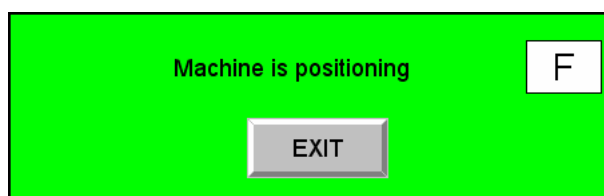
Press the screen; if the machine is not reset, it will show the message:



This operation is very important because all units are reset. RESET means return to 0 (zero) of each motorised unit, which after every programming must move automatically to the set position. Press the button E to start the operation, during the reset cycle, the following will appear:



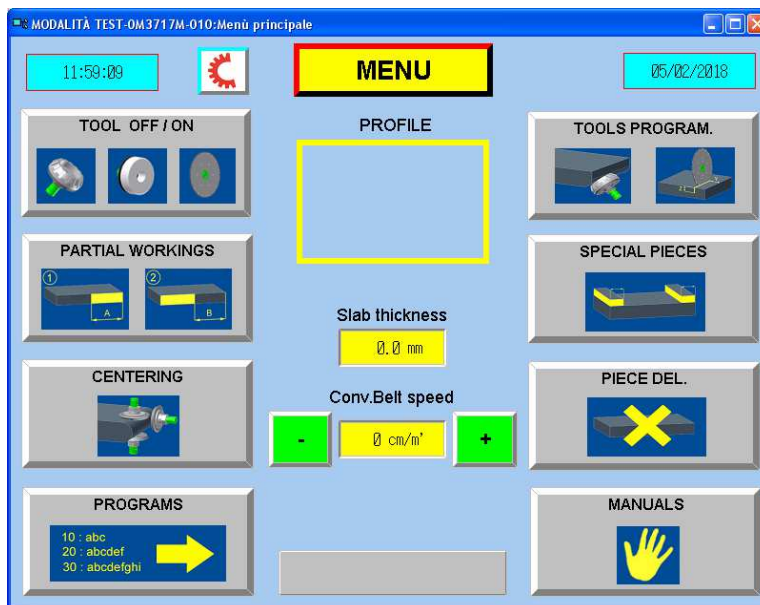
If even only one of the axes does not reset to zero properly, the program does not move on and the indicator light G (HL5) flashes, indicating the partial reset operation.
If all the operations are carried out correctly, the program goes on automatically with the message:



As previously seen, even if only one axis is not positioned correctly, the program stops and the indicator light G (HL5) flashes to signal the partial reset of the axes.

At the end, the MAIN MENU page will appear.

MAIN MENU



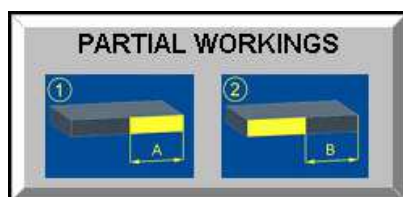
From this screen it is possible to view all general information related to correct machine operation. In particular:



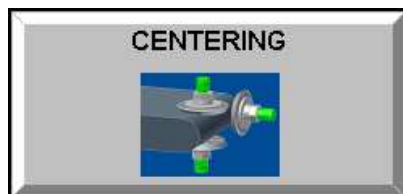
It makes it possible to view contact information for the manufacturer.



Access area to the tools enabling sub-menu.



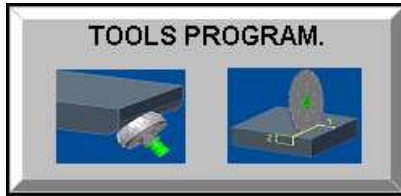
Access area to the partial processing sub-menu.



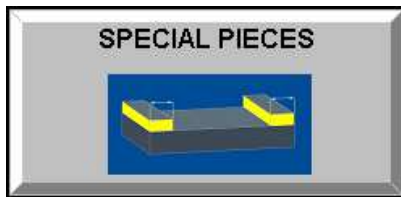
Access area to the machine centring sub-menu.



Access area to the machine programming sub-menu



Access area to the tools programming sub-menu.



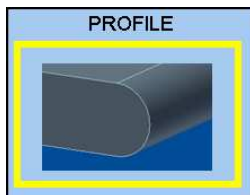
Access area to the special pieces sub-menu



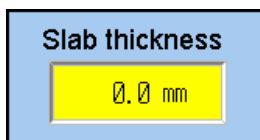
Access area to the pieces cancelling sub-menu



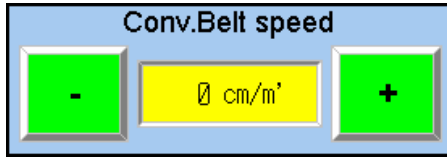
Access area to the manual controls sub-menu



Access area to the profile setting sub-menu



Using the numerical keypad that appears when the yellow area is pressed, set the desired piece thickness value (attention to the MAX and MIN values shown on the numerical keypad).

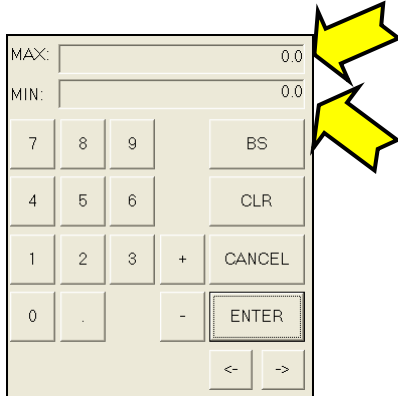


Using the numerical keypad that appears by pressing the area, set the desired belt speed value (attention to the MAX and MIN values shown on the numerical keypad).



Alarm message (See *Alarms* chapter)

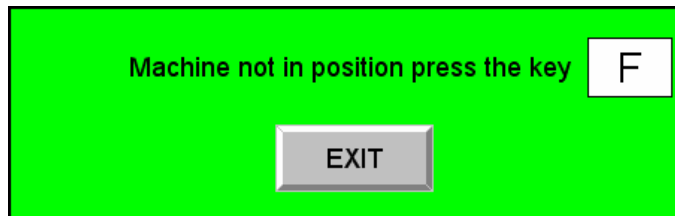
When values are entered in the specific spaces, the pop-up keypad appears:



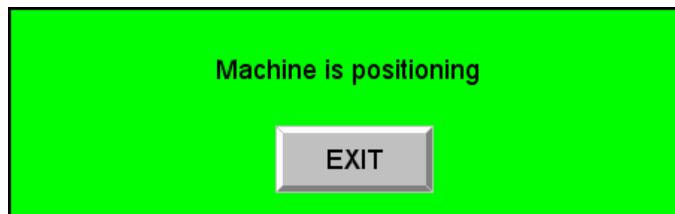
before inserting the values, pay attention to the minimum and maximum allowed for the desired programming.

RESET

From the main MENU page, press the START button (SB3 green), if the units are in the programmed positions, the automatic cycle begins, otherwise it requests unit positioning through the following message:



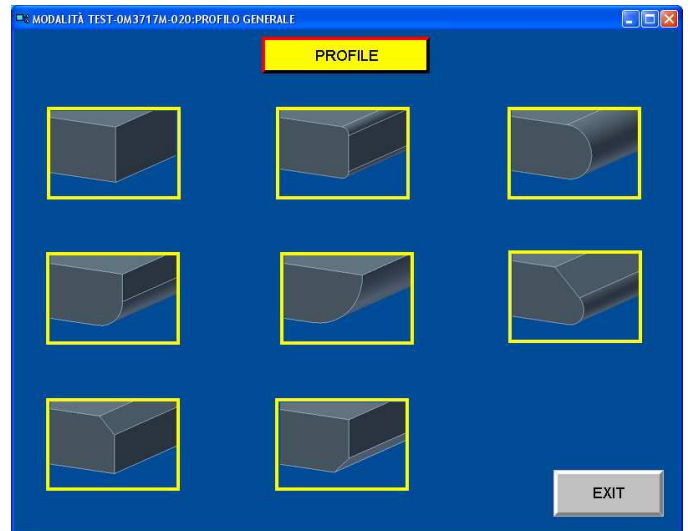
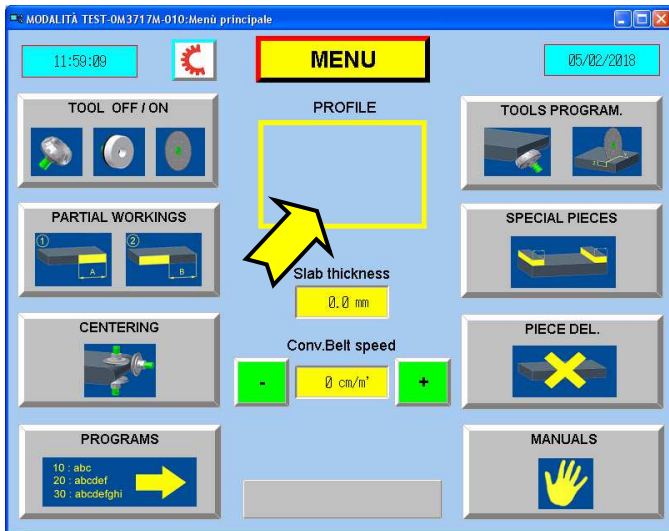
Press the “F” button to start positioning the units, during positioning the following wording will appear:



Press the STOP button to stop the automatic cycle.

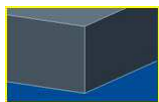
PROFILE PROGRAMMING

From the MAIN MENU press the profile area and the display will show:



Select the type of profile to be executed, by pressing the corresponding area:

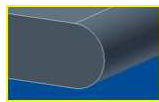
The possible shapes are:



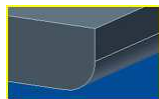
STRAIGHT EDGE



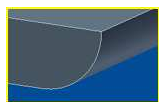
EDGE + ROUNDED CORNERS



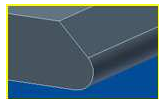
BULLNOSE



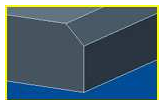
HALF BULLNOSE



OWL BEAK



SHARK NOSE



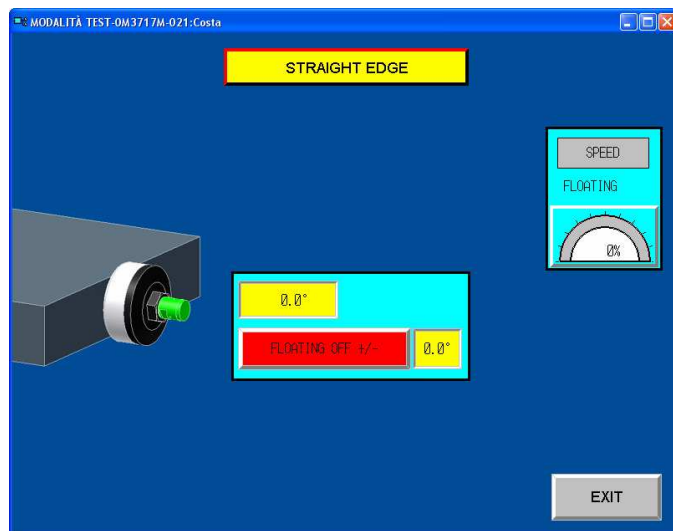
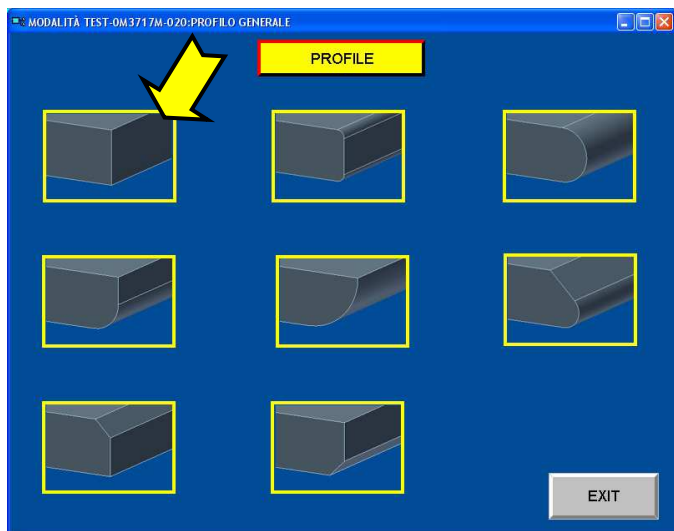
STRAIGHT EDGE + UPPER BEVEL



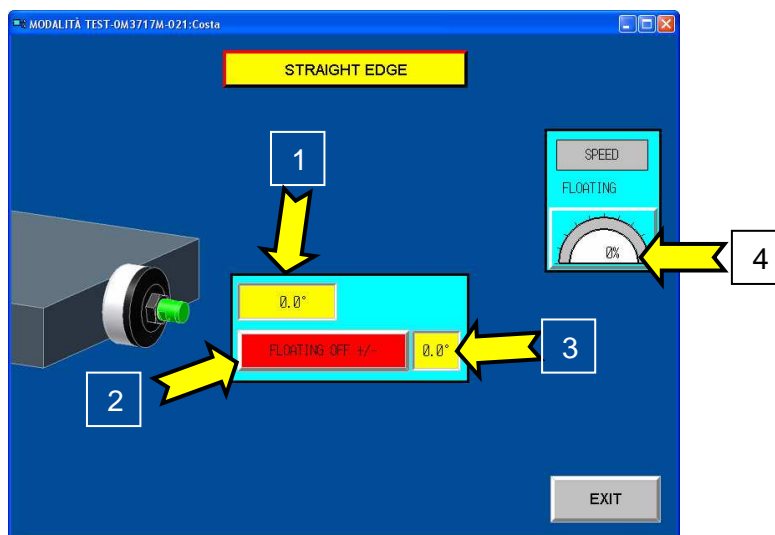
STRAIGHT EDGE + LOWER BEVEL

PROGRAMMING THE "STRAIGHT EDGE"

From the profile MENU, select the ***Straight Edge*** icon, the following screen will appear.



To program the *Straight Edge* parameters, proceed as follows:



1. Set the value of the edge to be polished in degrees, for example 90°
2. Activate floating operation (FLOATING OFF= DEACTIVATED / FLOAT ON= ACTIVATED)
3. Set the floating movement value in degrees (usually set at 0.2)
The value of the floating movement is tied to the value of the edge to be polished, for example: Edge value = 90°, setting a value of 0.2° the floating movement will work from 89.8° to 90.2°
4. Set the FLOATING SPEED (usually at 50%)

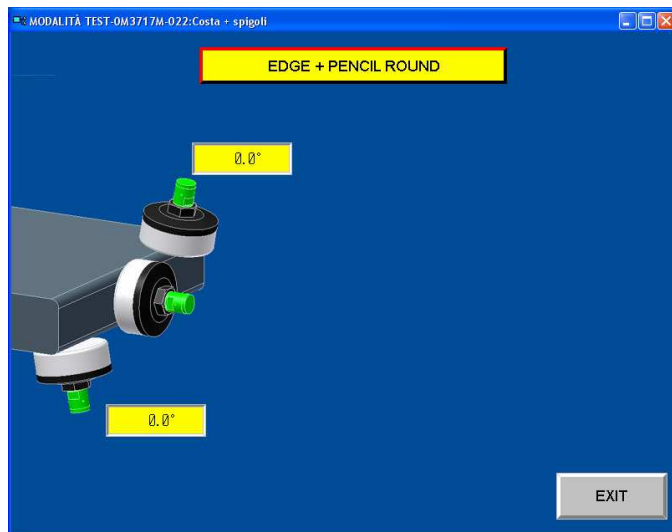
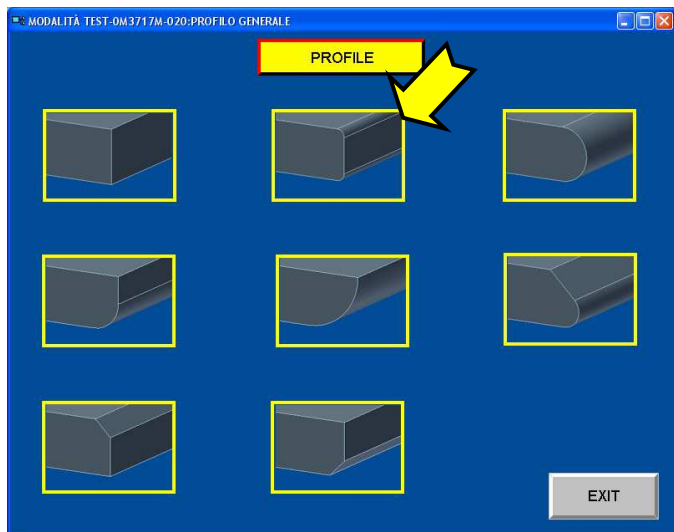
Press "EXIT" to return to the menu.

From the page of the main menu, set piece thickness.

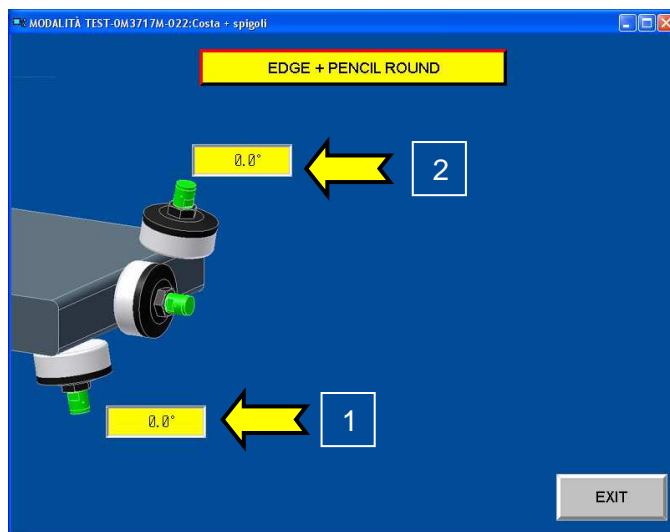
Press the green *START* button to start the processing.

PROGRAMMING THE "EDGE + PENCIL ROUND"

From the profile MENU, select the ***Edge + Pencil round*** icon, the following screen will appear.



To program the *Edge + Pencil Round* parameters, proceed as follows:



1. Set the value in degrees of the minimum starting height, for example 5°.
2. Set the value in degrees of the maximum finish height, for example 175°.

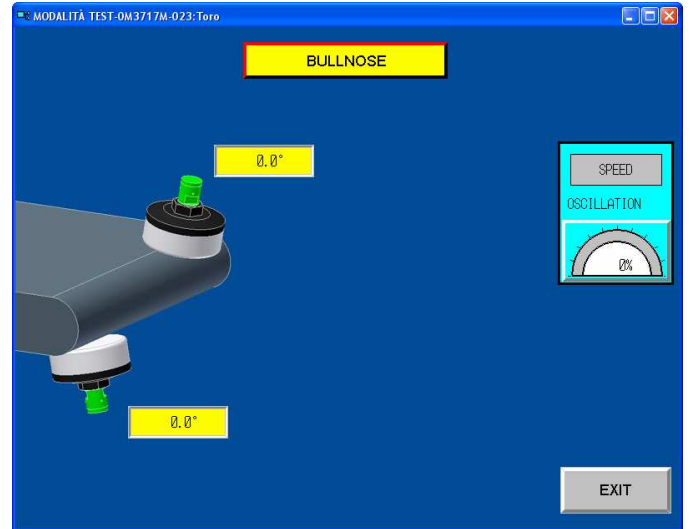
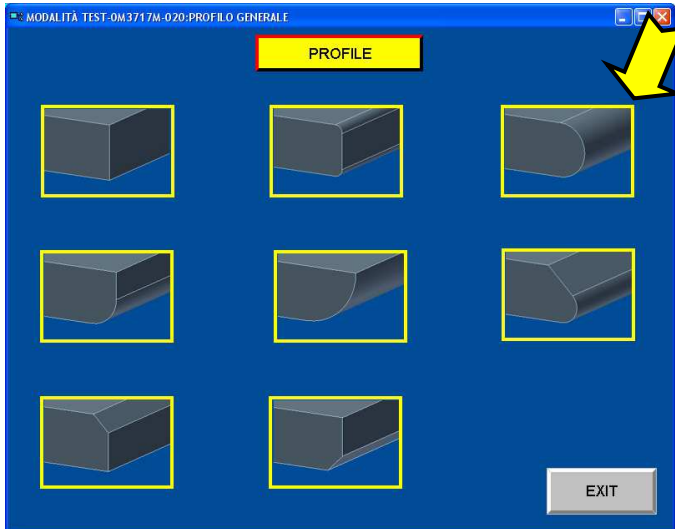
Press "EXIT" to return to the menu.

From the page of the main menu, set piece thickness.

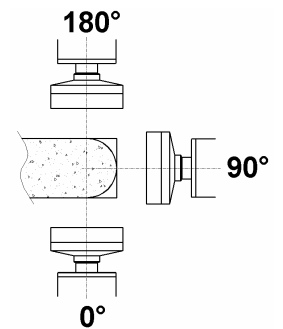
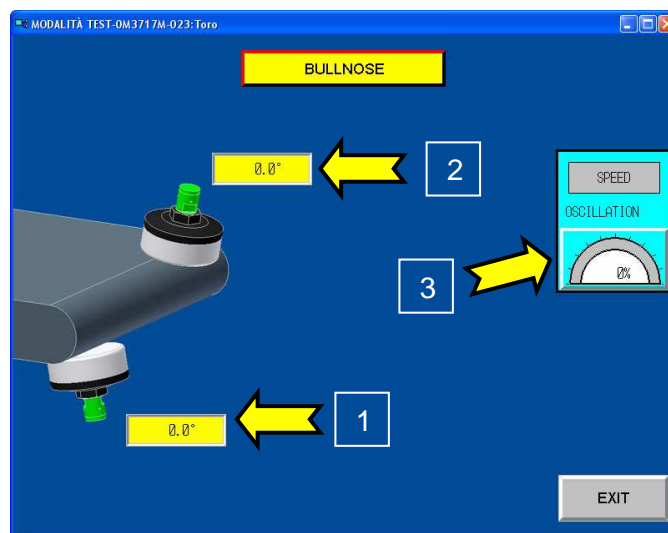
Press the green *START* button to start the processing.

PROGRAMMING THE "BULLNOSE"

From the profile MENU, select the ***Bullnose Edge*** icon, the following screen will appear.



To program the *Bullnose Edge* parameters, proceed as follows:



1. Set the value in degrees of the minimum starting height, for example 10°.
2. Set the value in degrees of the maximum finish height, for example 170°.
3. Set the oscillation speed, usually set at 100%.

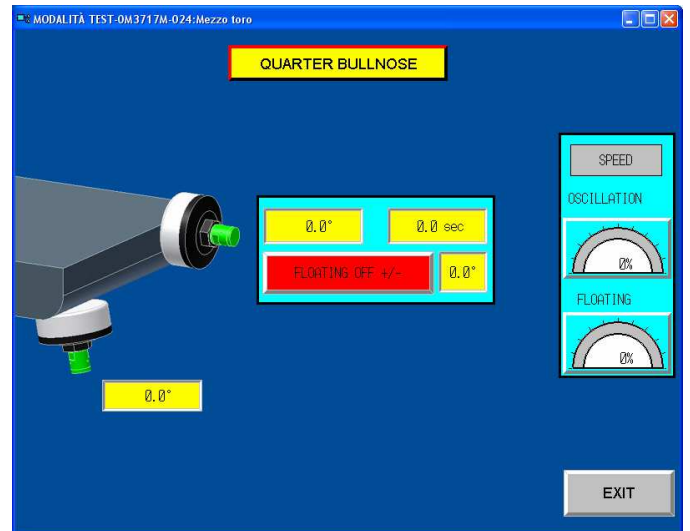
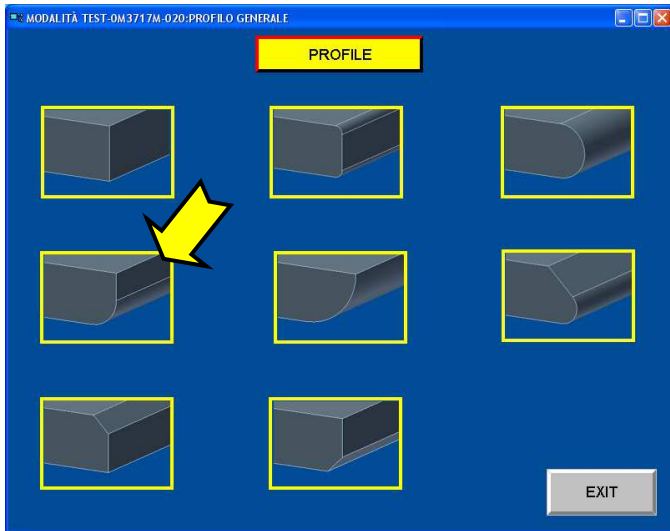
Press "EXIT" to return to the main menu.

From the page of the main menu, set piece thickness.

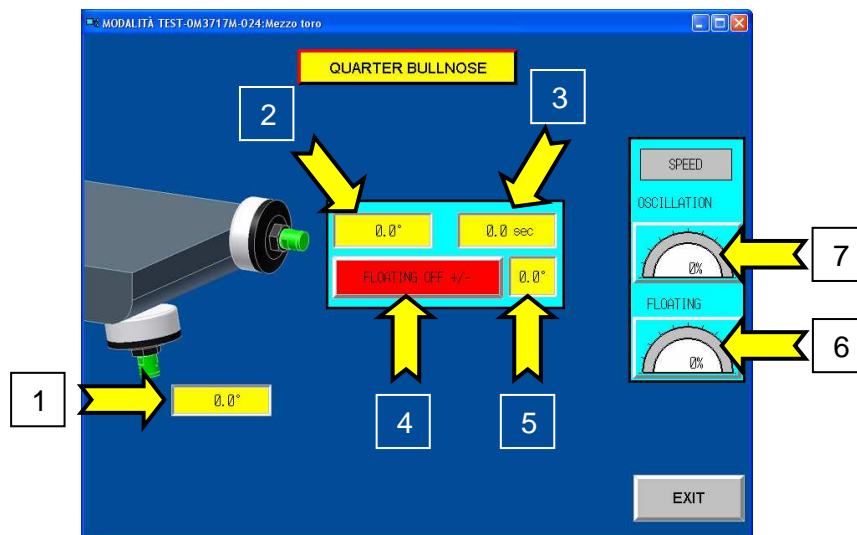
Press the green *START* button to start the processing.

PROGRAMMING THE "QUARTER BULLNOSE"

From the profile MENU, select the **Quarter Bullnose Edge** icon, the following screen will appear.



To program the *Quarter Bullnose Edge* parameters, proceed as follows:

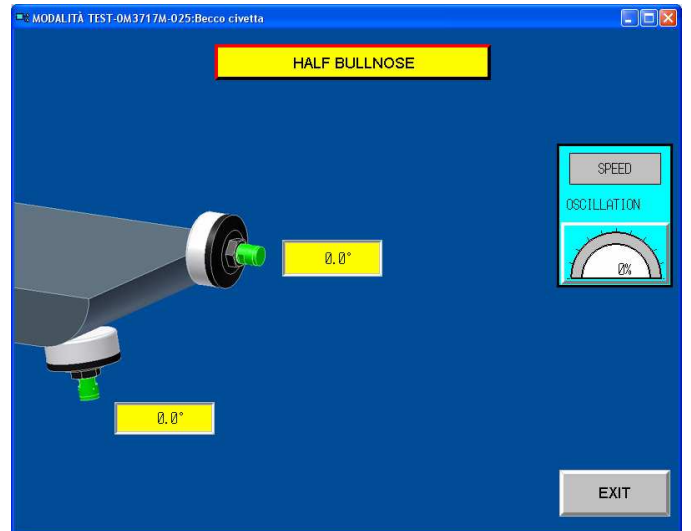
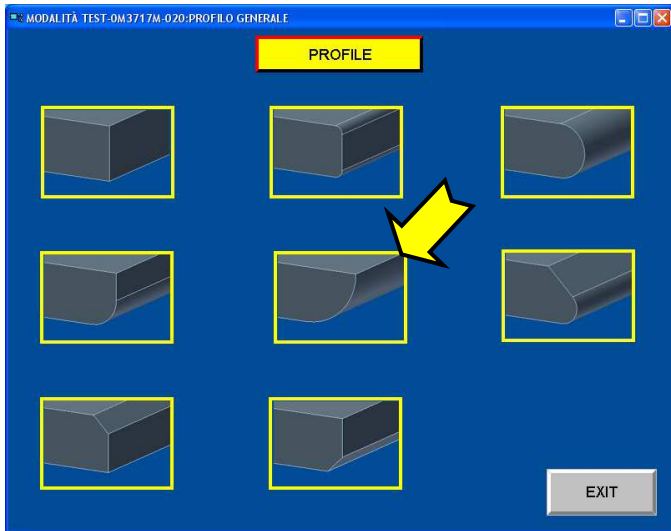


1. Set the value in degrees of the minimum starting height, for example 5°.
2. Set the value in degrees of the average pause height, for example 90°.
3. Set the stop time value in seconds, for example 1.5 sec.
4. Activate float operation (FLOATING OFF= DEACTIVATED / FLOATING ON= ACTIVATED)
5. Set the floating movement value in degrees (usually set at 0.2)
The value of the floating movement is tied to the value of the edge to be polished, for example: Edge value = 90°, setting a value of 0.2° the floating movement will work from 89.8° to 90.2°
6. Set the FLOATING SPEED (usually at 50%)
7. Set the oscillation speed, usually set at 100%.

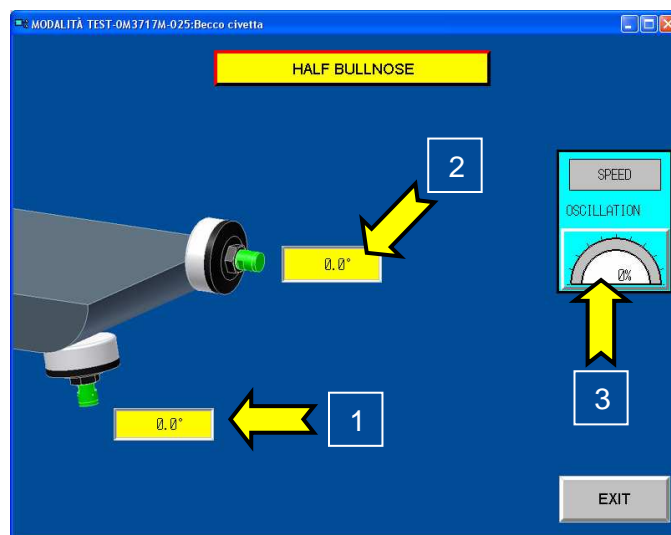
Press “*EXIT*” to return to the main menu.
From the page of the main menu, set piece thickness.
Press the green *START* button to start the processing.

PROGRAMMING THE "HALF BULLNOSE "

From the profile MENU, select the **Half Bullnose** icon, the following screen will appear.



To program the *Half Bullnose* parameters, proceed as follows:



1. Set the value in degrees of the minimum starting height, for example 5°.
2. Set the value in degrees of the average pause height, for example 90°.
3. Set the oscillation speed, usually set at 100%.

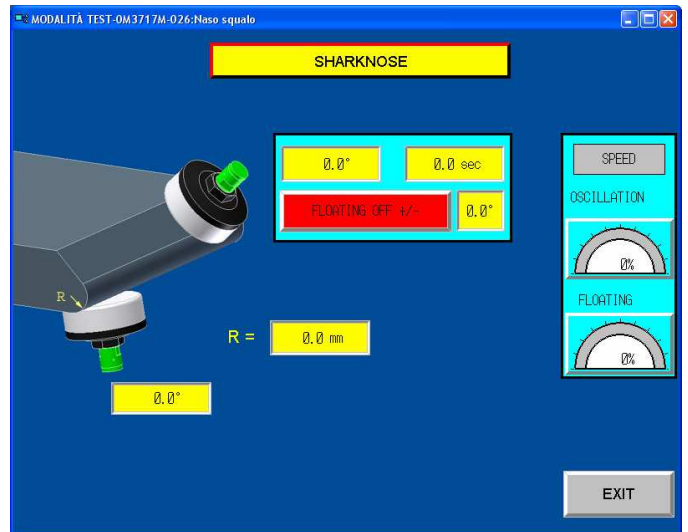
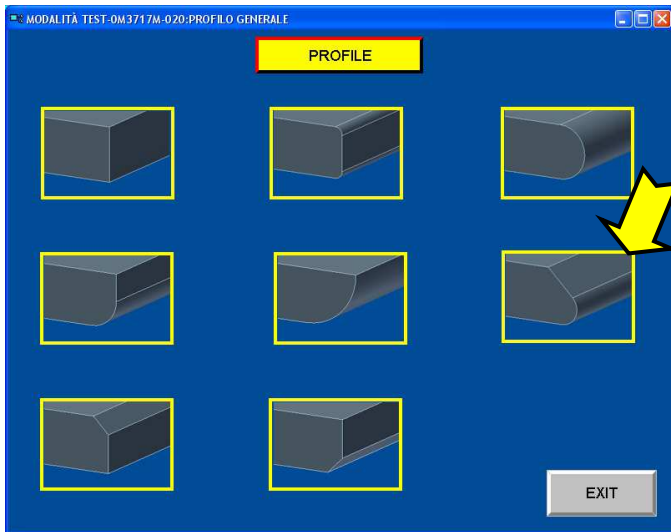
Press "EXIT" to return to the main menu.

From the page of the main menu, set piece thickness.

