
SASSO K600 5-AXIS CNC SAW



MODEL:
K600

SERIAL NUMBER:

BUILT FOR:

SASSO USA INC.
220 N. Smith Street Suite 414
Palatine, IL 60067
(888) 289-5284

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General Information

The Sasso K600 5-axis CNC saw is designed to cut natural stone, quartz, glass and other composite materials being introduced to the market.

General Warning: This machine should only be operated under the conditions and instructions put forth and intended by Sasso. Failure to operate this machine as intended can result in serious injury or death. Never attempt to operate this machine without proper training from a qualified Sasso representative.

Instructions

- Never attempt to operate this machine unless all safety guards and devices are properly installed.
- Never attempt to access the machine working envelope without first ensuring the machine program is completely finished, and the power supply to the machine has been disconnected.
- Before accessing the electrical cabinet, ensure that power to the machine has been disconnected.
- Never attempt to perform any maintenance to the machine without first placing the machine into the lockout/tagout condition.
- Any modifications to the machine are strictly forbidden and can result in serious injury or death.

Note: To work properly and guarantee the best results, this machine should be placed in an environment with a temperature range between 41 and 104 degrees, and a humidity level between 35% and 85%.

1) GENERAL TECHNICAL INFORMATION

The K600 is composed of metal framework consisting of a bridge, gantries and a work processing table.

The processing head is designed to be equipped with blades and various milling and coring tools.

2) MACHINE RESONANT POWER LEVEL

The primary source of noise is produced from the processing of natural stone and composite materials. The K600 was engineered to reduce the level of resonant emissions.

Surveys were carried out according to the measure method of the law EN ISO 4871-1995, EN ISO 11200-1995, EN ISO 11202-1995, Decree with the force of the law 81/2008 Law 447/95.

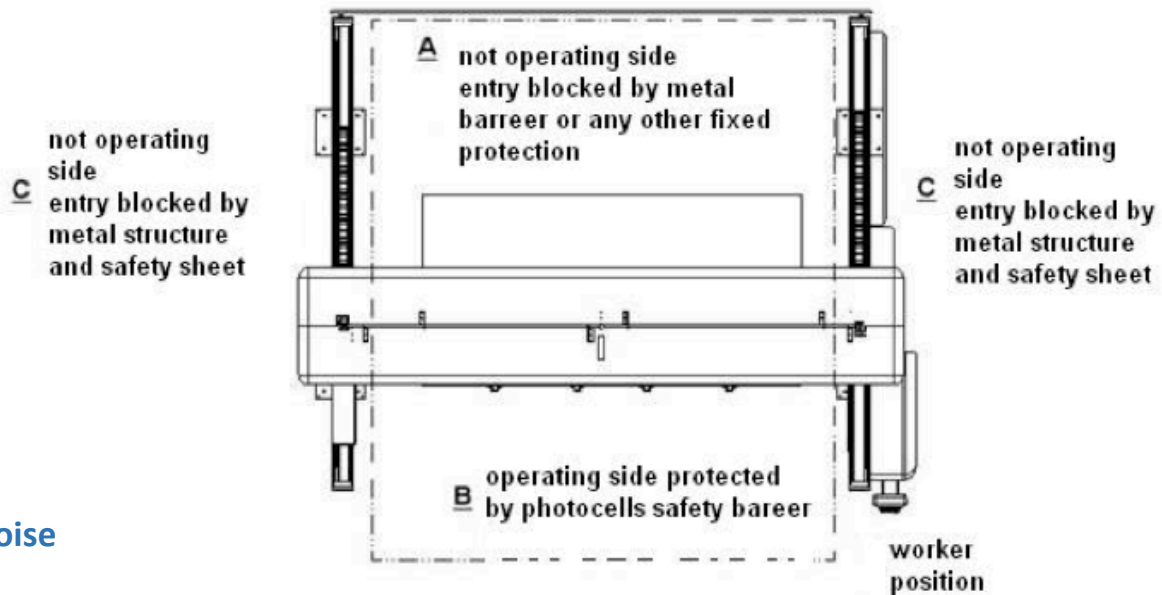
The machine generates noise in the following measures:

WORKING MACHINE WITHOUT PIECES IN PROCESSING From 80,0 DB(A) a 81,5
DB(A)
WORKING MACHINE WITH PIECES IN PROCESSING

The values expressed refer to the machine at work and were registered in different points, and at a medium distance of 1 meter from the noise source.

For the measurements carried out the maximum value of acoustic instantaneous pondered pressure C results were lower than 130 DBA.

Warning Definitions



Noise

3) SONOROUS LEVEL EQUIVALENT IN CORRESPONDENCE OF THE WORKING POSITION

Working machine with piece in processing:

Decibel	zone working front side	=	db(A) 85,4
Decibel	zone working back side	=	db(A) 83,3

4) NOISE AMOUNT ABSORBED ON THE BASE OF THE TIME OF EXPOSITION EQUIVALENT SONOROUS LEVEL CALCULATION (Leg)

Exposition in minutes	Front side		Back side	
	db(A)	Leq	db(A)	Leq
60,0	85,5	76,5	83,3	74,3
120,0	85,5	79,5	83,3	77,3
180,0	85,5	81,2	83,3	79,0
240,0	85,5	82,5	83,3	80,3
300,0	85,5	83,5	83,3	81,3
360,0	85,5	84,3	83,3	82,1
420,0	85,5	84,9	83,3	82,7
480,0	85,5	85,5	83,3	83,3

5) VALUE OF THE AIR NOISE PRODUCED BY THE MACHINE

Acoustic continuous equivalent pondered pressure level (A) registered in the working place by the operator is from 83,3 to 85,4

The following noise values are levels of emission and do not represent safe operative levels.

Even if there's a relationship between exposition and emission levels, this can't be employed in a reliable way to establish if some precautions are either necessary or not.

The factors which determine the exposition level to which the workers undergo, include the time of the exposition, the characteristics of the work place and others noise sources (for example: number of machines, adjoining operations etc...)

The supplied information will allow the user to evaluate the risks and dangers they will be exposed to.

6) TECHNOLOGIES EMPLOYED FOR THE REDUCTION OF NOISE EMISSIONS

Noise produced by the cutting disc is lessened by the flange and fiberglass shroud.

If the machine is used as intended, vibrations don't represent a dangerous situation.

Frequently Asked Questions

1. How do I fill the cuts in the table?

Answer: You'll need Quick Dry Thin Set to complete this task. Begin by mixing the thin-set until it's the consistency of peanut butter. Create a ¼" dam around the perimeter of the table making sure to build up any edges that may have fallen off. Next, mix a second batch that's slightly thinner than first and use a flat trowel or similar to work the mix into the cuts and cover the entire table until it's level with the dam you created around the perimeter. Once the thin set has cured, plane the table to it's original height and touch off your tools.

2. How often must I update Alphacam?

Answer: We will contact you when any new updates are released (approximately once per year).

3. What if the saw shuts down or the blade gets stuck while attempting an angle (miter) cut?

Answer: To free the blade from the material when the A axis is not orientated to zero, press the numbers to the right of the letter A (represents A axis) on the home screen. You will be directed to a new page where you will see Z+ and Z-. Pressing Z+ will raise the head at the same angle of your cut.

4. What if the stone pinches the blade and the saw motor shuts down?

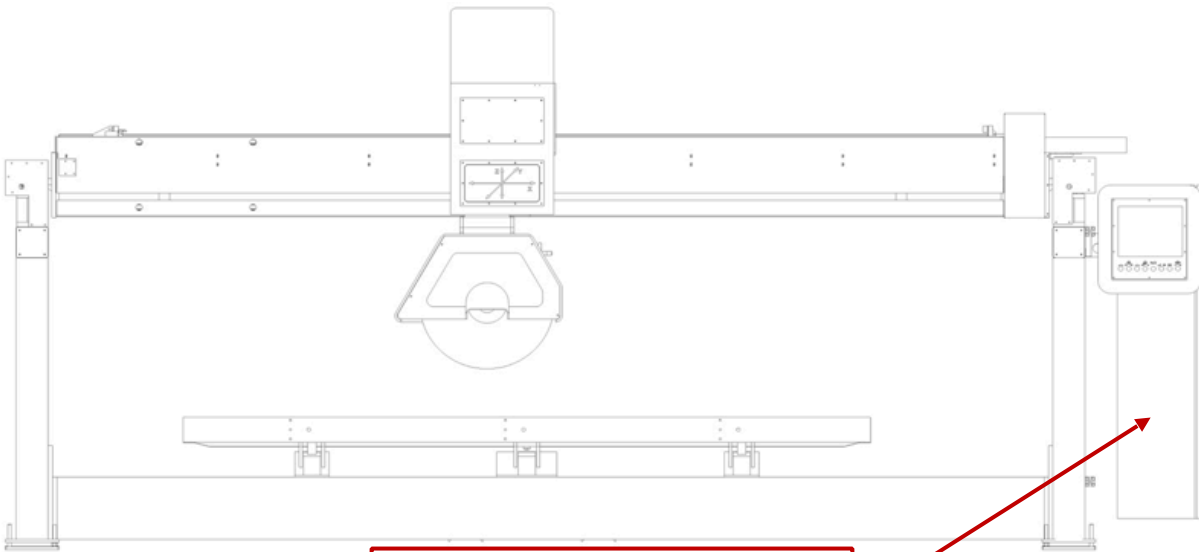
Answer: This can happen on some engineered stones due to tension build up within the material. First you must free the blade from the material. Sometimes driving a wedge into the saw kerf will work, but more often than not you will need to use a hand grinder to cut the blade free. Once free, you may find you cannot RESET out of the emergency mode. If this happens, press and hold BYPASS Z while turning the red Emergency Stop Button. Then wait 10 seconds and press the blue RESET button. Finally, while still pressing BYPASS Z, slowly raise the head in Z until the blade is above the material.

5. How do I touch off my tools manually?

Answer: We recommend touching off your tools once a week. Always touch off the fingerbit first as it requires a blade calibration following the touch off. Begin by installing the fingerbit. Then, with the head fully raised in Z, change the A axis to 90 degrees. Slowly lower the head in Z until it's just touching the table. Click F9 and change tool type from blade (0), to fingerbit (1). From the home screen press F1 and then F2 (you should see a mill tool on a table). The new fingerbit tool length will be displayed at the top right of the home screen where the blade diameter is normally found. Fully raise the head in Z and change the A axis to 0 degrees. Press F9 and change the tool type back to blade (0). The machine will prompt you to calibrate the blade. Lower the blade until it's just touching the table and click F1 and then F2. If you are unable to touch the table with the blade you may need to change the blade diameter (listed on the top right of home screen) to a number that is closer to the actual size of the blade. Update Alphacam with the new tool information including the machining styles.

Pre-Installation Checklist

- Required floor space (refer to footprint drawing on page 11)
- Floor should be level within 1"
- Materials necessary for cutting surface (r on page)
- Air/Electric/Water requirements listed below



The electrical, air and water hookups are located on the right side of the machine.

Service Connection Points



Electrical

The K600 requires 80 amps @ 230 volts

The K600 extreme requires 125 amps @ 230 volts

Note: Before accessing the electrical panel, first release the door-back and verify that the lights indicating voltage are off.



The image to the left is the inside of the electrical cabinet. The image to the right is a close up of where the power is connected to the machine.

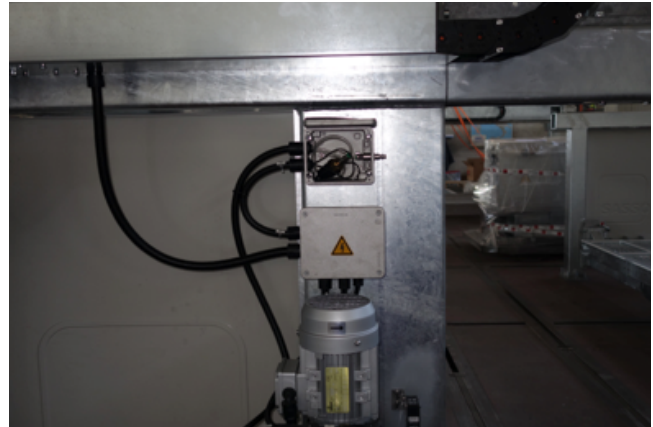
Air

Note: It is extremely important that the air supply to the machine is clean and dry to avoid damaging any of the internal components.

Requirement for air going to the machine: 1 SCFM@ 100 psi.

The type of connector for the air should be a ¼ inch NTP (We suggest using a male thread nipple and quick coupler).

The machine is supplied with a nipple, but no USA supplied couplers fit them well.



Water

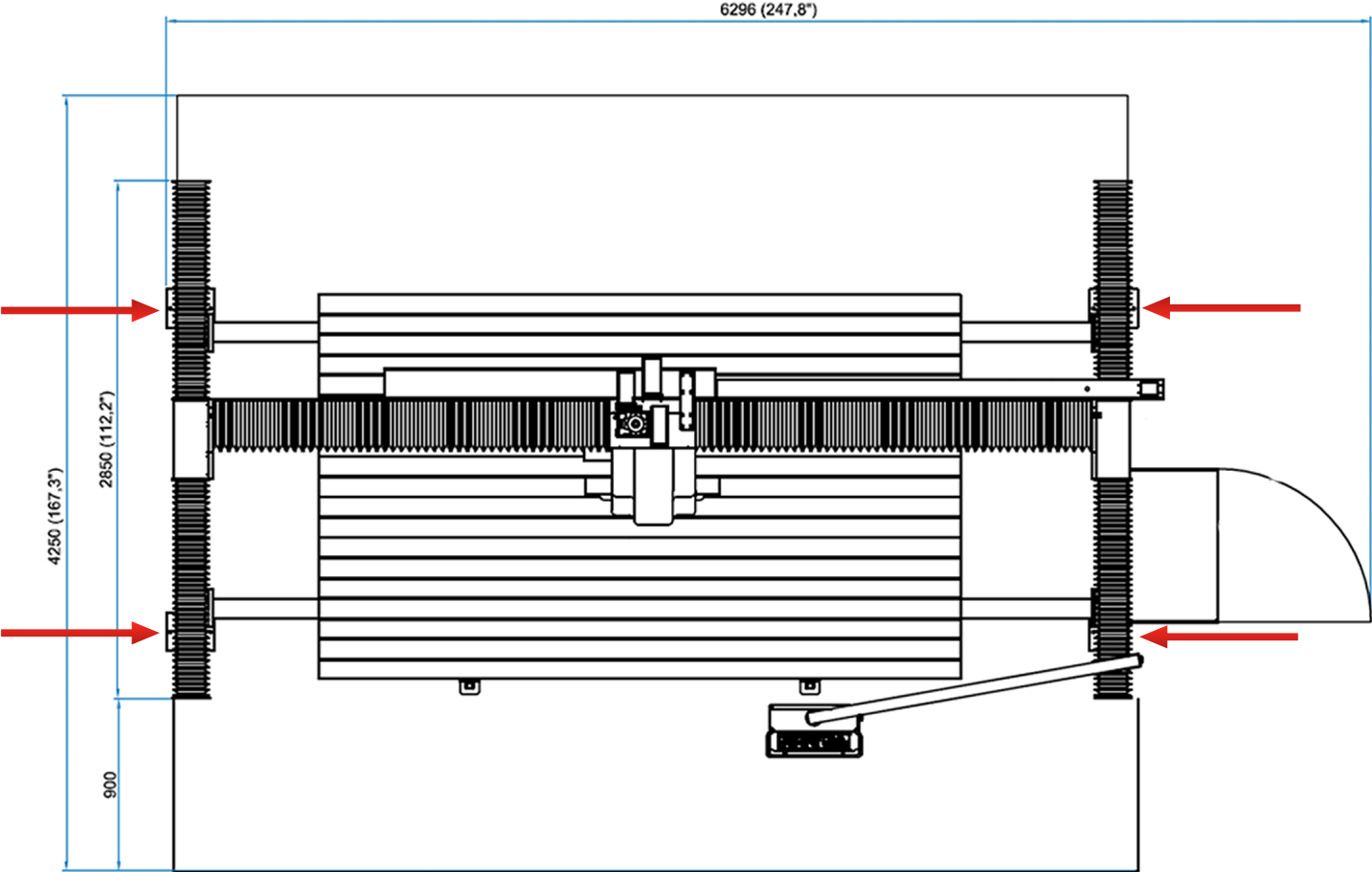


Requirement for water to the machine:
10 gallons @ 40 psi.