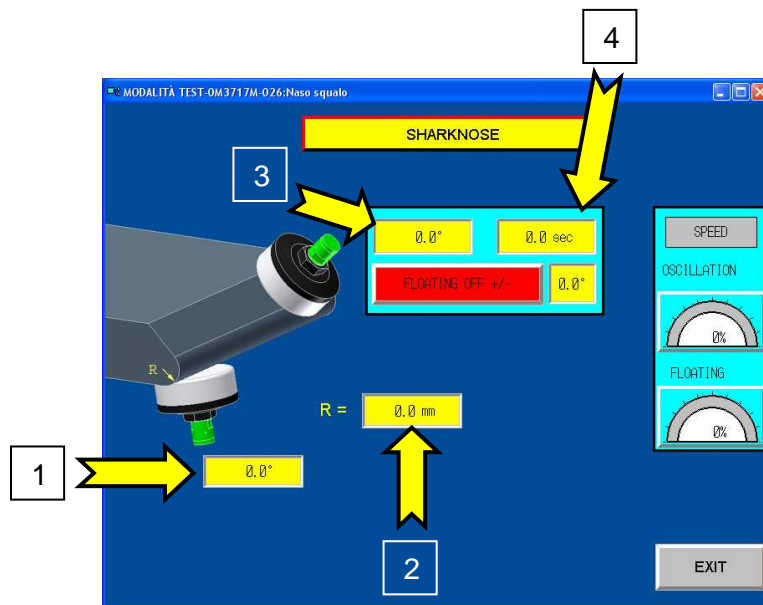
Press the green *START* button to start the processing.

PROGRAMMING THE "SHARK NOSE"

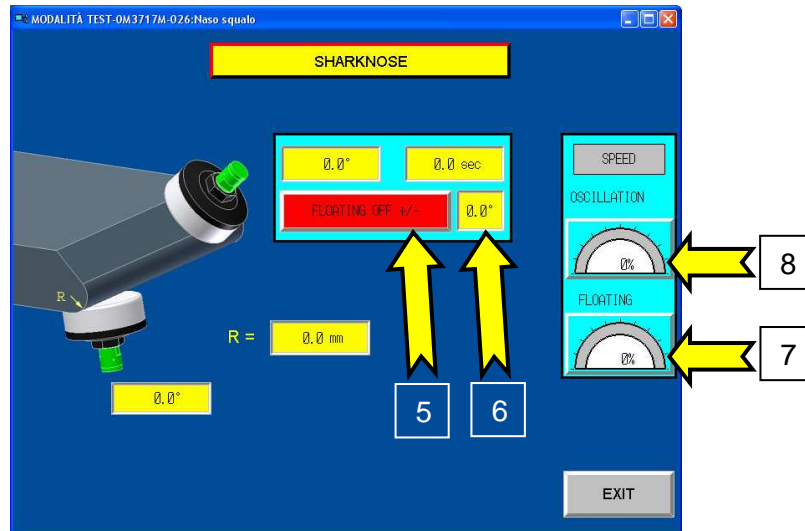
From the profile MENU, select the ***Shark Nose*** icon, the following screen will appear.



To program the *Shark Nose* parameters, proceed as follows:



1. Set the value in degrees of the minimum starting height, for example 5°.
2. Set the value of the radius R to be executed in millimetres, for example 10mm.
3. Set the value in degrees of the maximum finish height, for example 135°.
4. Set the stop time value in seconds, for example 1.5 sec.



5. Activate floating operation (FLOATING OFF= DEACTIVATED / FLOATING ON= ACTIVATED)
6. Set the floating movement value in degrees (usually set at 0.2)
The value of the floating movement is tied to the value of the edge to be polished, for example: Edge value = 90°, setting a value of 0.2° the floating movement will work from 89.8° to 90.2°
7. Set the FLOATING SPEED (usually at 50%)
8. Set the oscillation speed, usually set at 100%.

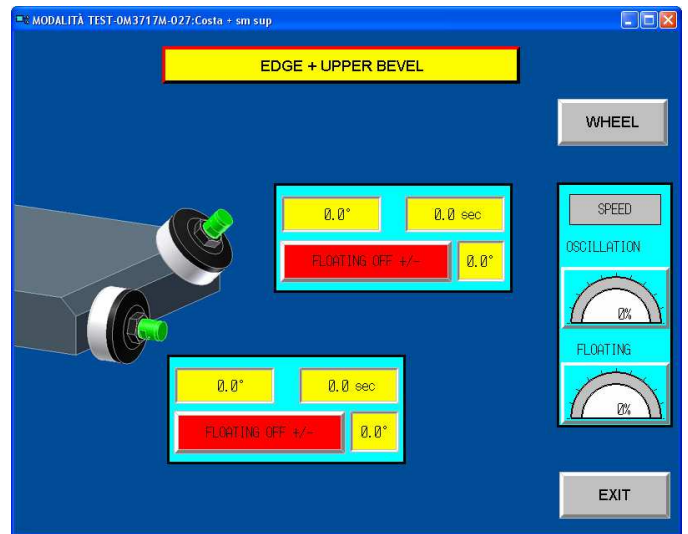
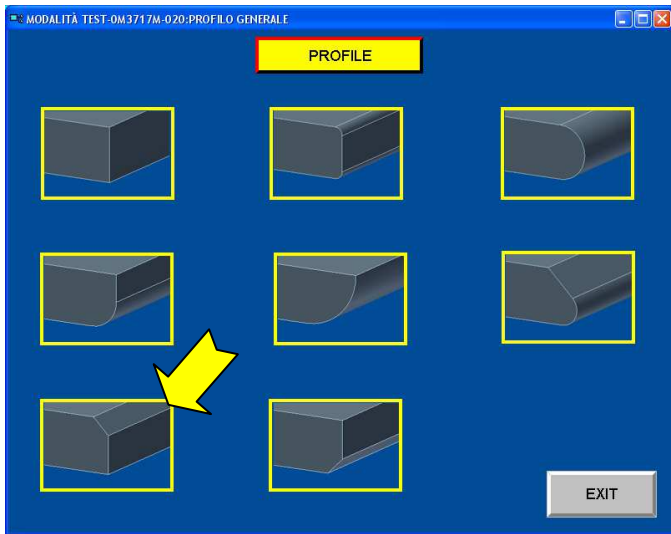
Press “EXIT” to return to the main menu.

From the page of the main menu, set piece thickness.

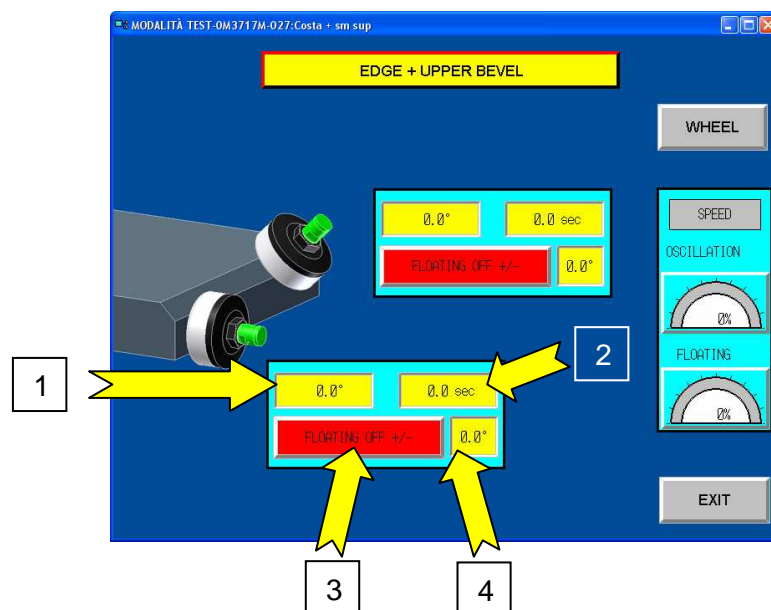
Press the green *START* button to start the processing.

PROGRAMMING THE "STRAIGHT EDGE + UPPER BEVEL"

From the profile MENU select the *Straight Edge + Upper bevel*, the following screen will appear.

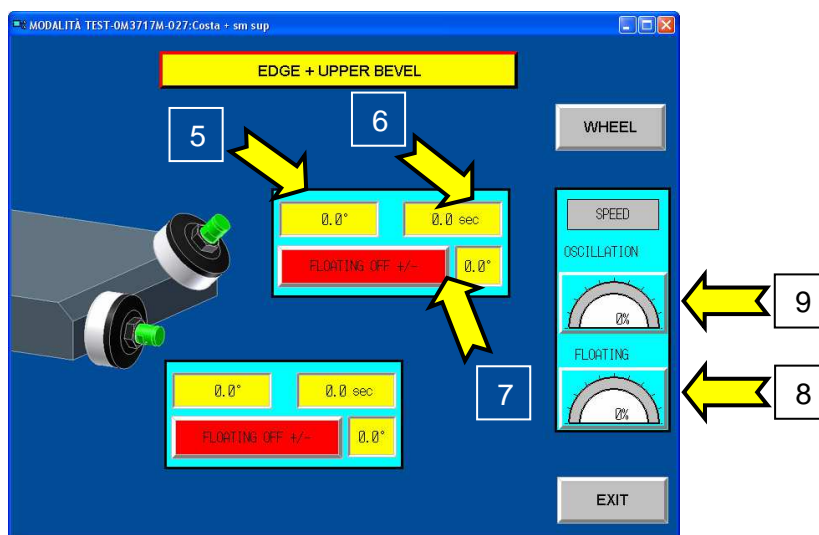


To program the *Straight + Upper Bevel Edge* parameters, proceed as follows:



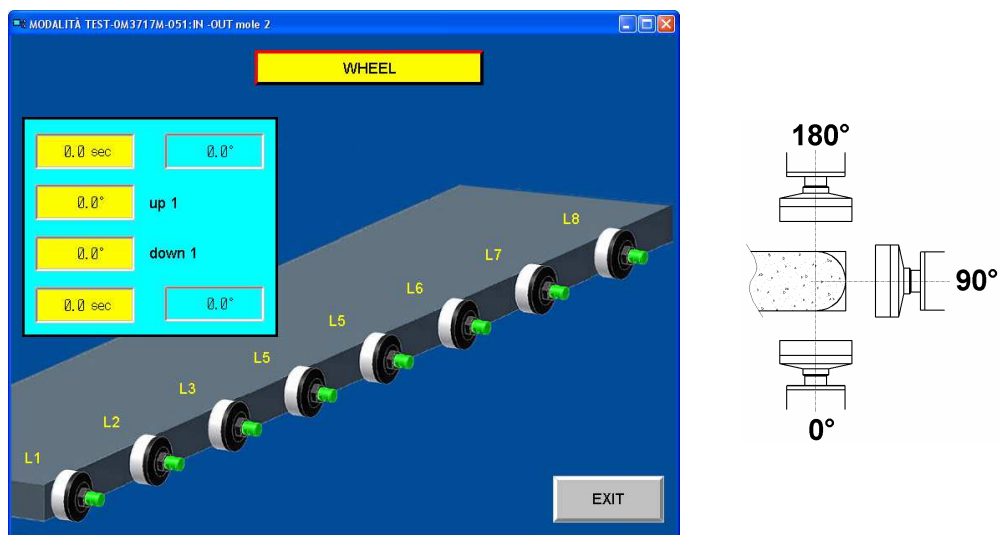
1. Set the value in degrees of the minimum starting height, for example 90°.
2. Set the stop time value in seconds for processing the edge, for example 1.5 sec.
3. Activate floating operation for the straight edge (FLOATING OFF= DEACTIVATED / FLOATING ON= ACTIVATED)
4. Set the floating movement value in degrees (usually set at 0.2)

The value of the floating movement is tied to the value of the edge to be polished, for example: Edge value = 90°, setting a value of 0.2° the floating movement will work from 89.8° to 90.2°



5. Set the value in degrees of the maximum finish height, for example 135°.
6. Set the stop time value in seconds for processing the bevel, for example 1.5 sec.
7. Activate floating operation for the bevel (FLOATING OFF= DEACTIVATED / FLOATING ON= ACTIVATED)
8. Set the FLOATING SPEED (usually at 50%)
9. Set the oscillation speed, usually set at 100%.

When carrying out this profile it is possible to enter a specific page of the program for other settings. Press **“WHEEL”**.



For this profile to turn out well, it is important to first consider that the first polishing grinding wheels, as in the coarse grained ones, can be damaging when carrying out rounded corners and it is therefore best to avoid their use. For this reason the page is pre-set for this mode depending on the grinding wheels in use, the material to be treated and the desired result.

L1÷L6 = selection mode for the necessary grinding wheels, by pressing the corresponding areas.

down 1 = angle height (value in degrees) of the pressurised intervention of the descending spindle.

sec. = intervention time (value in seconds) of the spindle to the set position (value in degrees).

up 1 = angle height (value in degrees) of the pressurised intervention of the ascending spindle.

Press **"EXIT"** to return to the STRAIGHT EDGE + UPPER BEVEL EDGE.

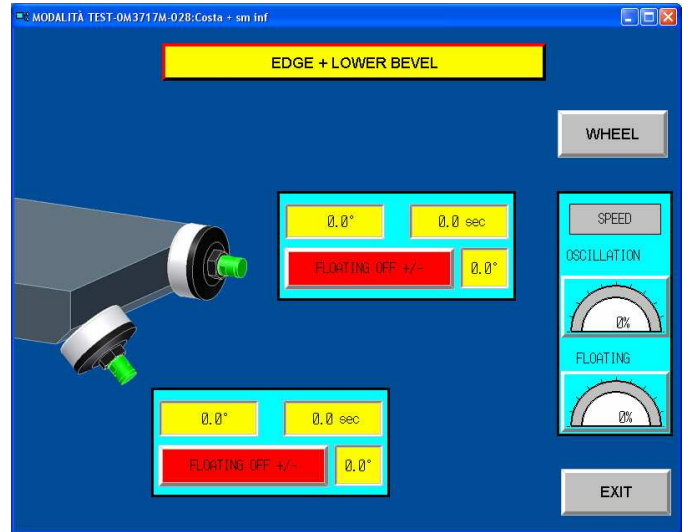
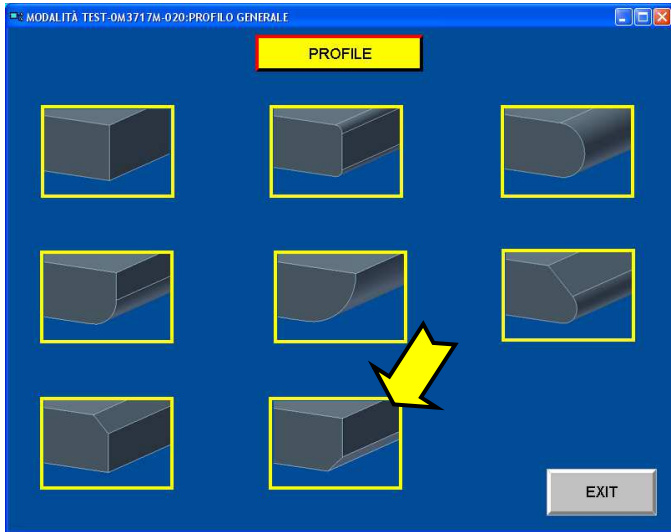
Press **"EXIT"** to return to the menu.

From the page of the main menu, set piece thickness.

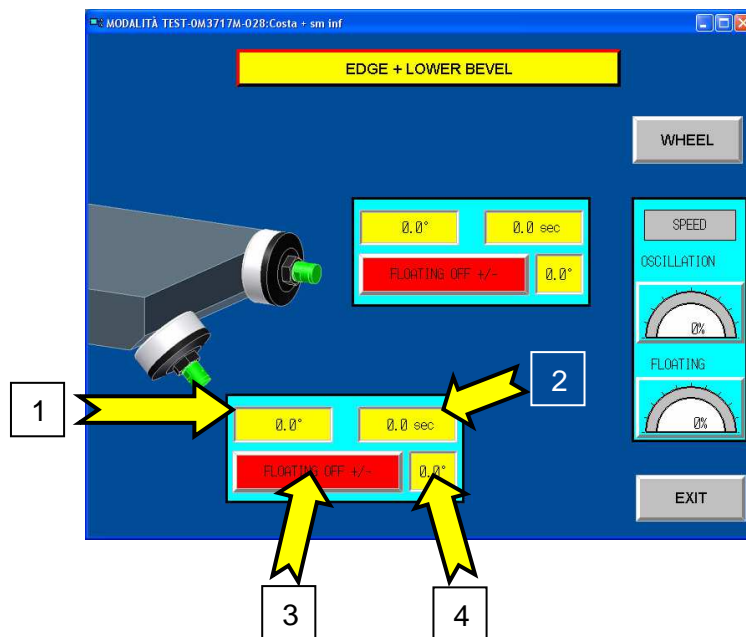
Press the green **START** button to start the processing.

PROGRAMMING THE "STRAIGHT EDGE + UPPER BEVEL"

From the profile MENU select the *Straight Edge + Lower bevel*, the following screen will appear.

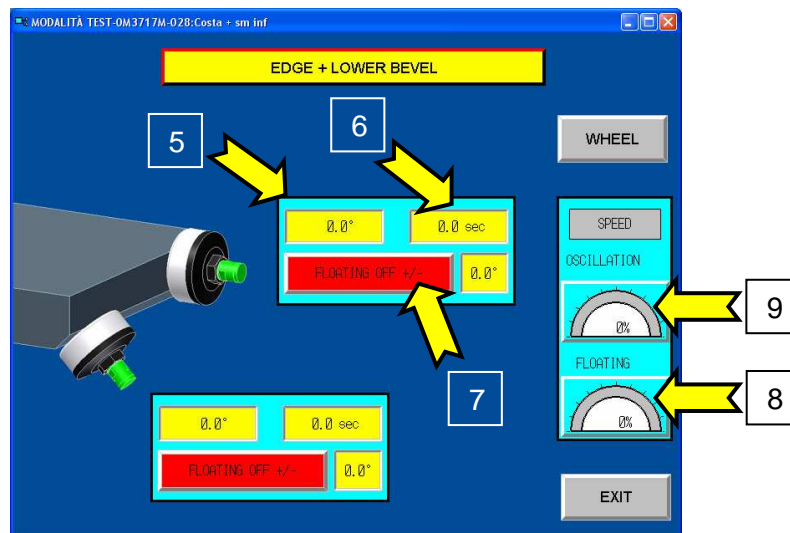


To program the *Straight Edge + Lower Bevel Edge* parameters, proceed as follows:



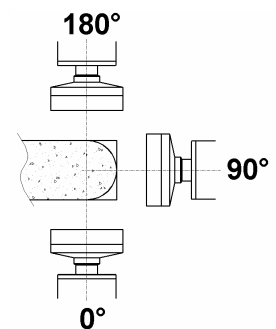
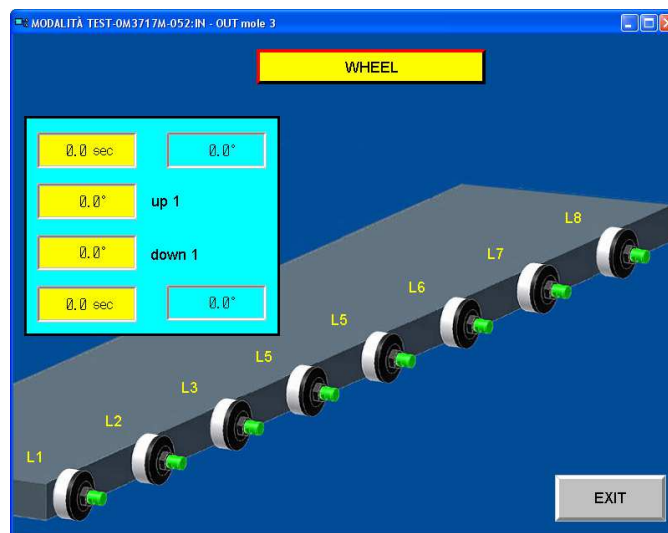
1. Set the value in degrees of the minimum starting height, for example 45°.
2. Set the stop time value in seconds for processing the bevel, for example 1.5 sec.
3. Activate floating operation for the bevel (FLOATING OFF= DEACTIVATED / FLOATING ON= ACTIVATED)
4. Set the floating movement value in degrees (usually set at 0.2)

The value of the floating movement is tied to the value of the edge to be polished, for example: Edge value = 90°, setting a value of 0.2° the floating movement will work from 89.8° to 90.2°



5. Set the value in degrees of the maximum finish height, for example 90°.
6. Set the stop time value in seconds for processing the edge, for example 1.5 sec.
7. Activate floating operation for the edge (FLOATING OFF= DEACTIVATED / FLOATING ON= ACTIVATED)
8. Set the FLOATING SPEED (usually at 50%)
9. Set the oscillation speed, usually set at 100%.

When carrying out this profile it is possible to enter a specific page of the program for other settings. Press “WHEEL”.



For this profile to turn out well, it is important to first consider that the first polishing grinding wheels, as in the coarse grained ones, can be damaging when carrying out rounded corners and it is therefore best to avoid their use. For this reason the page is pre-set for this mode depending on the grinding wheels in use, the material to be treated and the desired result.

L1÷L6 = selection mode for the necessary grinding wheels, by pressing the corresponding areas.

down 1 = angle height (value in degrees) of the pressurised intervention of the descending spindle.

sec. = intervention time (value in seconds) of the spindle to the set position (value in degrees).

up 1 = angle height (value in degrees) of the pressurised intervention of the ascending spindle.

Press **"EXIT"** to return to the STRAIGHT EDGE+ LOWER BEVEL EDGE.

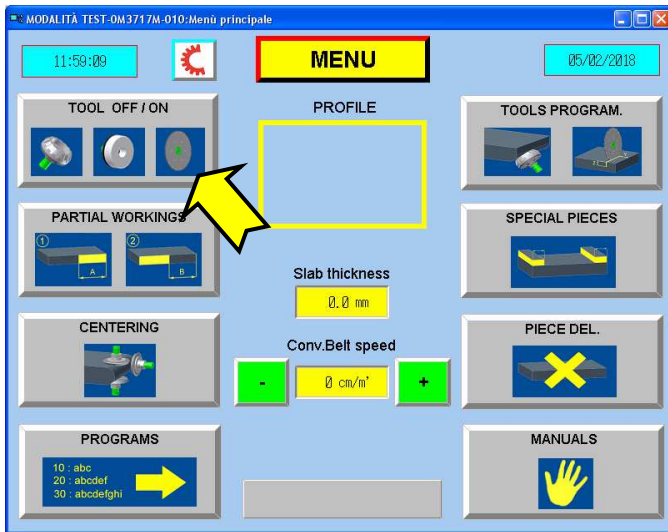
Press **"EXIT"** to return to the menu.

From the page of the main menu, set piece thickness.

Press the green **START** button to start the processing.

UNITS ENABLING

From the MAIN MENU press **TOOL OFF/ON** and the display will show:



In this screen it displays the units that make up the machine.

When carrying out a processing, the necessary ones must be activated while the ones that are not to be used during the processing must be left inactive.

CAL = horizontal calibrator unit.

QM = calibrator or cutting unit.

G1 = lower tilted wheel to prevent bevelling of the slabs when carrying out toroidal shapes or bevels at 45°.

G2 = upper tilted wheel to prevent bevelling of the slabs when carrying out toroidal shapes or bevels at 45°.

TAG 1 = upper groove unit (optional).

(G3-L1) = spindle with generating wheel to form a toroidal shape.

L2÷L6 = spindles for polishing the edges (oscillating).

L7÷L11 = spindles for polishing the straight edges (floating).

S1÷S4 = spindles for polishing bevels at 45°.

MV1 = spindle smooth the gauged band.

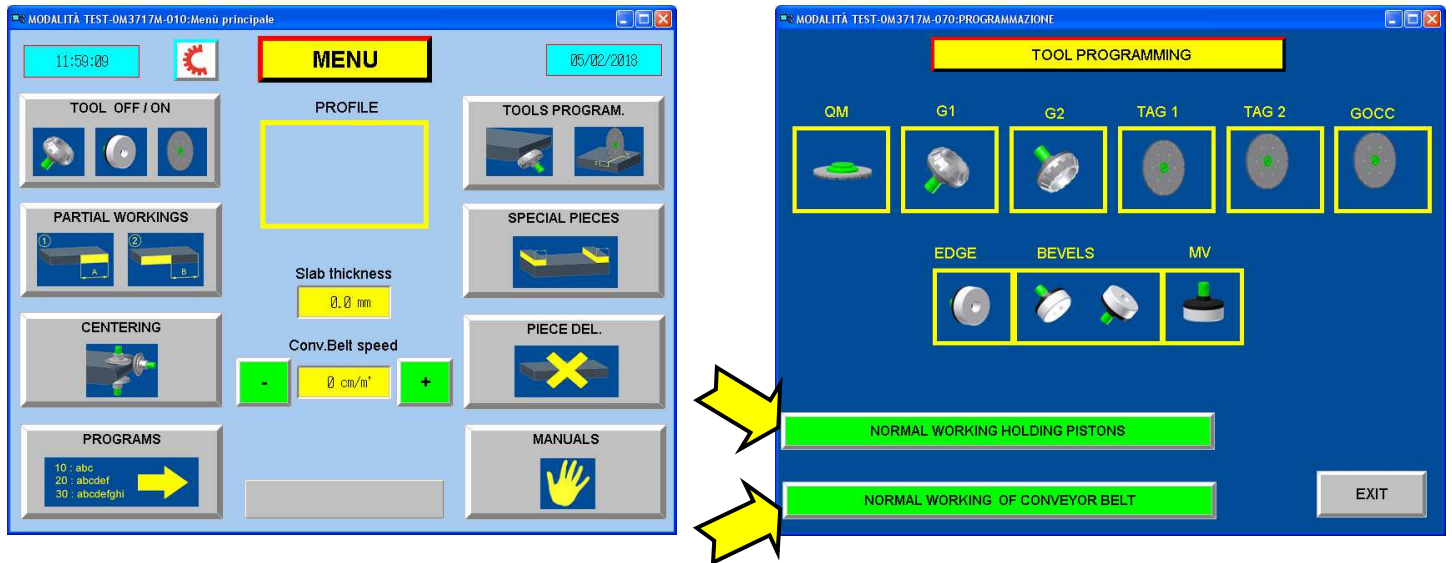
Tools enabling:

To enable/disable the tools, press the corresponding icon in order to preclude or include the tool. (e.g. L1 ON/OFF)

Press “**ESCI (EXIT)**” to return to the main menu.

TOOLS PROGRAMMING

From the MAIN MENU press TOOLS PROGRAMMING and the display will show:



From this page you can access programming:
QM,G1,G2,TAG1,CAL,GOCC,COSTE/SMUSSI/MV

By pressing the “*NORMAL WORKING HOLDING PISTONS*” key, it is possible to activate two modes regarding the slab stopping clamps, that is:

- Normal working holding pistons: meaning that all machine clamps are activated to block the slab at the proper time, during its path through the machine.
- Holding pistons up at working end: in this case it means that for slab processing only clams up to the last operational unit are activated, in order to be able to remove the piece without waiting for ascent of the last machine clamp. For example: for processing with the QM unit, the upper bevelling unit and the lower bevelling unit, it is only possible to remove the slab from the machine once the piece has passed the last unit being processed.

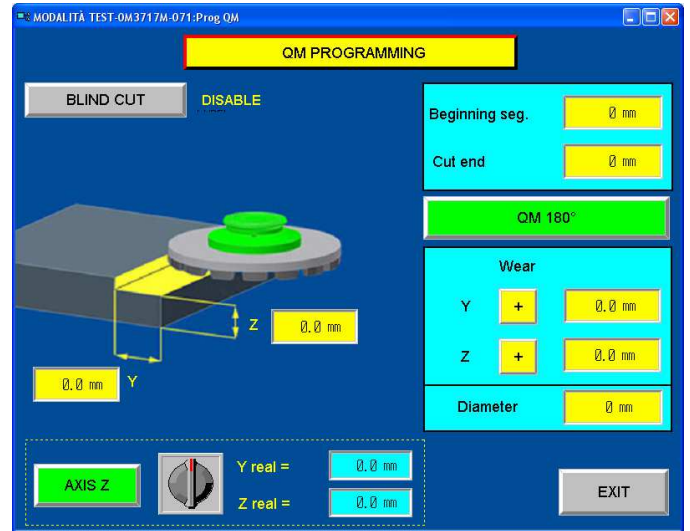
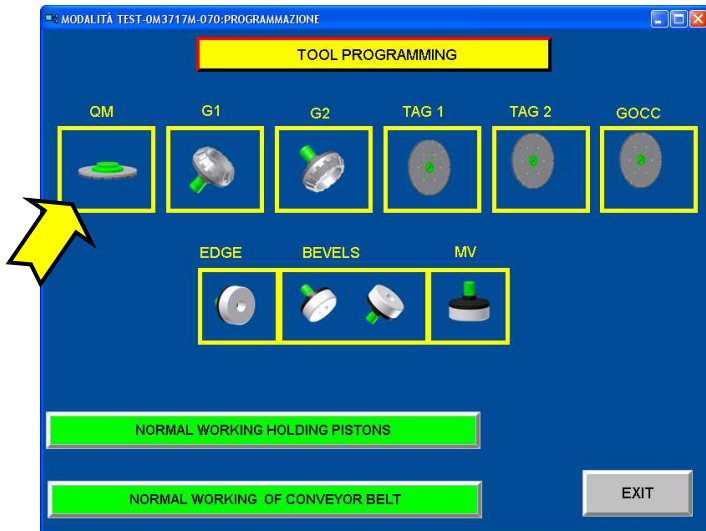
By pressing the “*NORMAL WORKING OF CONVEYOR BELT*” key, it is possible to activate two modes regarding conveyor belt operation, that is:

- Normal working of conveyor belt : meaning that the belt stop is tied to the STOP of the automatic cycle.
- Conveyor belt stop with machine empty: meaning that the belt stop occurs automatically once there are no longer any pieces on the belt to be processed.

Press “*EXIT*” to return to the main menu.

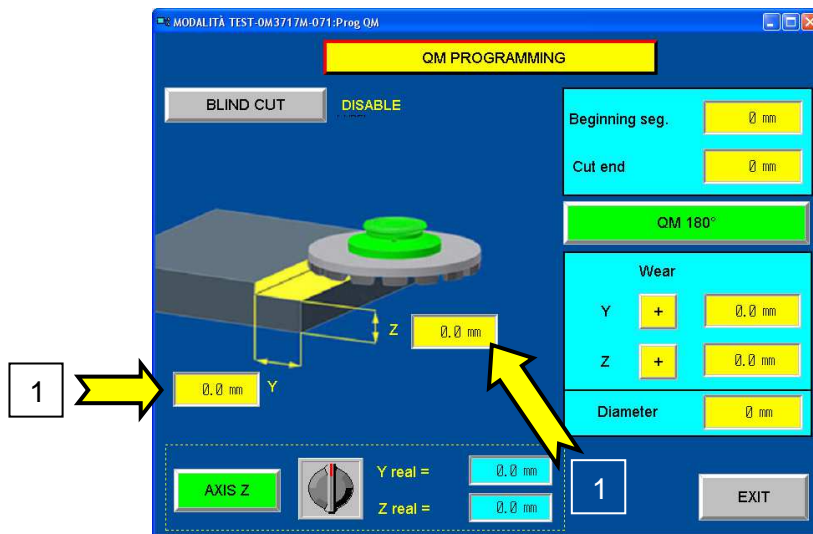
QM CALIBRATOR PROGRAMMING (Optional)

From the **Tools programming** MENU, select the **QM** icon, the following screen will appear.



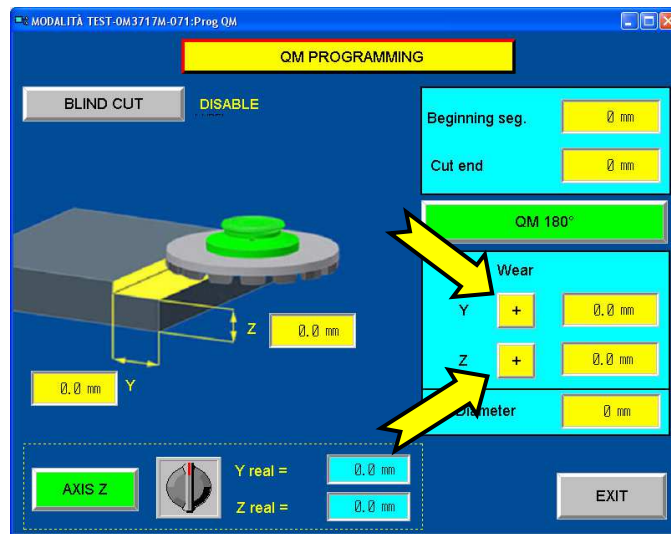
In this page you insert the value of the diameter and the intervention and detachment points of the QM unit, for processing vertical cuts.

To program QM calibrator programming parameters, proceed as follows:

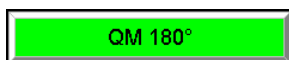
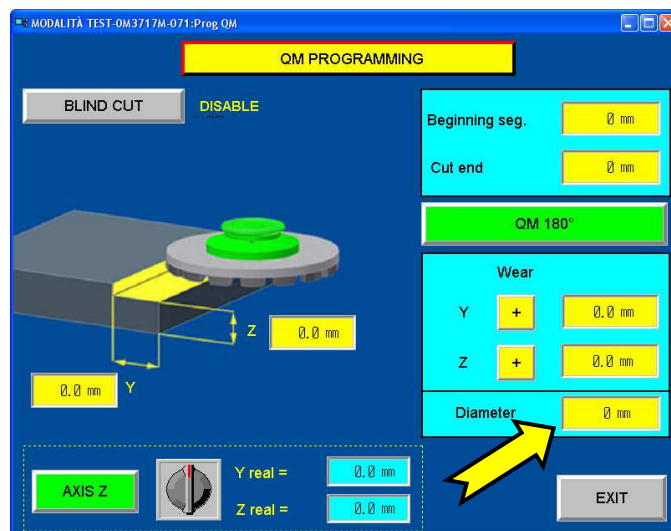


1. Set the width "Y" and height "Z" value of the cut, expressed in millimetres.

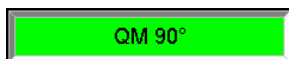
It is also possible to enter corrections “+” or “-” on the “Y” and “Z” values, to modify final programmed positions (for example with “Y+” the unit will enter the horizontal piece more, while with “Z+” the unit will descend more).



2. Set the diameter value of the disk “D”.



normal calibrator operation.



the unit is in position to rectify the edge.

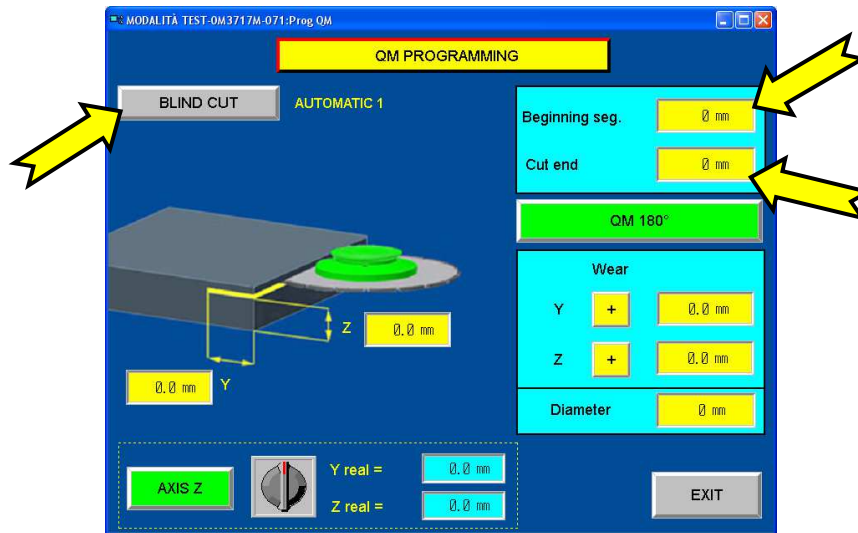
Press “EXIT” to return to the “tools programming” menu.

Press “EXIT” to return to the menu.

From the page of the main menu, set piece thickness.

Press the green START button to start the processing.

Press “**BLIND CUT**” to select unit operational mode:



BLIND CUT DISABLE: the cut is completed throughout the entire length of the slab based on the Y and Z values.

By pressing “**BLIND CUT**” the wording Disable changes to **AUTOMATIC 1**: the cut is not completed for the entire length of the piece, but only for a part of it, based on the parameters inserted in “Beginning seg.” and “Cut end”.

Initial segment: start measurement referred to the start of the piece.

End of cut: start measurement referred to the start of the piece.

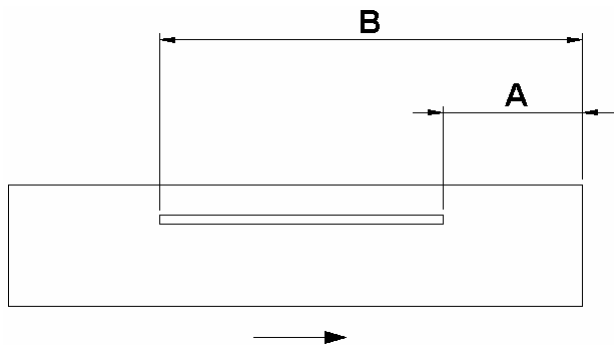


Fig. 1

Example with piece L=1000
Beginning seg. (A): 300
Cut end (B): 800

The start of the cut is programmed using the “Beginning seg.” while the end of the cut uses “Cut end”;

Once again press “**BLIND CUT**” the wording **Automatic 1** changes to **AUTOMATIC 2**

The automatic cut **AUTOMATIC 2** has the same operational characteristics as AUTOMATIC 1, but is characterised by the fact that the conveyor belt stops for the cut start and end moments.

Press “**BLIND CUT**” the wording **Automatic 2** changes to **MANUAL 1**

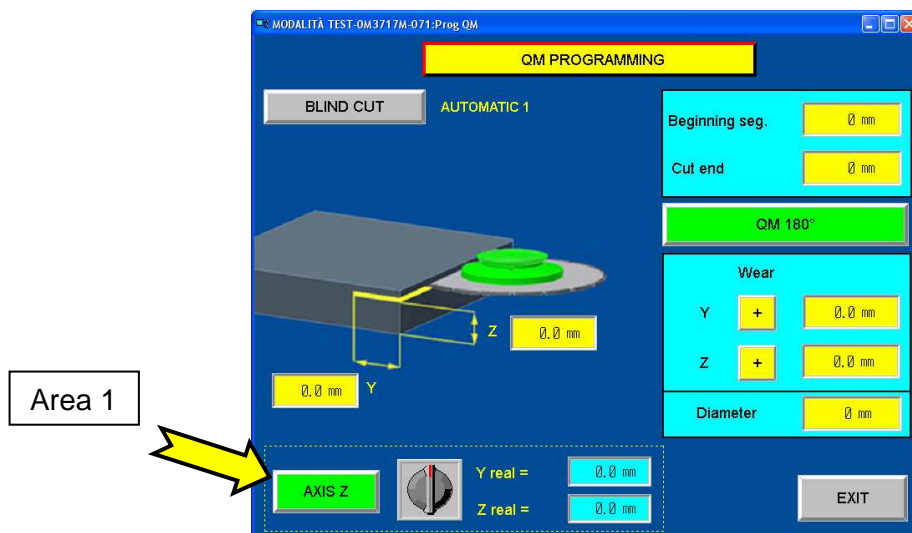
Automatic cut **MANUAL 1**: In this mode it is responsibility of the operator to choose the most suitable moment for the start and the end of the cut operation, using the pushbutton panel. When the piece reaches the desired point, by pressing the E key the unit advances and penetrates the slab that allows cut execution by continuing its movement. Thereafter, at the most opportune moment, you press the F key that allows detachment of the disk and will bring the unit to the rest point.

Press "**BLIND CUT**" the wording **Manual 1** changes to **MANUAL 2**

The automatic cut **MANUAL 2** has the same operational characteristics as Automatic cut **MANUAL 1**, but is characterised by the fact that the conveyor belt must stop for the cut start and end moments.

During the processing it is possible to modify positions Y and Z (*Dotted Area*) if the automatic cut is disabled:

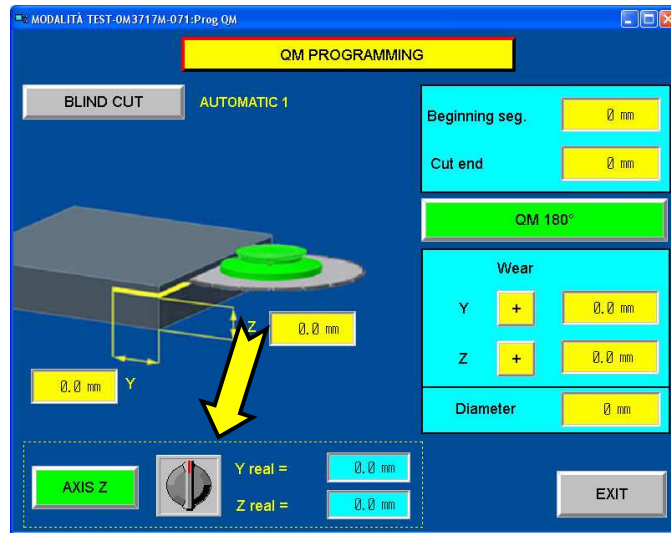
Press "Area 1" to select the Y or Z axis.



Move the selector C on the control panel to position 1 to have the disk enter the piece and in position 2 to make it come out,



(the drawing of selector C flashes, indicating that the movement is in manual mode)



As a result the *actual* Y or Z parameters indicate the actual processing values.

If position Y or Z is changed manually, it will remain memorised until a reset cycle is carried out, or it is disabled or the processing parameters are changed (the selector C stops flashing highlighting the end of the manual movement).

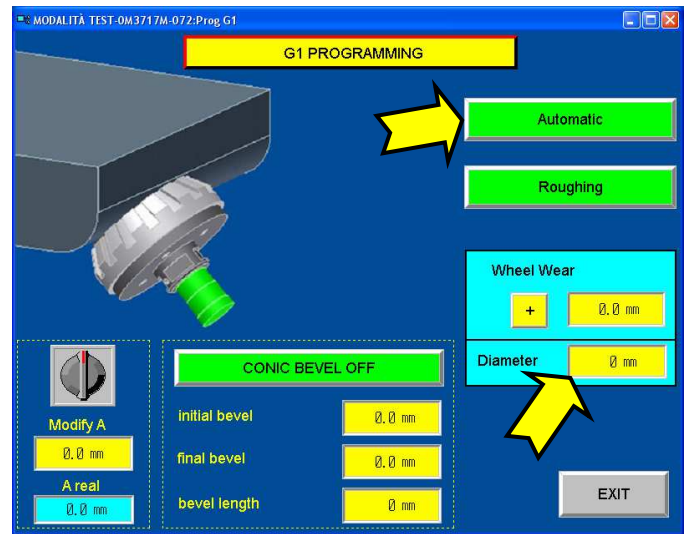
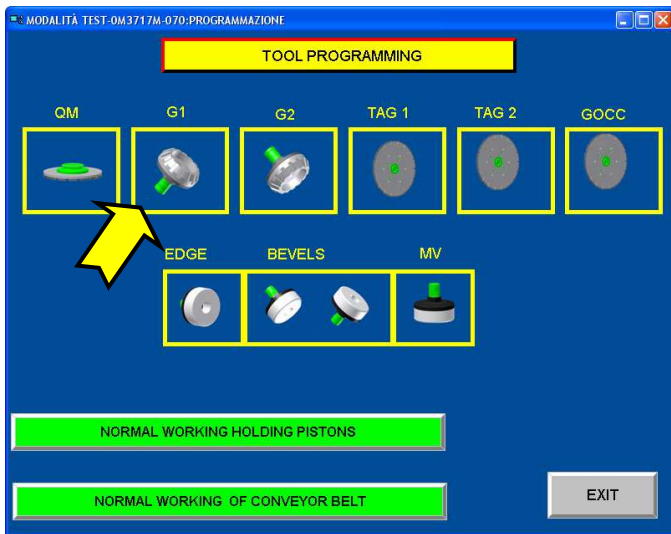
If the QM is tilted, it is only possible to move it manually using selector C, all automatic positions are disabled.

ATTENTION : When the QM is tilted, if disabled it does not move to the rest position, therefore verify that it does not collide with pieces for the subsequent processing;
When turning on the electrical panel, if the QM is tilted, it does not carry out the reset cycle but remains stopped, therefore it verifies that it does not collide with pieces from subsequent processing.

Press “EXIT” to return to the “Tools Programming” menu.

PROGRAMMING BEVEL GENERATING "G1"

From the **Tools programming** MENU, select the **G1** icon, the following screen will appear.

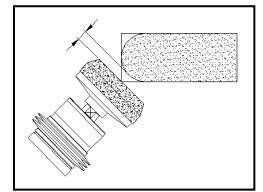


The interested unit is necessary if needing to remove the excess material of a slab for its toroidal shaping or to simply carry out bevels at 45° of the desired size.

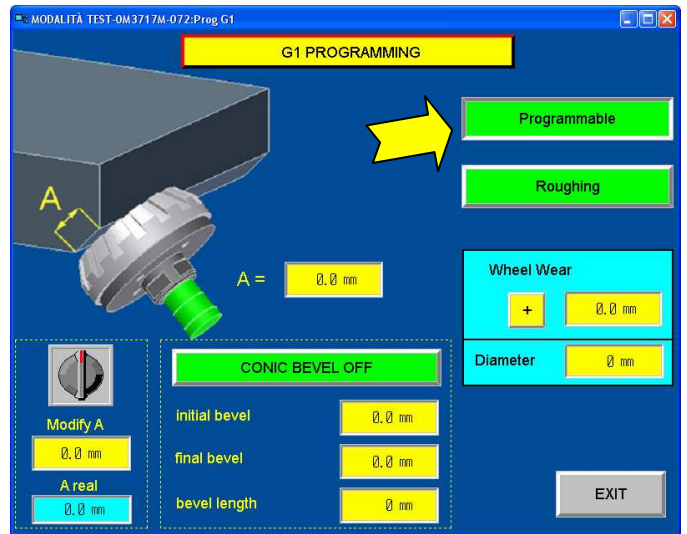
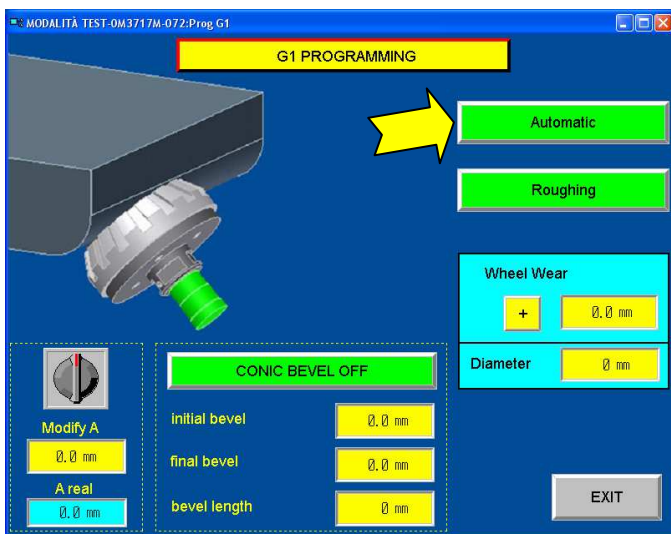
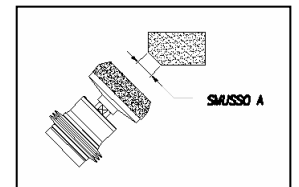
AUTOMATIC: it is calculated for movement to remove the excess material to carry out the toroidal shape processing.

Simply set the diameter of the wheel used.

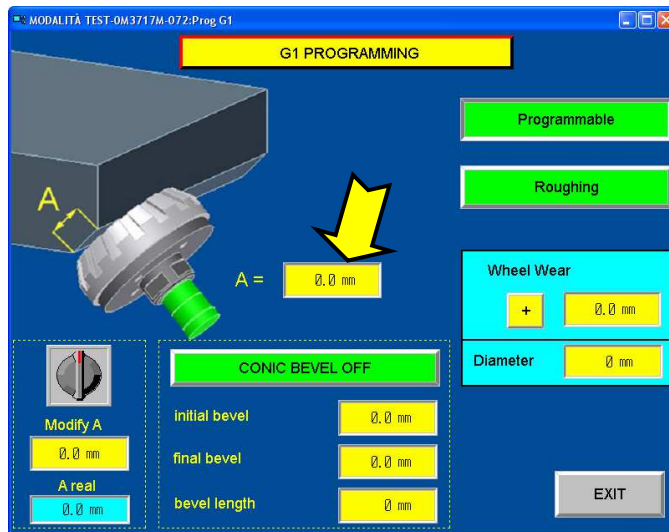
The exclusive processing that can be set is "ROUGHING".



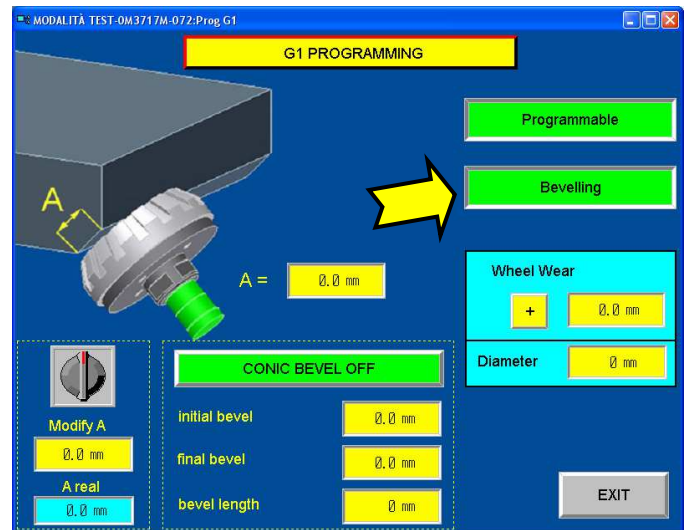
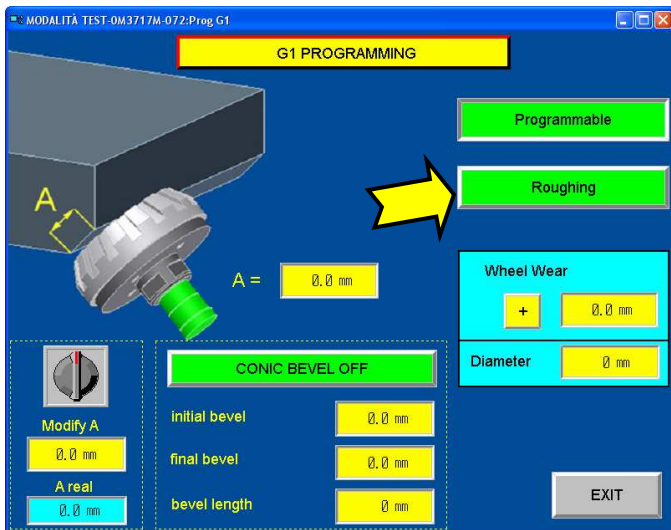
PROGRAMMABLE: this mode is necessary when needing to program a bevel at 45° of a specific size. The value of the bevel (its effective width) it must be inserted in the parameter A.



Insert the value in parameter A as in the actual value of the bevel size. The value is defined in mm. It is only active in programming mode.



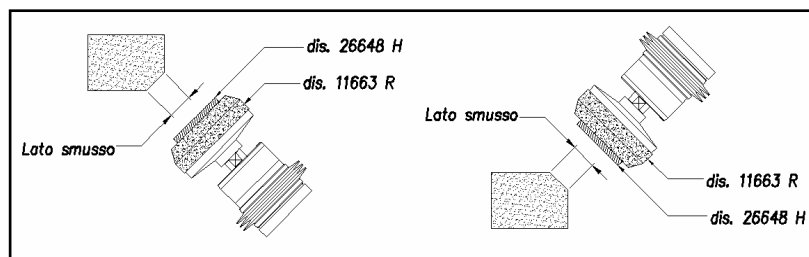
In this mode it is possible to set both the "Roughing" and the "Bevelling" function. The "Roughing" function is the mode that also removes large quantities of material, the "Bevelling" functions is the mode for removing minimum quantities of material.



ROUGHING/ BEVELLING: choosing the wheel on the spindle.

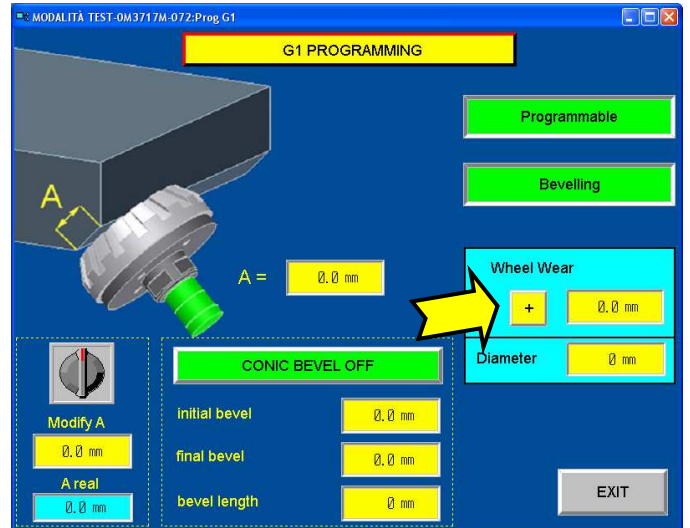
ROUGHING = wheel with reference drawing 11663R.

BEVELLING = wheel with reference drawing 26648H.



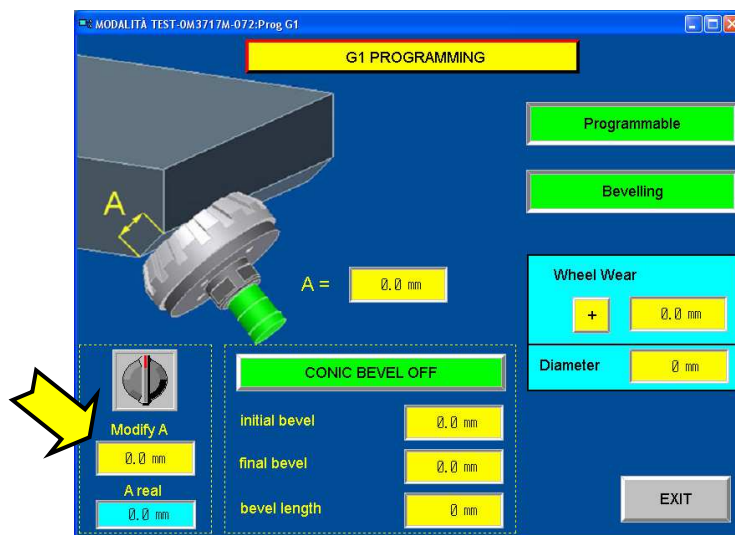
With BEVELLING it is only possible to use programmable mode, the bevel must be of modest dimensions.

WHEEL WEAR: this parameter makes it possible to modify the wheel thickness value to complete the bevel. The modification, based on the value (+), means that the wheel has a thickness that is less than what is defined by the design drawing, or that it was subject to such a consumption that it requires a change in values. Modify the value (-) when the wheel has a thickness that is greater than the one defined by the design drawing.



During processing it is possible to modify the size of the bevel (*Dotted Area*):

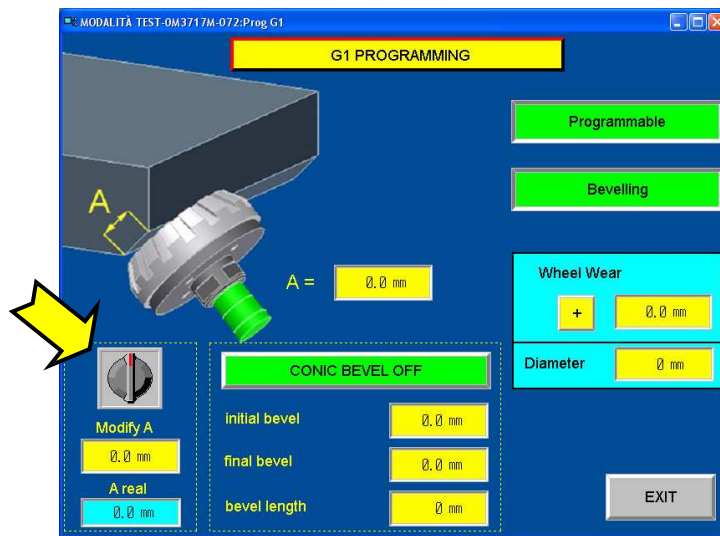
- Enter the bevel variation for the parameter “Modify A”.



move the selector C on the control panel to position 1 to increase the bevel and in position 2 to decrease it,

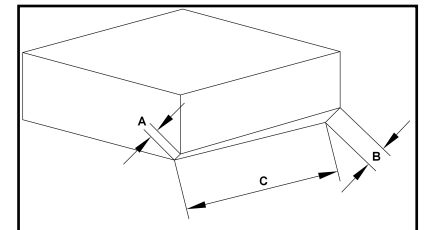


(the drawing of selector C flashes, indicating that the movement is in manual mode), as a result the *actual* parameter A indicates the actual value of the bevel.

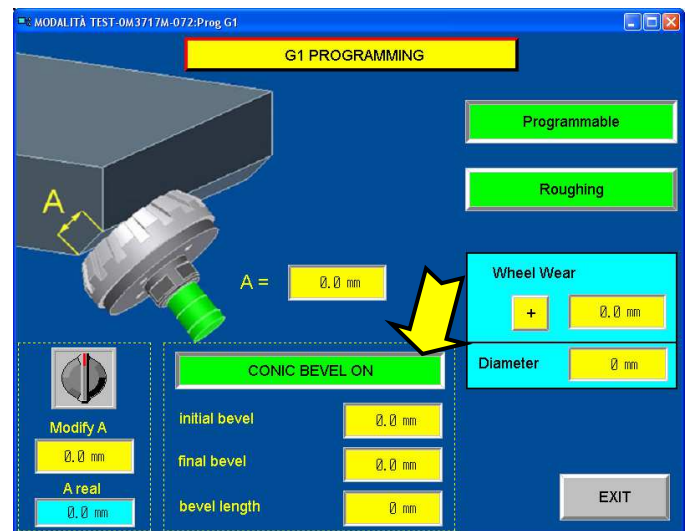
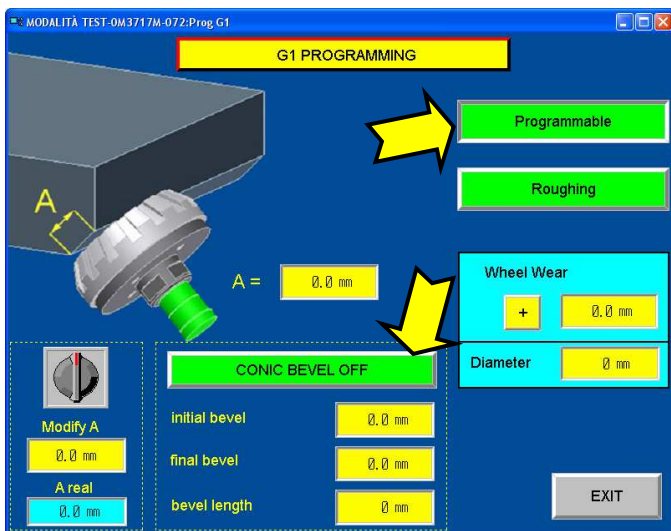


If the bevel is changed manually, its position will remain memorised until a reset cycle is carried out, or it is disabled or the bevel processing parameters are changed (the drawing of selector C stops flashing highlighting the end of the manual movement).

Conic bevel: it is the mode to be set when wanting to complete a bevel with different initial and final size
 A: initial bevel; B: final bevel, C: bevel length



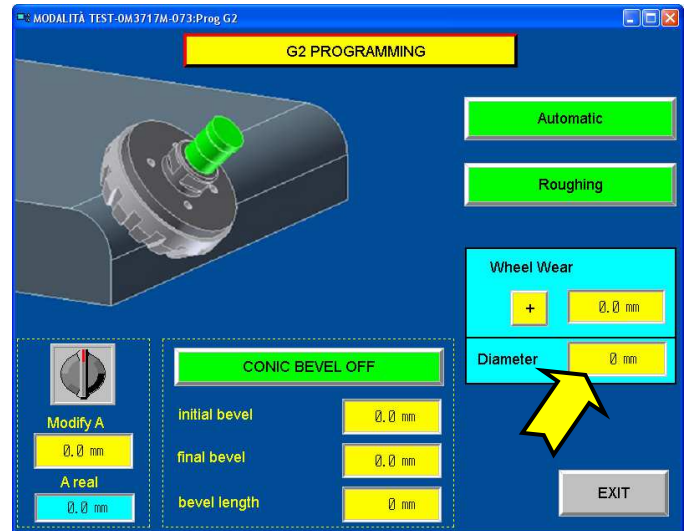
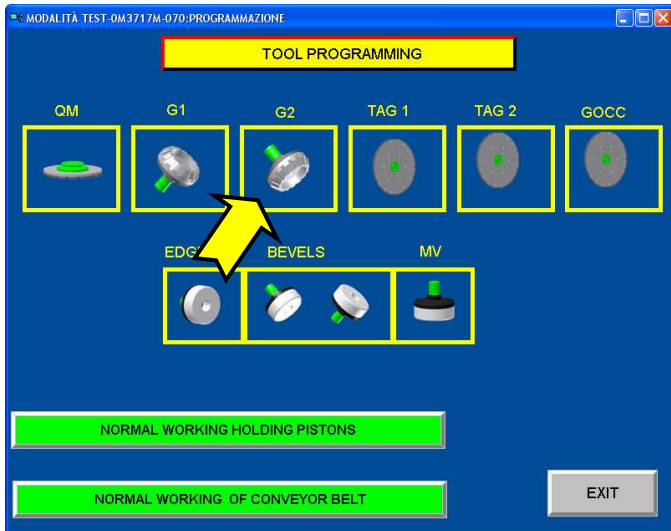
Set the programming mode. Then activate the conic bevel mode.



Set the desired values.
 Press "EXIT" to return to the "Tools Programming" menu.

PROGRAMMING BEVEL GENERATING "G2"

From the **Tools programming** MENU, select the **G2** icon, the following screen will appear.

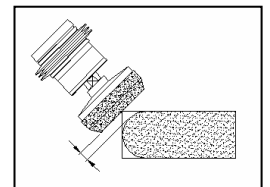


The interested unit is necessary if needing to remove the excess material of a slab for its toroidal shaping or to simply carry out bevels at 45° of the desired size.

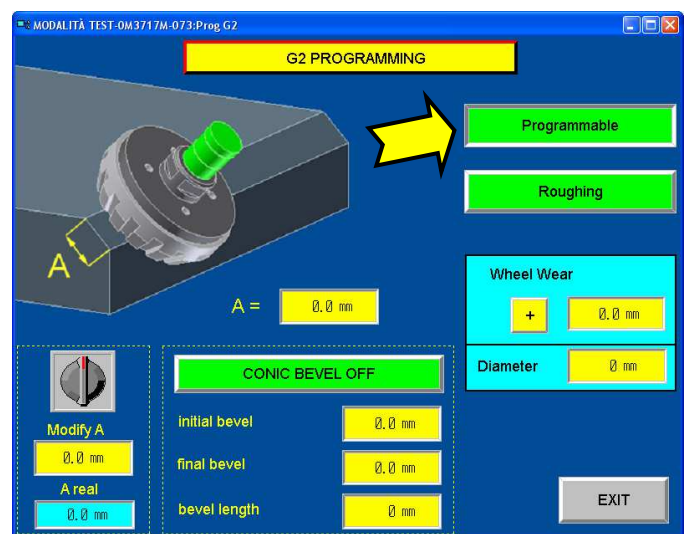
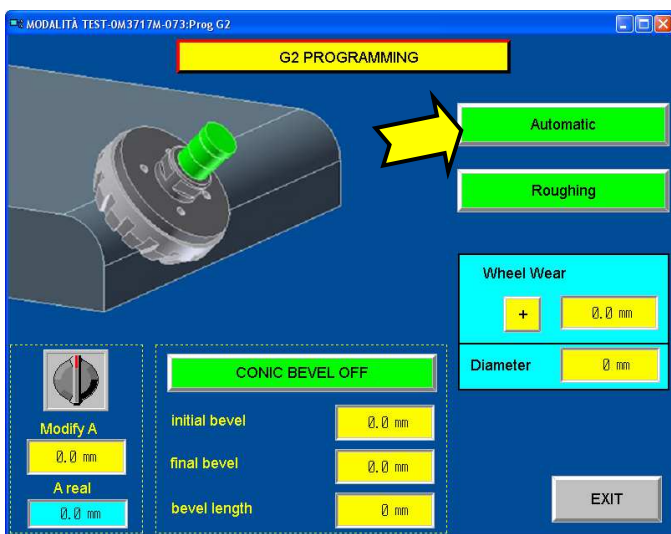
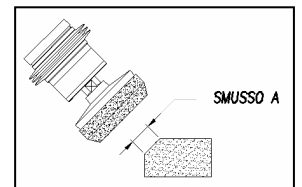
AUTOMATIC: it is calculated for movement to remove the excess material to carry out the toroidal shape processing.

Simply set the diameter of the wheel used.

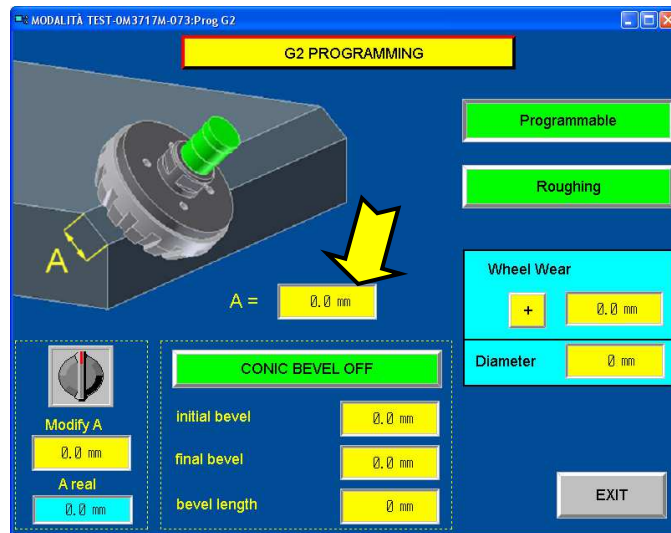
The exclusive processing that can be set is ***"ROUGHING"***.



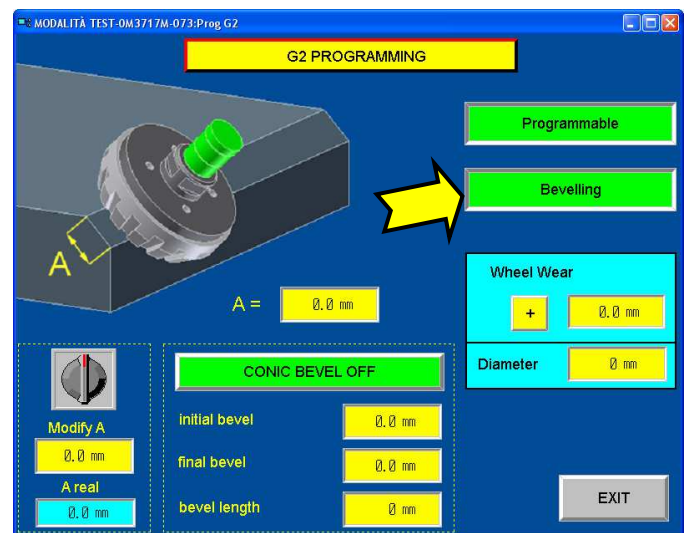
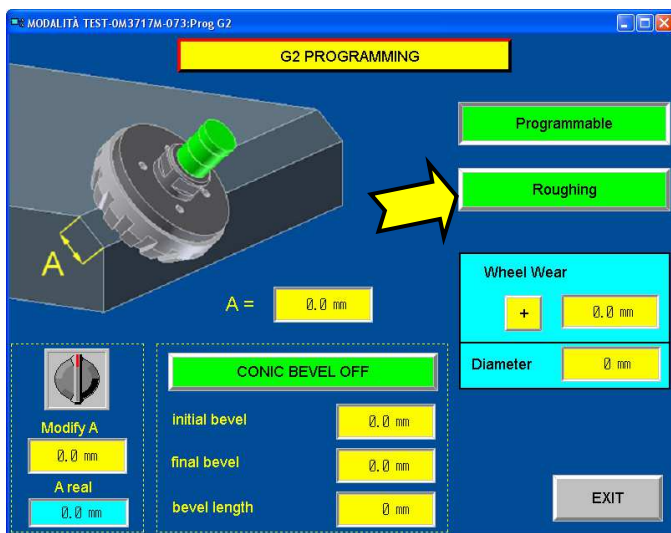
PROGRAMMABLE: this mode is necessary when needing to program a bevel at 45° of a specific size. The value of the bevel (its effective width) it must be inserted in the parameter A.