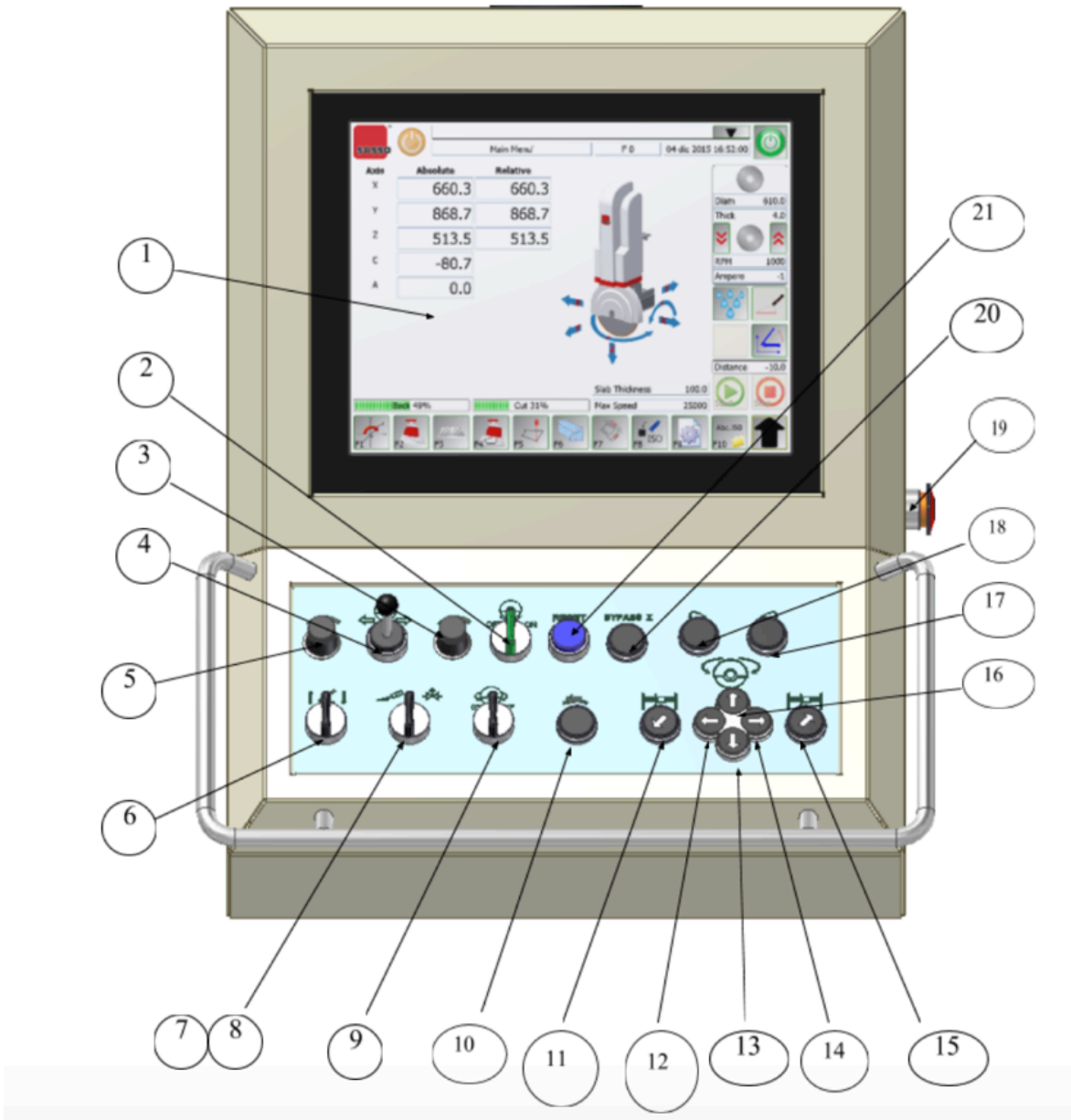
Machine Levelling

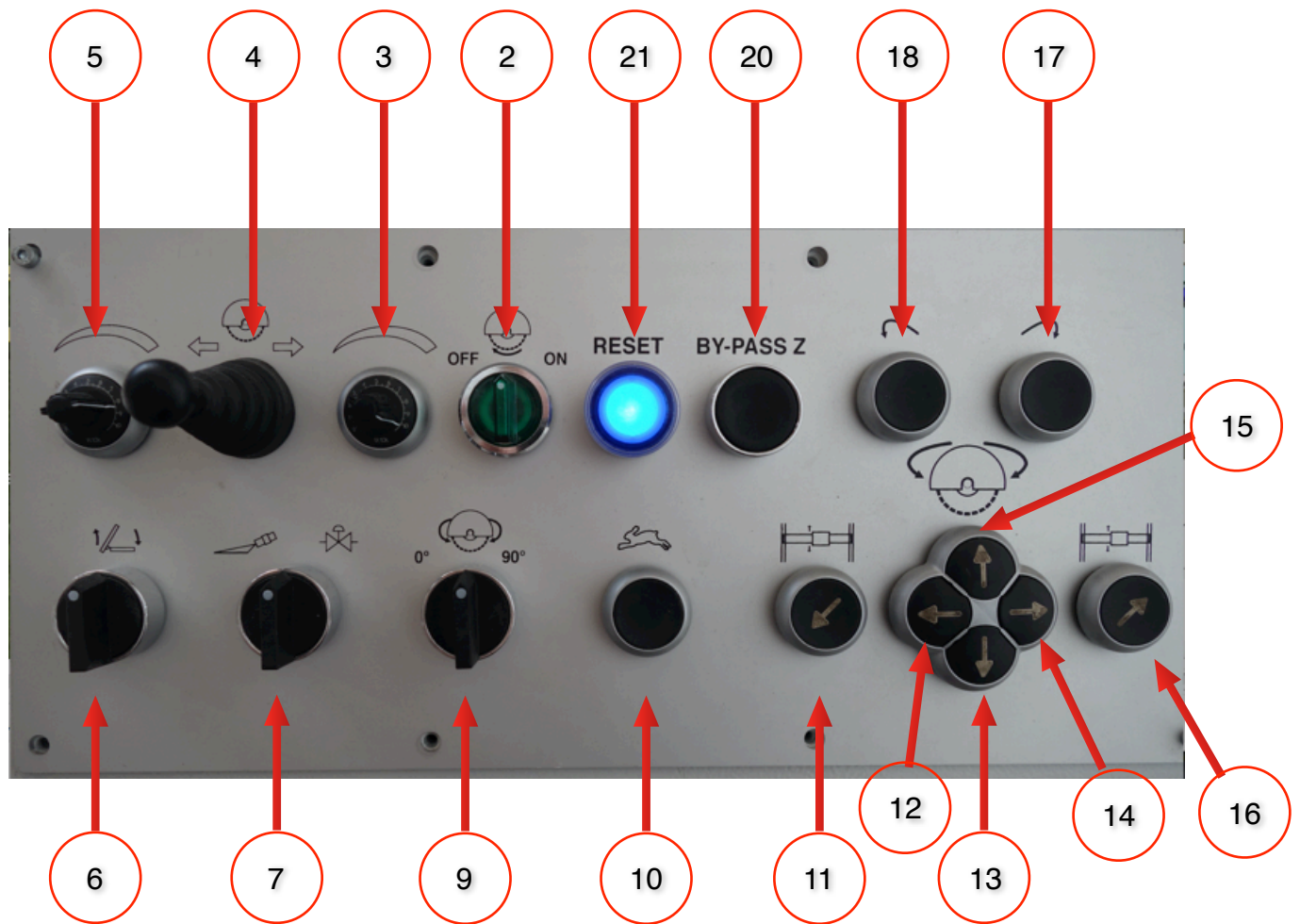


The K600 comes equipped with levelling feet. The four points where the machine feet are to be positioned should be level within 1" of one another or else it will be necessary to use accessory plates and anchors (not supplied by Sasso).



Operator Panel





- 1. Operator screen
- 2. Saw motor on/off
- 3. Manual speed adjustment override
- 4. Master controller cutting/return
- 5. Override saw blade return
- 6. Work table up and down
- 7. Laser line on/off
- 8. Water open/close
- 9. C axes (0°-90°)
- 10. Jog – rapid movement
- 11. Jog for bridge to go to the back of the table (Y negative)
- 12. Jog for saw head to move to the left side of the table (X negative)

- 13. Jog for saw head to come to the table (Z negative)
- 14. Jog for saw head to move right of the table (X positive)
- 15. Jog for saw head to lift up from the table (Z positive)
- 16. Jog for saw head to come to the front of the table (Y positive)
- 17. Jog for saw head to spin clockwise (C negative)
- 18. Jog for saw head to spin counter clockwise (C positive)
- 19. Emergency stop button
- 20. Reset Z axis
- 21. Reset auxiliary tension

Control Definitions

1 = **Operator Screen**

Touchscreen display allows the operator to enter the commands and functions.

2 = **Saw motor on/off**

Used to start and stop the saw motor. After clicking this button to start up the saw motor, the safety barrier around the machine is activated and will remain activated up to 20 seconds after you hit this button again **to turn off the saw motor.**

3 = **Manual speed adjustment override**

Used to manually regulate the cutting speed along the X, Y **and oblique cuts.**

4 = **Master controller cutting/return**

Used to cut and go back at a speed that you set on control number 3 (the manual speed adjustment override).

5 = **Override saw blade return**

Used to override the speed of the **return running or back cutting** of granite.

6 = **Work table up and down**

Used to raise and lower the work table (**the K600 table has a maximum capacity of**

7 = **Laser line on/off**

Used to turn the laser on and off. The laser is automatically switched off every time the machine begins an automatic program.

8 = **Water open/close**

Used to open and close the water valve. The valve opens automatically when the tool is running and closes automatically when the tool stops running.

9 = **C – axis (0°-90°)**

Used to move the head in the C axis between approximately 0° and 90°. This movement is only possible when the saw is in safety Z position.

10 = **Jog – rapid movement**

If you hold this button while pressing one of the axis jog buttons, the axis movement will be sped up.

11 = Jog for processing head/bridge to move to the back of the machine (Y negative)

Used to move the bridge toward the rear of the machine. The distance the bridge can move is determined by the software installed on the machine.

Note: Use caution when pressing this button at the same time as the Jog – Rapid Movement button.

12 = Jog for processing head to move to the left (X negative)

Used to move the processing head to the left of the machine. The distance the processing head can move is determined by the software installed on the machine.

Note: Use caution when pressing this button at the same time as the Jog – Rapid Movement button.

13 = Jog for lowering the processing head (Z negative)

Used to lower the processing head. How far the processing head can be lowered is based upon the calibration and size of the saw blade mounted to the processing head.

WARNING: Use caution when pressing this button at the same time as the Jog – Rapid Movement Button, for it's possible to crash the processing head into the table.

14 = Jog for processing head to move to the right (X positive)

Used to move the processing head to the right of the machine. The distance the processing head can move is determined by the software installed on the machine.

Note: Use caution when pressing this button at the same time as the Jog – Rapid Movement button.

15 = Jog for saw head/bridge to move to the front of the machine (Y positive)

Used to move the bridge toward the front of the machine. The distance the bridge can move is determined by the software installed on the machine.

Note: Use caution when pressing this button at the same time as the Jog – Rapid Movement button.

16 = Jog for raising the processing head (Z positive)

Used to raise the processing head. How far the processing head can be raised is based upon the calibration and size of the saw blade mounted to the processing head.

Note: Use caution when pressing this button at the same time as the Jog – Rapid Movement button.

17 = Jog for processing head to rotate clockwise (C negative)

Used to rotate the processing head clockwise.

Note: Use caution when pressing this button at the same time as the Jog – Rapid Movement button.

18 = Jog for processing head to rotate counter clockwise (C positive)

Used to rotate the processing head counter clockwise.

Note: Use caution when pressing this button at the same time as the Jog – Rapid Movement button.

19 = Emergency stop button

Used to immediately stop all machine movements.

20 = Z-axis Bypass

In the event that the processing head comes into contact (crash) with the material being processed, the table, or any other object introduced into the working envelope, the circuit will be interrupted to protect the machine from any further damage. To raise the processing head following a crash, you must first press the Z axis bypass button to reset the circuit.

21 = Reset Emergency Stop

Used to reset the machine after pressing the emergency stop button.

Start Up/Shut Down Procedures

Start Up Procedure

- Turn Power Switch to the ON position (located on the electrical cabinet)
- Twist the Red Emergency Stop Button to clear
- Press the Blue Reset Button
- Reset Axis (press F1 and select Yes to reset axes)
- Once the command is complete the light will change from Green to Yellow. Exit and press F11 (P1)

Shut Down Procedure

- Press F11 (P1)
- Press the Red Emergency Stop Button
- Press the Green Power Button (top right of home screen)
- Wait for the PC Power Light to turn off
- Turn the Power Switch to the OFF position (located on the electrical cabinet)

Passwords

Desktop: 0541

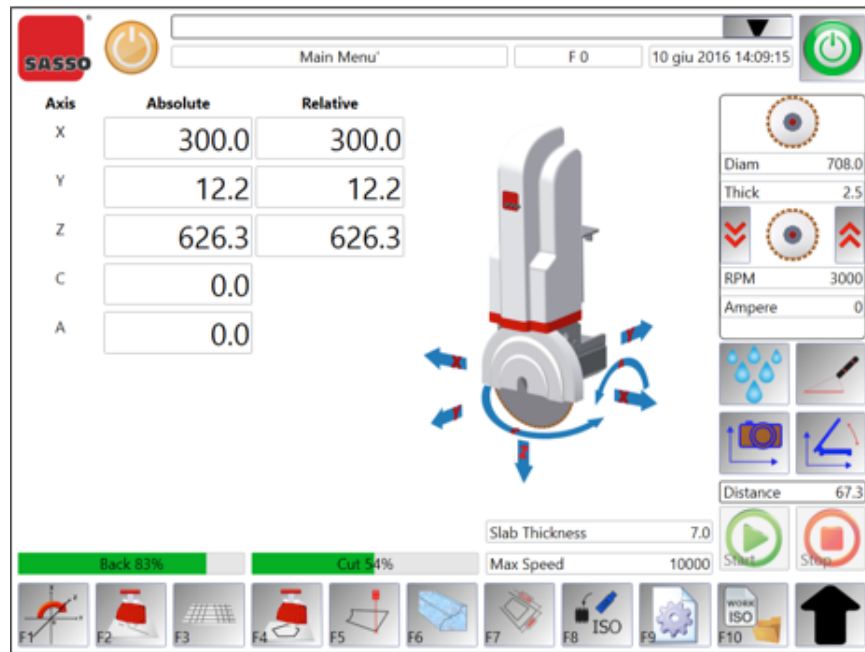
Operator Parameters: 1111

Power Studio: 0541

Tool Codes

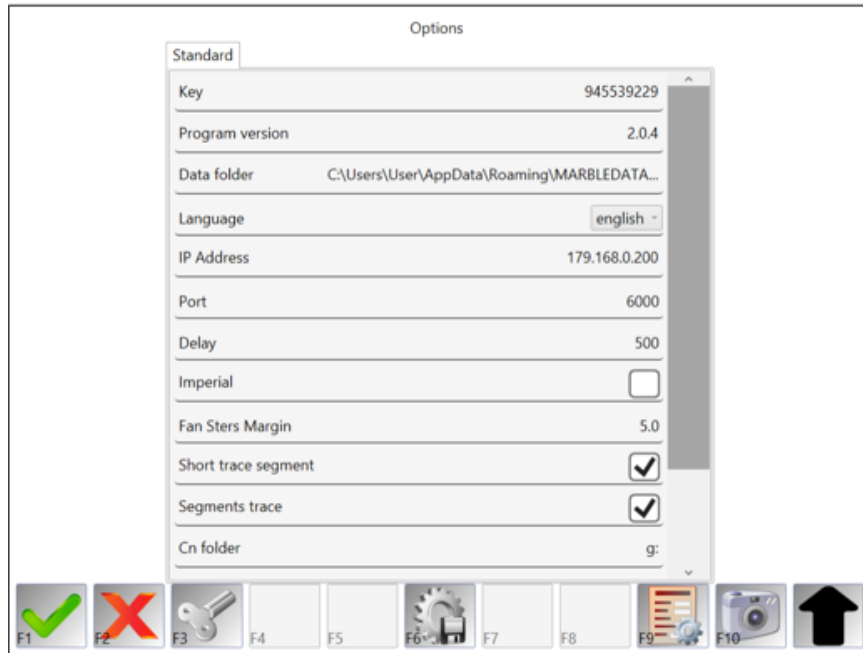
- Blade = 0
- Mill (Fingerbit) = 1

Software Configuration & Utility



Note: On the main menu are Function Keys F1 through F10. Selecting the Black Arrow Key will bring up Function Keys F11 through F20.


If you should ever require online assistance the F18 function key will allow a Sasso technician to remotely access your machine (You must first contact Sasso technical support).




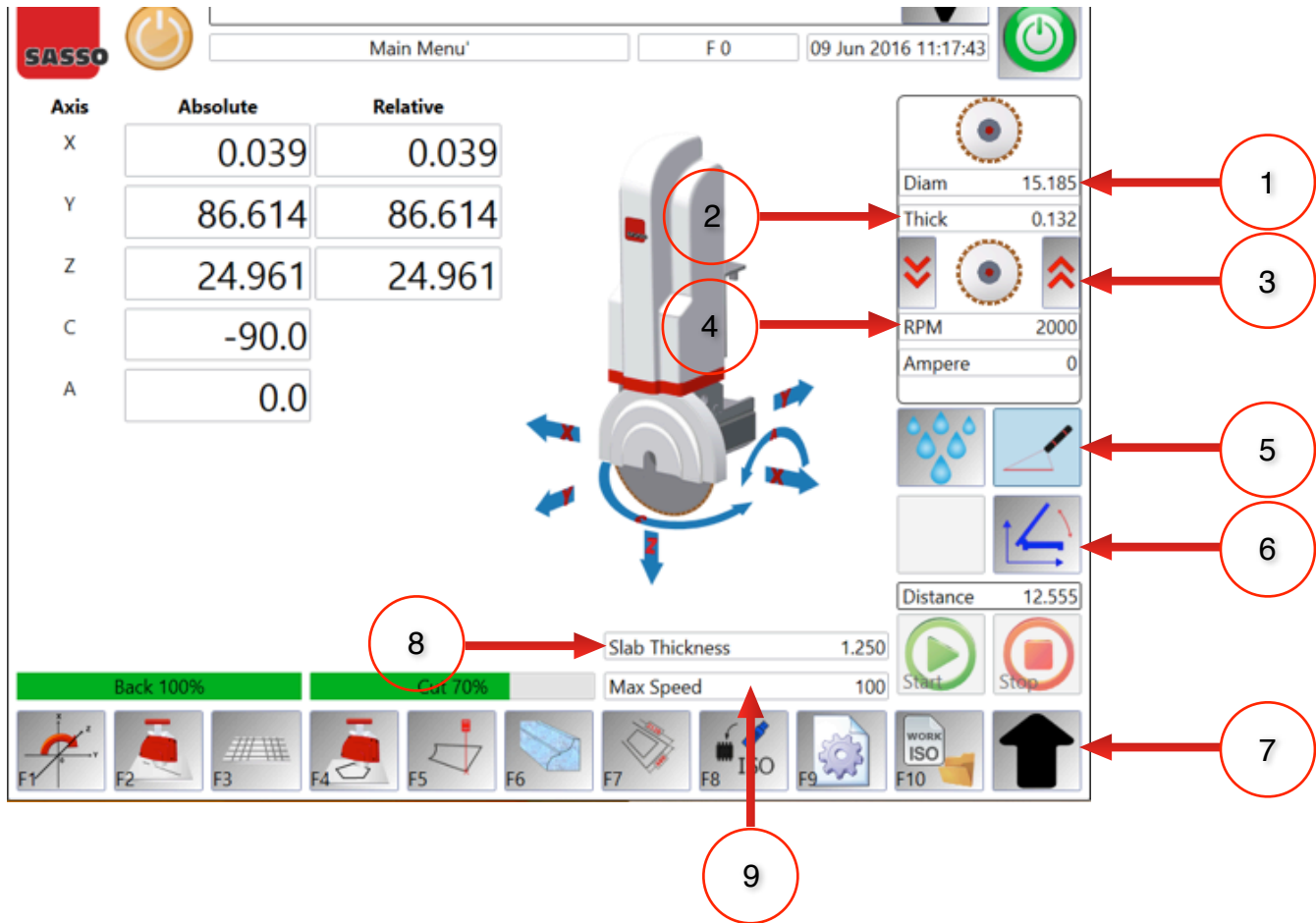
Selecting the F20 key will bring up the Machine Options page. This page is where you will find the unique details of your machine such as license number, IP address, etc.

You may also change the display language and choose the measurement system (imperial or metric) that you prefer.

If you make changes, your must press F6  to backup the new settings.