Insert the value in parameter A as in the actual value of the bevel size. The value is defined in mm. It is only active in programming mode.



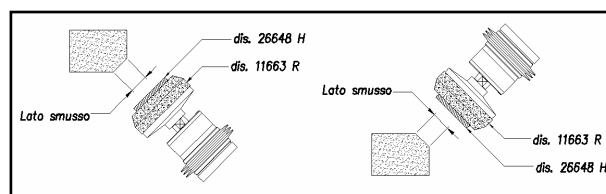
In this mode it is possible to set both the “*Roughing*” and the “*Bevelling*” function. The “*Roughing*” function is the mode that also removes large quantities of material, the “*Bevelling*” function is the mode for removing minimum quantities of material.



ROUGHING/ BEVELLING: choosing the wheel on the spindle.

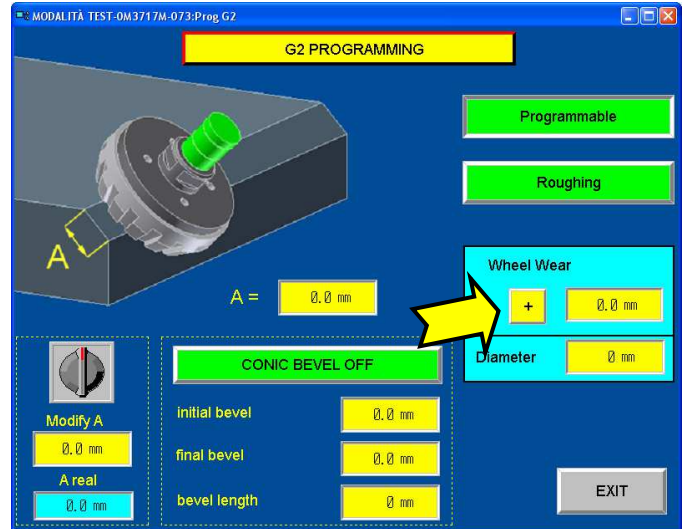
ROUGHING = wheel with reference drawing 11663R.

BEVELLING = wheel with reference drawing 26648H.



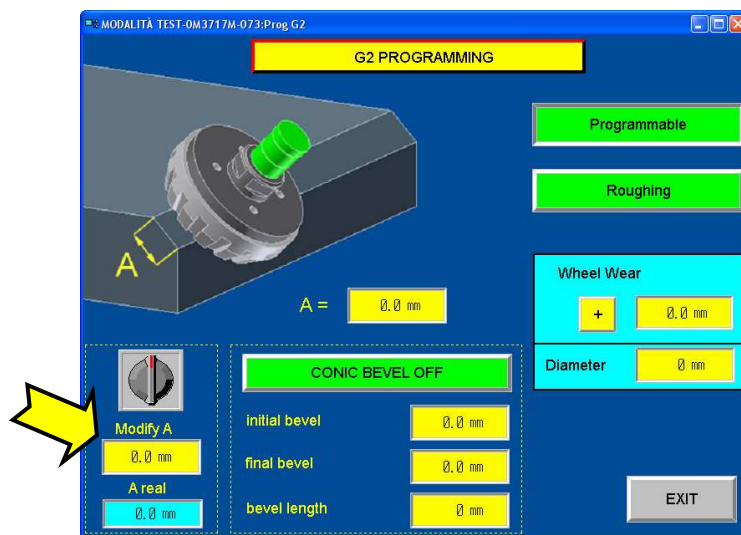
With BEVELLING it is only possible to use programmable mode, the bevel must be of modest dimensions.

WHEEL WEAR: this parameter makes it possible to modify the wheel thickness to complete the bevel. The modification, based on the value (+), means that the wheel has a thickness that is less than what is defined by the design drawing, or that it was subject to such a consumption that it requires a change in values. Modify the value (-) when the wheel has a thickness that is greater than the one defined by the design drawing.



During processing it is possible to modify the size of the bevel (*Dotted Area*):

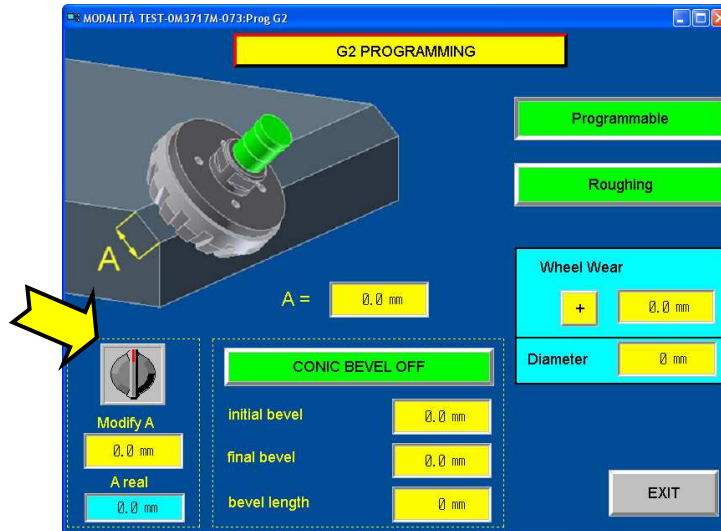
- Enter the bevel variation for the parameter “Modify A”.



- move the selector C on the control panel to position 1 to increase the bevel and in position 2 to decrease it

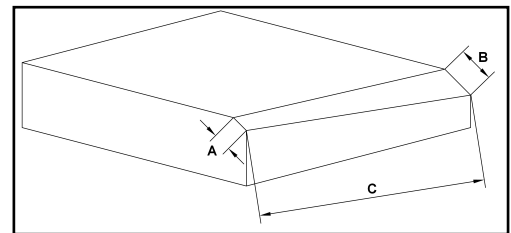


(the drawing of selector C flashes, indicating that the movement is in manual mode), as a result the *actual* parameter A indicates the actual value of the bevel.

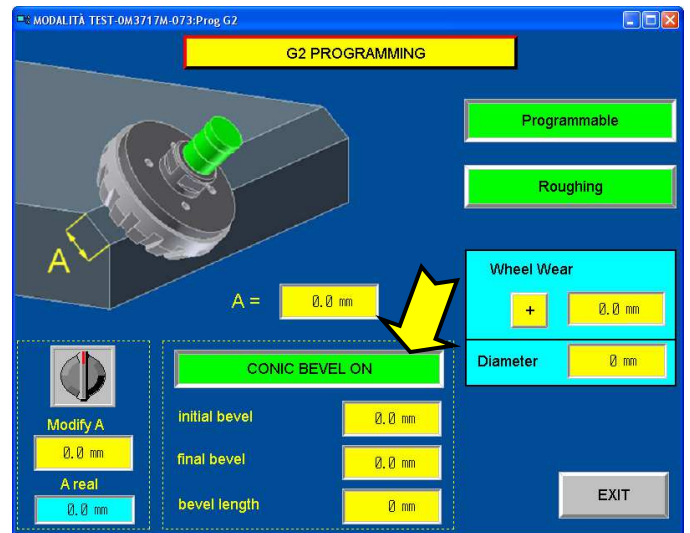
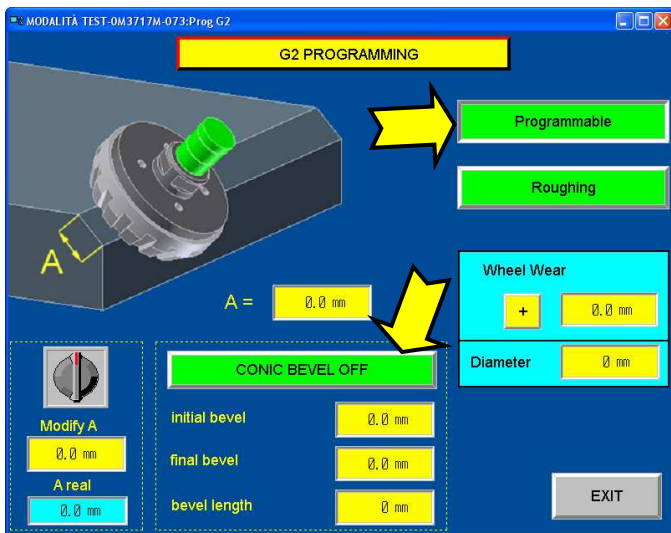


If the bevel is changed manually, its position will remain memorised until a reset cycle is carried out, or it is disabled or the bevel processing parameters are changed (selector C stops flashing highlighting the end of the manual movement).

Conic bevel: it is the mode to be set when wanting to complete a bevel with different initial and final size
 A: initial bevel; B: final bevel, C: bevel length



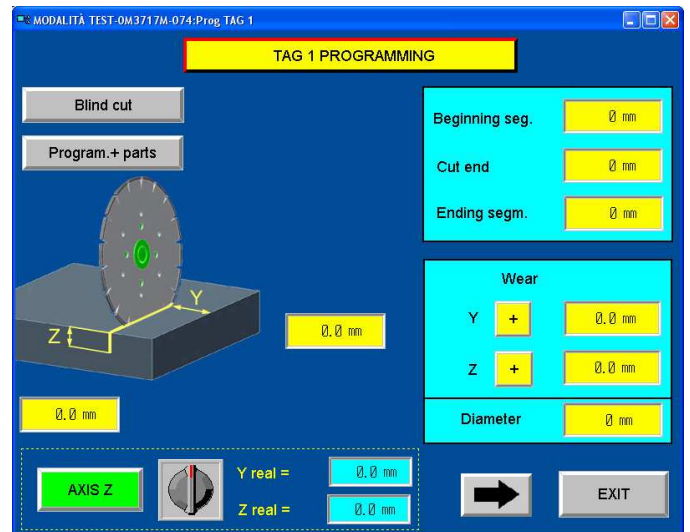
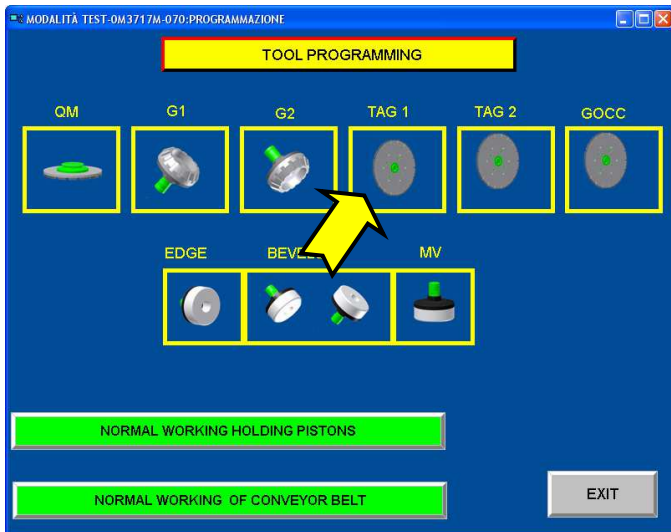
Set the programming mode. Then activate the conic bevel mode



Set the desired values.
 Press "EXIT" to return to the "Tools Programming" menu.

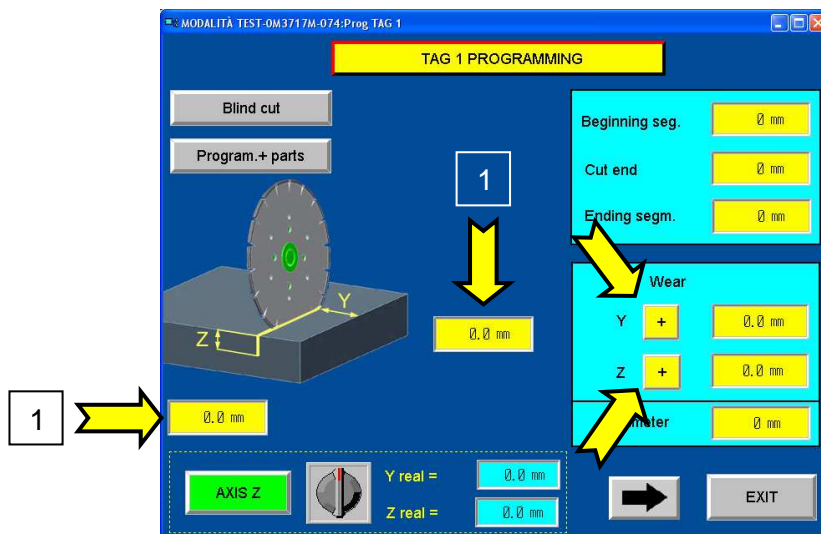
UPPER GROOVE PROGRAMMING FOR AUTOMATIC CUT (OPTIONAL)

From the **Tools programming** MENU, select the **TAG1** icon, the following screen will appear.



In this page you insert the value of the diameter and the intervention and detachment points of the Upper groove unit, for processing vertical cuts.

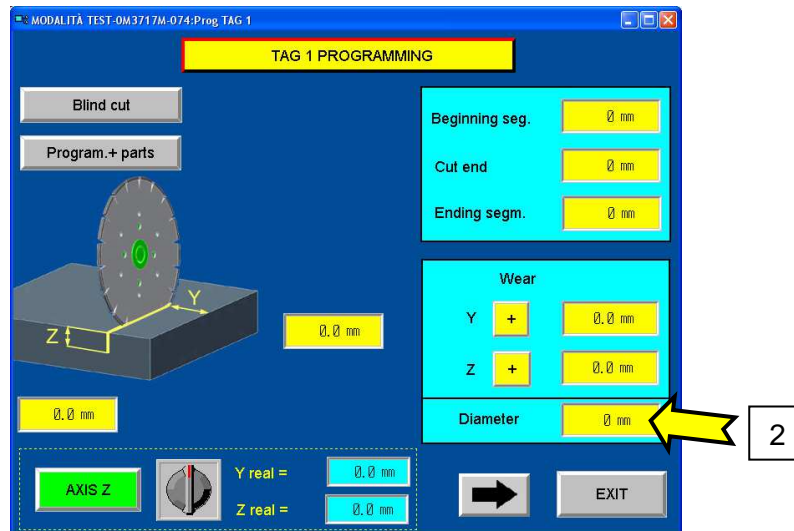
To program TAG1 upper groove programming parameters, proceed as follows:



1. Set the width "Y" and height "Z" value of the cut, expressed in millimetres.

It is also possible to enter corrections "+" or "-" on the "Y" and "Z" values, to modify final programmed positions (for example with "Y+" the unit will enter the horizontal piece more, while with "Z+" the unit will descend more).

2. Set the diameter value of the disk.



Press "EXIT" to return to the "tools programming" menu.

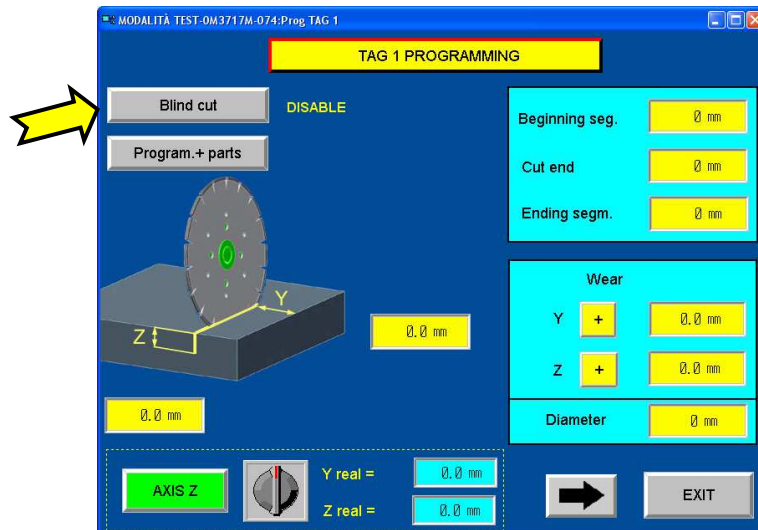
Press "EXIT" to return to the menu.

From the page of the main menu, set piece thickness.

Press the green *START* button to start the processing.

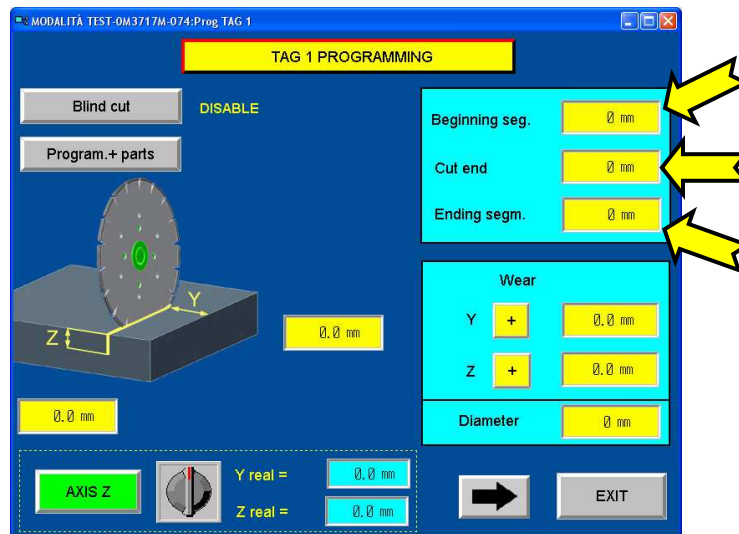
Upper Groove Unit programming to complete automatic cuts:

Press "*blind Cut*" to select unit operational mode:



BLIND CUT DISABLE: the cut is completed throughout the entire length of the slab based on the Y and Z values.

By pressing "**Blind cut**" the wording *DISABLE* changes to **AUTOMATIC 1**: the cut is not completed for the entire length of the piece, but a part based on the parameters inserted in "*Beginning seg.*", "*Ending segm.*" and "*Cut end*".



Initial segment: initial cut measurement referred to the start of the piece (Fig 1 and 2)
 End of cut: start measurement referred to the start of the piece (Fig 1)
 Final segment: end of cut measurement referred to the end of the piece (Fig 2)

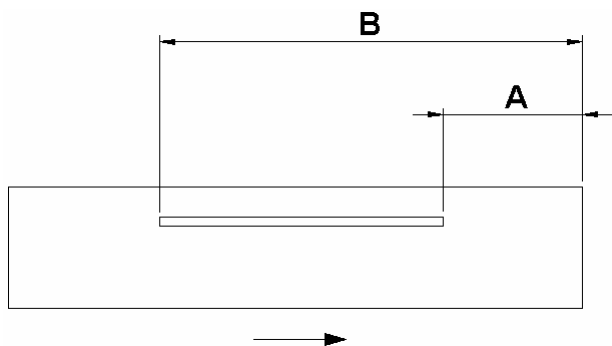


Fig. 1

Example with piece L=1000
 Initial segment (A): 300
 End of cut (B): 800
 Final segment (C): 0

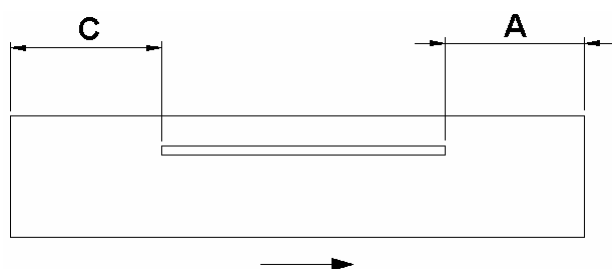


Fig. 2

Example with piece L=1000
 Initial segment (A): 300
 End of cut (B): 0
 Final segment (C): 300

The start of the cut is programmed using the "*Beginning seg.*" while the end of the cut uses "*Cut end*" (insert the value 0 in the unused parameter);
 If the "*Ending segm.*" is used, on pieces of different lengths, the one that changes (AUTOMATICALLY) will be the cut length, maintaining the final value set constant.

Press "**Blind Cut**" the wording **Automatic 1** changes to **AUTOMATIC 2**

The automatic cut **AUTOMATIC 2** has the same operational characteristics as AUTOMATIC 1, but is characterised by the fact that the conveyor belt stops for the cut start and end moments.

Press "**Blind Cut**" the wording **Automatic 2** changes to **MANUAL 1**



Automatic cut **MANUAL 1**: In this mode it is responsibility of the operator to choose the most suitable moment for the start and the end of the cut operation, using the movable pushbutton panel.

When the piece reaches the desired point, by pressing the ↓ key (descent) the unit advances and penetrates the slab that allows cut execution by continuing its movement.

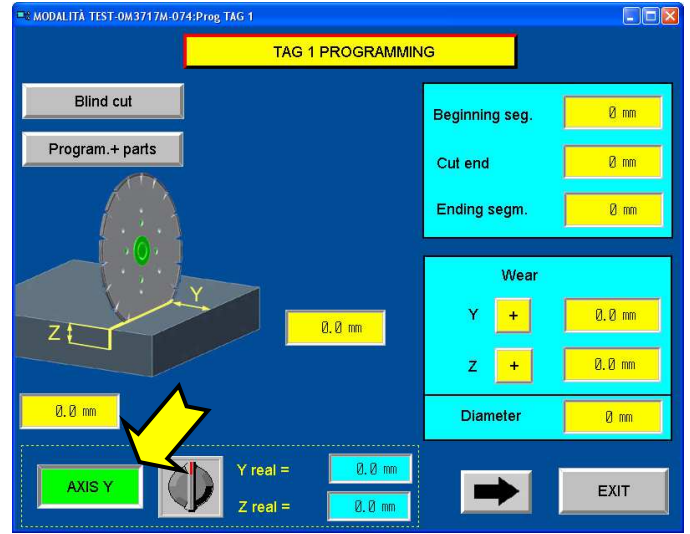
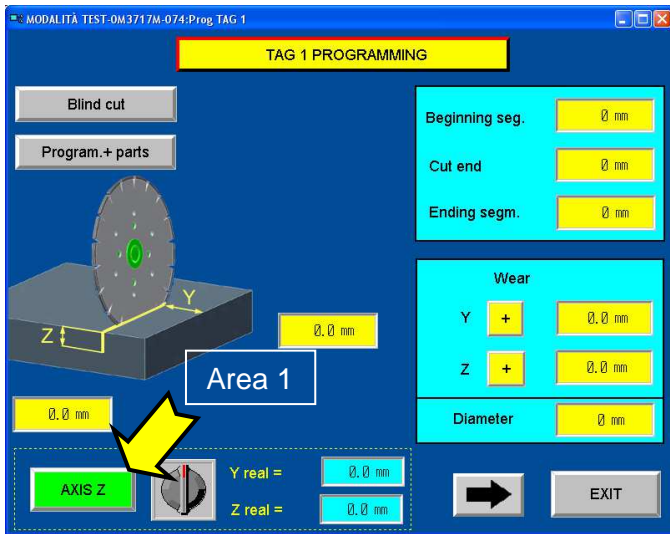
Thereafter, at the most opportune moment, you press the ↑ key (ascent) that allows detachment of the disk and will bring the unit to the rest point.

Press "**Blind Cut**" the wording **MANUAL 1** changes to **MANUAL 2**

The automatic cut **MANUAL 2** has the same operational characteristics as automatic cut **MANUAL 1**, but is characterised by the fact that the conveyor belt must stop for the cut start and end moments.

During the processing it is possible to modify positions Y and Z if the automatic cut (*Dotted Area*) is disabled:

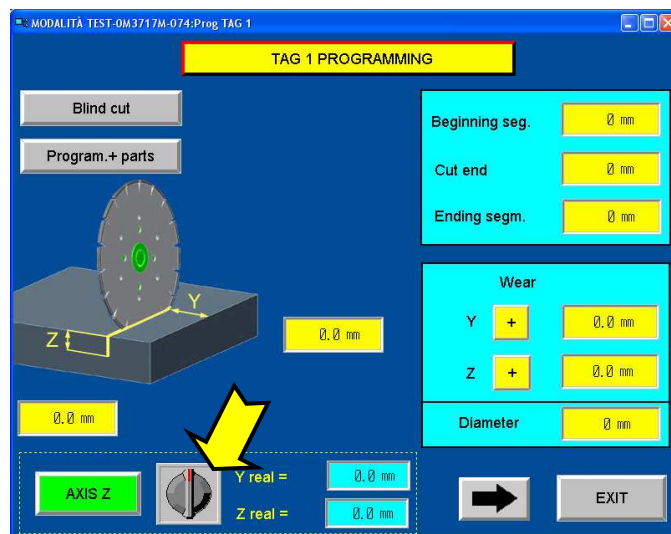
Press “Area 1” to select the Y or Z axis.



Move the selector C on the control panel to position 1 to have the disk enter the piece and in position 2 to make it come out,



(the drawing of selector C flashes, indicating that the movement is in manual mode)

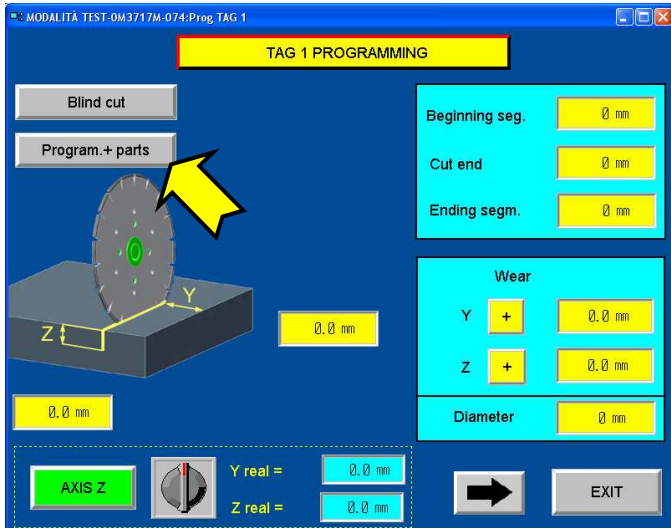


As a result the *actual* Y or Z parameters indicate the actual processing values.

If position Y or Z is changed manually, it will remain memorised until a reset cycle is carried out, or it is disabled or the processing parameters are changed (the selector C stops flashing highlighting the end of the manual movement).

If the Upper groove is tilted, it is only possible to move it manually using selector C, all automatic positions are disabled.

By pressing the "Program.+parts" key the following screen appears:



In this page it is possible to activate and complete programming for multiple pieces to complete upper groove automatic cuts.

Press the indicated button to enable/disable multi-piece programming, enter the values in the *Initial segment*, *End of cut* and *Final segment* parameters.

Press "EXIT" to return to upper groove programming.

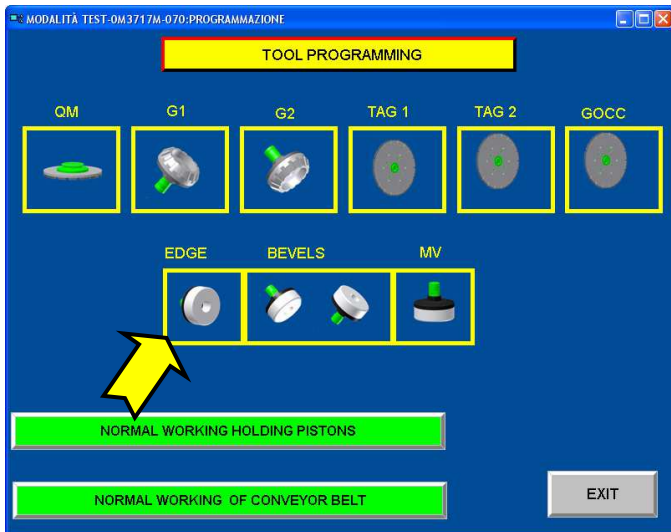
ATTENTION : When the Upper groove is tilted, if disabled it does not move to the rest position, therefore verify that it does not collide with pieces for the subsequent processing;

When turning on the electrical panel, if the Upper groove is tilted, it does not carry out the reset cycle but remains stopped, therefore it verifies that it does not collide with pieces from subsequent processing.

Press "EXIT" to return to the menu.

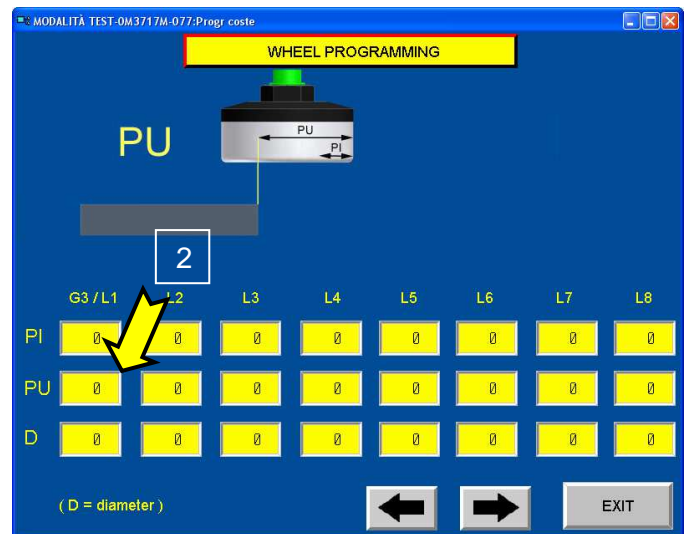
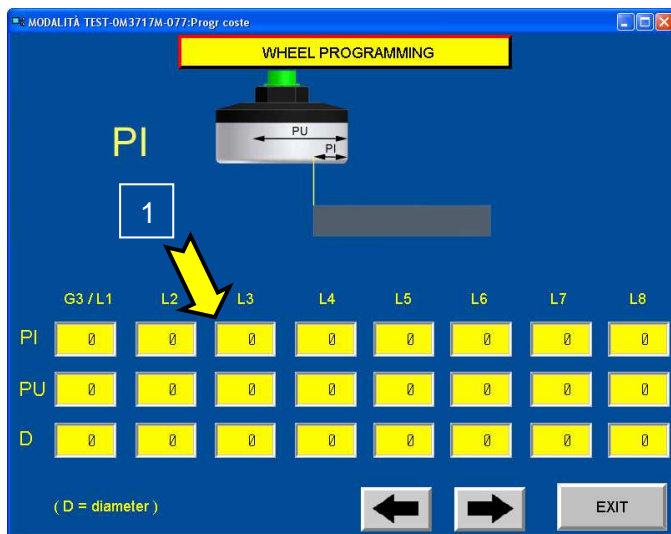
PROGRAMMING THE "EDGE POLISHERS WHEELS (OSCILLATING)"

From the **Tools programming** MENU, select the **EDGE** icon, the following screen will appear.

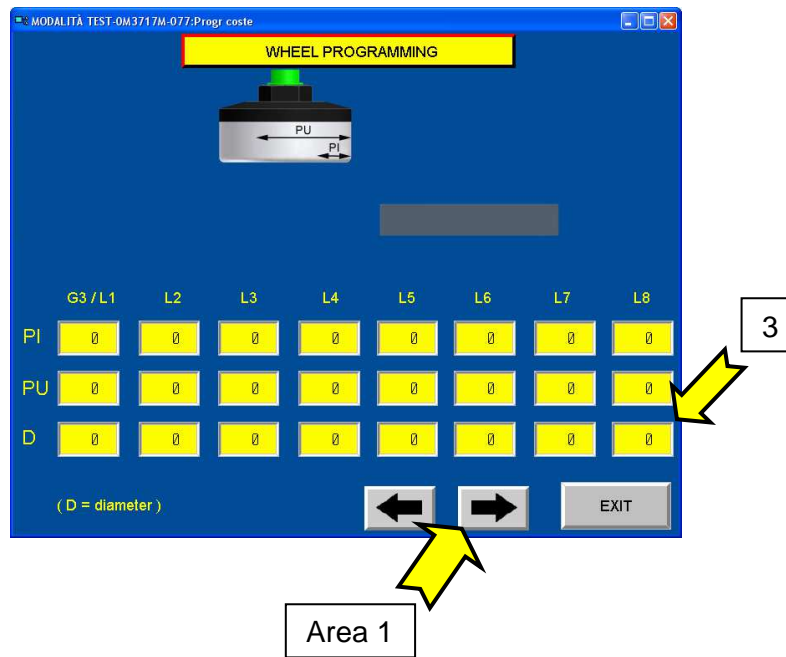


In this page one must enter the diameter values of the wheels, and the values of the intervention point and detachment of the edge polisher wheels (*OSCILLATING*) on the slab to be processed.

1. Enter the infeed points of the edge polishing wheels "PI".
2. Enter the exit points of the edge polishing wheels "PU".



3. Enter the parameters of the edge polishing wheels "D" (The wheel G3/L1 can have a diamond wheel $\varnothing 130\text{mm}$ to generate the bullnose, if it is set as L1 instead, it may have an abrasive wheel $\varnothing 130\text{mm}$ to polish the bullnose and a $\varnothing 150\text{mm}$ wheel to polish the straight edge. If wanting to complete a bullnose enter $D=130$ for L2÷L6 wheels, for a Straight edge enter $D=150$ for L2÷L6 wheels).

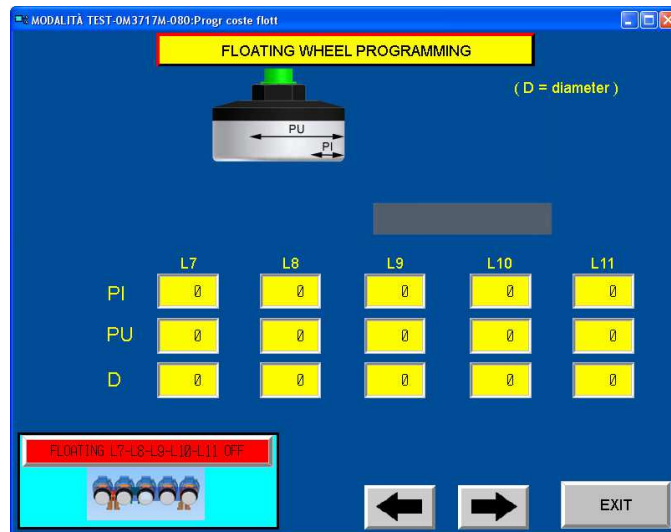


Press *Area 1* to switch to floating edge programming.

Press *“EXIT”* to return to the *“tools programming”* menu.

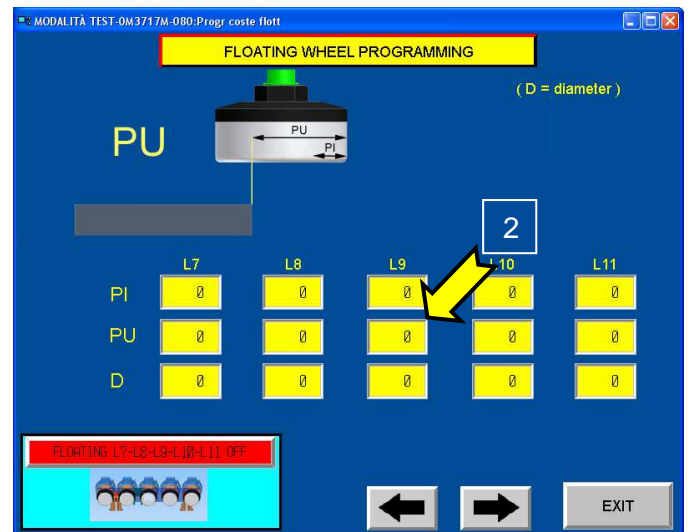
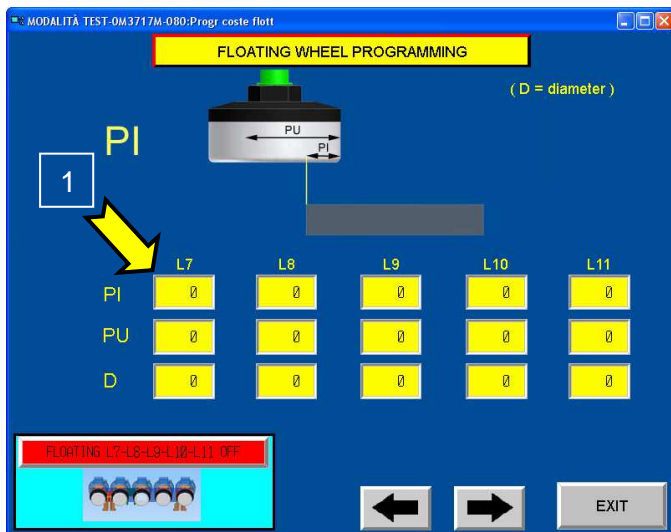
Press *“EXIT”* to return to the menu.

PROGRAMMING THE "EDGE POLISHING WHEELS (FLOATING)"

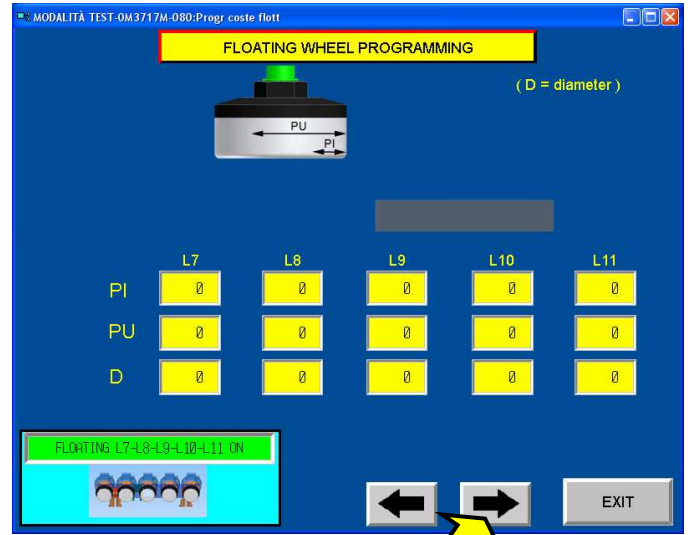
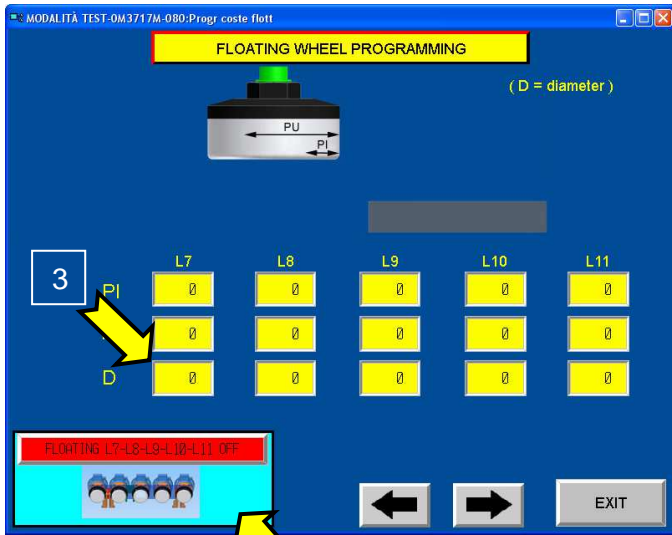


In this page one must enter the diameter values of the wheels, and the values of the intervention point and detachment of the edge polisher wheels (*OSCILLATING*) on the slab to be processed.

1. Enter the infeed points of the edge polishing wheels "PI".
2. Enter the exit points of the edge polishing wheels "PU".



3. Enter the diameters of the floating edge polishing wheels "D" (*the L7÷L11 wheels are used to polish the straight edge, use \varnothing 130mm abrasive wheels and as a result set $D=130$*).
4. Choose if the floating movement of the edge polisher should be enabled.
 - FLOATING L7÷L11 ON= the machine will run so that the edge polisher wheels carry out a small oscillation while running
 - FLOATING L7÷L11 OFF= the machine will run with edge polisher wheels centred at 90°.



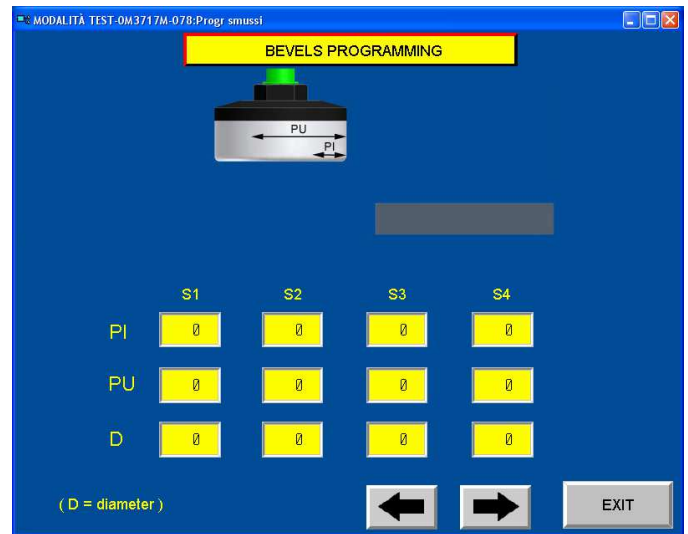
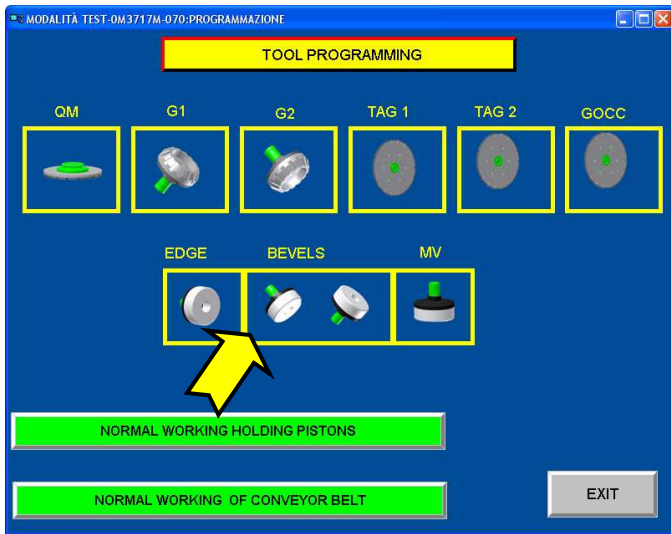
Press *Area 1* to switch to bevel programming.

Press *“EXIT”* to return to the *“tools programming”* menu.

Press *“EXIT”* to return to the menu.

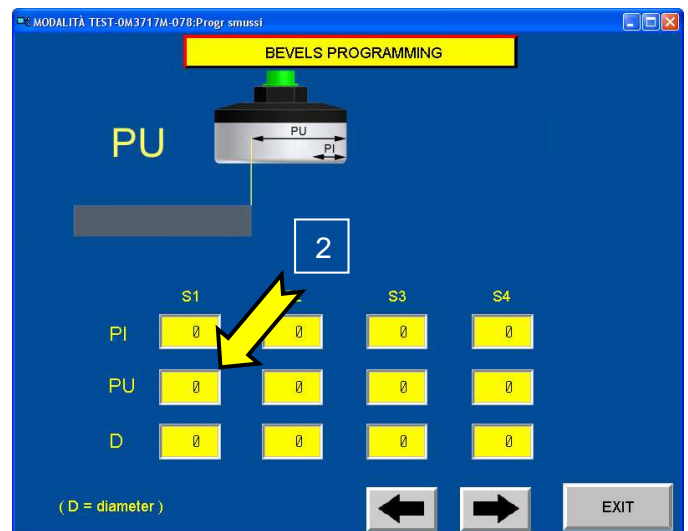
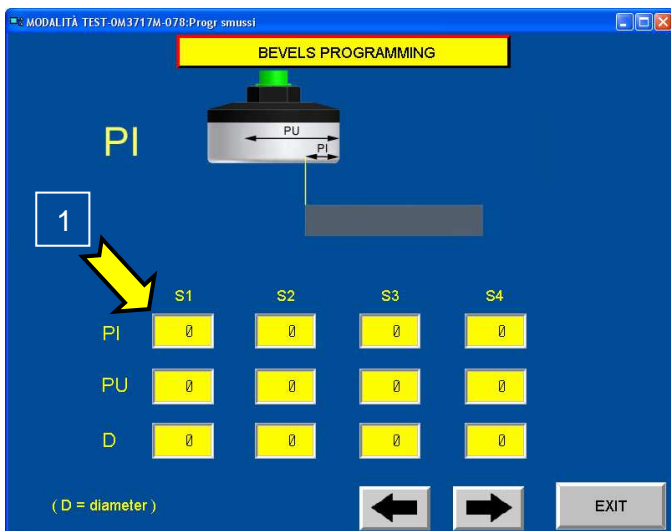
PROGRAMMING THE "BEVEL WHEELS"

From the **Tools programming** MENU, select the **BEVELS** icon, the following screen will appear.

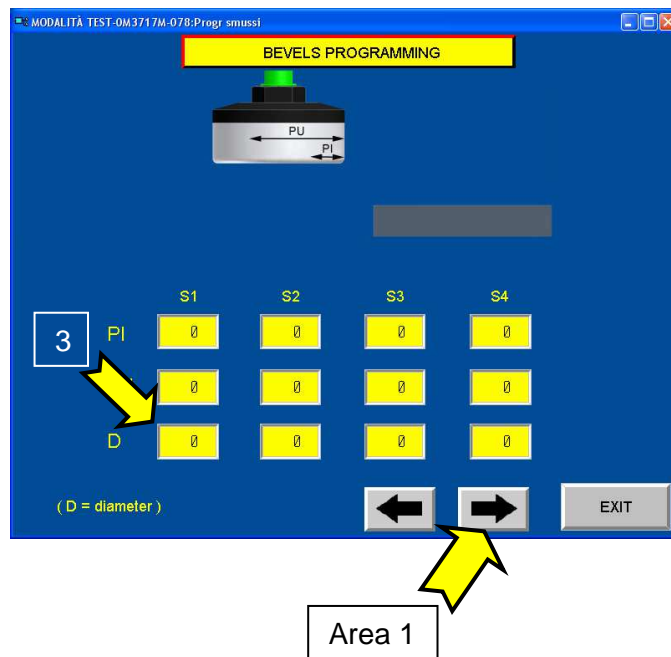


In this page one must enter the diameter values of the wheels, and the values of the intervention point and detachment of the bevel wheels on the slab to be processed.

1. Enter the infeed points of the bevel wheels "PI".
2. Enter the exit points of the edge bevel wheels "PU".



3. Enter the diameters of the bevel wheels "D" (set $D=130$).



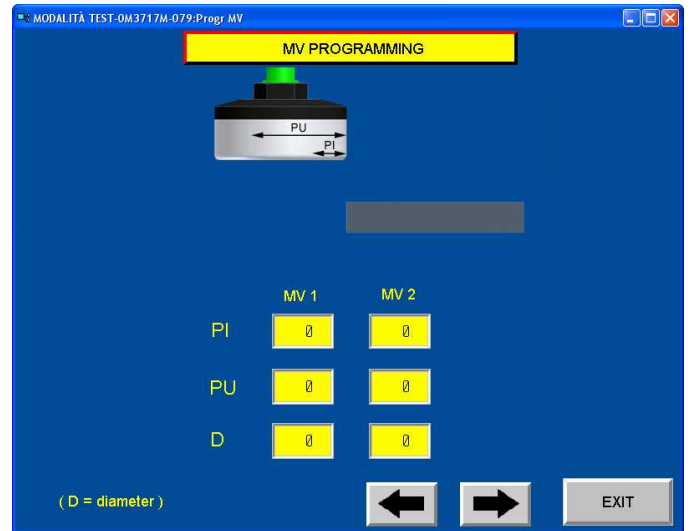
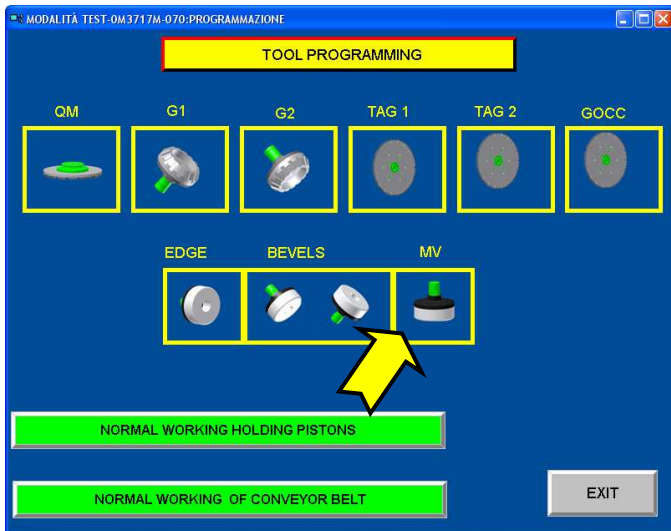
Press *Area 1* to switch to vertical wheels programming.

Press *“EXIT”* to return to the *“ tools programming”* menu.

Press *“EXIT”* to return to the menu.

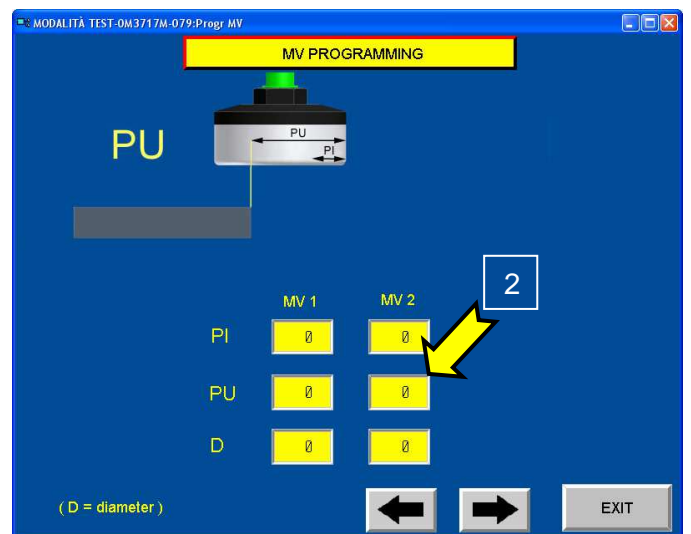
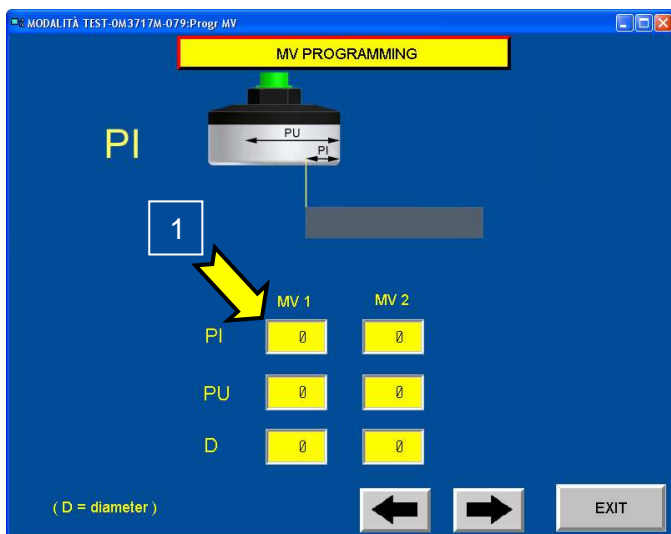
PROGRAMMING THE VERTICAL WHEELS

From the ***Tools programming*** MENU, select the ***MV*** icon, the following screen will appear.

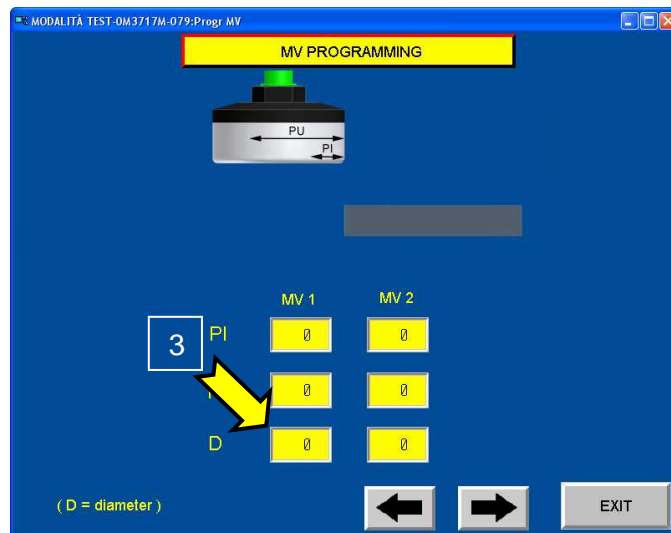


In this page one must enter the diameter values of the wheels, and the values of the intervention point and detachment of the vertical wheels on the slab to be processed.

1. Enter the infeed points of the vertical wheels "PI".
2. Enter the output points of the vertical wheels "PU".



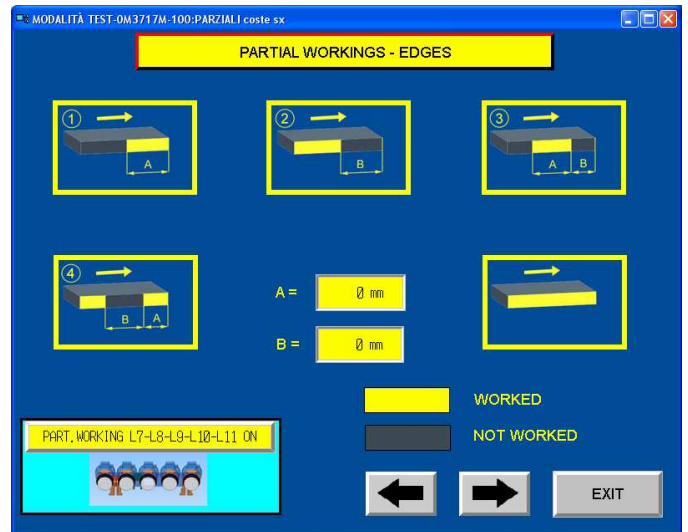
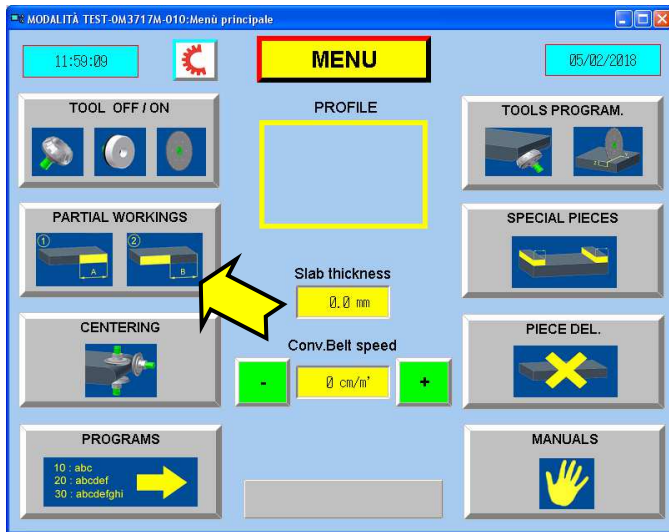
3. Enter the diameters of the vertical wheels "D" (for the MV1-MV2 wheels useful to smoothen calibrated band, use $\varnothing 130\text{mm}$ abrasive wheels and as a result set $D=130$).



Press “EXIT” to return to the “ tools programming” menu.
Press “EXIT” to return to the menu.

PARTIAL PROCESSING

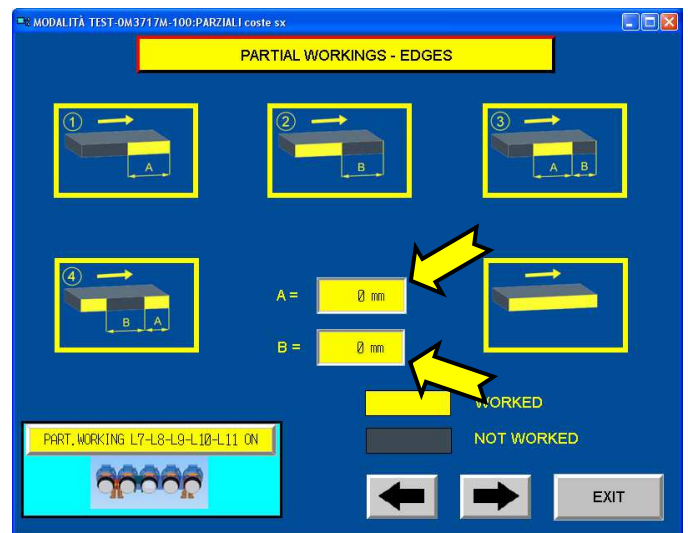
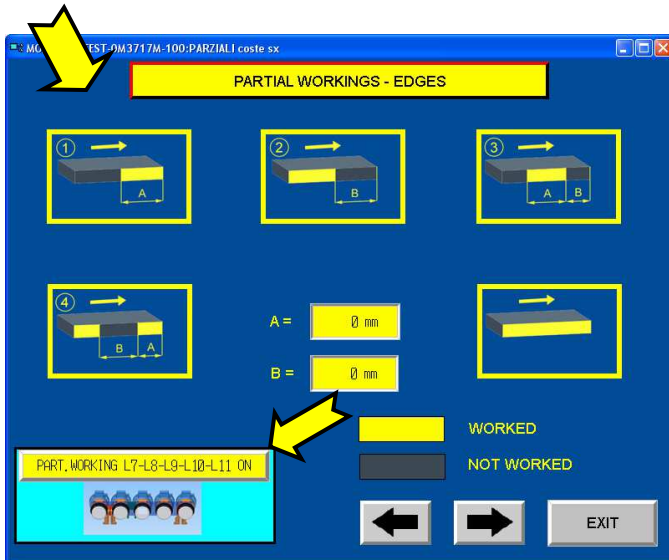
From the MAIN MENU press the profile area and the display will show:



In this program it is possible to enter values that, besides total processing (the entire length of the slab), allow even partial processing (only processing a portion of the slab length).

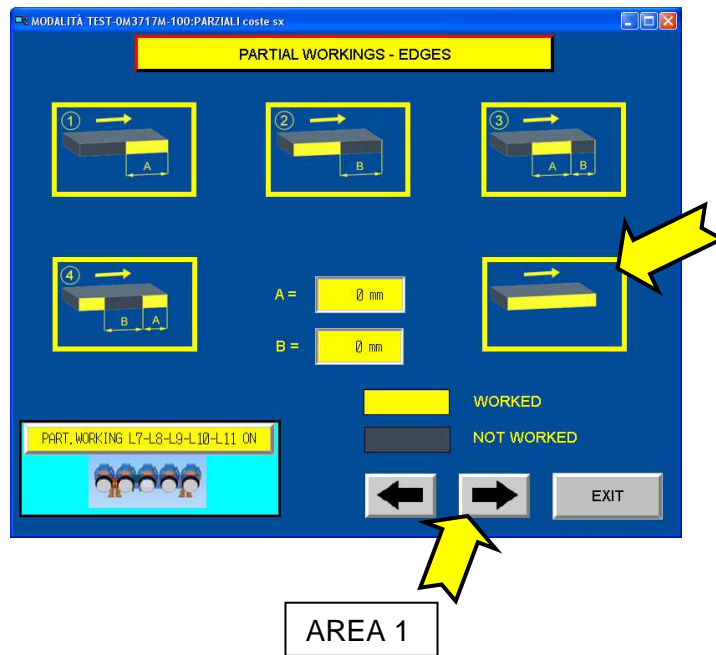
Partial edge processing

- Select the desired type of partial processing;
- Enter the corresponding parameters: **A** portion of material to be processed, **B** portion of material **NOT** to be processed. These values are expressed in millimetres.



- Enable / disable the partial workings of the five floating heads. If the partial workings are **OFF**, the five floating heads will polish the total length of the slab. If the partial workings are **ON**, the five floating heads will perform the partial working on the slab as set in the control panel.

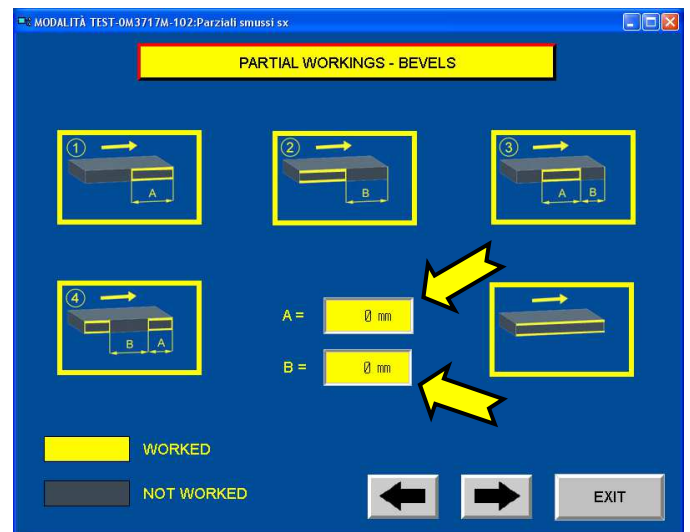
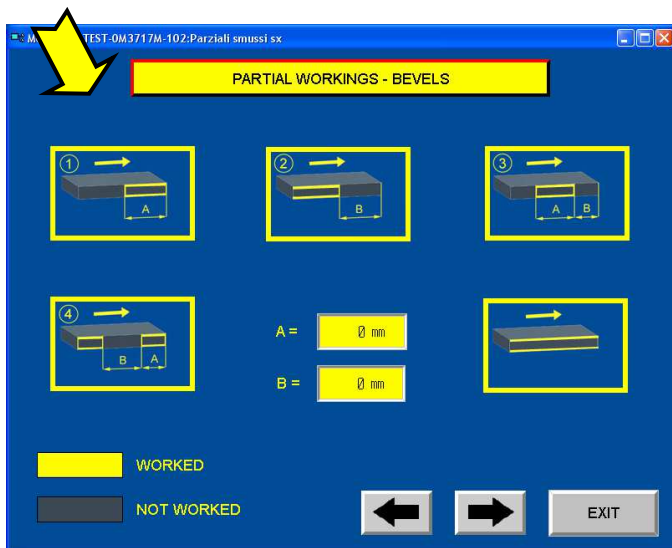
When partial workings are **NOT** necessary, it is necessary to choose total workings and to set **OFF** the partial working on the floating heads.



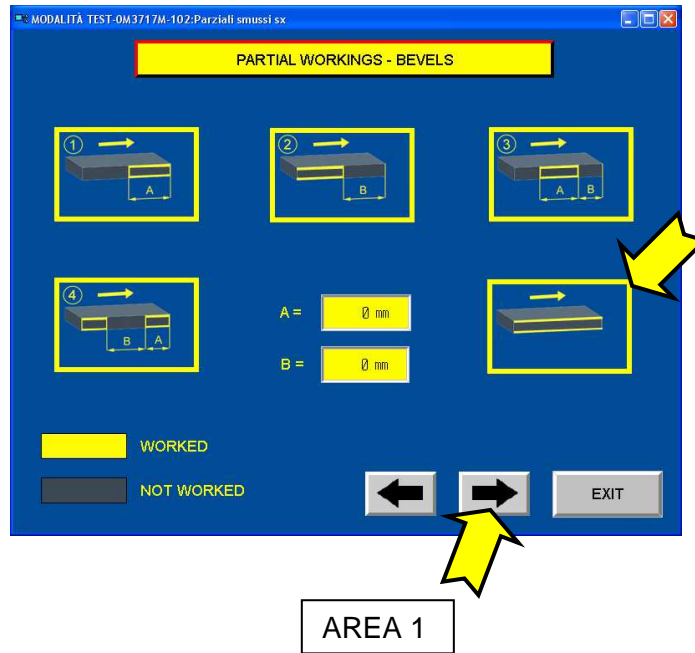
Press AREA 1 to switch to partial processing for bevels.

Partial bevel processing.

- Select the desired type of partial processing;
- Enter the corresponding parameters: **A** portion of material to be processed, **B** portion of material **NOT** to be processed. These values are expressed in millimetres.



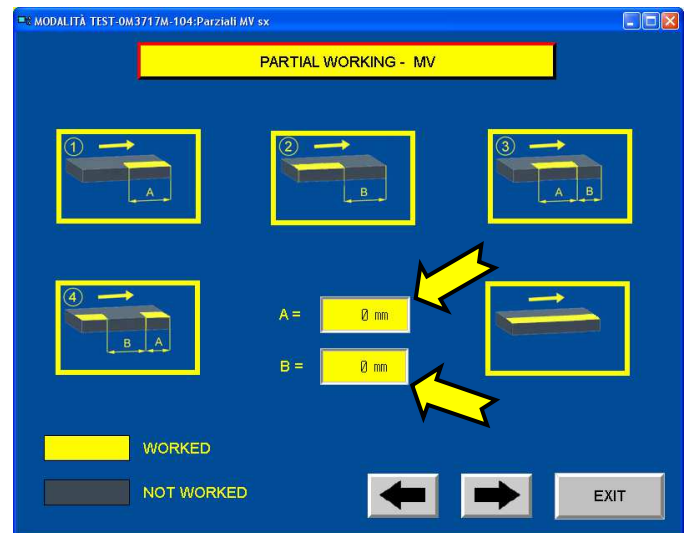
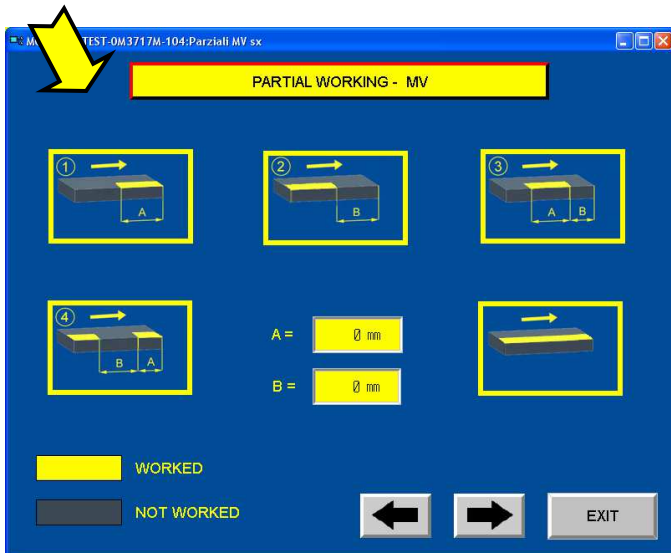
When partial processing is **NOT** necessary, it is necessary to set the total processing number.



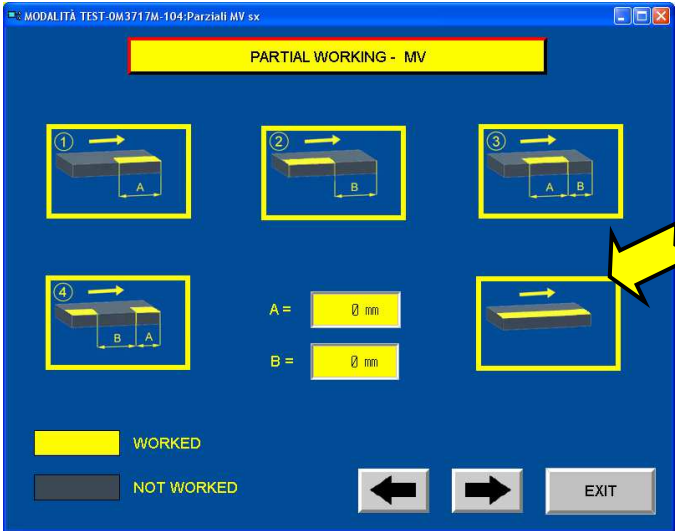
Press AREA 1 to switch to partial processing for the vertical heads.

Vertical heads partial processing.