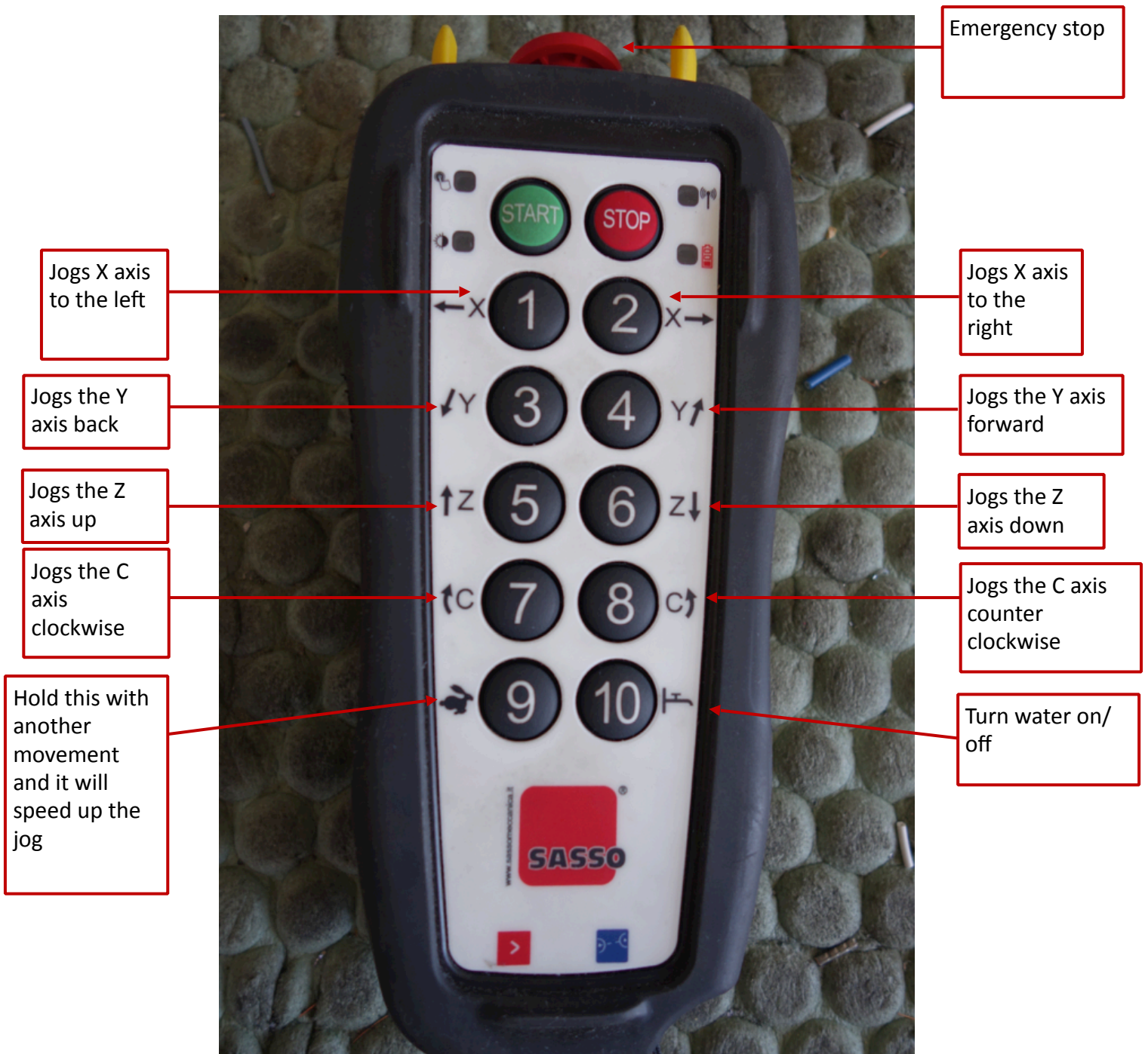
Press F1  to save the new settings.

Press F2  to return to the Main Menu



1. Saw blade diameter
2. Blade thickness
3. Increase/Decrease saw blade RPM
4. Saw blade RPM
5. Switching laser line indicator
6. Position head for tilting table
7. Go to second menu (F11-F20)
8. Insert slab thickness
9. Max cutting speed (feed rate in inches)

Pendant Control (Optional)



The start/stop button is on the top of the pendant controller. The pendant controller will enter stand by mode following 30 seconds of not being in use.

Axis Reset

When you turn the machine on for the day all axes must be reset (homed). On the Axis page, click F1 and it will automatically reset the machine axes. (refer to the alarm messages pages for other conditions requiring the machine axes to be reset).

Axis	Absolute	Relative
X	300.0	300.0
Y	12.2	12.2
Z	626.3	67.3
C	0.0	0.0
A	0.0	0.0

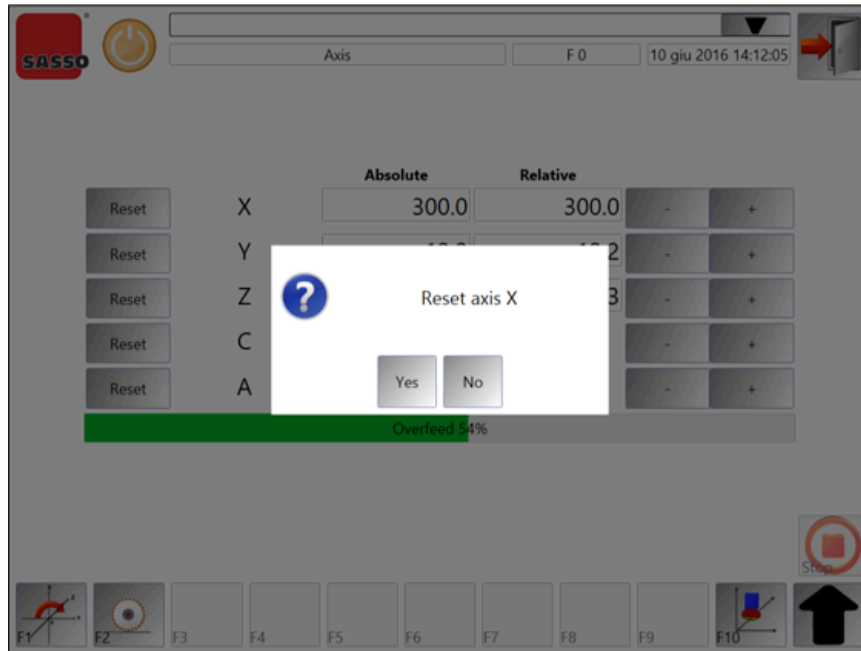
Overfeed 54%

You will be prompted to “Reset axis XYZCA”. Select yes and all axes will be reset.

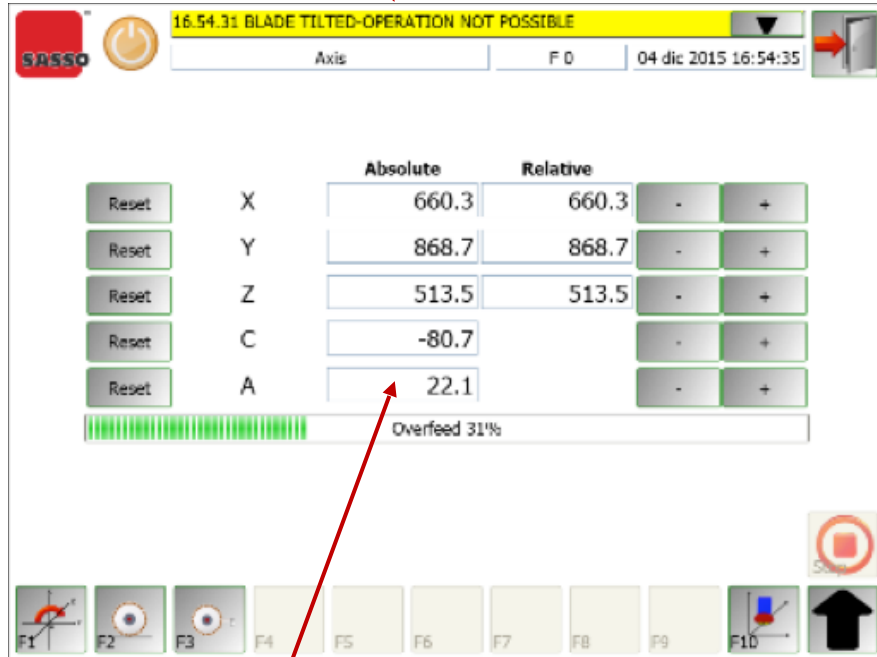
Reset axis XYZCA

Yes No

If you only want to reset one axis, select reset next to the axis you want to reset and it will prompt you with a message that reads “Reset axis X”. Select yes to reset the axis.



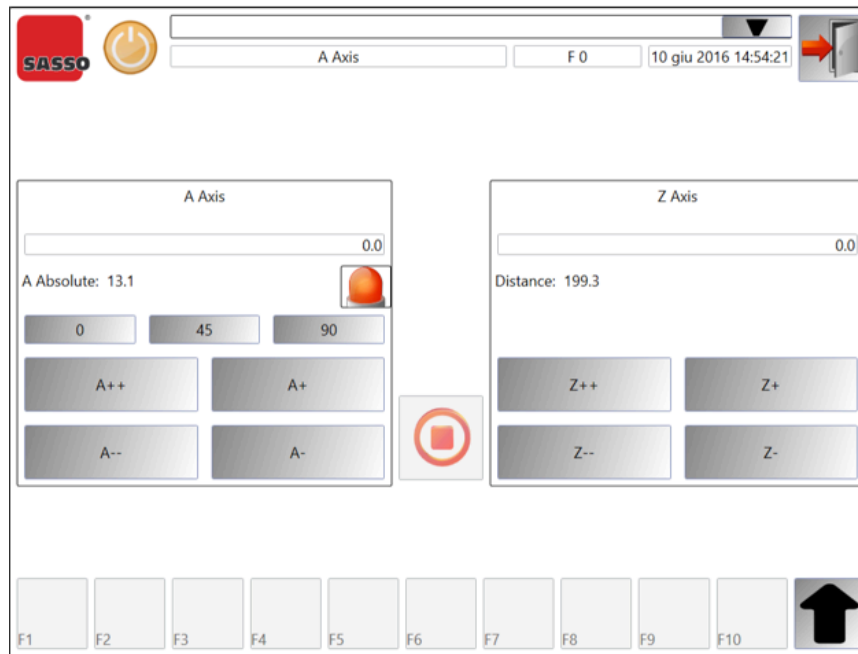
If the A axis is not positioned between 0° and 10°; you will be notified that you cannot reset the axis. If this happens, press ESC and verify the A axis is positioned between 0° and 10°.



If the A axis is not between 0° and 10° you must jog the A axis until it is between 0° and 10°. Please note that while moving the A axis to be aware of the position of the processing head. Processing head is too close to the table when you adjust the A axis it can crash into the table.

Cutting Miters (Manually)

In the A-axis box you can set the angle of the processing head. In the Z-axis box you can set the entry and exit of the blade on the angle you set.



If you experience an electrical interruption while the saw blade is inside the slab during a miter cut, it may be necessary to activate the A axis and the Z axis simultaneously using the Z-axis function to pull the blade out of the cut.

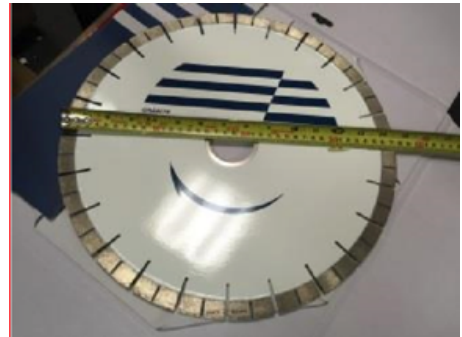
Setting Up the Blade

Saw blade diameter and arbor size

The minimum blade diameter that can be mounted on the K600 and K600 Extreme is 12", while the maximum is 24". Sasso recommends using a blade with a **16" diameter** as using either a 12" or 24" blade diameter can present greater limitations such as shortening Z axis travel, the inability to fully cut through thicker materials, and may require varying the thickness of the table to maximize processing efficiency. Other standard blade diameter sizes are 14" and 18".

Setting up the saw blade diameter and table (cutting surface) thickness.

Begin by measuring the blade to be mounted on the processing head. Write down this value.




Next, measure the blade thickness. A digital micrometer works best for this task. Write down this value.



Now it's time to mount the blade to the saw motor.





- Using the hard key  (button # 15 on page 13 showing the control panel), Raise the Z axis away from the table until its limit is reached.
- **Engage the emergency stop button.**
- Remove the four black nuts and blade arbor (fiberglass blade cover).
- Unscrew the large brass nut and remove the outer arbor plate.

Attention: Threads are left hand (reverse threaded)

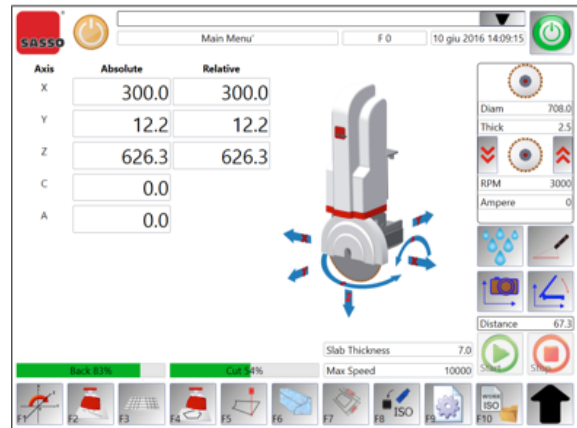
- Inspect motor shaft and inner arbor for debris and clean if necessary.
- Place the blade onto the drive shaft making sure that the blade is spinning in a clockwise direction. (Arrow is typically drawn on the blade's core)
- Be careful not to damage any bushings, they must be straight and fit the blade and shaft snugly. Install the outer arbor plate and tighten large brass nut.


Attention: Blade must lay flat between the arbor plates. Failure to do so will cause the blade to fuse to the arbor.

Reassemble the protective cover and plastic nuts. Make sure the table is clear of any materials that could come in contact with the blade.

Disengage the emergency stop and clear the alarm.

Navigate to PC main menu if not already there.

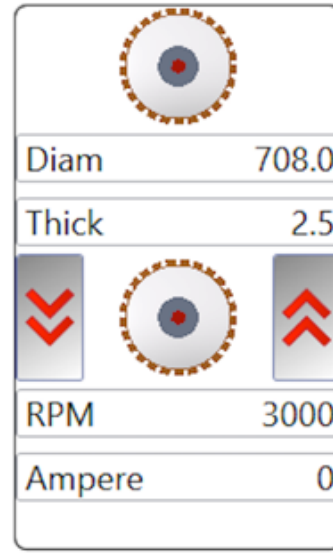



Step 1: Using the hard key  (button #13 on page 13 showing the control panel), Lower the Z axis toward the surface of the table until the blade barely touches. There should be a small amount of resistance when turning the blade by hand.

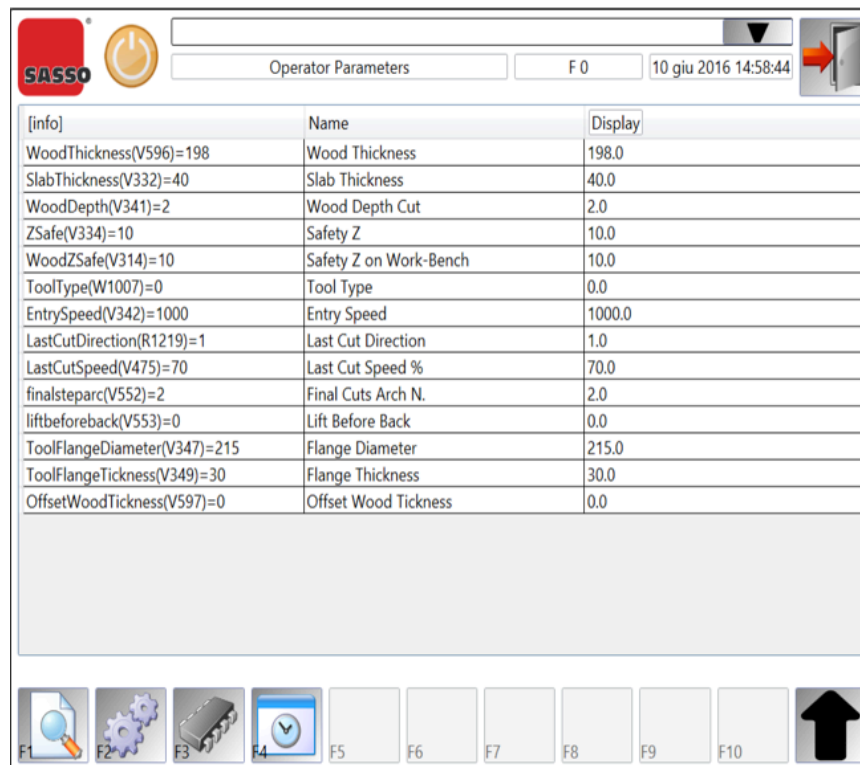


Step 2: In the right of the main menu screen you will find the Diam (diameter) and Thick (thickness) settings. This is where you enter the diameter and thickness measurements you wrote down.

The blade RPM should be set to the manufacturer’s recommended specifications.

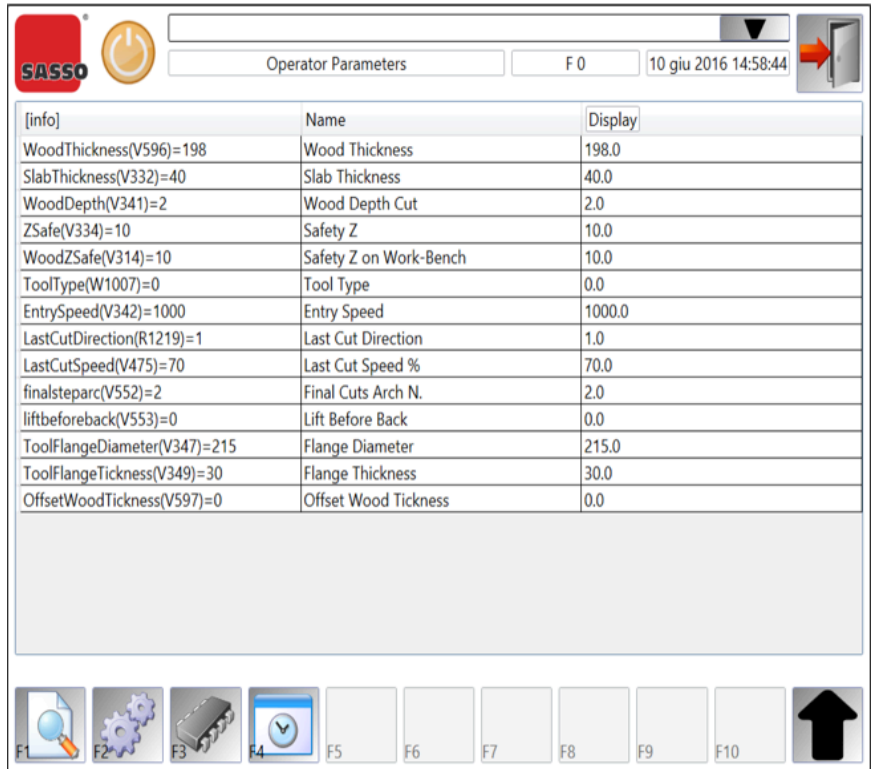


Step 3: On main menu shown on page 22, press F9  located in the bottom right of the screen This will open a list. In the list, locate Wood Thickness and SlabThickness.




[info]	Name	Display
WoodThickness(V596)=198	Wood Thickness	198.0
SlabThickness(V332)=40	Slab Thickness	40.0

In the Display column enter a value of 0.0 for BOTH wood and slab thickness.



[info]	Name	Display
WoodThickness(V596)=198	Wood Thickness	198.0
SlabThickness(V332)=40	Slab Thickness	40.0
WoodDepth(V341)=2	Wood Depth Cut	2.0
ZSafe(V334)=10	Safety Z	10.0
WoodZSafe(V314)=10	Safety Z on Work-Bench	10.0
ToolType(W1007)=0	Tool Type	0.0
EntrySpeed(V342)=1000	Entry Speed	1000.0
LastCutDirection(R1219)=1	Last Cut Direction	1.0
LastCutSpeed(V475)=70	Last Cut Speed %	70.0
finalsteparc(V552)=2	Final Cuts Arch N.	2.0
liftbeforeback(V553)=0	Lift Before Back	0.0
ToolFlangeDiameter(V347)=215	Flange Diameter	215.0
ToolFlangeTickness(V349)=30	Flange Thickness	30.0
OffsetWoodTickness(V597)=0	Offset Wood Tickness	0.0


Press the  icon located in the top right hand corner to return to the main menu.