- Select the desired type of partial processing;
- Enter the corresponding parameters: **A** portion of material to be processed, **B** portion of material **NOT** to be processed. These values are expressed in millimetres.



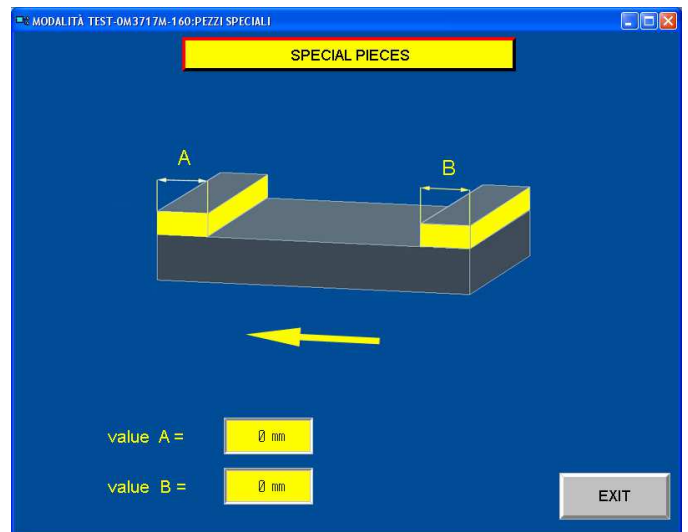
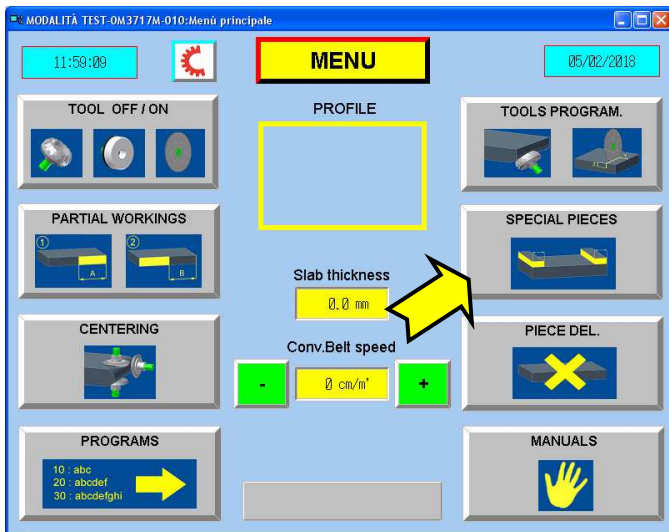
When partial processing is **NOT** necessary, it is necessary to set the total processing number.



Press “EXIT” to return to the menu.

PROGRAMMING SPECIAL PIECES

From the MAIN MENU press the special pieces area and the display will show:

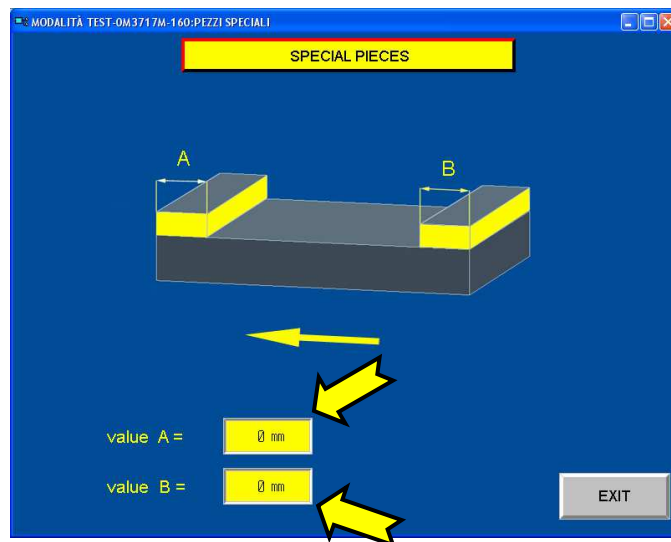


From this page it is possible to set processing of pieces with a particular shape (see figure in the screen).

For this type of shapes it is necessary to program according to slab dimensions.

Enter the values: A = initial height (max 50, value in mm)

B = final height (max 50, value in mm)



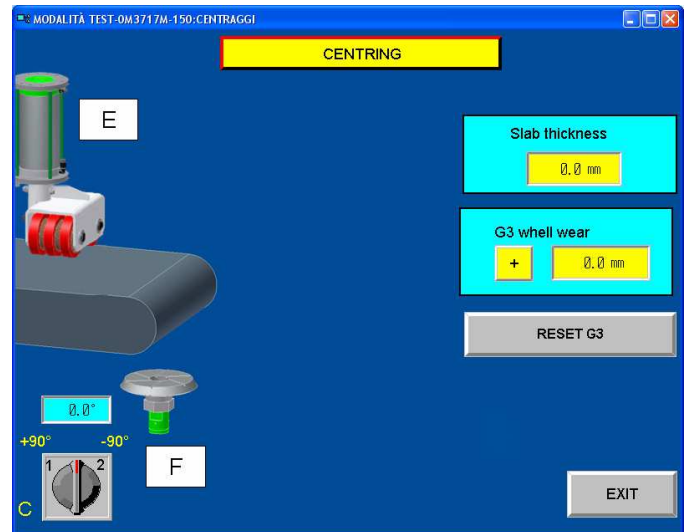
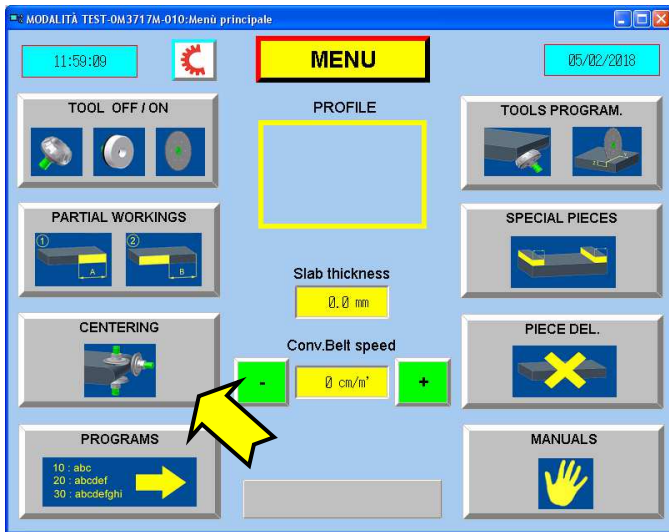
Ensure that the space between A and B is **always** more than 500 mm.

When this processing mode is not used, enter the value 0 zero for A and B heights.

Press “EXIT” to return to the MENU.

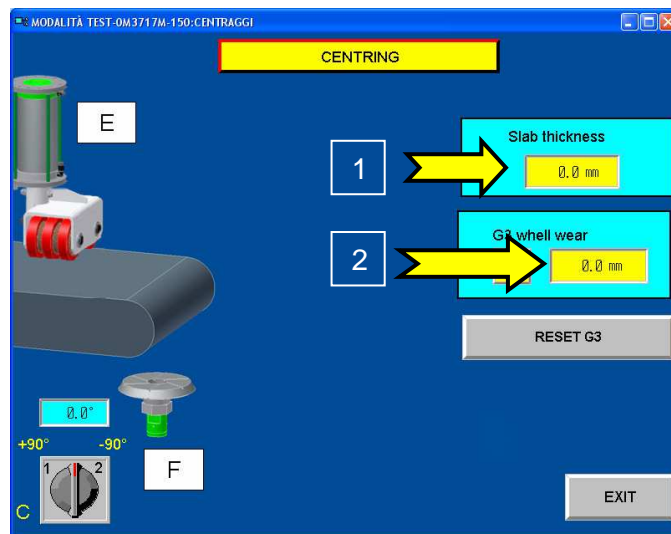
CENTRING

From the MAIN MENU press the centring area and the display will show:

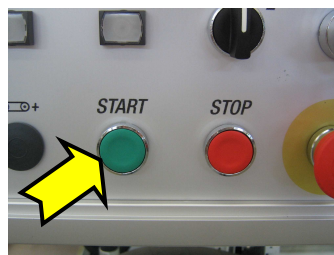


The centring takes place automatically based on the set thickness value.

1. Set the piece thickness.
2. In the "Consumo mola G3 (G3 wheel consumption)" parameter enter the value "zero".



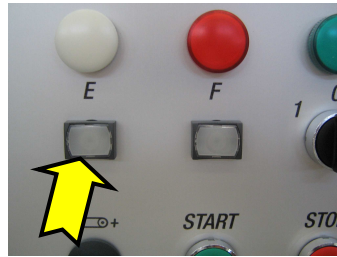
From the programming pushbutton press the green START button.



When the unit is found in lower rest position, rotate selector C to position 1,

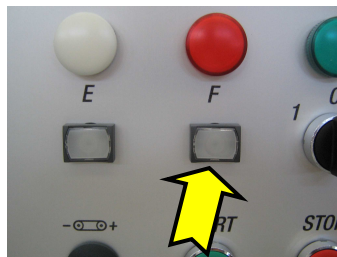


The unit is brought to 90° (horizontal). Load a piece in correspondence of wheel G3 ; press the E key.



The two clamps in correspondence of the wheel descend to block the piece.

Press the F key to move the wheel closer to the piece and check that it blocks at approximately 0.1÷0.2 mm from the same piece.

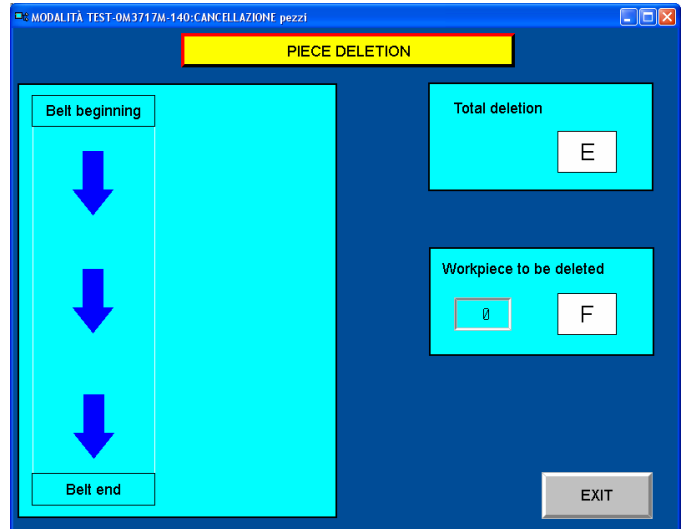
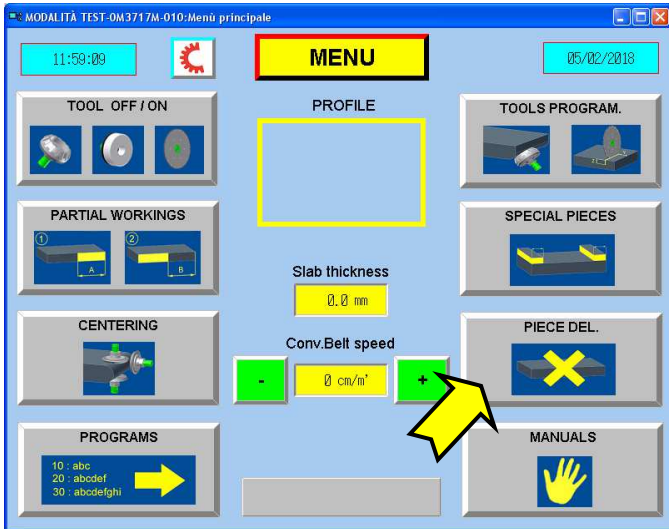


If the detected distance is incorrect, it is possible to change the position of wheel G3 using the “G3 Wheel Wear” parameter (only for small variations due to G3 wheel wear)

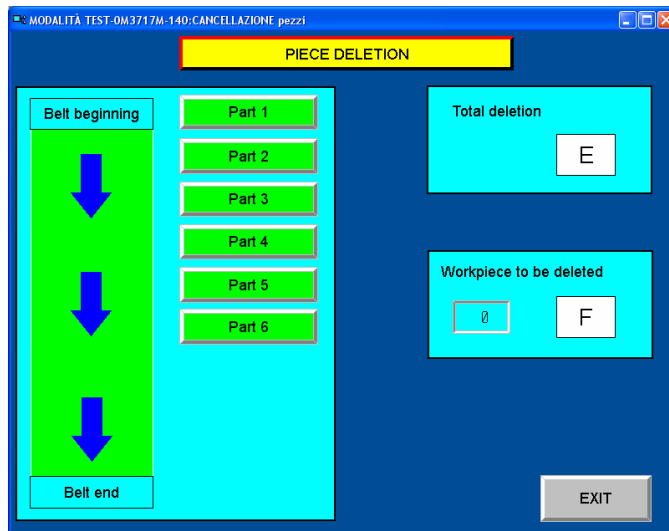
Press “EXIT” to return to the MENU

PIECE DELETION

With the machine stopped (STOP), from the menu press “CANC. PEZZI (CANCEL PIECES)” and the following will appear:

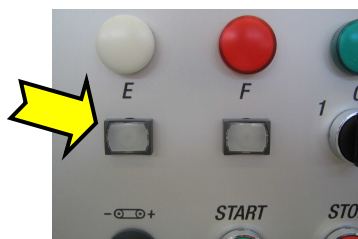


The graphic bar must complete its pathway from the top towards the bottom. During this pathway it extends gradually, numbering the pieces present on the machine. At the end it will display and number the pieces present on the conveyor belt.

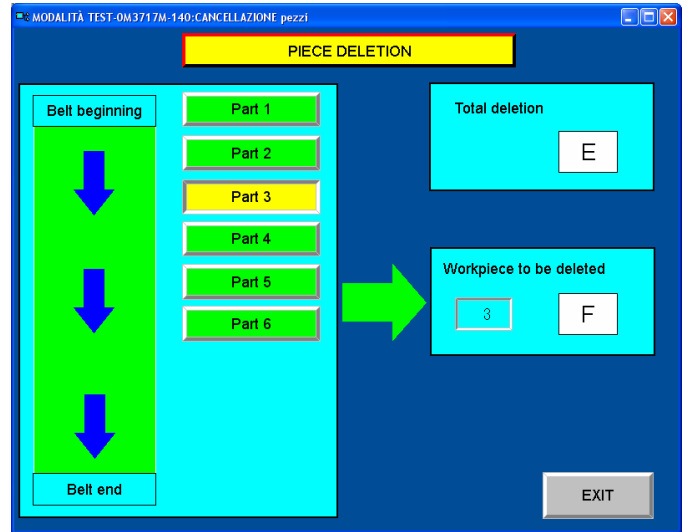
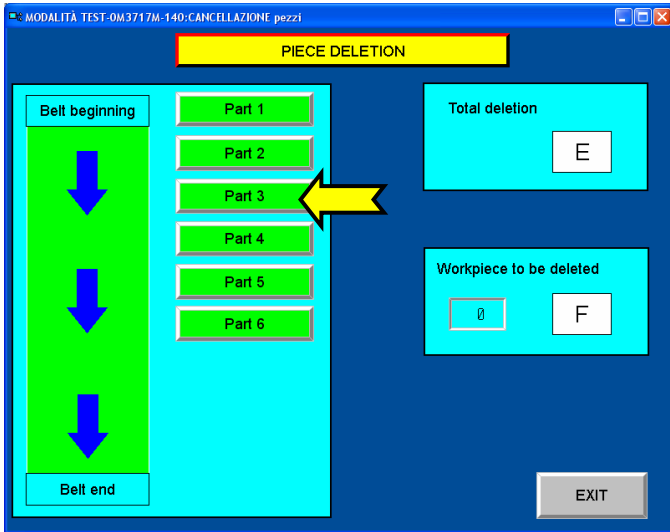


At this point, if necessary, it is possible to free and unload all of the pieces or choose which piece is to be taken off the machine's belt.

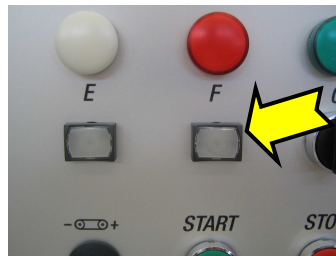
To free all of the pieces detected, press the *E* key, the clamps lift up and the pieces can be removed.



If instead it is only necessary to remove a specific piece, it must be selected,



Press *F* to raise the clamps exclusively involved with that piece, and make it possible to unload from the machine.

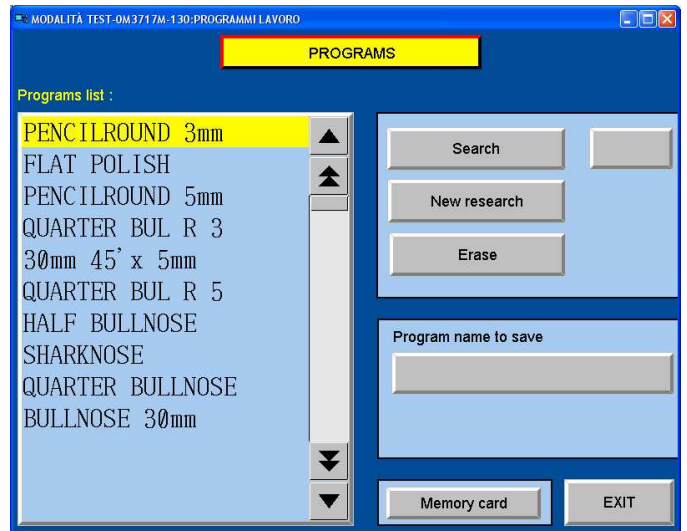
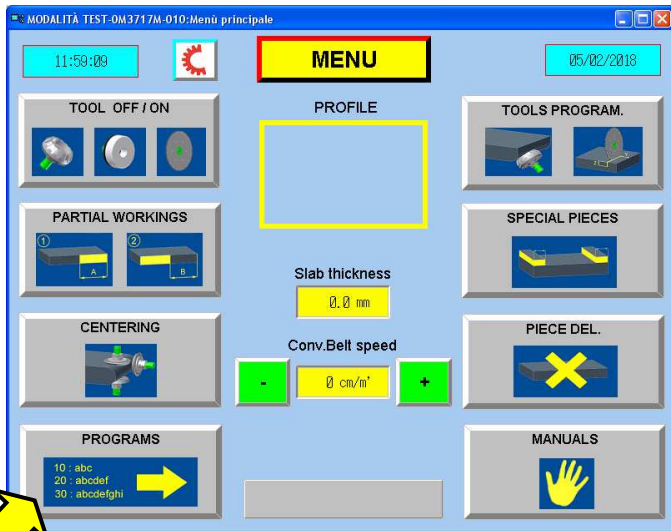


It is possible to repeat the operation for other pieces.

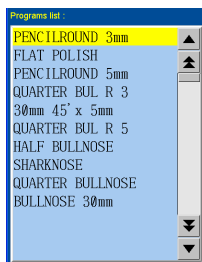
Press “EXIT” to return to the MENU

WORK PROGRAMS

From the menu, press "PROGRAMS" and the following will appear:



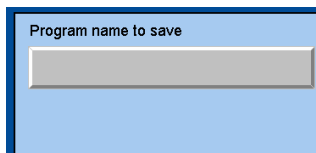
This program is used for archiving and managing programs that may need to be saved for future processing.



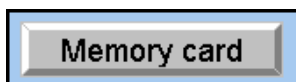
List of saved programs



Searching/deleting saved programs



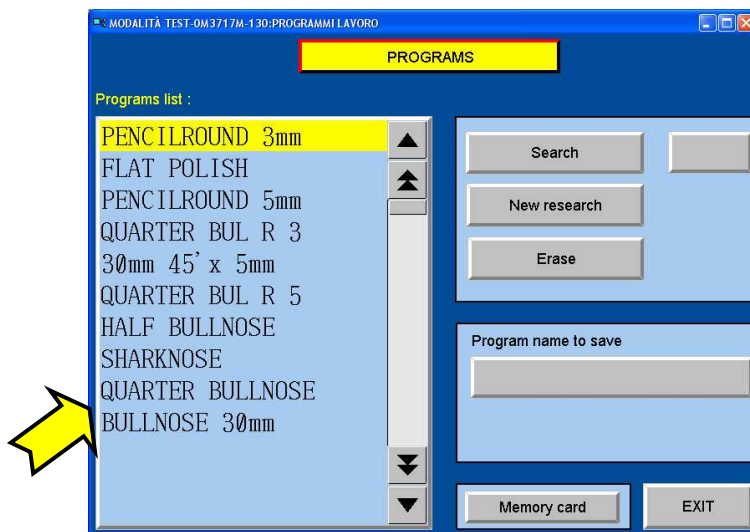
Saving new programs, changing existing programs



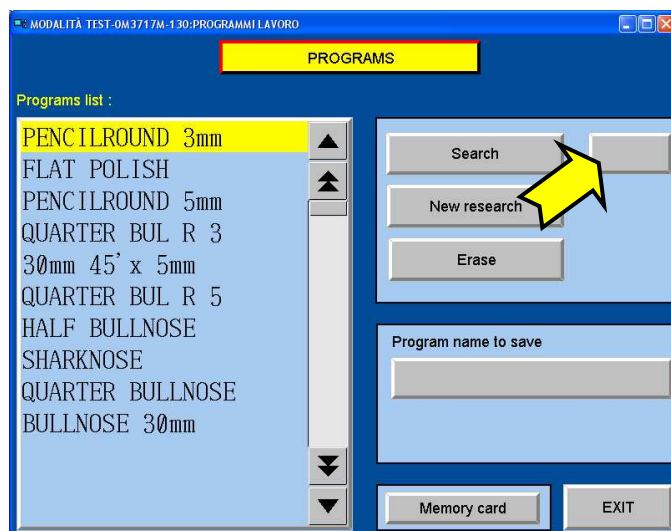
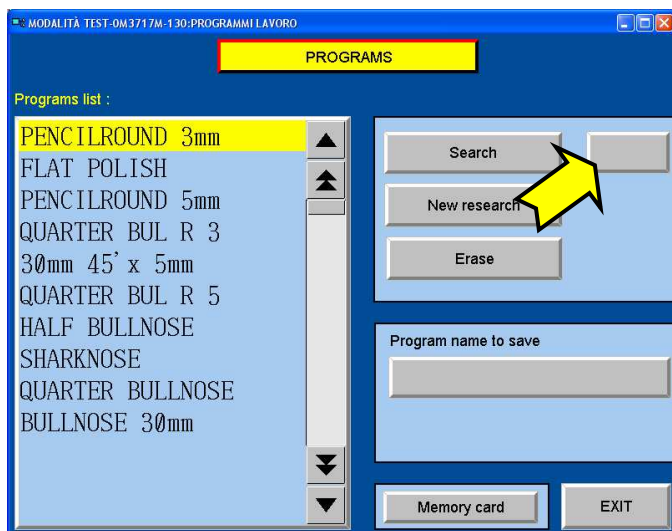
Reading/saving on a memory card.

Selecting a program:

Choose a program from the list of programs;

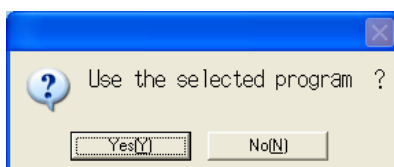


Otherwise search for a well defined word (4 characters);
Enter the name in the indicated point



Press the "Search" key.

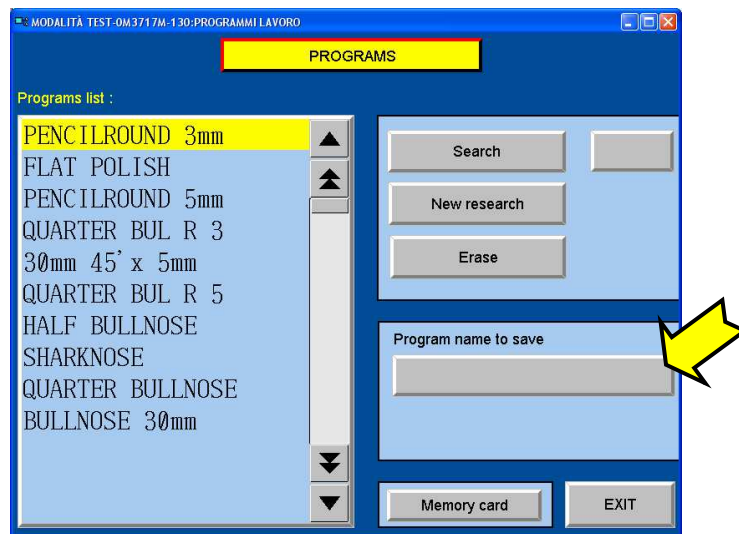
Once the desired program is found and selected, press the "EXIT" key.
next, when the question is displayed:



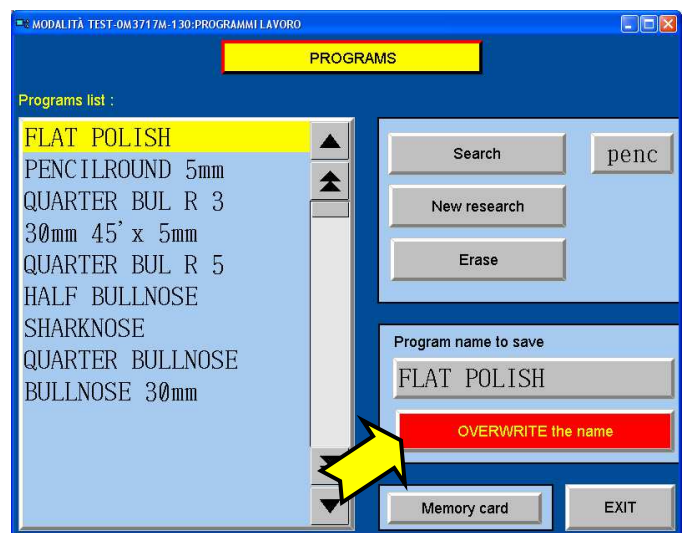
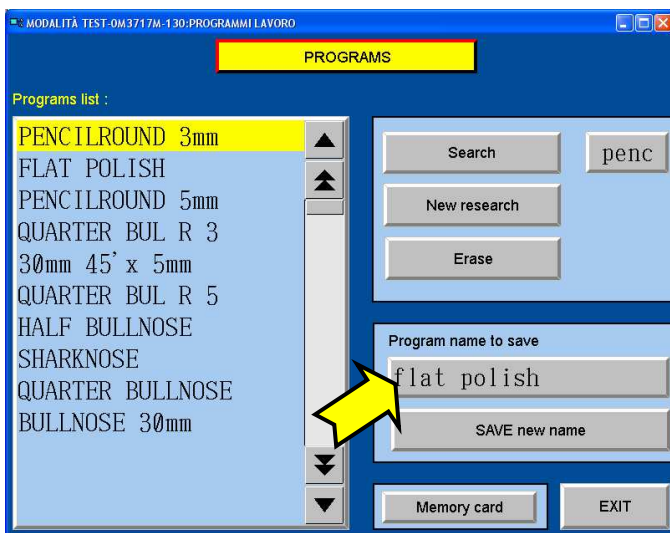
Choose "Yes".

Saving a program:

In the indicated point enter the name of the program to be saved.



If the name inserted is new, the following text will be displayed “SALVA NUOVO NOME (SAVE NEW NAME)”;



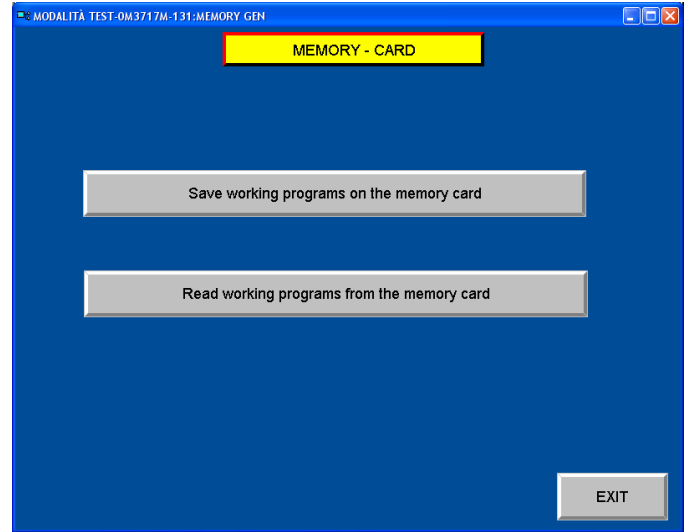
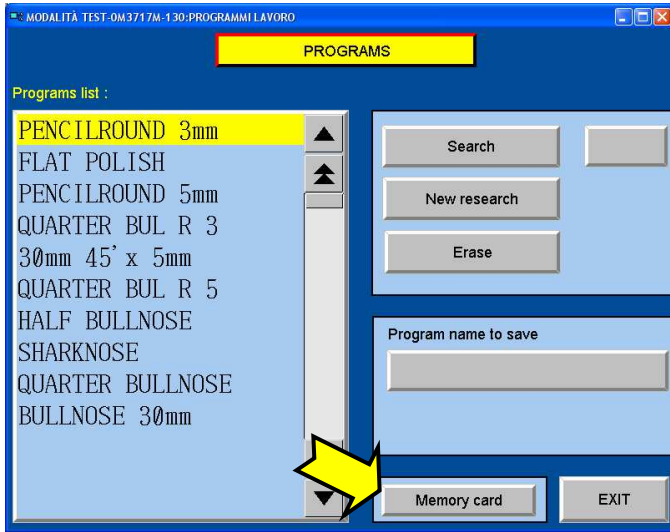
Otherwise, if the name of the program to be saved is already present in the programs list, it will display the text “OVERWRITE NAME”.

If this last operation is confirmed, the new work program will be overwritten.

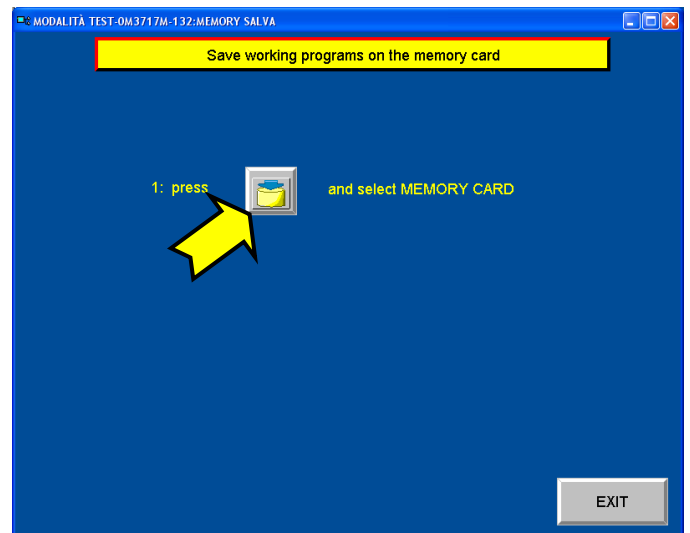
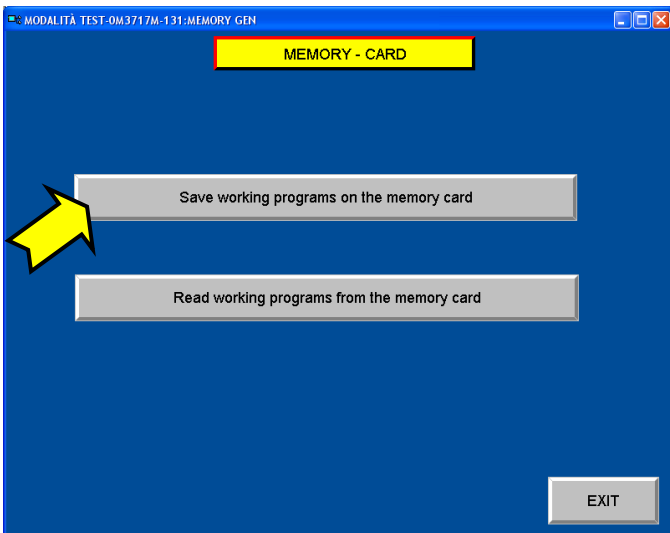
Saving/reading the memory card:

It is possible to copy the work programs present in the list of programs contained on the memory card.

It will be displayed by pressing the “MEMORY CARD” key.



Press the "Save working programs on memory card" key and then press the indicated symbol.

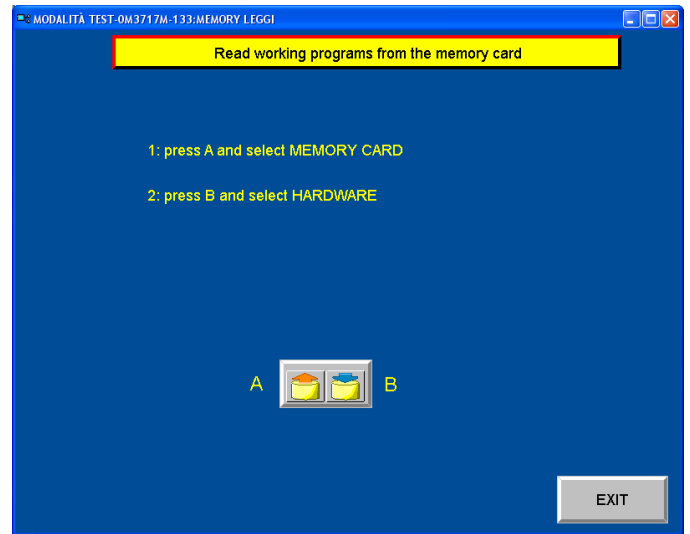
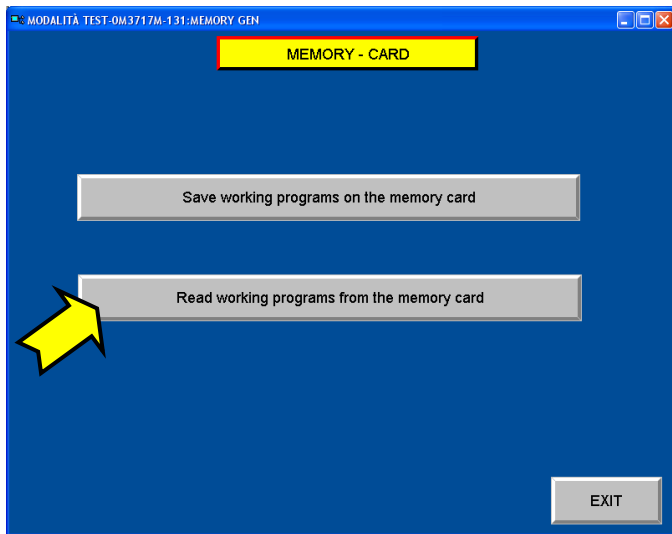


A pop-up window is displayed:



Choose *Memory Card*.