Step 4: Find the value in the Distance cell located in the lower right side of the screen. This number is the thickness of the work table.

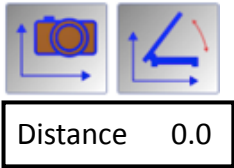


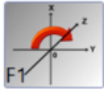
Step 5: From the main menu press F9 . This will open a list. In the row labeled Wood Thickness, enter the value listed in the Distance box located on the main screen.

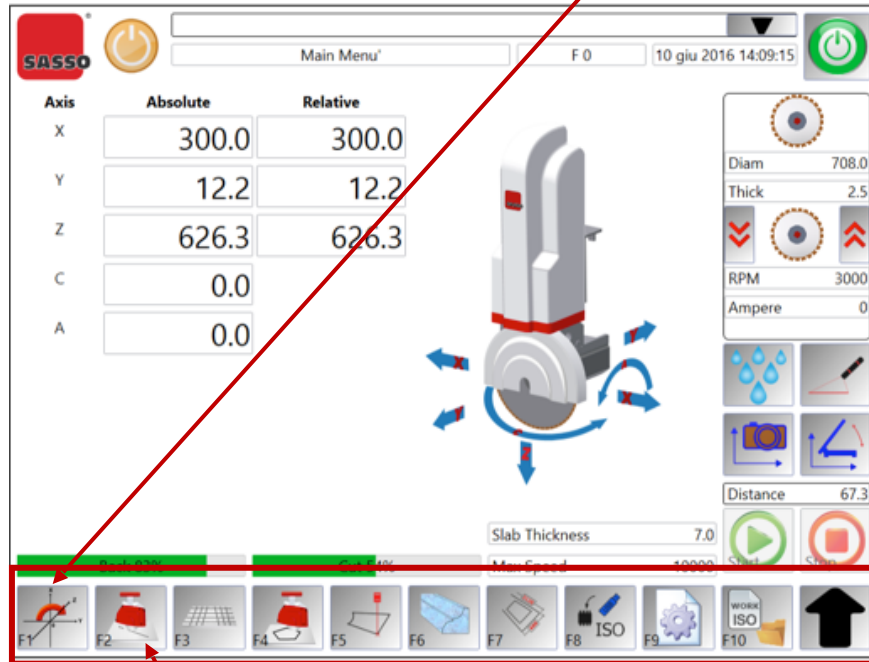
[info]	Name	Display
WoodThickness(V596)=198	Wood Thickness	0.0

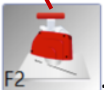
Press the Exit  icon located in the top right hand corner to return to main the main menu.

The value in the Distance box should now read 0.0



Step 6: To confirm the value has been updated, press the F1 icon . This will take you to the axis reset page.



Step 6: Now press the F2 icon . This will bring up the main menu. Confirm the value in the Diameter box matches the value you entered.

Your blade is now setup.

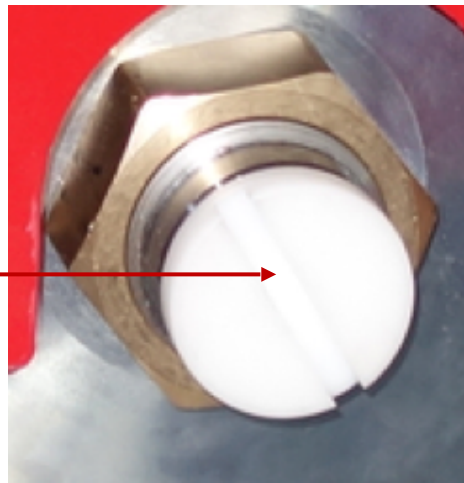
Setting Up the Mill Tool (Finger Bit)

Place the machine into emergency mode by engaging the red E-stop button. Remove the white plastic threaded insert. Attach the supplied adapter and your stone milling tool into the center mounting of saw motor drive shaft and tighten with the supplied

Note: Threads are 'left hand' or reverse threaded.



Unscrew protective cap



You may now mount the mill tool. Use caution not to over tighten.

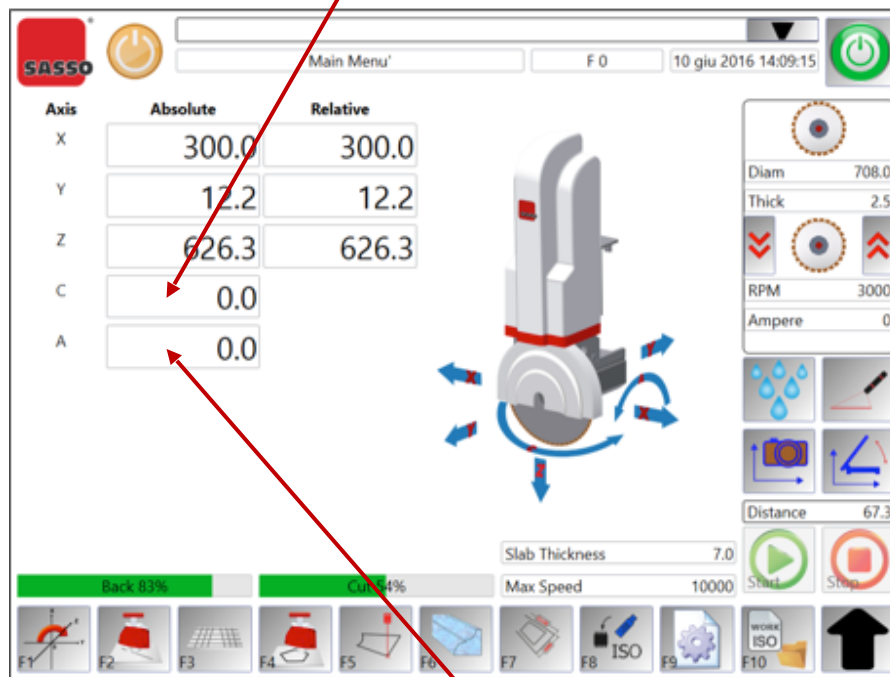


Once the mill tool is mounted remove the emergency stop and clear the alarm.

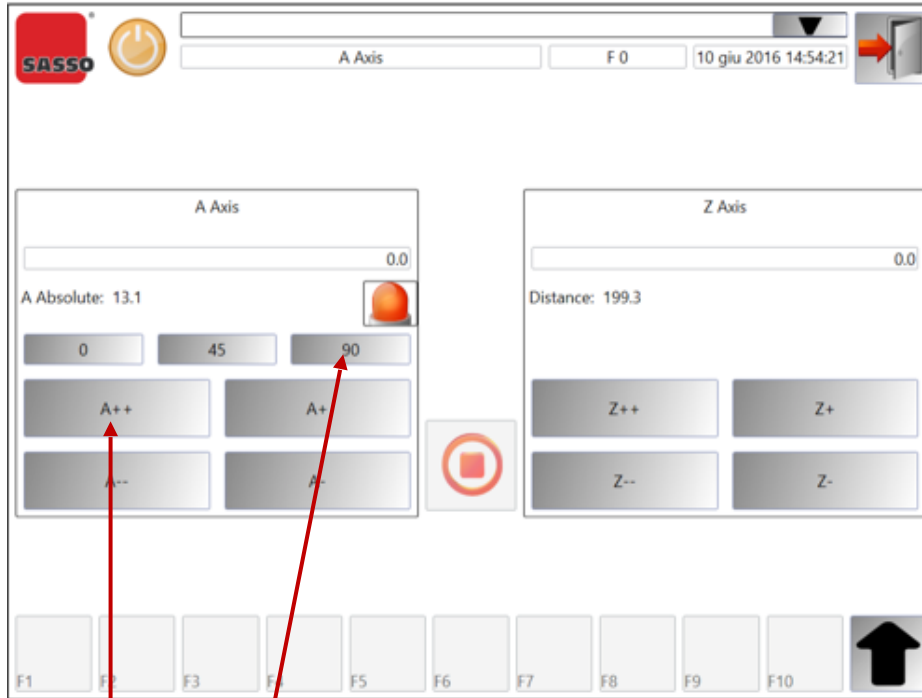


Step 1: Using the Z axis hard key raise the machine head away from the table until the Z axis limit is reached (button #15 on page 13 showing the control panel).

Step 2: On main menu screen press the Absolute C cell and a new page will appear. Enter a value of 90 degrees positive in the C Axis line. The saw head will now rotate to 90 degrees with the motor spindle pointing toward the right side of the machine.





Step 3: On the main menu screen press the Absolute A cell and a new page will appear.



Step 4: Press the A++ command and rotate the processing head about 20 degrees positive.


Next, press the cell marked 90 (At this point the mill tool should be perpendicular to the table with the motor shaft pointing straight down).

Now press the Exit  icon located in the top right hand corner to return to main the main menu.

Step 5: Using the hard key  (button #13 on page 13 showing the control panel), Lower the Z axis toward the table until the mill barely touches the surface of the table.





The mill should have just a little bit of resistance when turning by hand.

From the main menu press F9  A list will appear. Find the Tool Type row and in the Display column enter a value of 1.0 (1.0 is for mill tool and 0.0 is for a blade).

Operator Parameters F 0 10 giu 2016 14:58:44

[info]	Name	Display
WoodThickness(V596)=198	Wood Thickness	198.0
SlabThickness(V332)=40	Slab Thickness	40.0
WoodDepth(V341)=2	Wood Depth Cut	2.0
ZSafe(V334)=10	Safety Z	10.0
WoodZSafe(V314)=10	Safety Z on Work-Bench	10.0
ToolType(W1007)=0	Tool Type	0.0
EntrySpeed(V342)=1000	Entry Speed	1000.0
LastCutDirection(R1219)=1	Last Cut Direction	1.0
LastCutSpeed(V475)=70	Last Cut Speed %	70.0
finalsteparc(V552)=2	Final Cuts Arch N.	2.0
liftbeforeback(V553)=0	Lift Before Back	0.0
ToolFlangeDiameter(V347)=215	Flange Diameter	215.0
ToolFlangeTickness(V349)=30	Flange Thickness	30.0
OffsetWoodTickness(V597)=0	Offset Wood Tickness	0.0





F1 F2 F3 F4 F5 F6 F7 F8 F9 F10

Step 6: Press the Exit icon  to return to the main menu. Press F1  this will enter the axis reset screen.

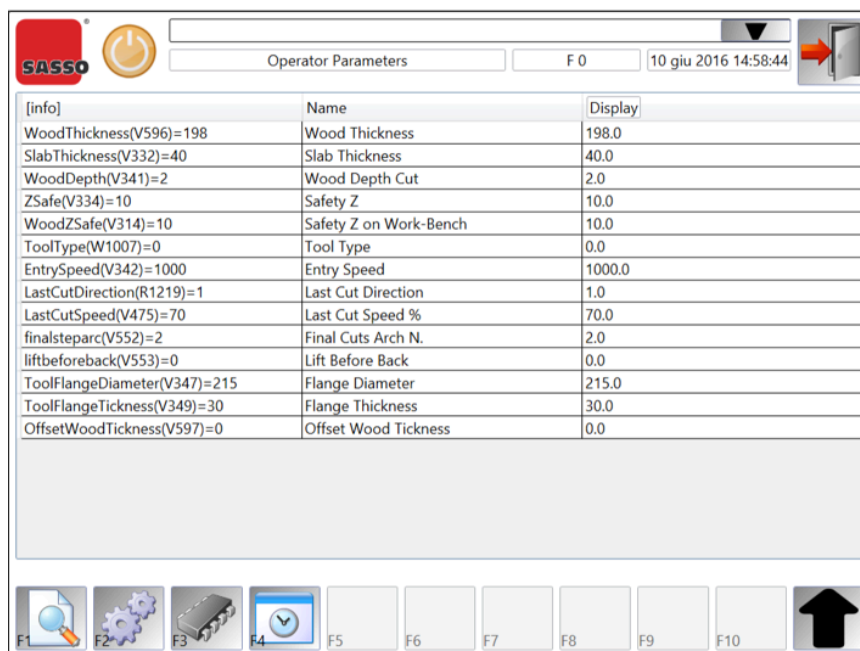
Step 7: Press F2 . The Mill length has now been measured.

Press the Exit icon  to return to the main menu.

On the main menu you will now see the recorded length of the tool. Use this value to enter the tool length into your Cad/Cam Software.

		
Length	187.6	
Radius	3.5	
		
RPM	1600	
Ampere	0	

Operator Parameters



[info]	Name	Display
WoodThickness(V596)=198	Wood Thickness	198.0
SlabThickness(V332)=40	Slab Thickness	40.0
WoodDepth(V341)=2	Wood Depth Cut	2.0
ZSafe(V334)=10	Safety Z	10.0
WoodZSafe(V314)=10	Safety Z on Work-Bench	10.0
ToolType(W1007)=0	Tool Type	0.0
EntrySpeed(V342)=1000	Entry Speed	1000.0
LastCutDirection(R1219)=1	Last Cut Direction	1.0
LastCutSpeed(V475)=70	Last Cut Speed %	70.0
finalsteparc(V552)=2	Final Cuts Arch N.	2.0
liftbeforeback(V553)=0	Lift Before Back	0.0
ToolFlangeDiameter(V347)=215	Flange Diameter	215.0
ToolFlangeTickness(V349)=30	Flange Thickness	30.0
OffsetWoodTickness(V597)=0	Offset Wood Tickness	0.0

Note: Wood Thickness is the thickness of the work table or cutting surface. Wood Depth Cut is equivalent to work table depth cut.

Wood Thickness: The thickness of the concrete work table. Its value is set for the saw blade and must be updated each time the table is milled to a new thickness.

Slab Thickness: The thickness of the slab being processed. This parameter must be input whenever you load a new slab on to the table.

Wood Depth: The depth the blade cuts into the concrete table on each cut.

Safety Z: Raises the blade above the material being processed and returns to the program starting point.

Safety Z on Work Bench: Raises the blade a specified amount above the table, but still remains within the material being processed.

Tool type: The kind of tool you are using. Blade is 0 and Mill is 1.

Entry speed: The speed of the Z axis when the tool is entering the material/slab.

Last cut direction: Direction of the last cut pass. 1 = left to right and 0 = right to left.

Last cut speed %: The speed of the last cut pass.

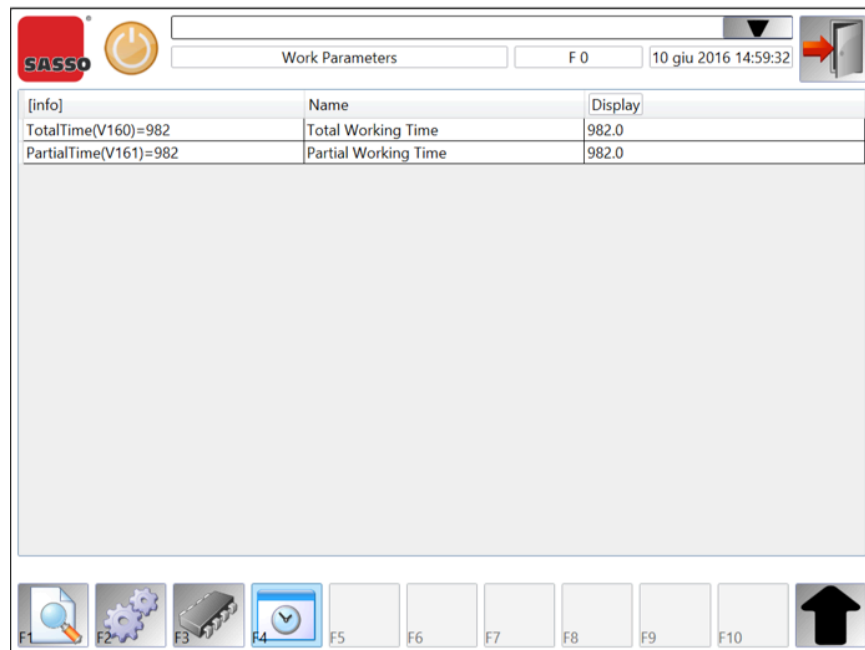
Flange Diameter: The diameter of the flange. This value is important for carving and using the “super plunge” feature.

Flange Thickness: The thickness of the flange.

Production Timer



Press F4 on the Operator Parameters page and it will bring you to the production timer page.

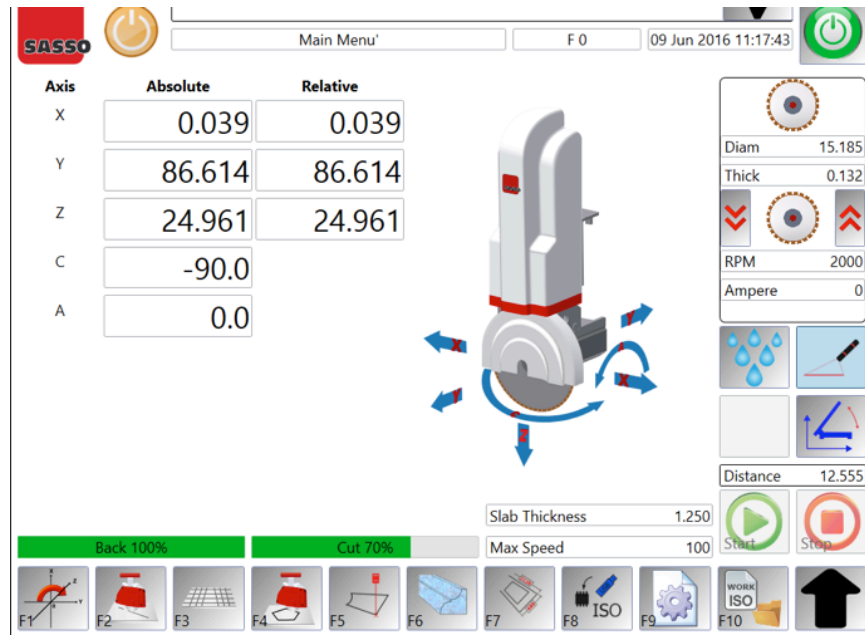


The total time is locked and represents the total minutes that the machine has been powered on.

The partial time is essentially a stop watch. The operator has the ability to Zero the timer at any point and time machine processing, etc.

Press ESC to exit the screen.