To restore the list of programs using the memory card press “*Read working programs from the memory card*”.

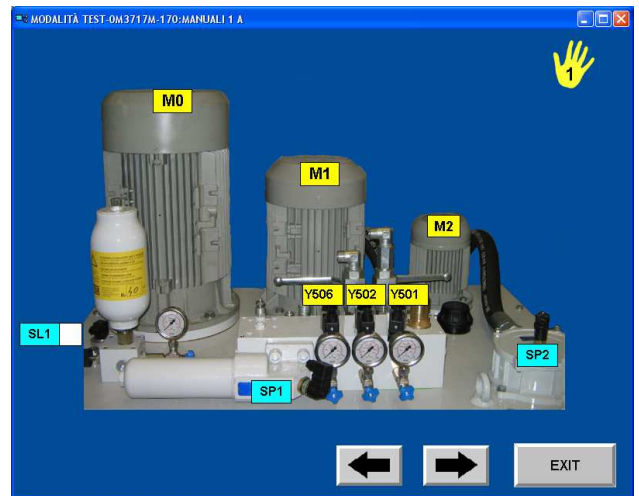
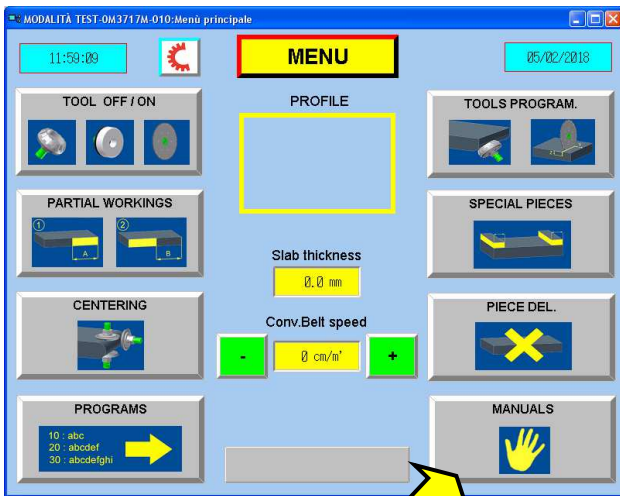


Follow the guided procedure by selecting A (memory card) first and then B (hardware).

Press “EXIT” to return to the MENU

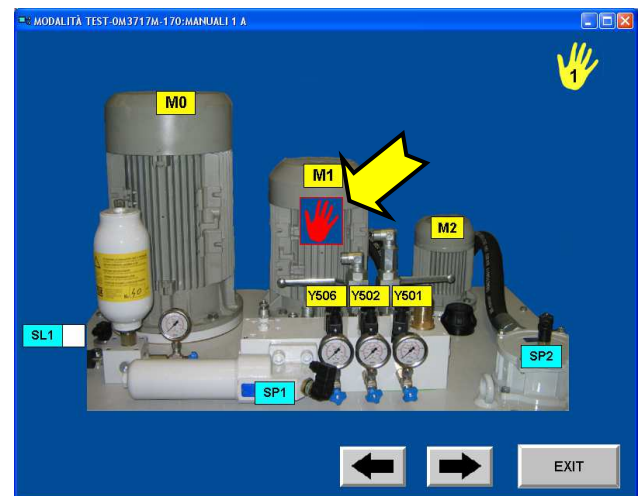
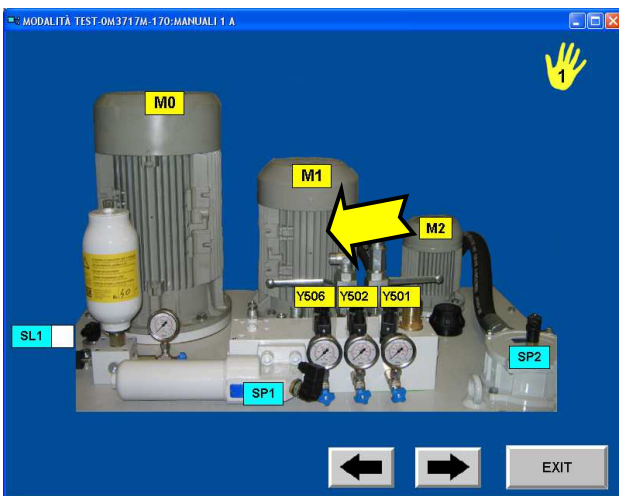
MANUAL CONTROLS AND DIAGNOSTICS

In these pages it is possible to verify operation of each individual component of the machine (motors, clamps, valves, etc.) and analysing any possible component anomalies.
From the menu press the “MANUALS” key and it will display:

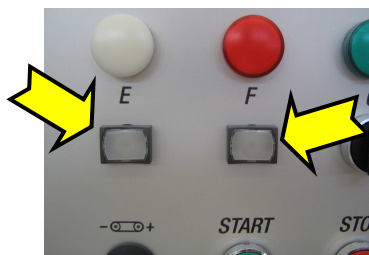


General information:

Select the area of the unit or component to be checked (a red hand is displayed on the selected component), for example, by selecting motor M1, it will display:



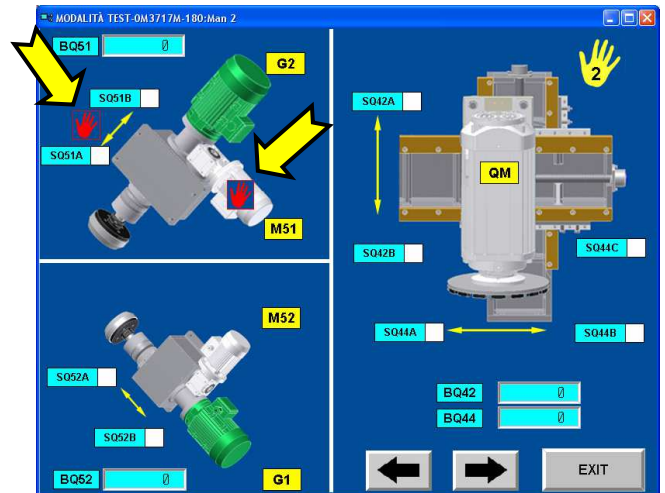
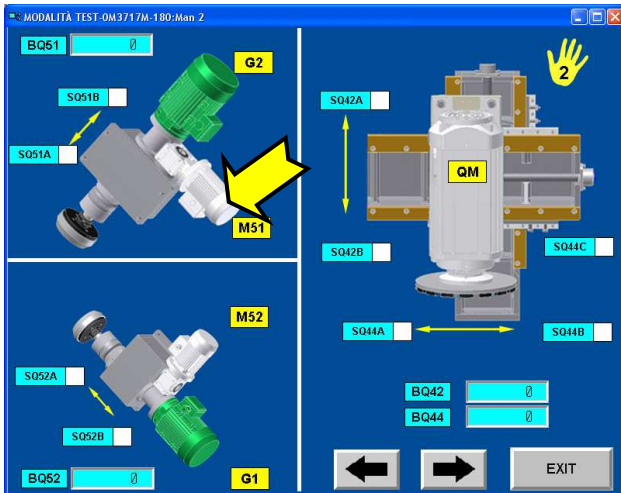
Therefore press **E** to activate or **F** to stop.



If ascent, descent or oscillation movements are chosen, use selector C by rotating it to position 1 or 2.

For example:

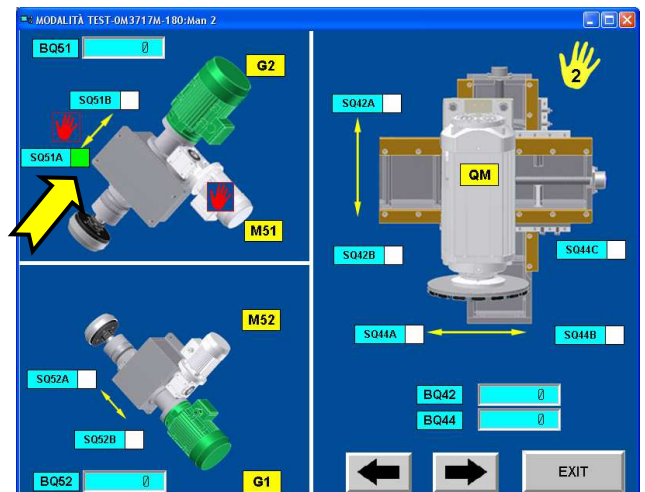
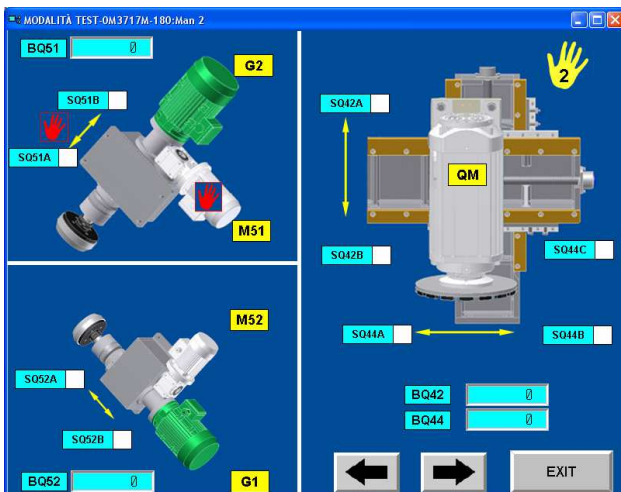
Activating the M51 motor;



By rotating selector C to position 1, the spindle will move close to the piece to be processed.



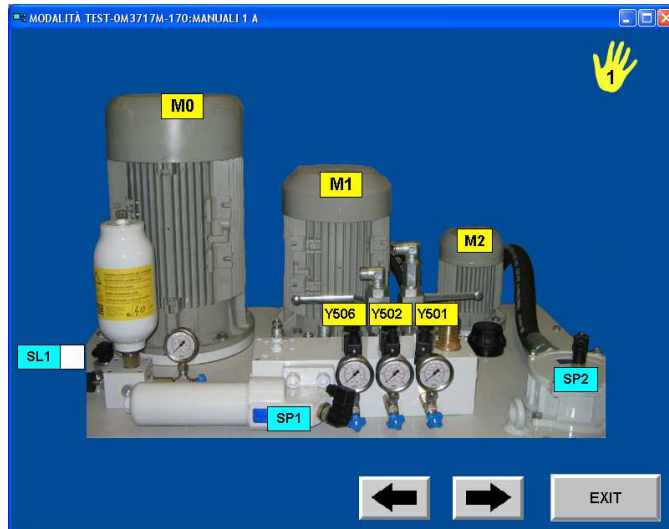
The symbol indicates the status of the signal, it will pass from white to green once the interested unit has reached the maximum or minimum movement position.



Attention:

During manual actions, before each machine movement, verify that there are **NO** obstacles (such as mechanical parts, units, etc.) that block movement.

MANUAL 1:



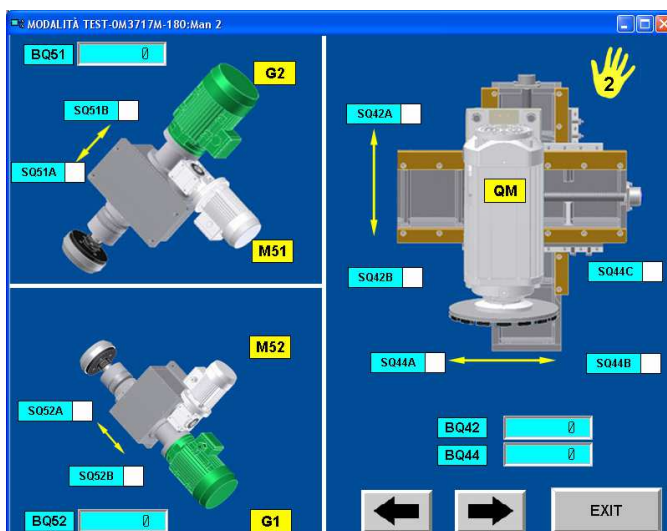
Manual controls:

- Y506 = oscillation solenoid valve
- Y502 = spindle rotation solenoid valve L4, L5, L6.
- Y501 = spindle rotation solenoid valve: G3, L2, L3.
- M2 = M2 motor
- M1 = M1 motor
- M0 = M0 motor

Diagnostics:

- SP2 = oil drain pressure switch
- SP1 = oil supply pressure switch
- SL1 = hydraulic oil level switch

MANUAL 2:



Manual controls:

- QM = QM calibrator motor rotation.
- G1 = lower roughing spindle rotation.
- G2 = upper roughing spindle rotation.
- M52 = G1 lower spindle movement motor
- M51 = G2 upper spindle movement motor

The arrows indicate unit movement (after selecting the desired movement, move selector C to positions 1 and 2)

Diagnostics:

- SQ44A = QM calibrator forward safety sensor
- SQ44B = QM calibrator backward safety sensor
- SQ44C = QM calibrator tilt safety sensor
- SQ42A = QM calibrator ascent safety sensor
- SQ42B = QM calibrator descent safety sensor
- SQ52A = G1 lower spindle forward safety sensor
- SQ52B = G1 lower spindle backward safety sensor
- SQ51A = G2 upper spindle forward safety sensor
- SQ51B = G2 upper spindle backward safety sensor

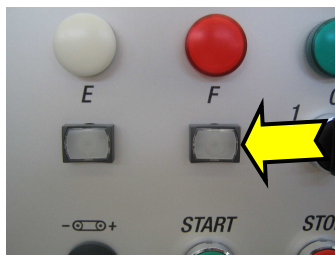
On the side of each movement (arrows) it shows the encoder counter.

- BQ42 = QM calibrator vertical movement encoder counter
- BQ44 = QM calibrator horizontal movement encoder counter
- BQ52 = G1 lower spindle movement encoder counter
- BQ51 = G2 upper spindle movement encoder counter

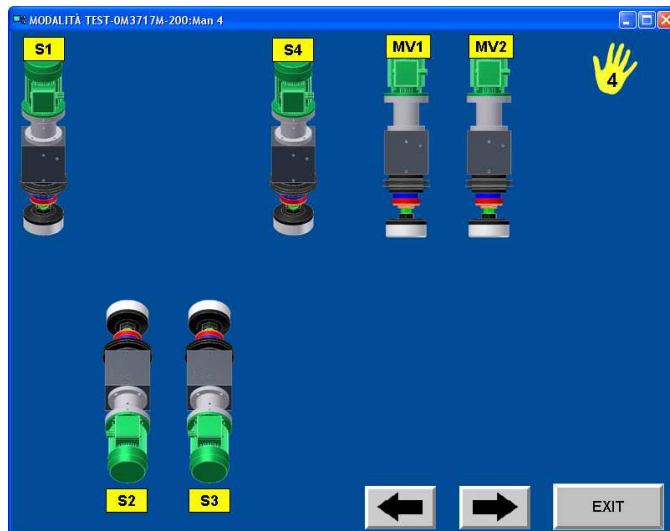
Move selector **C** to position 1 or 2 to raise or lower the oscillating unit.





Press the **F** key to stop the M1 spindle oscillation pump.



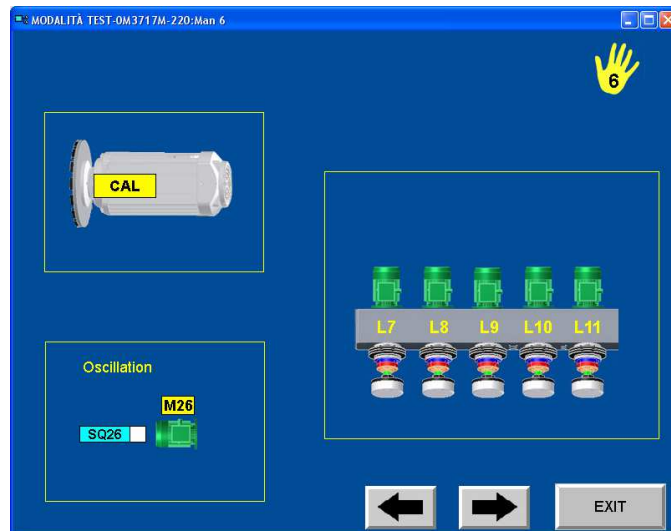
MANUAL 4:





Manual controls:

-  = rotation of S1÷S4 bevel motors, rotation of MV1-MV2 vertical wheel motors.
-  = bevels S1÷S4 forward - backward, vertical wheels MV1-MV2 forward - backward.

MANUAL 6:



Manual controls:

- CAL = horizontal calibrator spindle motor rotation
- M26 = floating motor rotation.
-  = L7÷L11 floating edge polishers motor rotation.
-  = L7÷L11 floating edge polisher bevels forward - backward.

Diagnostics:

- SQ26 = 90° floating safety sensor

MANUAL 7:



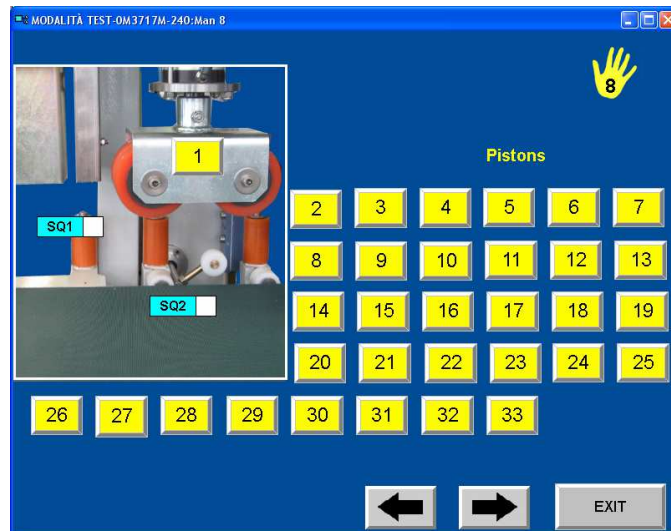
Manual controls:

- MN = conveyor belt motor rotation.
- HA1 = siren acoustic signal.
- ATOS INIBIT = ATOS board enabling.

Diagnostics:

- BQ1 = channel belt encoder counter.

MANUAL 8:



Manual controls:

- 1 ÷ 33 = selected clamp descent and ascent (1 ÷ 33).

Diagnostics:

- SQ1 = proximity 1 controlling clamps.
- SQ2 = proximity 2 controlling wheels.

MANUAL 9:



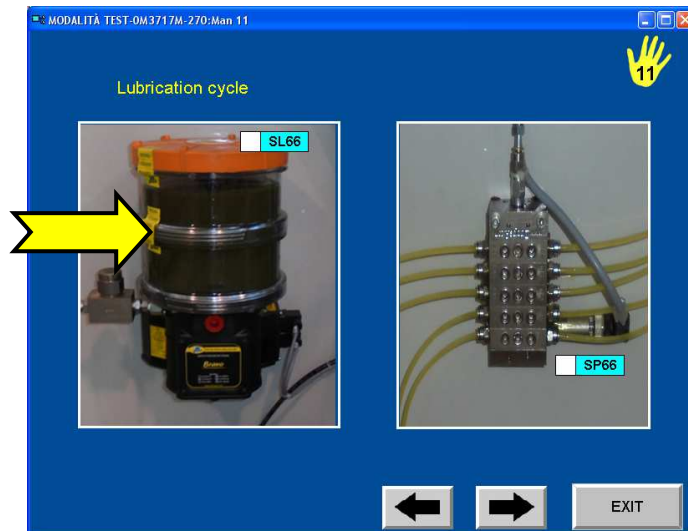
Manual controls:

- HL.E = E function key warning light
- HL.F = F function key warning light
- HL2 = red malfunction key
- HL5 = white cycle in progress warning light

Diagnostics:

- SB.E = E function key
- SB.F = F function key
- SA3 = selector for unit manual movement (position 1 and 2)
- SB3 = green START button
- SB4 = red STOP button
- SB1 = emergency button
- HL1 = green machine ready warning light

MANUAL 11:



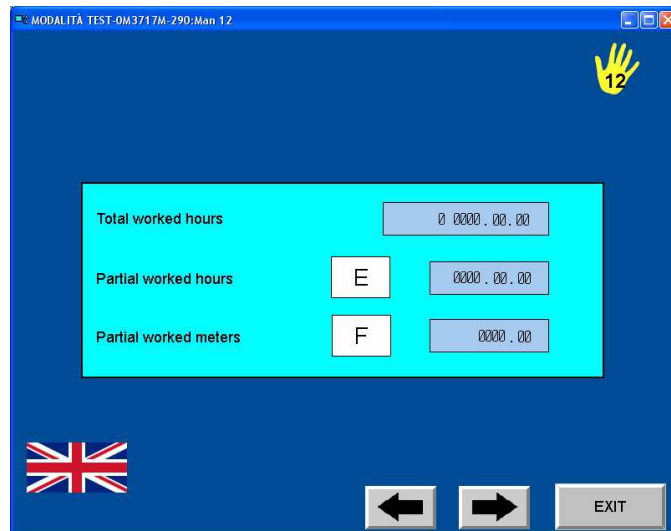
Manual controls:

- Press the indicated area and then press the “E” key from the control panel to start the lubrication cycle.

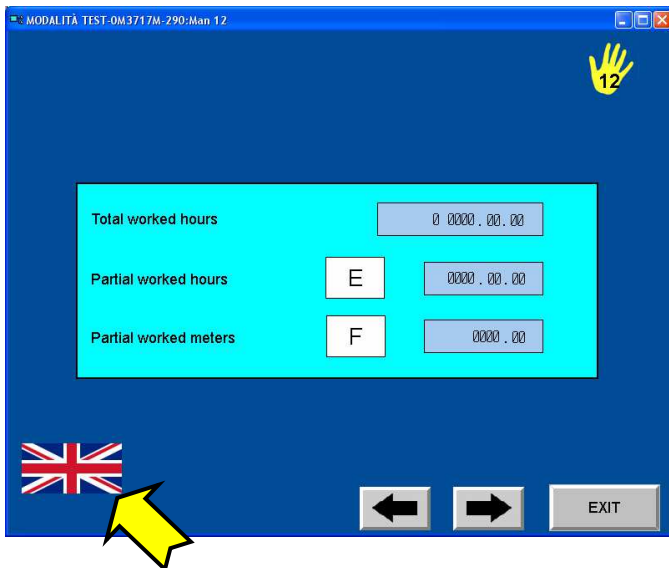
Diagnostics:

- SL66 = lubrication grease level safety sensor
- SP66 = lubrication grease pressure switch

MANUAL 12:



This page displays information regarding hours of operation and metres processed:
ORE TOTALI LAVORATE (TOTAL HOURS WORKED)= total hours of operation
ORE PARZIALI (PARTIAL HOURS) = partial operation hours, press the “E” key to reset the count
METRI PARZIALI (PARTIAL METRES) = partial operation metres, press the “F” key to reset the count.
It is also possible to modify the language from the pane by pressing the indicated area and subsequently choosing the desired language.



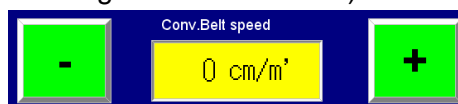
CONTROL PANEL SETTINGS



In this page it is possible to change operator panel settings.

- Brightness: brightness adjustment from the operator panel.
- Time: time adjustment
- Date: date adjustment.
- Screen saver: enables screen saver on the control panel.
- Autom. Prog. (ON) this means that based on the selected profile processing conditions are forced (e.g. OFF/ON units, oscillation heights..)
- L1: disables polishing spindle mode on the first spindle (only generating)
- Intelligent speed: OFF = Normal machine operation with conveyor belt speed set manually from the panel.

ON = During an automatic cycle the machine adjusts speed of the conveyor belt automatically in order to reduce processing dead times (indicated by the belt speed flashing in the main menu)



ERASE RESET:
SYSTEM MENU:
G3 wheel wear (general):

} only for personnel authorised by Comandulli.

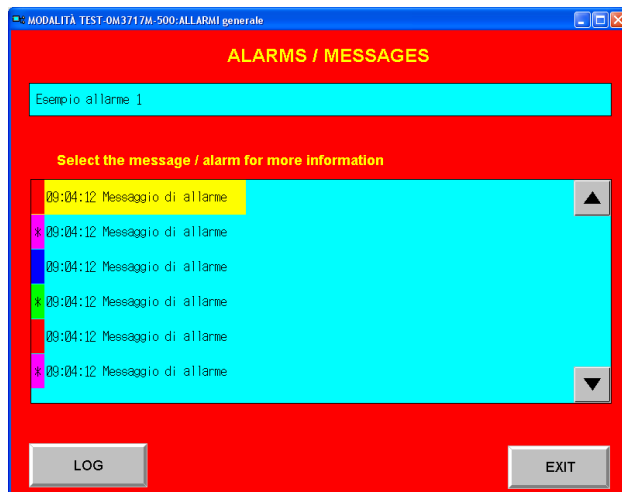
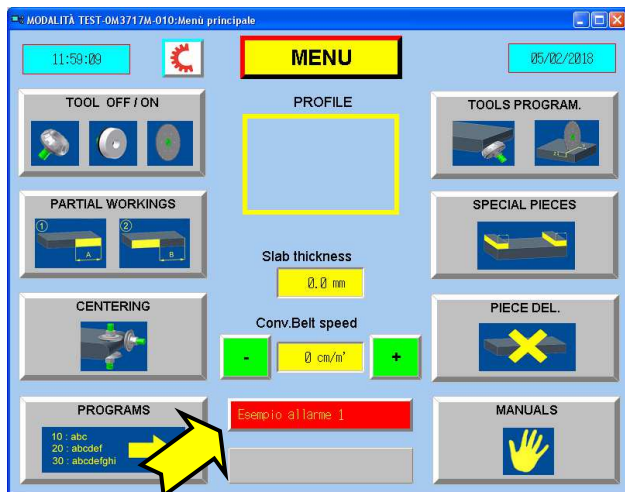
ALARMS

In case of malfunctioning, the machine blocks and displays the anomaly accompanied by signals:

acoustic: the control panel buzzer and the siren goes off

optical: the red **ALARM** light of the control panel turns on.

The active messages or alarms appear in the red area of the menu, by selecting the icon you can access the main messages / alarms page (see screen):

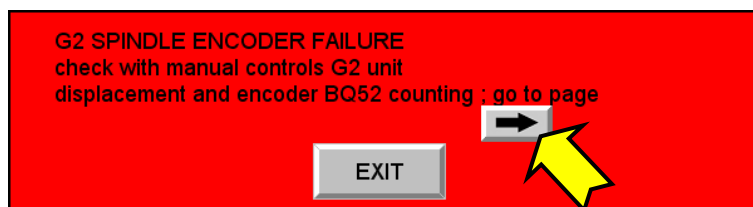


This page displays active messages and alarms, it is possible to receive further information by selecting the same message.

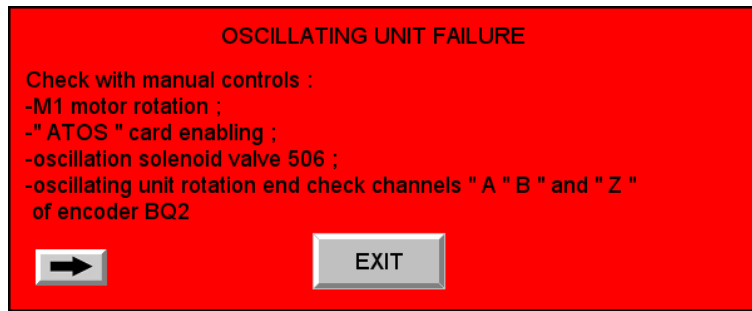
To be able to use the machine it is necessary to eliminate the cause of the alarm. If it were necessary to open the safety guards to do this or to access inside the electrical cabinet, it is necessary to remove power (main switch), therefore eliminate the cause of the alarm, close any open guards or doors and proceed with machine start-up.

Now, if everything has been brought to normal, the **ALARM** light of the control panel will shut-off.

In certain alarms it is possible, by selecting the icon represented by an arrow, to access a specific page of manual controls where it is possible to carry out all necessary verifications.

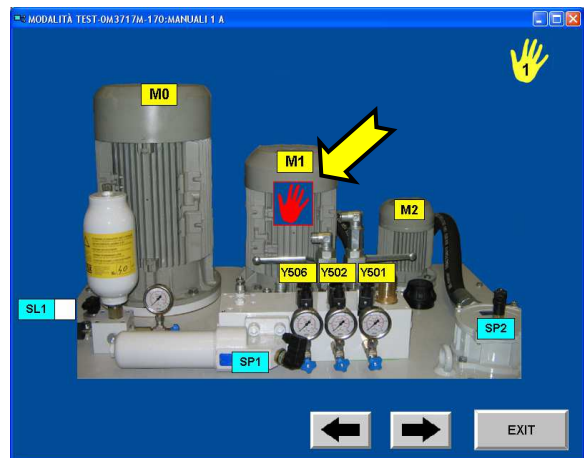
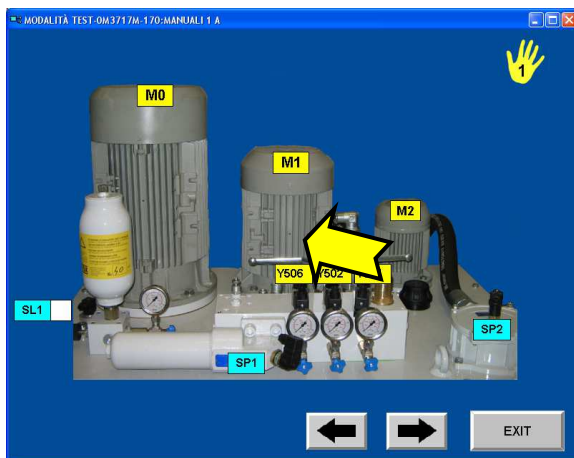


ALARM 01



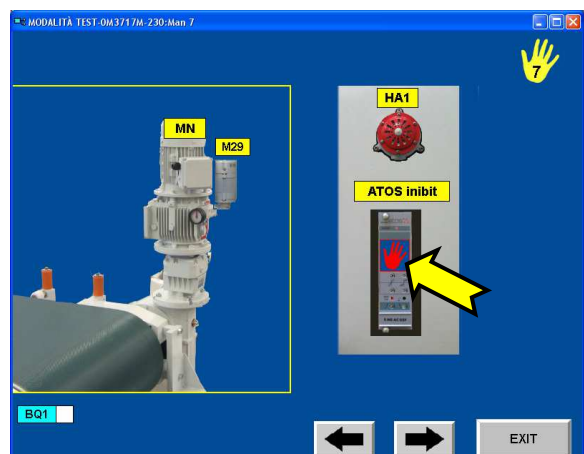
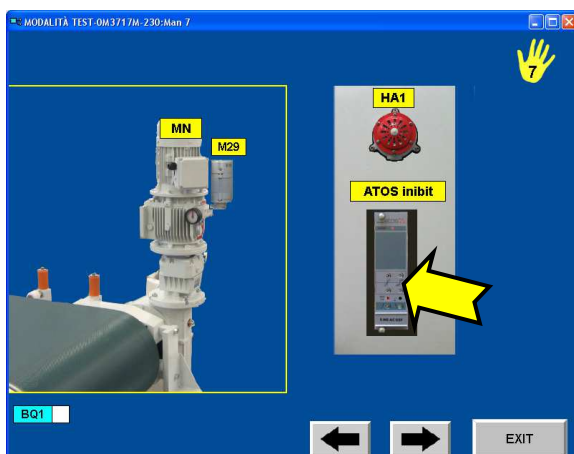
Verifications:

1. Choose motor M1 and press the **E** Key from the control pushbutton to activate motor M1.



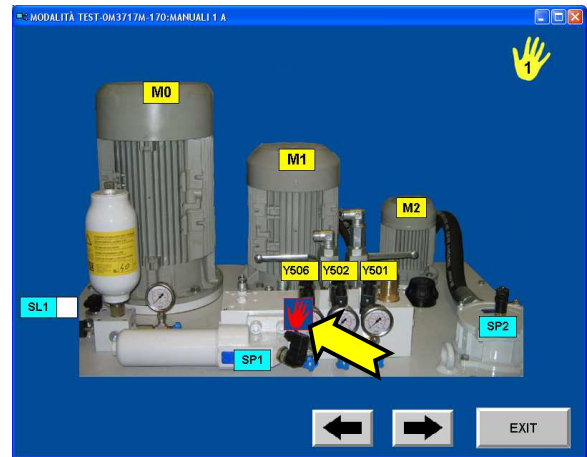
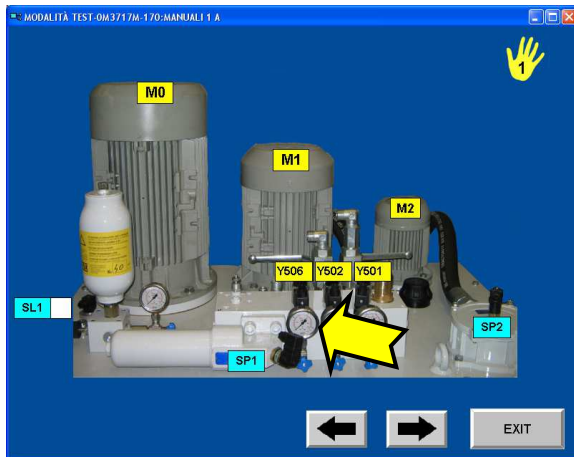
If the motor does not turn on, it may mean that it is broken.