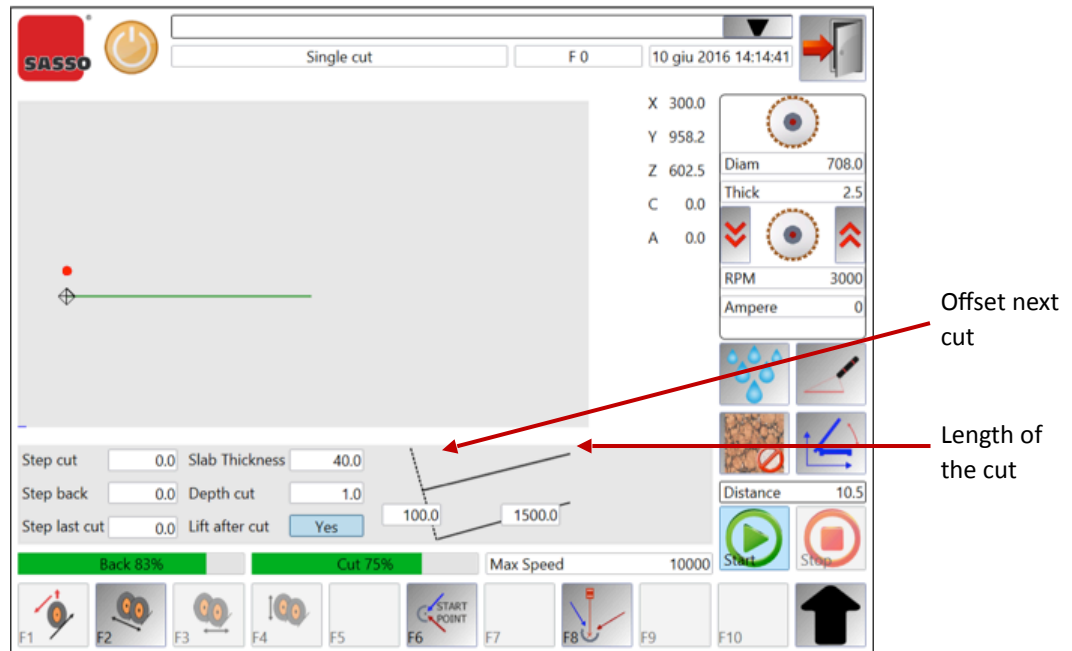
Cutting at the Controls



- F2 – Single Cut
- F3 – Multiple Cuts
- F4 – Polygon Cut
- F5 – Template Cut
- F6 – Profile Cut
- F7 – Parametric Top Cut
- F8 – Upload External Iso File
- F10 – Upload Internal Iso File

Single Cut

(F2 from main menu)



1. Using the jog function, bring the saw blade to the cut starting point.
2. Rotate the processing head to the angle you want to cut.
3. Set the cutting data if different from the previous settings.
4. Press the START button to begin the cut.



5. When the saw blade reaches the end of the cut, press F1 and the blade will exit the cut and the processing head will return to the starting point. To memorize the end position of the cut, hold down F1 for 4 seconds.
6. Input the distance you want to offset the single cut.



7. Press F2 and the head will move laterally the offset distance you specified.
8. Press START to begin the next cut.

Note: F3 and F4 are used when the C-axis is going to offset a line that isn't 0 or 90 and you want to offset the previous cut. **(PERPENDICULAR) maintains parallelism**

If the Step Cut field is left at 0, the cut is made in one pass.

Step cut	<input type="text" value="0.0"/>
Step back	<input type="text" value="0.0"/>
Step last cut	<input type="text" value="0.0"/>

The top of the slab is equal to Zero. If we enter a value of .5 inches into the Depth Cut cell we will make a cut one half of an inch into the slab. Likewise, if we enter a value of 0.0 into the Depth Cut cell we will cut the entire depth creating two separate parts out of the slab.

Depth cut	<input type="text" value="1.0"/>
-----------	----------------------------------

Lift after cut = blade rises out of slab at the end of the cut, and then travels over the slab to the next lines starting point. Then on the next progressive cut the saw executes a downward plunge into the material at the starting point.

Lift after cut	<input type="button" value="Yes"/>
----------------	------------------------------------

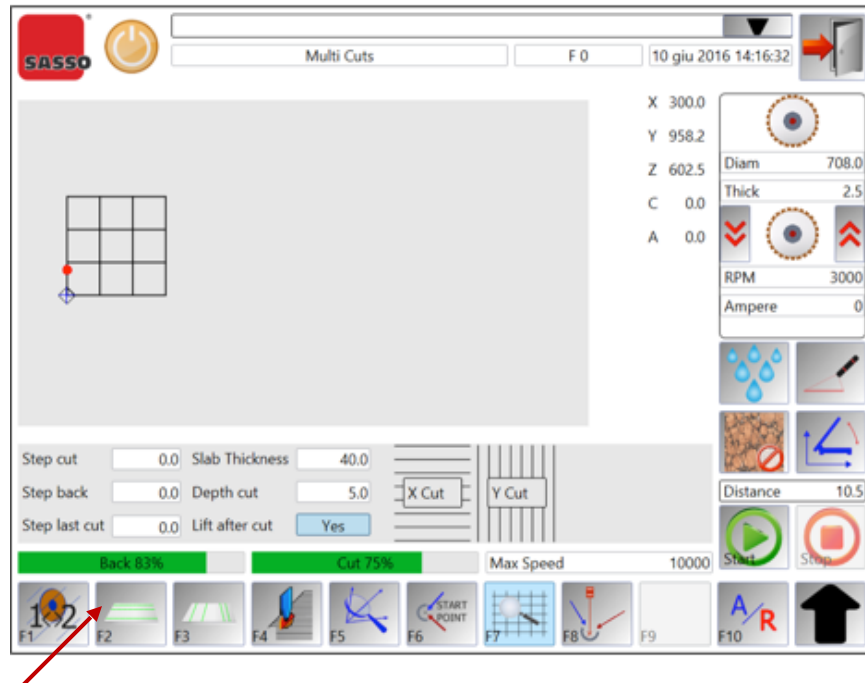
No lift = the blade runs back thru the slab from the end point to the start point. Then immediately the bridge does a forward or backward move to get to the starting point of the next cut. **Warning: Sasso does not recommend cutting using the 'no lift' after cut option as it may increase the probability of a machine crash due to operator error.**

Offset = the ray of the blade or one quadrant plus the material thickness. Using the offset extends the blades starting point outside the slab allowing the saw to move next to the material as opposed to above the material. **Warning: Incorrect operator calculations may result in a crash.**

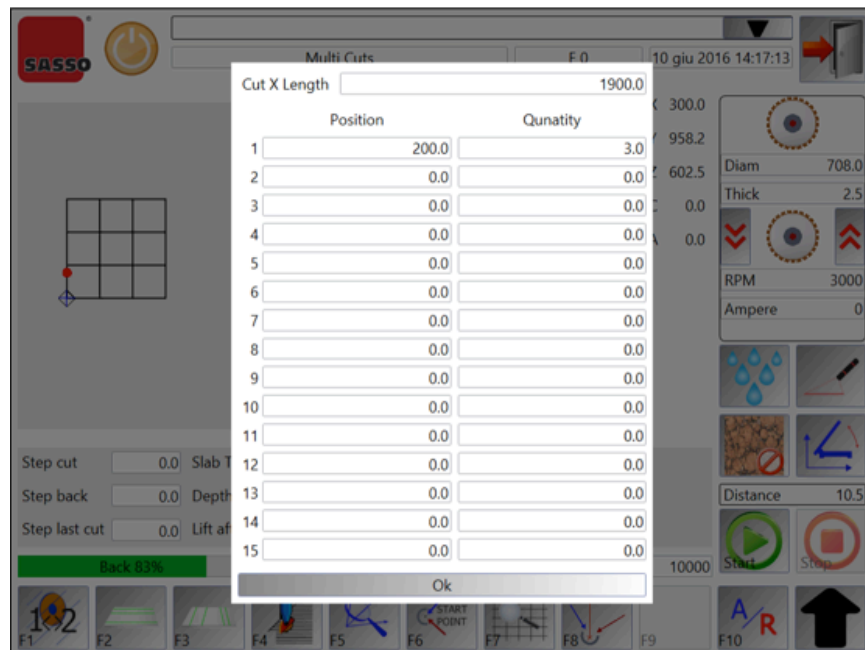
When done press ESC to exit.

Multiple Cut


(F3 from main menu)

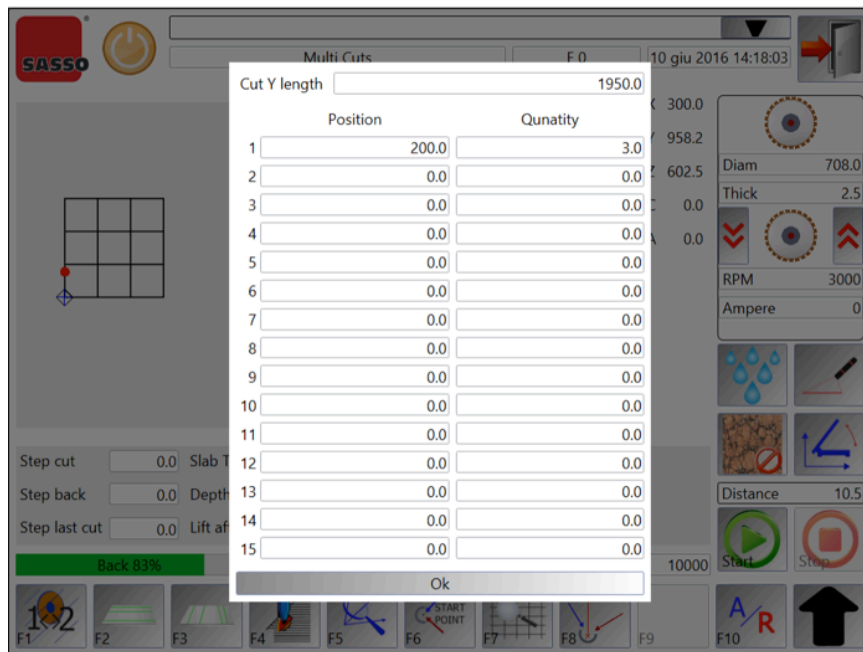


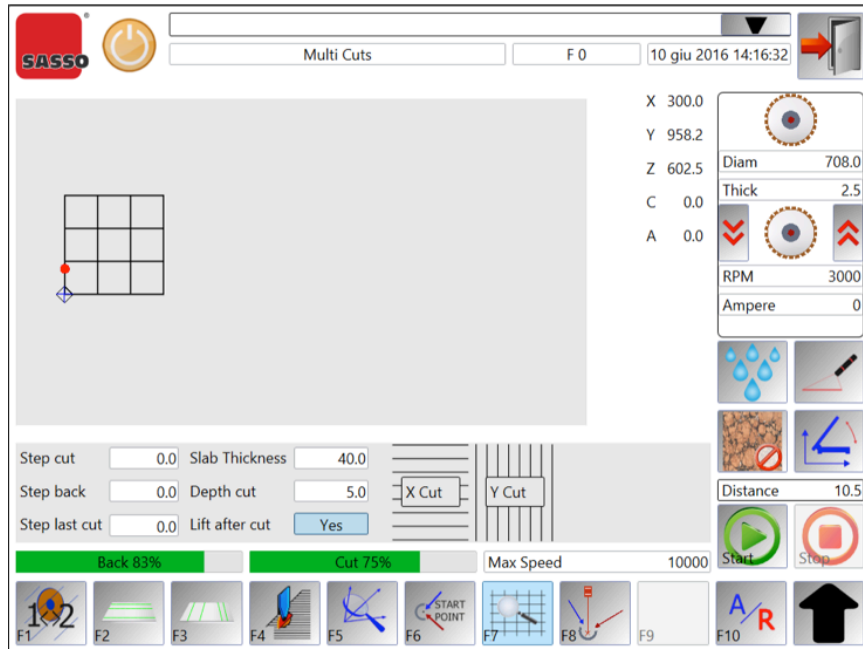
1. Press F2 to open the window that allows you to set the piece width and quantity along the X axis. The piece length is only required when you don't want to cut along the Y axis.
2. You have the ability to enter different piece widths and quantities.
3. Enter 0 for the first width and value rows.
4. Confirm by clicking OK.





1. Press F3  to open the window that allows you to enter the piece width and quantity along the Y axis.
2. For cuts along the Y axis you can set many different widths and quantities.
3. Enter 0 for the first width and value rows.
4. Confirm this by clicking OK.
5. Update the cut parameters if different from the current settings.





Step cut = Depth of the forward cut. If it is at zero, the cuts are completed in one pass.

Step back = Depth of the backward cut.

Step last cut = Depth of the last cut.

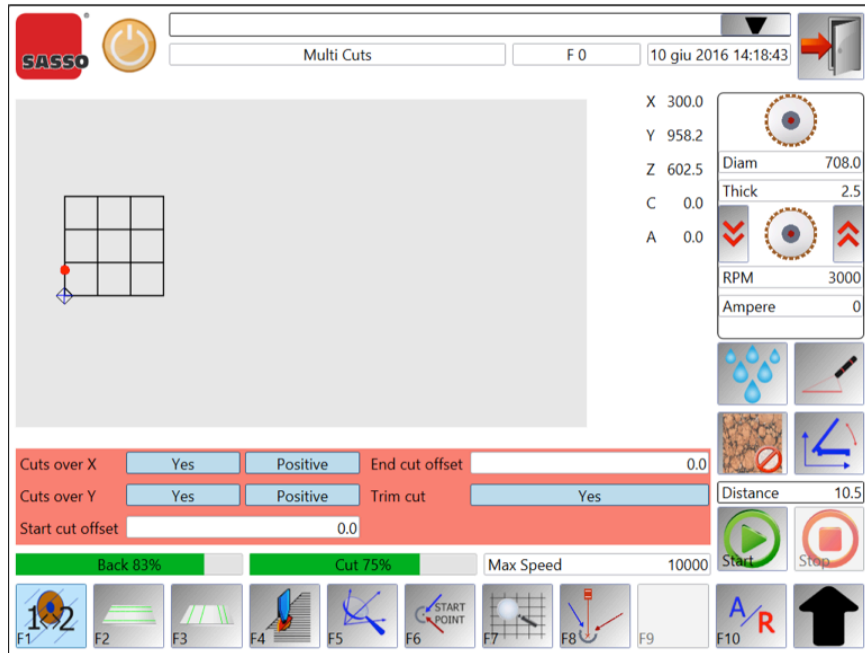
Depth cut = The top of the slab to be cut is equal to 0. If you enter a value of .25 inches into the Depth cut cell the blade will cut one quarter of an inch into the slab. Likewise, if we enter a value of 0.0 into the Depth cut cell we will cut all the way through the slab.

Lift after cut = The blade rises out of the slab at the end of the cut and travels above the slab to the starting point of the next cut.

No lift = The blade runs backwards thru the slab from the end point of the cut to the start point then immediately the bridge executes a forward or backward movement the starting point of the next cut. **Attention: Without setting an offset value this will cause a crash.**

Offset = Using the offset extends the blade starting point outside of the material being processed, allowing the saw to move outside the perimeter of the material as opposed to above the material. **Attention: Incorrect calculations will result in a crash.**

Trim Cut 'yes' will have the black lines on the outside of the rectangle. Trim Cut 'no' you will not have the black lines on the outside.



6. Press F1 and a window to define the direction and sequence of the cuts will open.

Select **Cuts over X** Yes Positive and the movement of the cuts along the X axis will be from front to back.

Select **Cuts over Y** Yes Negative and the movement of the cuts along the X axis will be from back to front.


Select **Cuts over Y** Yes Positive and the movement of the cuts along the Y axis will be from left to right.

Select **Cuts over X** Yes Negative and the movement of the cuts along the Y axis will be from right to left.

It's also possible to exclude cuts on one axis


End cut offset = Adds the set value at the end of the cuts


Trim cut = Select yes if you want a trim cut and no if you don't want a trim cut

7. Press F7  to update the graphic of the cut and visualize the origin point.


8. Rotate the C axis to 0° or -90°.

9. Using the jog function, move the saw blade to the starting point of the cut.


You may also move the laser pointer to the starting point of the cut and press F8  and it will move the blade to the starting point.

Select F10  and press Absolute and it will move the saw head to the start point.

10. Rotate the saw head in the direction of the cuts to be executed first.

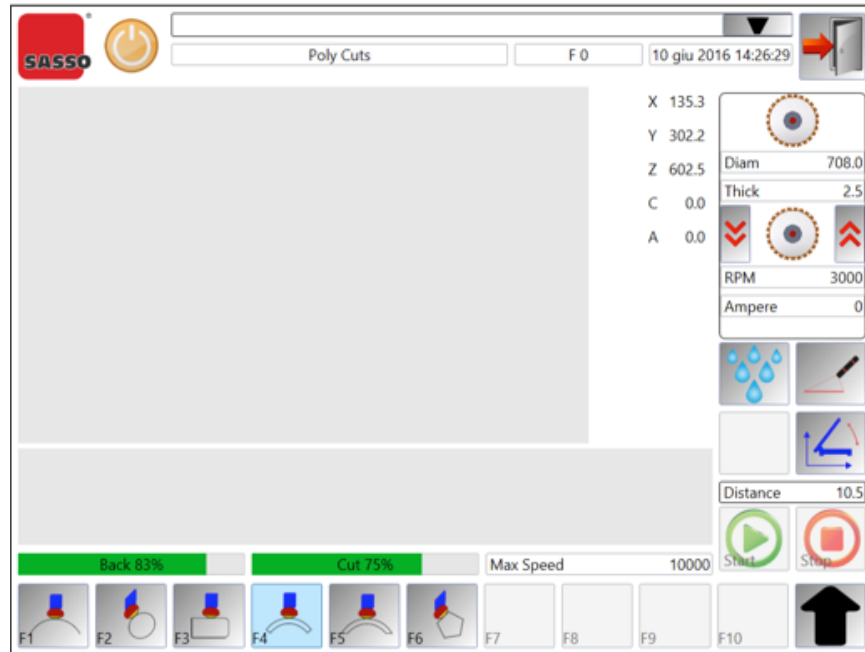
11. Press F5  to run a simulation to verify the program is correct.

12. Press the START button to start the cut.


13. If for any reason the machine stops at any point, press F6  and the saw blade will return to the starting point.

Poly Cut

(F4 from main menu)





On the Poly Cuts page you may select the type of polygon that you would like to cut.