2. Choose the ATOS board and press the **E** Key from the pushbutton panel to disable it.

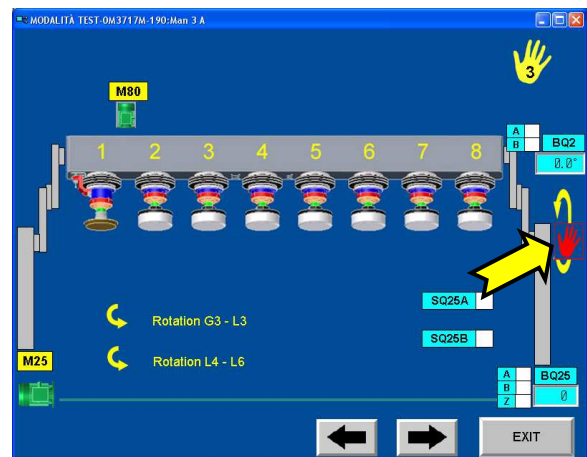
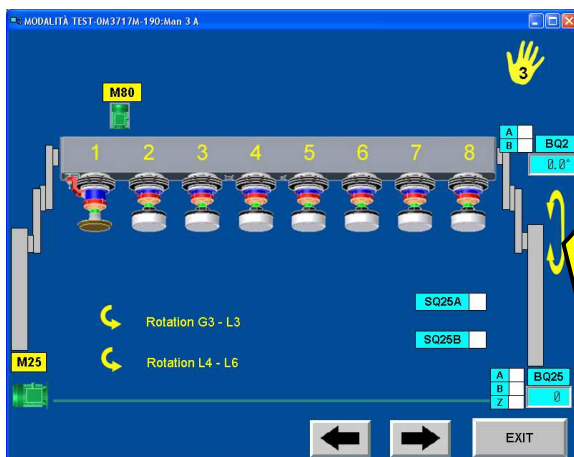


If the led present on the board (*located in the electrical cabinet*) do NOT turn off, it may mean the ATOS board is broken.

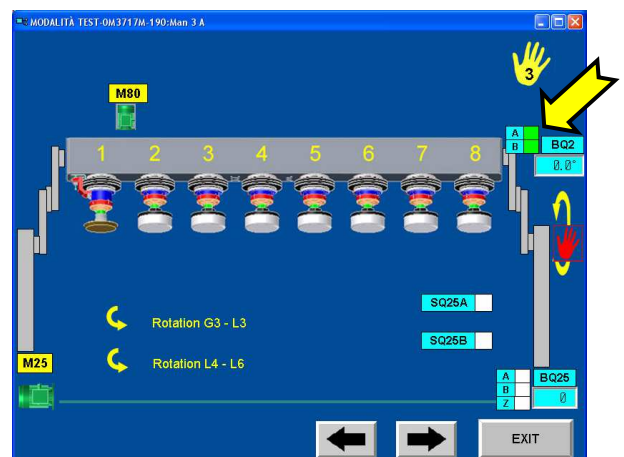
- Choose the hydraulic valve Y506 and press the **E** Key from the control pushbutton to activate it.



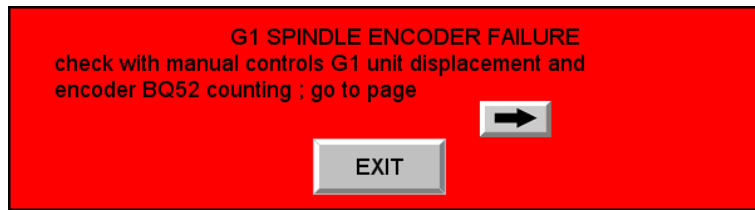
- Verify that the led (red) located on the valve is on, otherwise it may mean the valve is broken or has no power.
- Choose the edge polisher oscillation control and press the **E** Key from the pushbutton control panel to activate it.



- Verify that the oscillating unit moves and the indicated led flash.

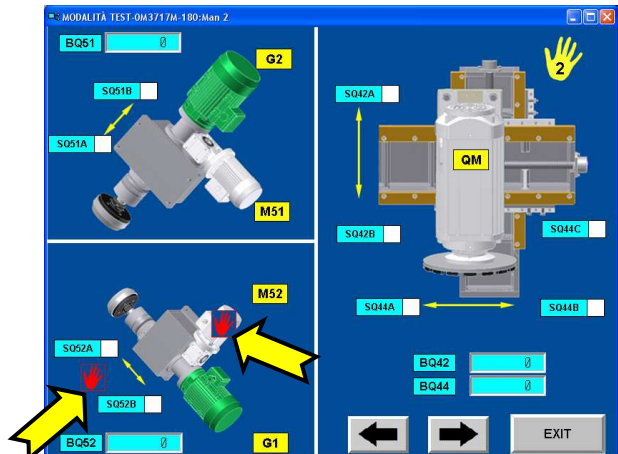
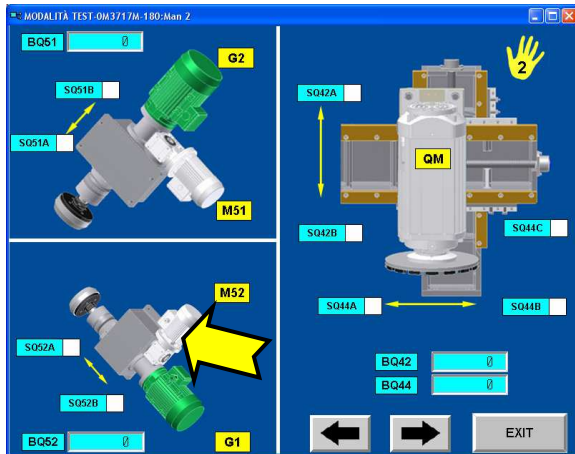


ALARM 02

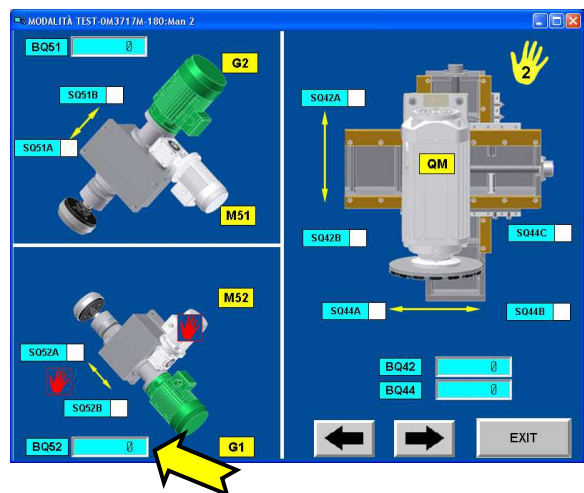


Verifications:

1. Select motor M52

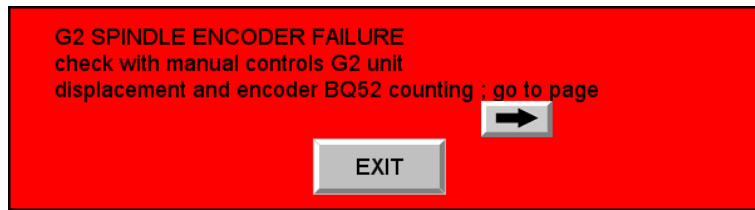


2. Press the **E** Key from the pushbutton control panel to activate M52 motor.
3. Rotate selector C to position 1, the spindle should move closer to the piece to be processed, if this movement does not occur, it may mean the motor is broken. If the movement takes place, the encoder BQ52 should count the spindle displacement.



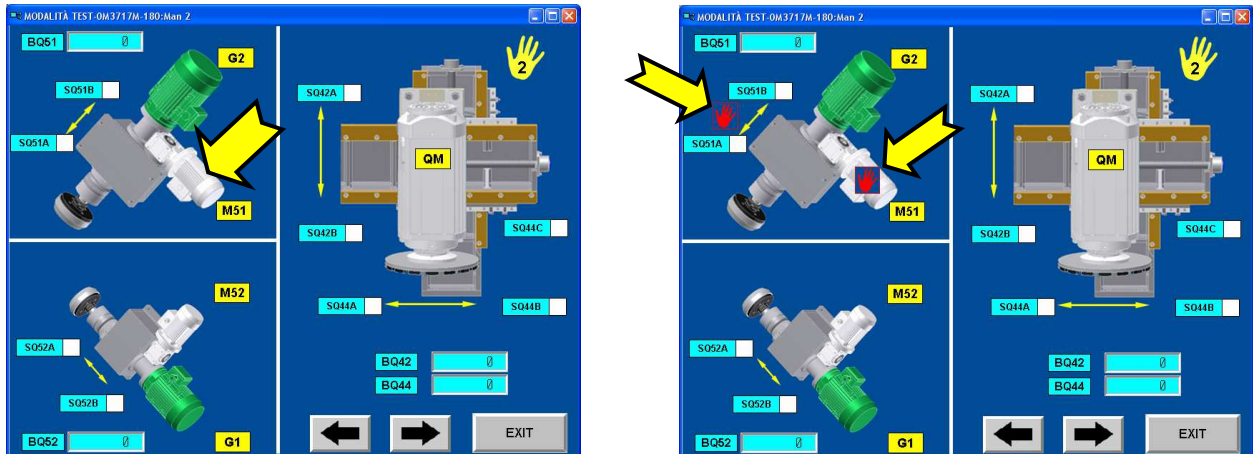
If by moving the unit the value of the counter does not change, it may mean the encoder is broken.

ALARM 03

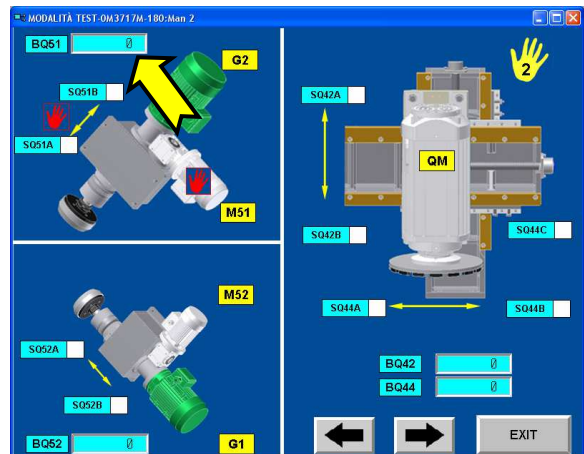


Verifications:

1. Select motor M51.

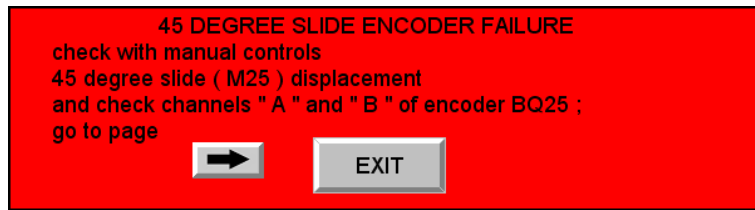


2. Press the **E** Key from the pushbutton control panel to activate M51 motor.
3. Rotate selector C to position 1, the spindle should move closer to the piece to be processed, if this movement does not occur, it may mean the motor is broken. If the movement takes place, the encoder BQ51 should count the spindle displacement.



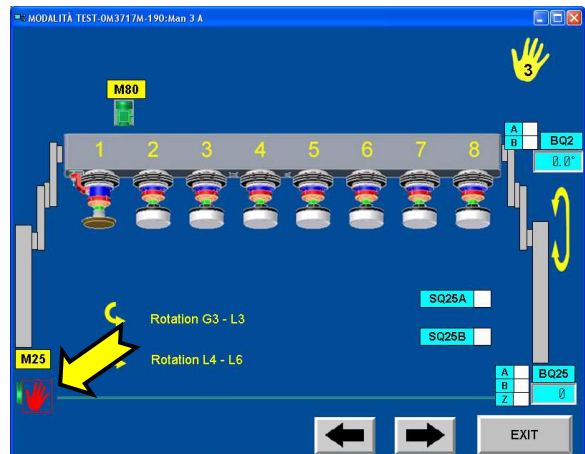
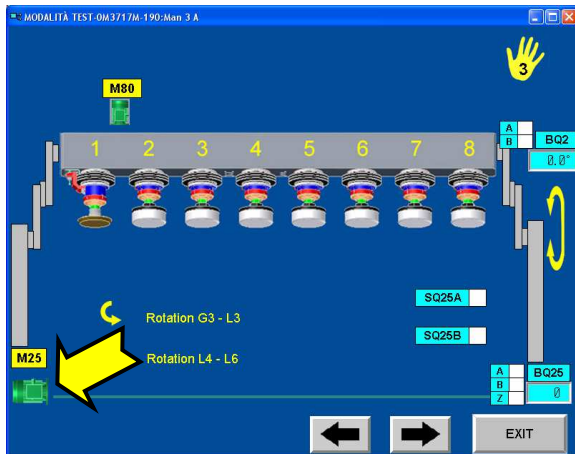
If by moving the unit the value of the counter does not change, it may mean the encoder is broken.

ALARM 04

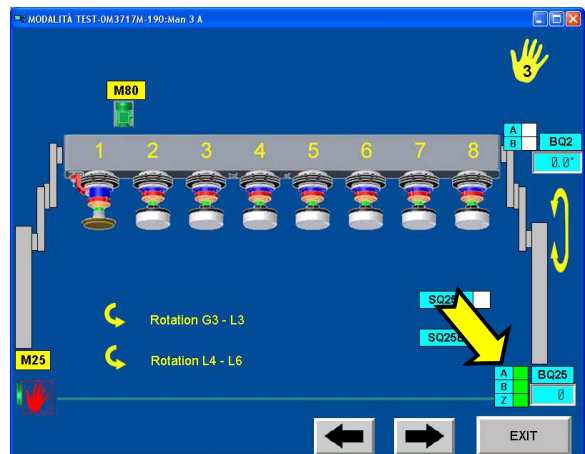


Verifications:

1. Select motor M25.



2. Press the **E** Key from the pushbutton control panel to activate M25 motor.
3. Rotate selector C to position 1, the edge polisher crossbar should move closer to the piece to be processed, if this movement does not occur, it may mean the motor is broken. If this movement takes place, check start-up (green light) on BQ25 encoder channels and its counter.



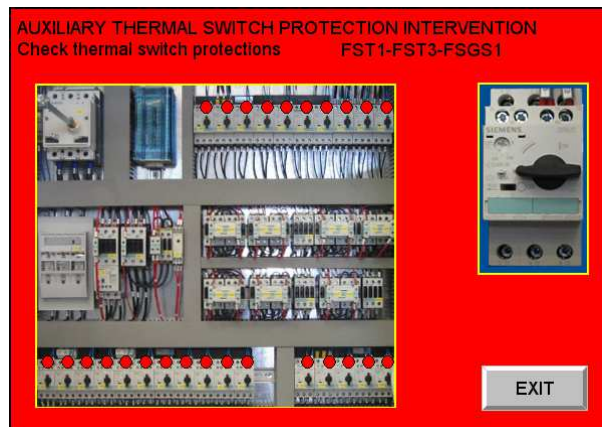
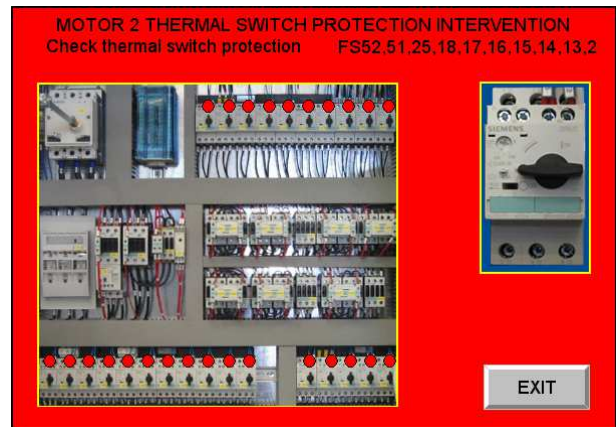
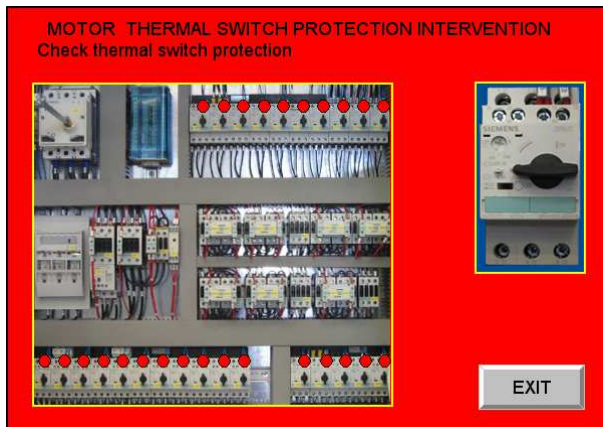
If by moving the unit the value of the counter does not change, it may mean the encoder is broken.

ALARM 05

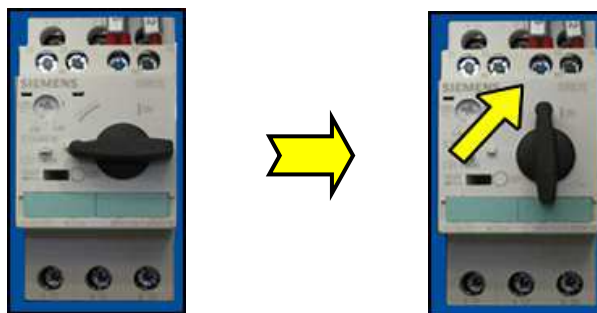


Check the line phases connected to the main switch.

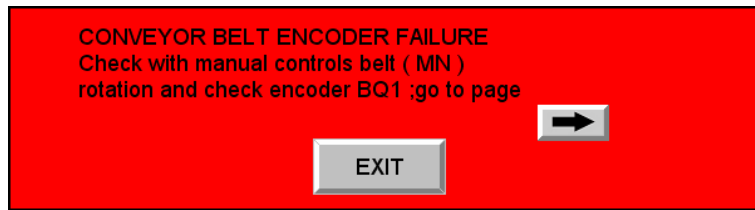
ALARM 07 - ALARM 08 - ALARM 09



Verify that all circuit breakers are active, otherwise, rearm them.

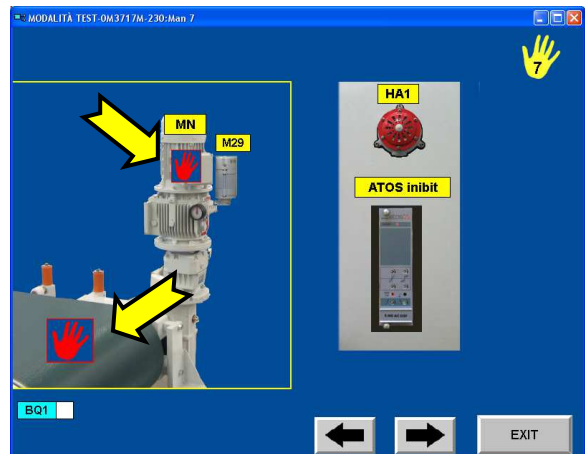
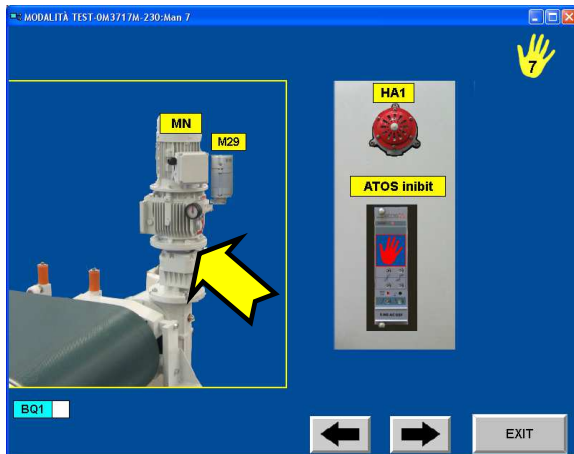


ALARM 10

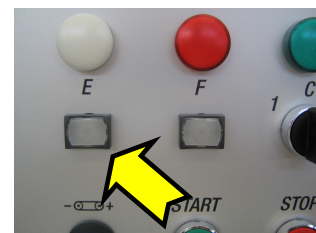


Verifications:

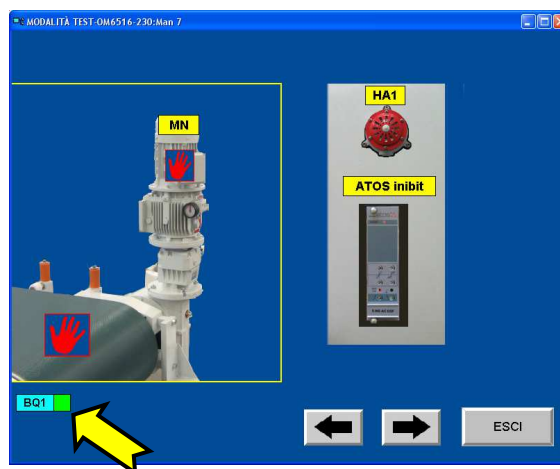
1. Select belt motor MN.



2. Press the **E** Key from the pushbutton control panel to activate MN motor.

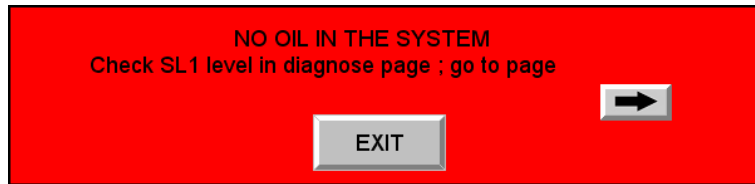


If the belt does NOT move, it may mean that the belt motor is broken, if the belt rotates correctly, verify that the green led is on near the wording BQ1



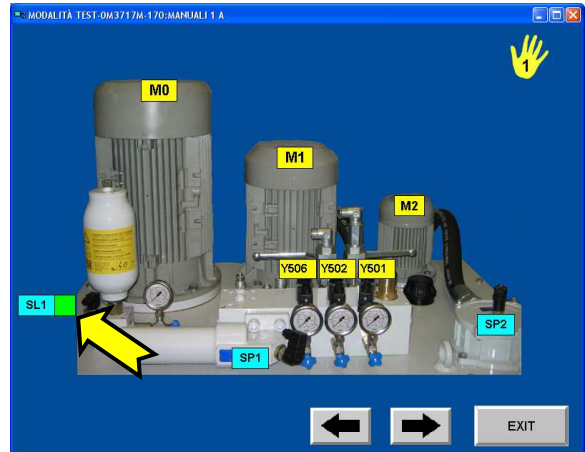
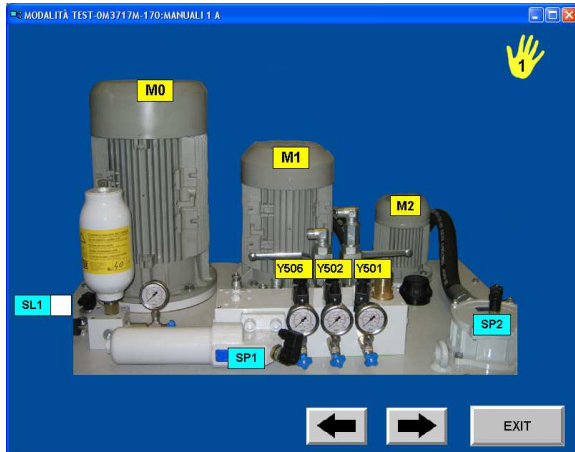
If the indicated led is off, it may mean the encoder is broken.

ALARM 11



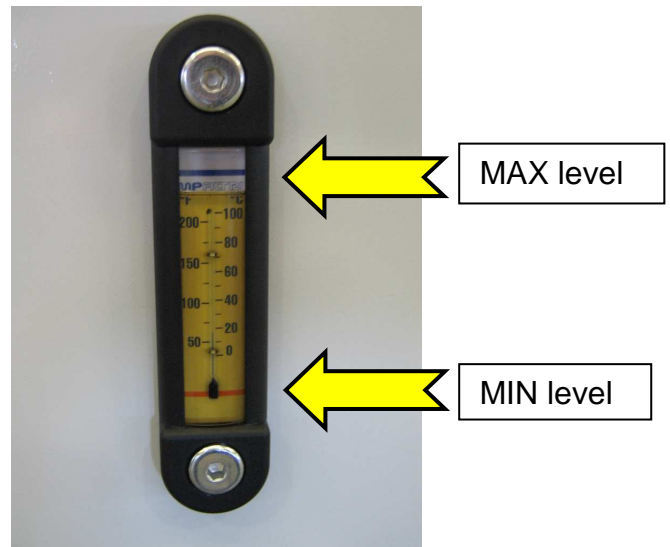
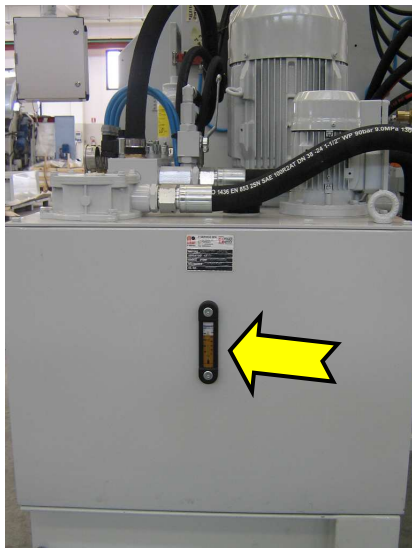
Verifications:

1. Verify that the green led close the wording SL1 is on.

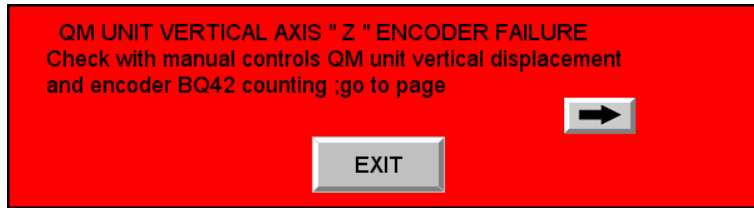


If the indicated led is off, it may mean that the oil level sensor is broken, or the hydraulic oil level in the hydraulic control unit is insufficient, therefore it must be topped up

Attention: The oil must NEVER reach the maximum level.

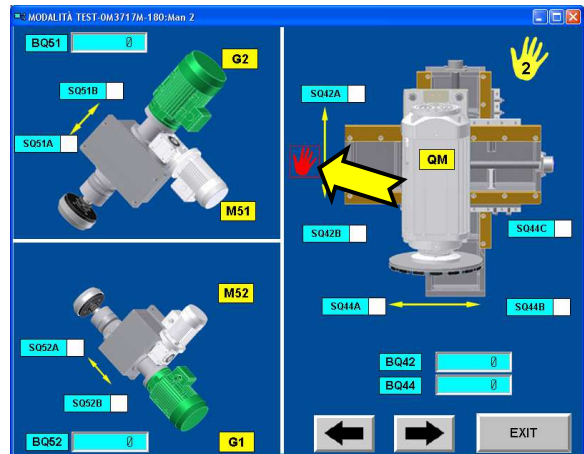
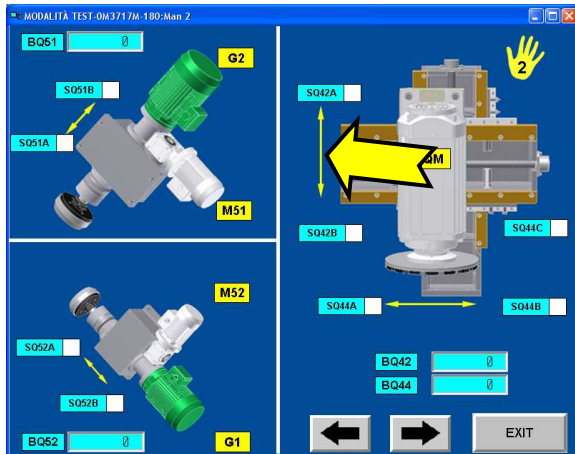


ALARM 12

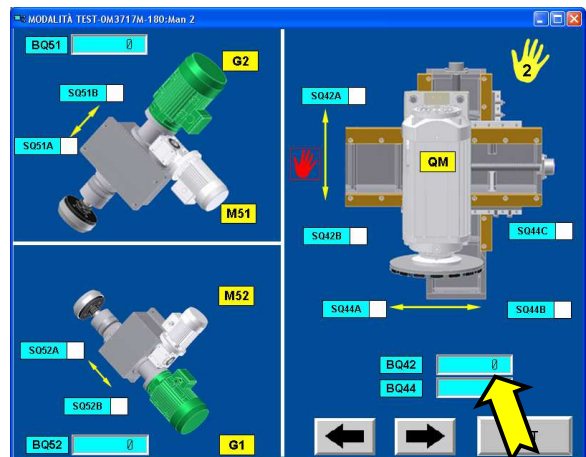


Verifications:

1. Select the vertical movement of the calibrator unit using the arrow.



2. Press the **E** Key from the pushbutton control panel to activate the calibrator vertical movement motor.
3. Rotate selector C to position 1, the disk should move closer to the piece to be processed, if this movement does not occur, it may mean the motor is broken. If the movement takes place, the encoder BQ42 should count the spindle displacement.



If by moving the unit the value of the counter does not change, it may mean the encoder is broken

ALARM 14

FLOATING UNIT FAILURE

EXIT

ALARM 15

BELT INVERTER FAULTY

EXIT

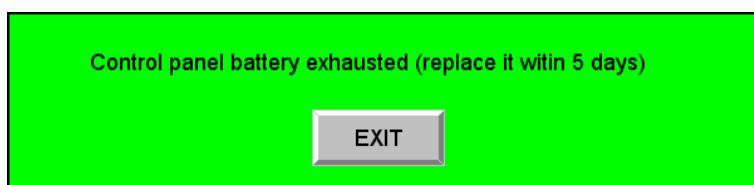
MESSAGES

The messages are divided into two categories: serious messages and informational messages. The serious messages block machine operation, they indicate incorrectly set values, signal opening of machine safety devices, or that the emergency button has been pressed.

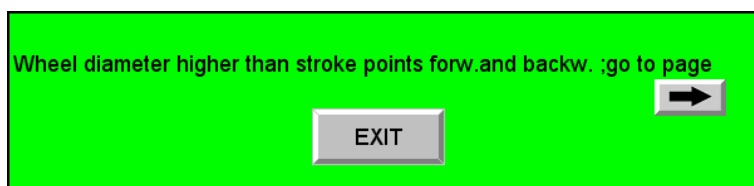
The informational messages do not block machine operation,, based on set parameters, they indicate recommendations for use or signal general information (for example: the battery of the operator panel is dead).

The display of informational messages is accompanied by the sound of the control panel buzzer.

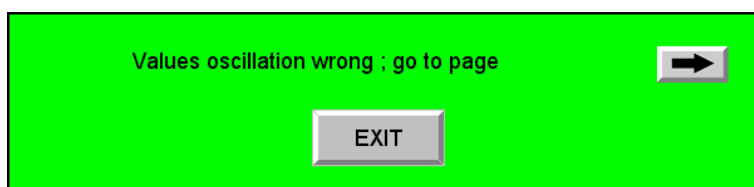
MESSAGE 01



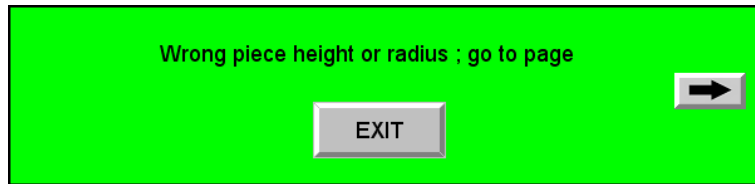
MESSAGE 02



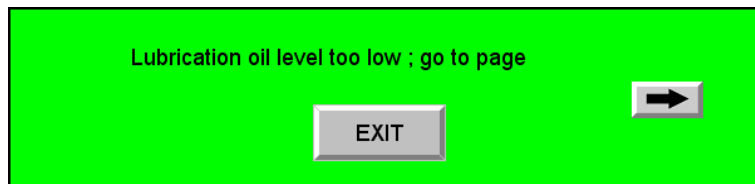
MESSAGE 03



MESSAGE 04

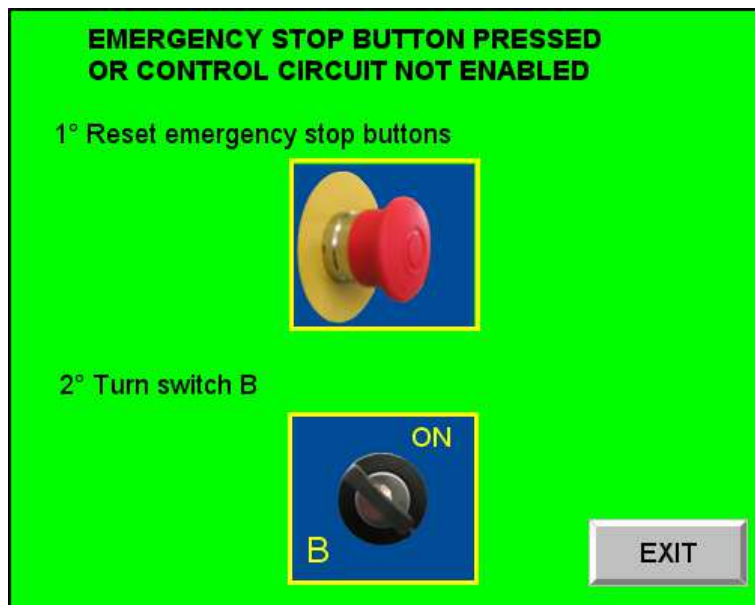


MESSAGE 06



Verify correct operation of the lubrication pump (see manual control chapter)

MESSAGE 07



MESSAGE 08

SAFETY COVER (DOOR - GATE - OPENING)

1° Close all the doors and gates



2° Turn switch to ON




EXIT

MESSAGE 09

Lubrication system not under pressure;
check circuit air pressure ; go to page

EXIT




Verify correct operation of the SP66 lubrication pressure switch

MESSAGE 10

Lubrication system clogged ;
check distributors and nozzles ; go to page

EXIT



MESSAGE 12

PLC battery exhausted (replace it within 5 days)

EXIT

MESSAGE 14

ATTENTION SLOPING QM : Movements only in manual
check the position

EXIT