F1 – Arc Cut 

F2 – Circle Cut 

F3 – Four Side Cut 

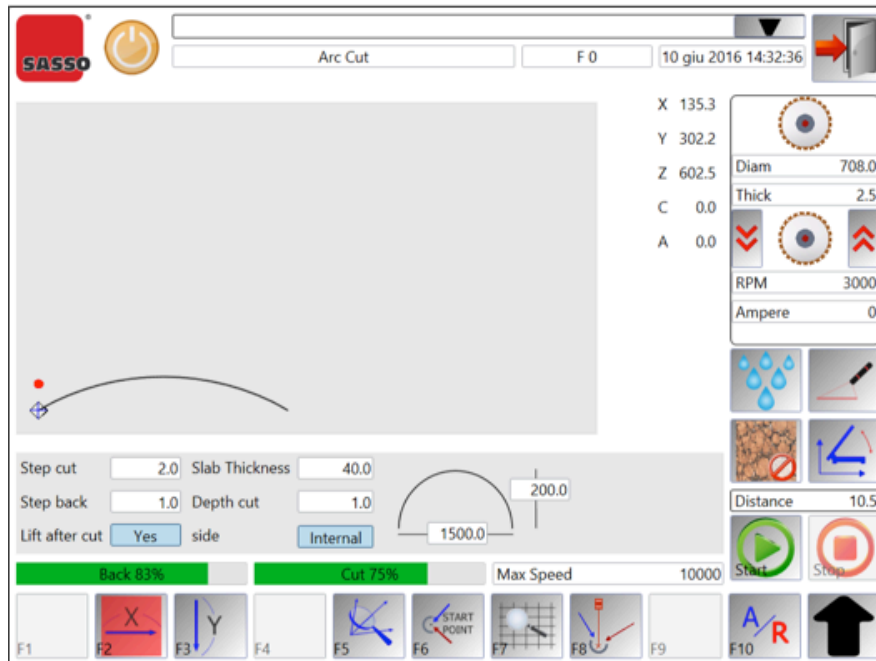
F4- Rib Cut 

F5 – An arc with a straight bottom parallel to a flat surface (Lintel Cut) 

F6 – Polygon Cut 

Arc Cut

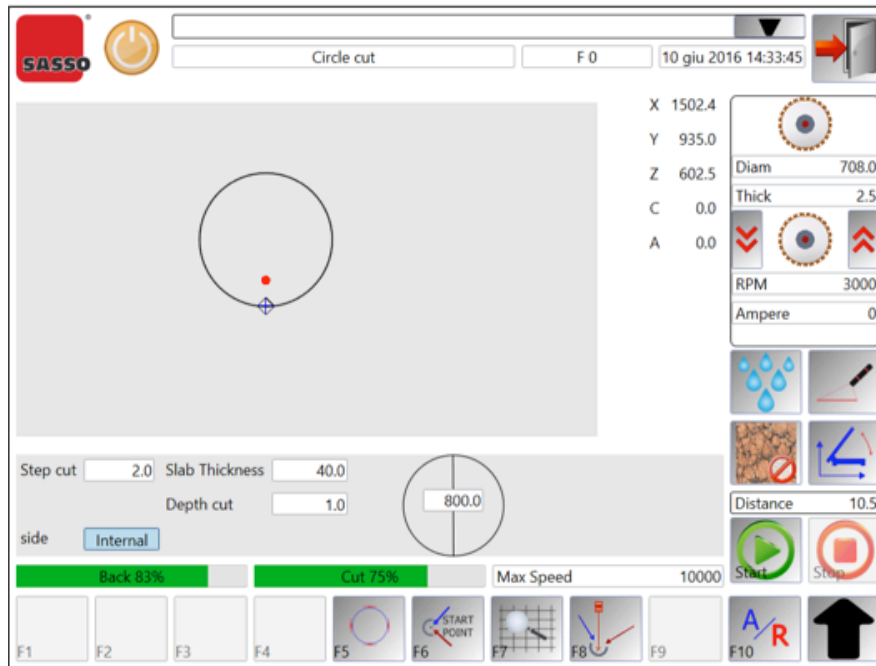
(F1 from main menu)



1. Enter the arc dimension.
2. Press F7 to update the drawing.
3. Select the direction you want the saw blade to move (F2 for the X axis; F3 for the Y axis).
4. Using the jog function, move the saw blade to the point of origin on the arc to be cut. **Or**, bring the laser pointer to the point of origin on the arc and press F8 for the saw blade to move to that point. **Or**, press F10 (absolute) and move the drawing to a desired coordinate.
5. Update the cutting data if it's different from the previous cut settings.
6. Press F5 to run a simulation of the program.
7. Press the START button to begin the cut.
8. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

Circle Cut

(F2 from main menu)

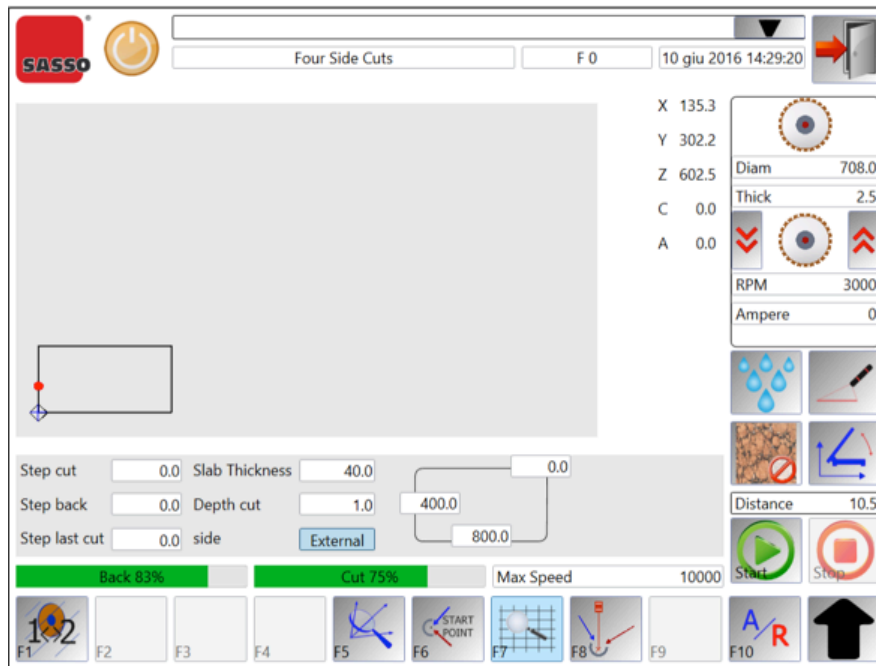


1. Enter the diameter of the circle you would like to cut.
2. Press F7 to update the drawing.
3. Using the jog function, move the saw blade to the point of origin on the circle to be cut. **Or**, bring the laser pointer to the point of origin on the circle and press F8 to move the saw blade to that point. **Or**, press F10 (absolute) and move the drawing to a desired coordinate.
4. Update the cutting data if it's different from the previous cut settings.
5. Press F5 if you want to verify exactly where the position of the four points are on the circle.
6. Press the START button to begin the cut.
7. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

If you choose inside, the machine will cut on the inside of the line. If you choose outside, the machine will cut on the outside of the line. So if you want to cut a circle in a countertop such as a sink hole, choose inside. If you want to cut a circular table, etc., choose outside.

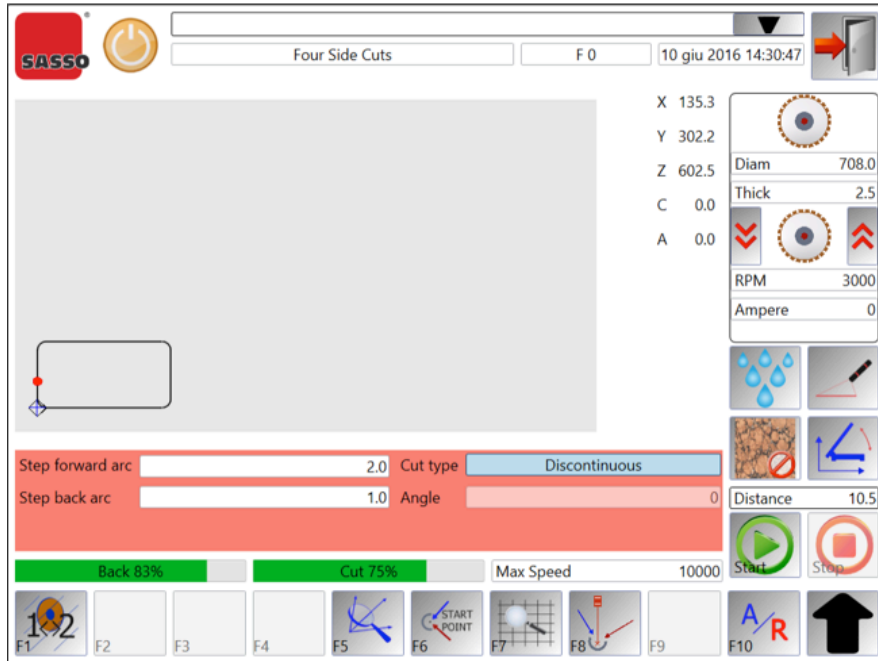
Four Side Cut

(F3 from main menu)



1. Enter the dimensions of the rectangle (enter radius dimensions if the piece requires). Enter radius dimensions into the cell marked 0.0 in the top right corner of the rectangle. If you choose to apply radiuses to the corners you must machine all four corners. There is not an option to radius the corners on an internal cut, the corners must be sharp.
2. Press F7 to update the drawing.
3. Using the jog function, move the saw blade to the point of origin on the rectangle. **Or**, bring the laser pointer to the point of origin and press F8 to move the saw blade to that point. **Or**, press F10 (absolute) and move the drawing to a desired coordinate.
4. Update the cutting data if its different from the previous cut settings.
5. Press F5 if you want to verify the exact positions of the four edges on the rectangle.
6. Press the START button to begin the cut.
7. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

If you choose inside the machine will cut on the inside of the line. If you choose outside the machine will cut on the outside of the line. So, if you want to cut a rectangle in a countertop such as a sink hole, choose inside. If you want to cut a rectangle such as a table, countertop, etc., choose outside.



While pressing F1, if you are doing incremental cutting of the radius corners, the data of them will be set and eventually the rotating angle of the figure will also be set.

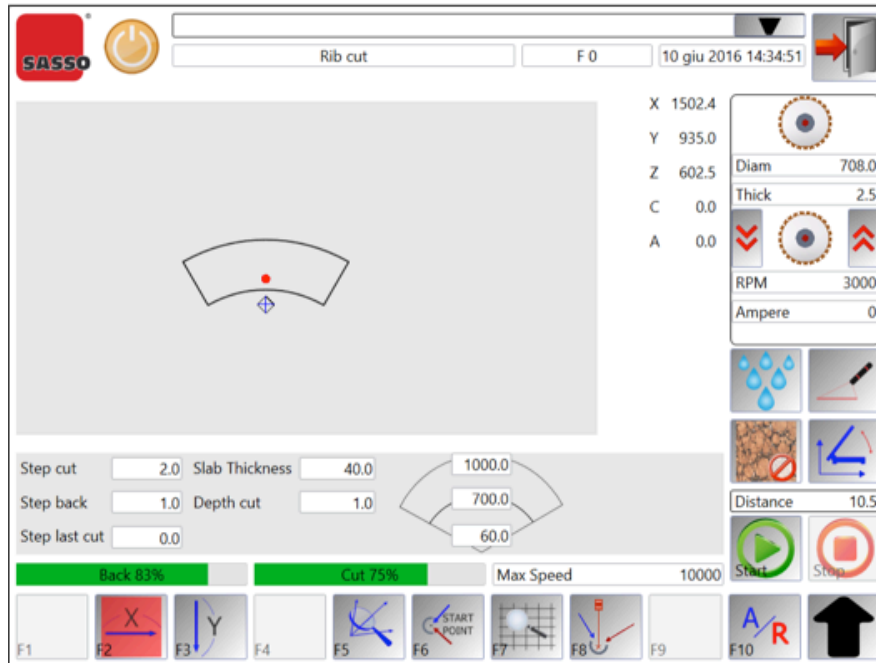
This is the continuous/discontinuous page including incremental cutting of the radius corners. All radiuses require incremental cuts (step cuts).

Discontinuous is equal to four sides cut in one pass each or multiple if you so choose. Then the four corners cut independently using the arc cuts depths.

Continuous will cut the four side cuts of the radius at the same time, but the straight lines will be pass cut at a depth equal to the arc cut. Continuous cutting will increase the processing time 4 fold.

Rib Cut

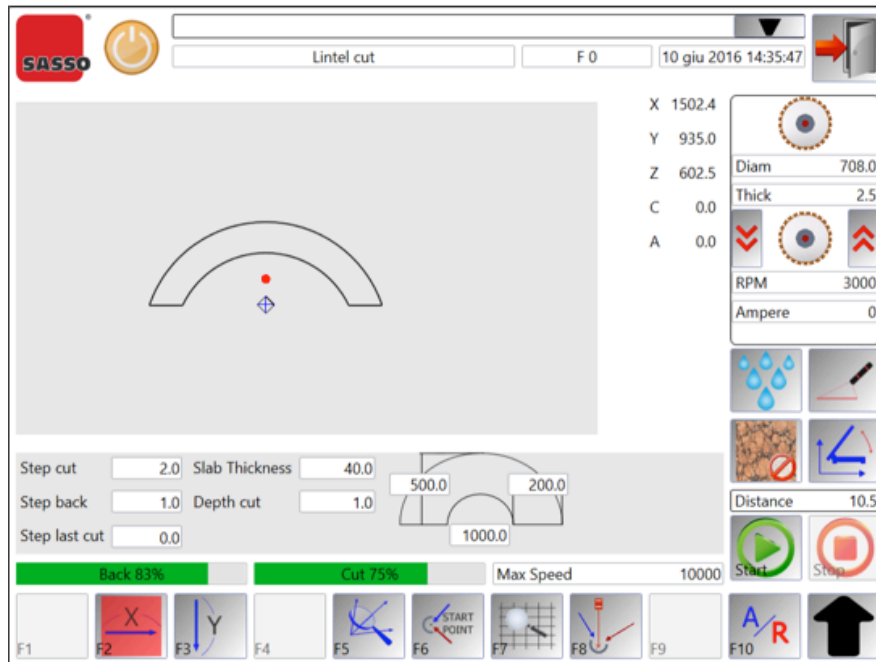
(F4 from main menu)



1. Enter the dimensions of the rib cut.
2. Press F7 to update the drawing.
3. Select the direction you want the saw blade to cut either along the X axis, which is F2, or along the Y axis, which is F3.
4. Using the jog function, move the saw blade back to the point of origin on the cutting arc. **Or**, bring the laser pointer back to the point of origin on the arc and press F8 to move the saw blade to that point. **Or**, press F10 (absolute) and move the drawing to a desired point.
5. Update the cutting data if its different from the previous cut settings.
6. Press F5 to run a simulation of the program.
7. Press the START button to begin the cut.
8. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

Lintel Cut

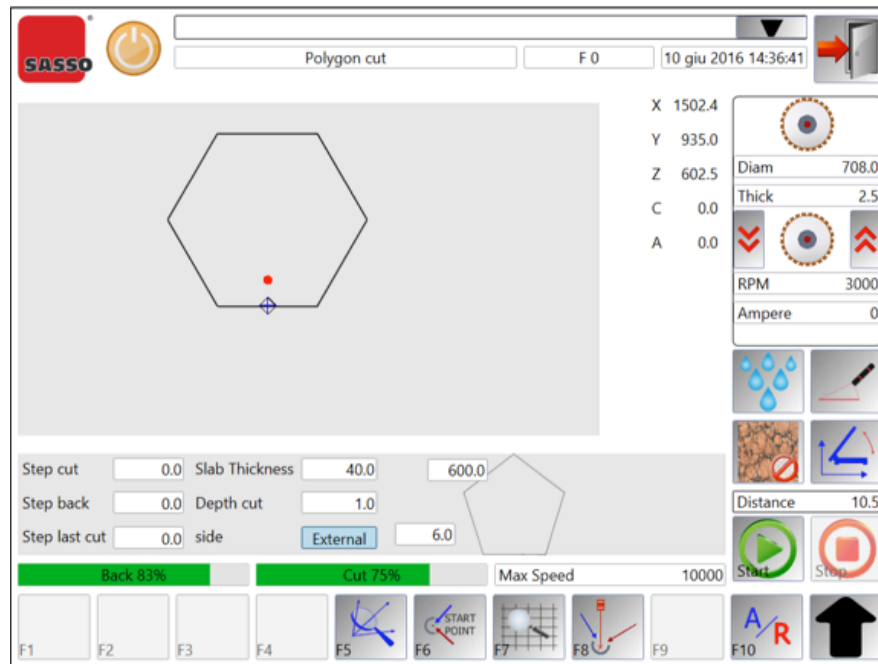
(F5 from main menu)



1. Enter the dimensions of the arc with a straight bottom parallel to a flat surface (Lintel Cut).
2. Press F7 to update the drawing.
3. Select the direction you want the saw blade to cut either along the X axis which is F2 or along the Y axis which is F3.
4. Using the jog function, bring the saw blade back to the point of origin on the cutting arch. **Or** bring the laser pointer back to the point of origin on the arc and press F8 to move the saw blade to that point. **Or** press F10 (absolute) and move the drawing to a desired point.
5. Update the cutting data if its different from the previous cut settings.
6. Press F5 to run a simulation of the program.
7. Press the START button to begin the cut.
8. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

Polygon Cut

(F6 from main menu)

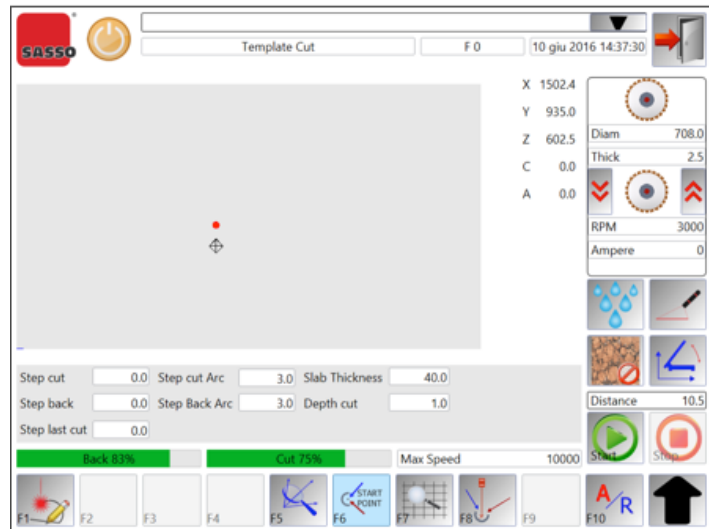


1. Enter the dimension of one side of the polygon.
2. Set the number of sides.
3. Press F7 to update the drawing.
4. Using the jog function, bring the saw blade back to the point of origin on the cutting arch. **Or** bring the laser pointer back to the point of origin on the arc and press F8 to make the saw blade go to that point. **Or** press F10 (absolute) and move the drawing to a desired point.
5. Update the cutting data if its different from the previous cut settings.
6. Press F5 to run a simulation of the program.
7. Press the START button to begin the cut.
8. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

Template Cut

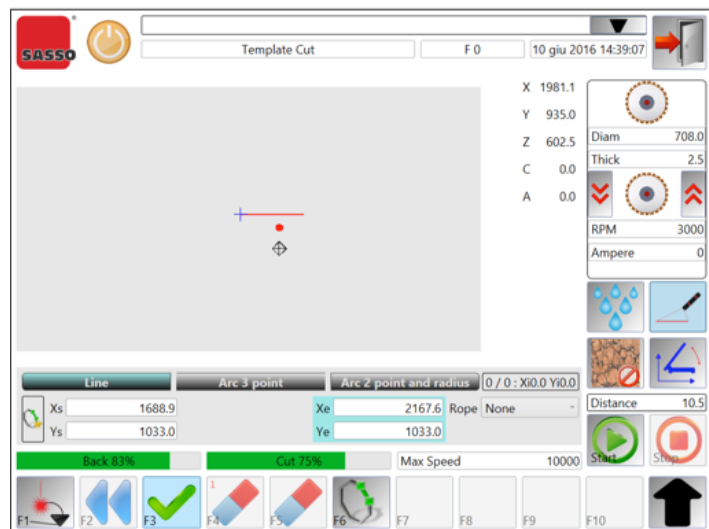
(F5 from main menu)

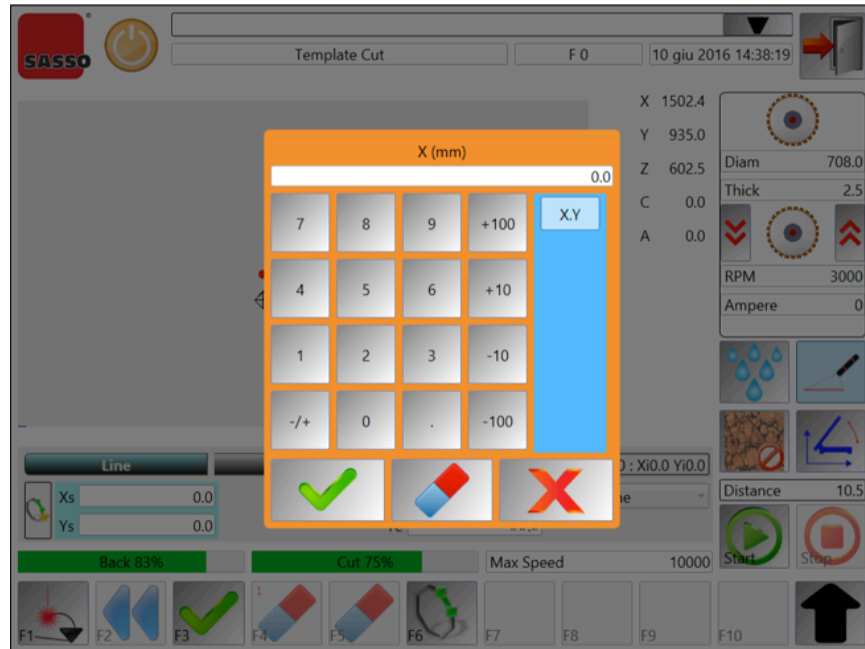
On this page, click F1 to activate the editing controls.



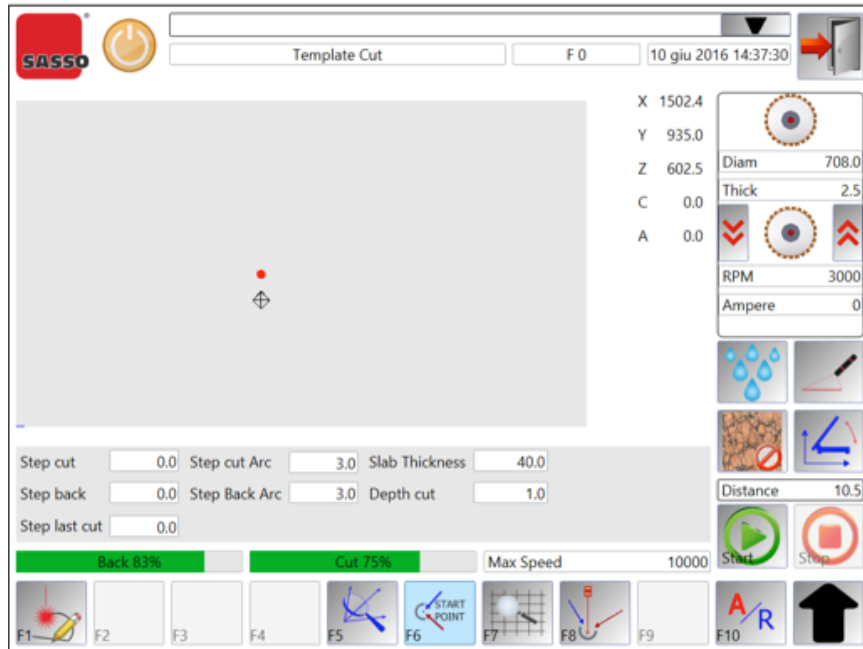
Once you're on this page in order to obtain a new model you must:

1. Press F5 to cancel the existing figure on the setting graphic.
2. Select the type of segment.





1. Position the C axis at 0° and the laser cut will turn on.
2. Bring the marker of the laser indicator to the starting point on the first segment and press the button [X.Y] on the keypad that pops up.
3. Press Xe (meaning X end if it's a segment), or Xm (meaning X middle) if it's a three-point arc.
4. Bring the marker to the final point. If it's a segment press the button [X.Y]. If it's a three-point arc bring it to the middle point and press the button [X.Y].
5. After obtaining the final point of the segment press F3 to move to the next segment.
6. At the end of the last segment press F6 to join the final point of the drawing with the one at the beginning.
7. If you need to make modifications to the segments, this may be accomplished using keys F2, F3 and F4. You may also select, cancel or modify each single segment.



Press F1 to close the editing controls and open the cutting data page.

11. Enter the cutting data.

12. Select the Absolute or Relative mode with F10 .

13. If you chose relative mode use the jog function and bring the saw blade back to the figure point origin. **Or**, bring the laser pointer back to the point of origin on the arc and press F8 the saw blade to move to that point.

14. Press F7 to update the data.

15. Press F5 to run a simulation of the program.

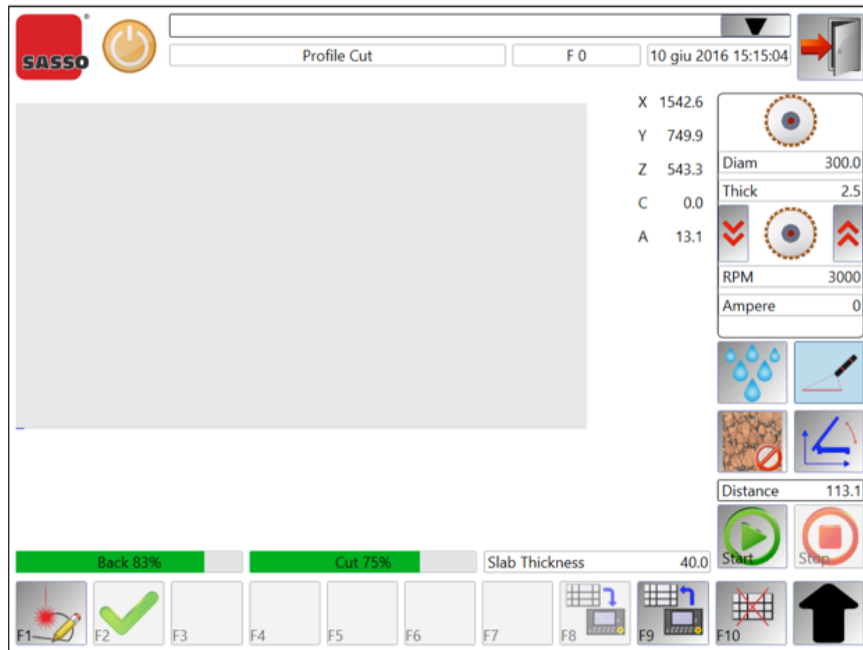
16. Press the START button to begin the cut.

17. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

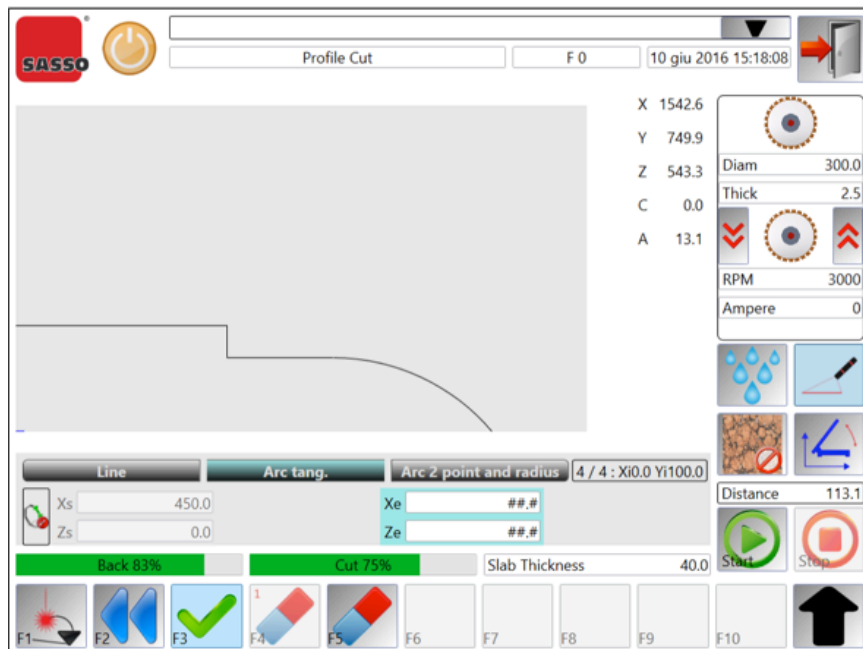
Press F8 or F9 to save or load the profile for future use.

Profile Cut

(F6 from main menu)

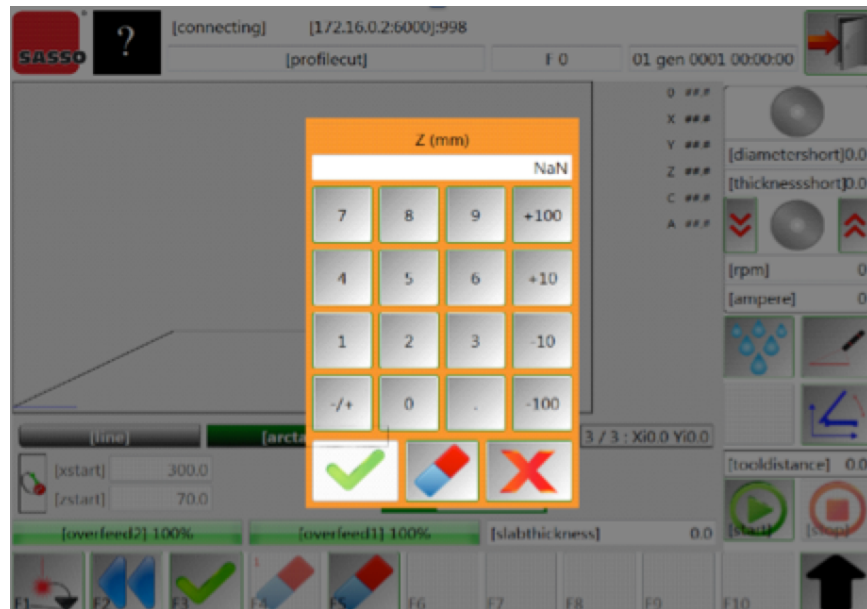


On this page click F1 to activate the editing controls.

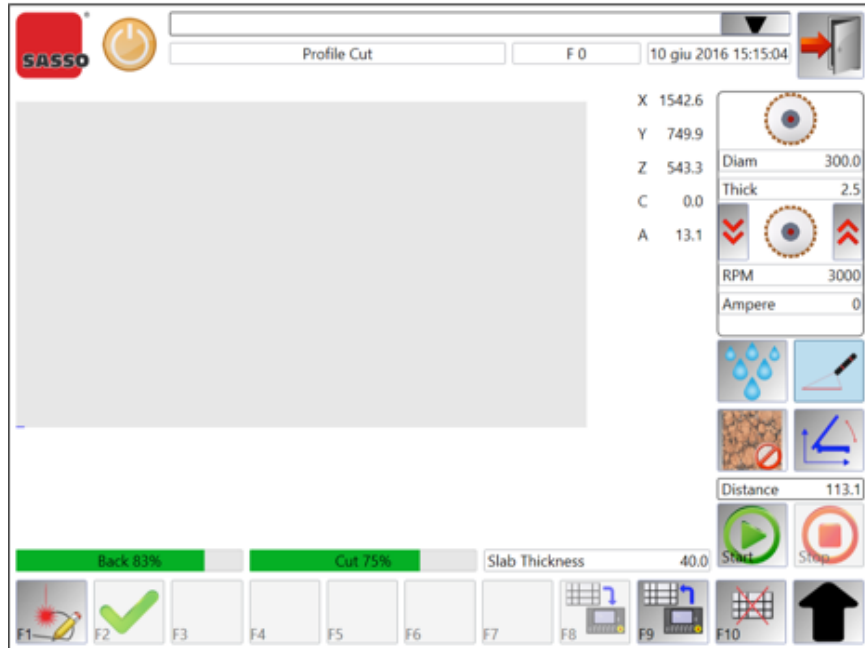


On this page, to draw a new profile:

1. Press F5 to erase the current value.
2. Select the kind of segment you want (the first segment can be a tangent arc).
3. Press the box Zs and set the initial height of the profile.

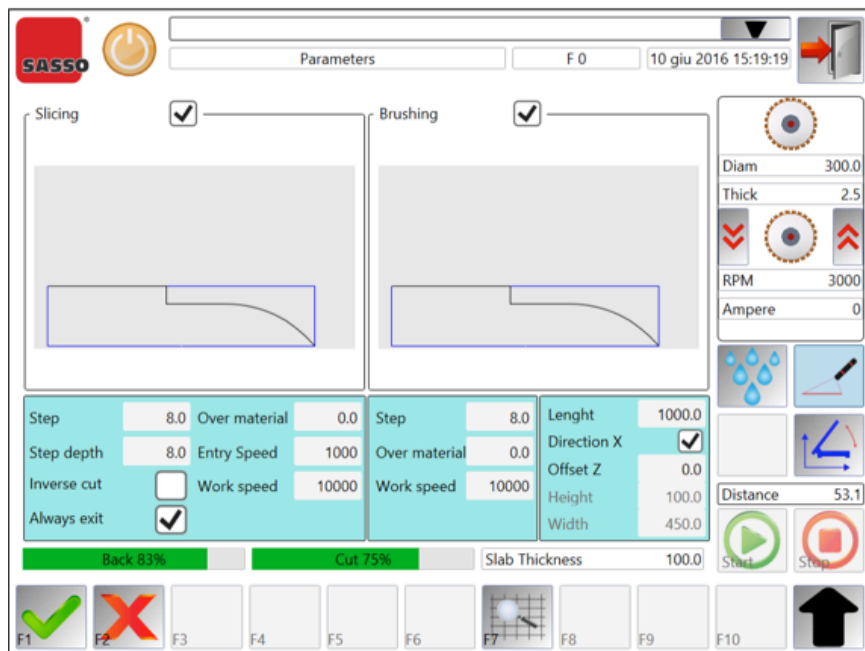


4. Press the box Ze and enter the final height of the first segment for this profile.
5. Press the box Xe and set the length in X of the first segment for this profile.
6. Press F3 to confirm the setting.
7. Select the next type of segment and repeat the sequence.
8. If you need to make modifications to the segments, this may be accomplished using keys F2, F3 and F4. You may also select, cancel or modify each single segment.



Once finished you can press F8 and F9 to either save or upload the profile for future use.

Press F1 to close the editing controls and open the cutting data page.



9. You may select either the slicing box, the brushing box, or both.

10. Parameters for slicing:

Step = Lateral movement of the saw blade between two cuts.

Step depth = The increase in Z for each depth cut (for a one pass cut set the slab thickness).

Inverse Cut = Cuts forwards and backwards.

Always Exit = The saw blade exits the material before executing a lateral movement.

Over Material = The amount of material to be left that is greater than the part's final dimension.

Typically in slicing passes it is best to enter .0625 inches of over material. In brushing passes it is best to enter 0 inches of over material if no hand finishing is required. If hand finishing is required, you may set the value at .02 inches to account for loss of material due to hand finishing.

Entry Speed = The speed at which the tool will enter the material.

Work Speed = The forward cutting speed when the potentiometer is at its maximum setting.

11. Parameters for the brushing:

Step = The lateral movement of the saw blade between two cuts.

Over Material = The quantity of the material that is going to be used.

Work Speed = The forward cutting speed when the potentiometer is at its maximum setting.

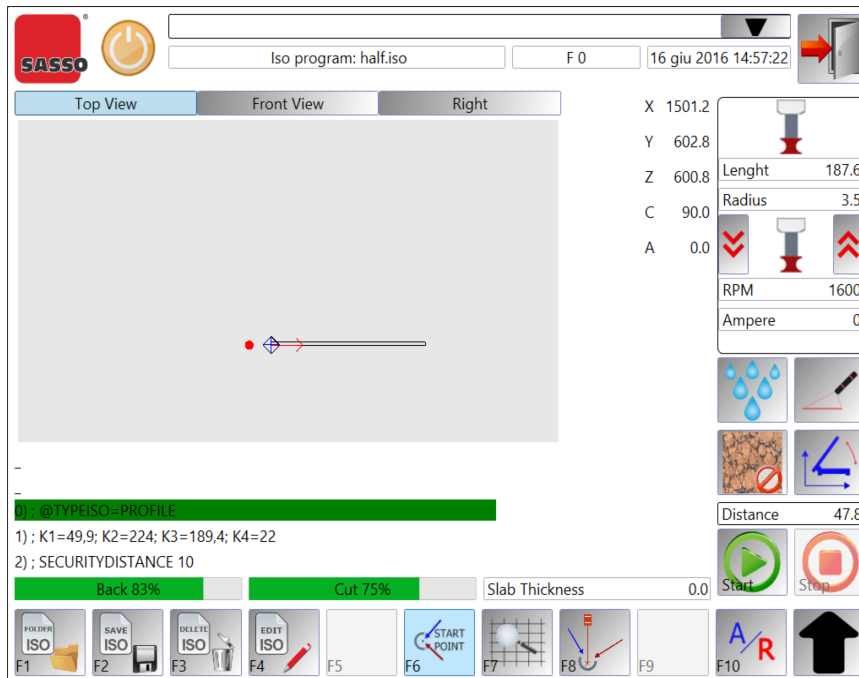
12. General parameters:

Length = The length of the piece that is going to be profiled.

Direction X = The cutting direction axis (when it starts it cuts along the X axis).

Offset Z = This is a cheat. Under normal circumstances it would be set to zero. However, modifying this value allows us to raise or lower the profile in relation to the slabs actual thickness.

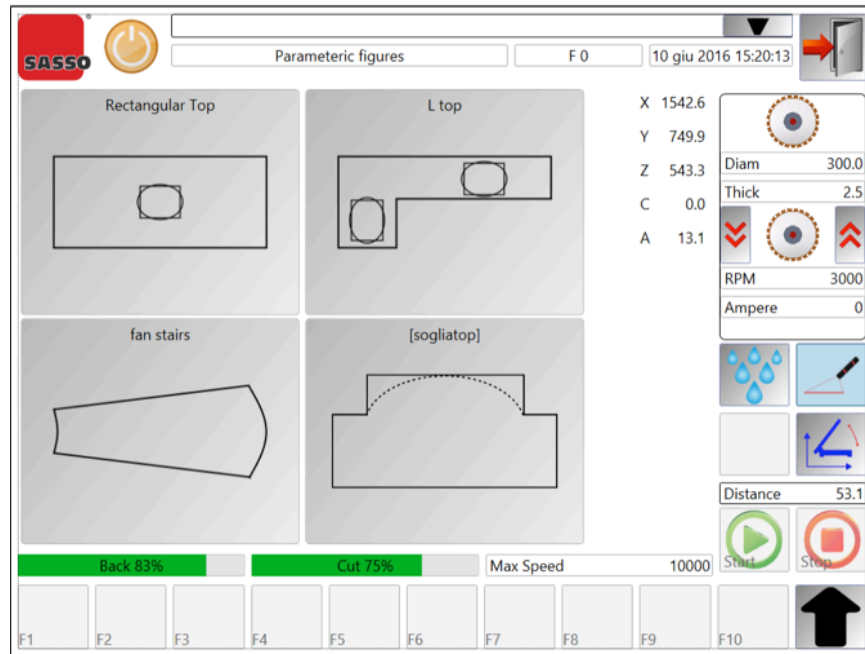
13. Press F7 to update the data



14. Press F1 to start the creation of the ISO file.
15. Rotate the C axis to the 0 position.
16. Using F10 select Absolute or Relative mode.
17. In relative mode, use the jog function to move the saw blade to the profile point of origin. **Or**, bring the laser pointer back to the point of origin on the arc and press F8 for the saw blade to move to that point.
18. Press the START button to begin cutting.
19. If the machine stops at any point while running the program, press F6 and the saw blade will return to its starting point.

Parametric Shapes

(F7 from main menu)



On this page you can select the shape you want to cut.

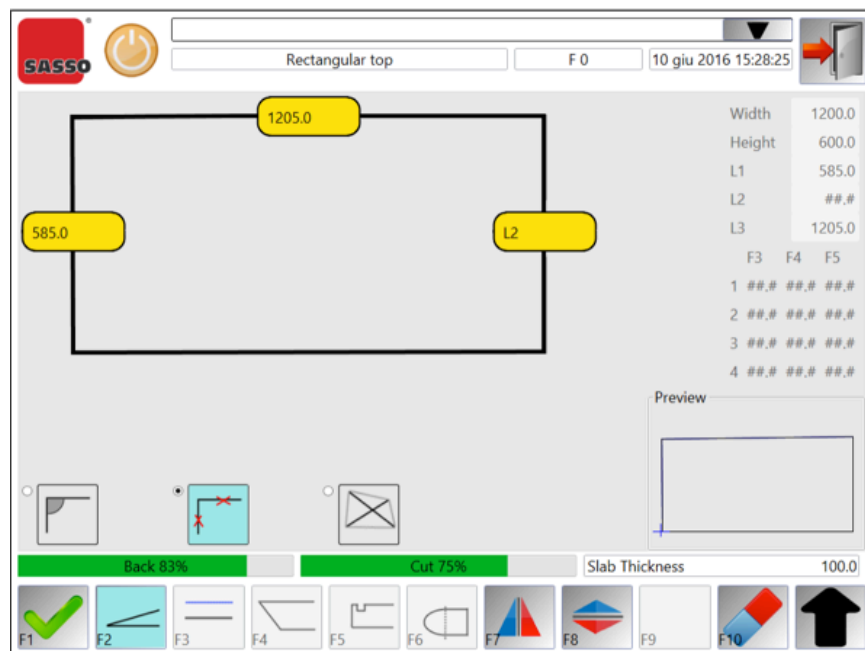
Figure 1 – Rectangle Top.

Figure 2 – L Top.

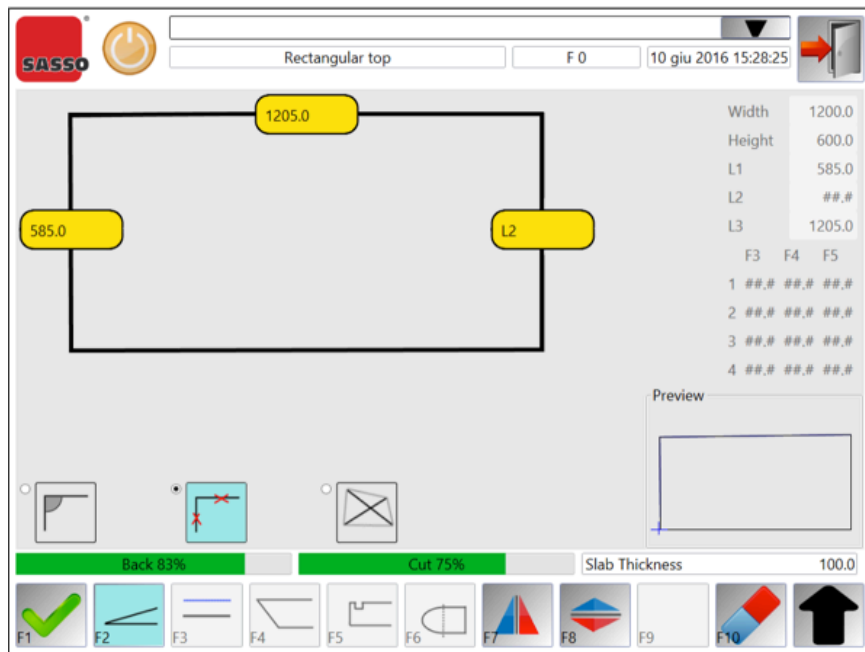
Figure 3 – Fan Stairs.

Figure 4 – American Top.

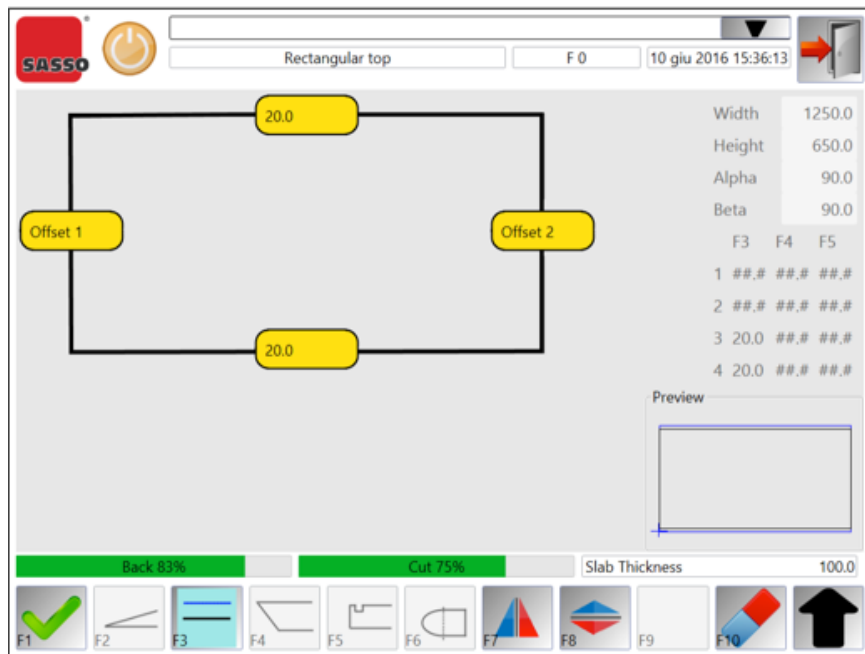
Figure 5 – Round top.



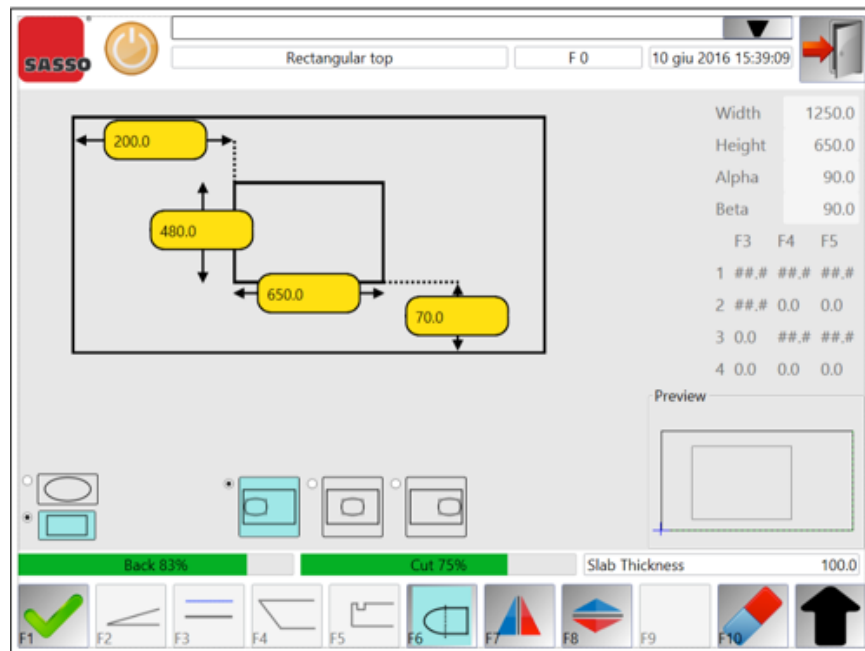
1. Press the field length to set the length of the piece to cut.
2. Press the field height to set the width of the piece to cut.



3. Press F2 to set eventual out of the rectangle, it makes these triangles based on the value of the edges, the length of the sides or the length of the diagonals.



4. Press F3 to set eventual offset on the sides where its needed. When it's a positive value it moves the cut to the outside and when it's a negative value it moves the cut to the inside of the piece.
5. Press F4 to set the miter of the edges where needed. The value meant as inclination compared to the right angle. In this instance we call Zero degrees straight, then angular ascending into the miter degrees. When the value is positive it takes its reference from the upper surface of the piece and when its negative it takes the reference from the lower surface of the piece.
6. Press F5 to set eventual carving to position the reinforcing rods where they are needed. In this case the slab must be already polished when placed on the table.



7. Press F5 to set the trench (rodding) that is going to be carved on the top. A maximum of 3 trenches can be programmed. Select the trench.

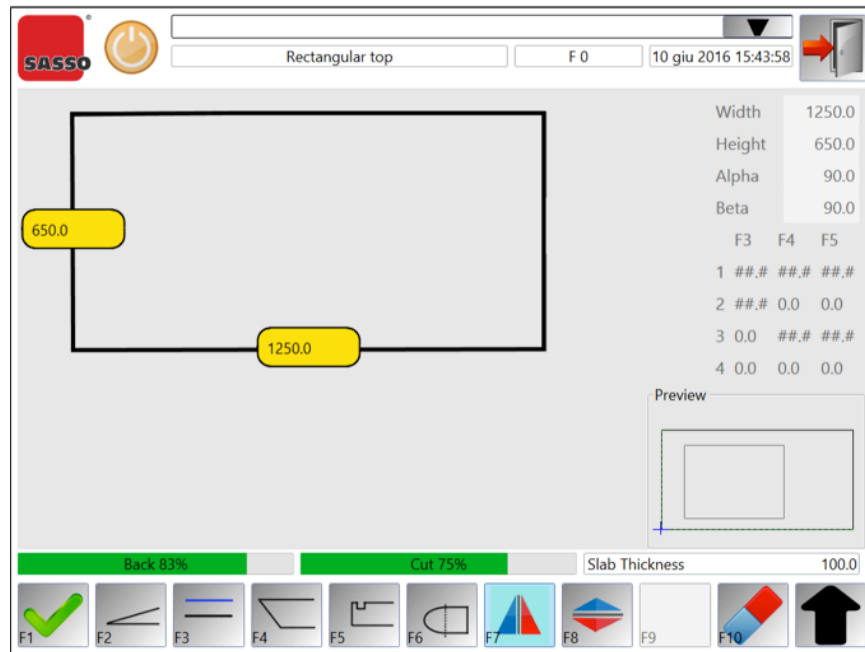
AB = Width of the trench (rodding).

AC = Length of the trench (rodding).

AD = Distance of the trench (rodding) from the frontal edge of the top.

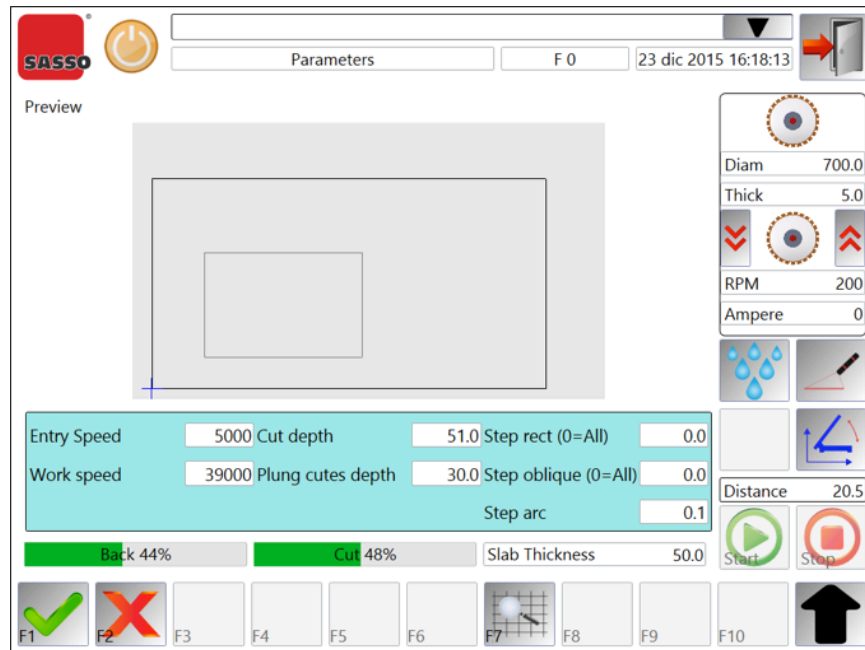
AL = Distance of the trench (rodding) from the left edge of the top.

8. Press F6 to return to the top rectangle main page.



You can now press F11 and F12 to save or load the top with all the properties applied.

9. Press F1 to open the page for entering the information on the cutting data.



Entry Speed – the tool entry speed into the material from outside the material.

Work Speed – the forward cutting speed with the potentiometer at its maximum setting.

Cut Depth – the thickness of the material plus the extra cut through.

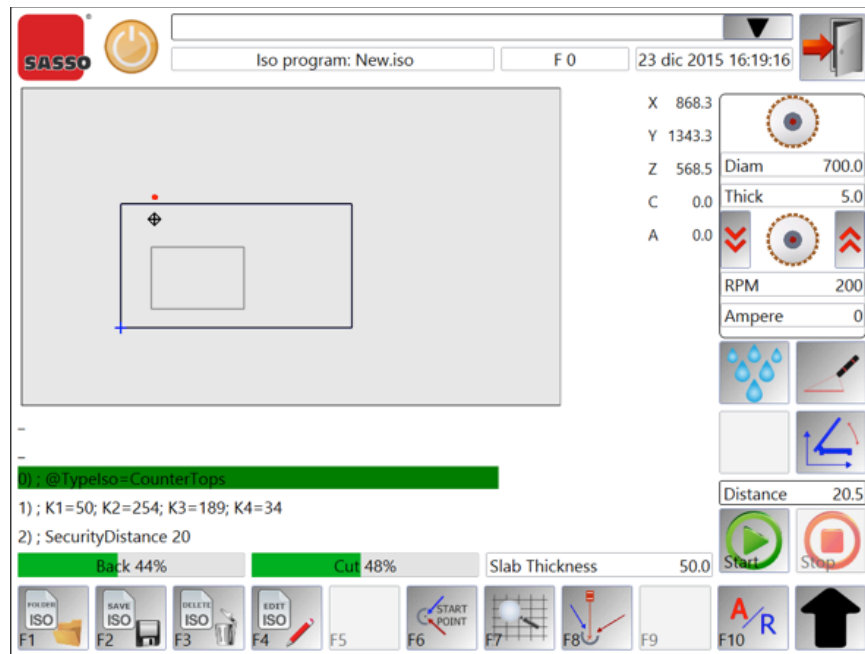
Plunge Cut Depth – the depth of the extra cut (this is only if the table can be carved).

Step Rect – the number of depth passes for straight cuts.

Step Oblique – the number of depth passes for miter cuts.

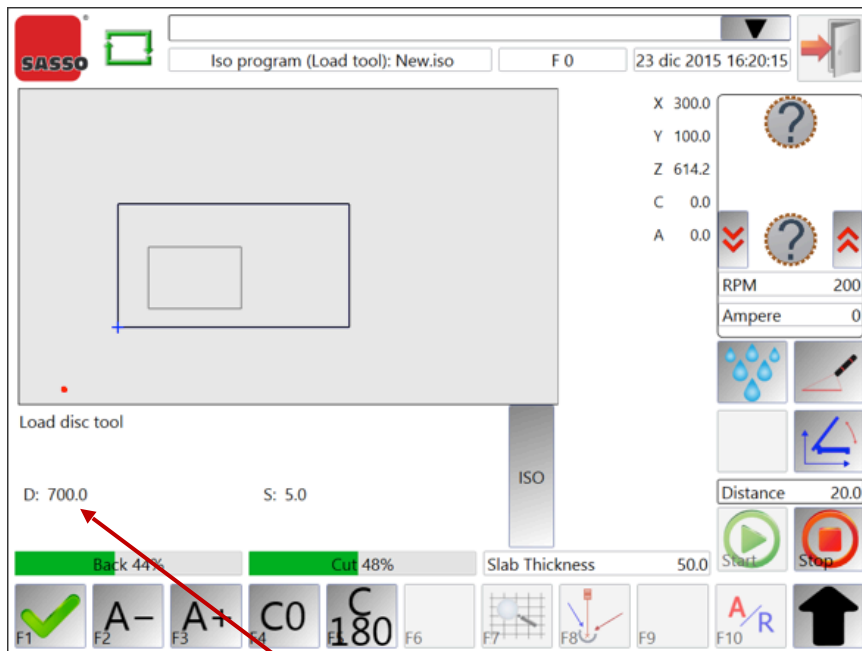
Step Arc – the number of depth passes for arc cuts.

10. Press F1 to create the ISO file.

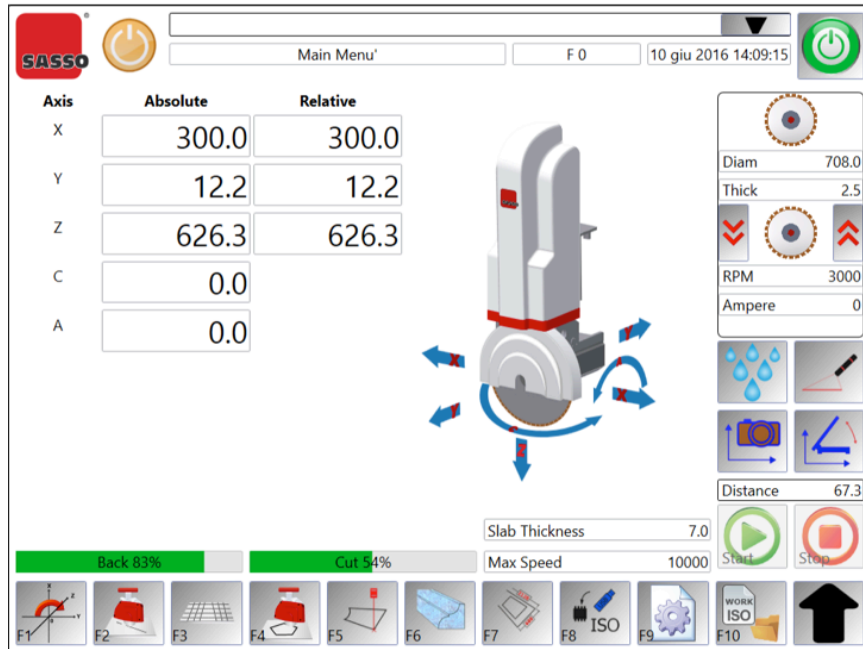


You can now press F2 to save and name the ISO file.
If you press F1 the folder of the ISO files you have saved will open.
If you press F3 you can delete any ISO files that you no longer need.

11. Rotate the C axis to the zero position.
12. Select the Absolute or Relative mode by pressing F10 .
13. If you chose Relative mode, using the jog function bring the saw blade to the profile point of origin. **Or**, bring the laser pointer back to the point of origin on the arch and press F8 to have the saw blade move there.
14. Press the START button to begin the cut.



15. Confirm the saw blade diameter shown (D) and if correct hold F1 for 3-4 seconds until the yellow line turns green.
16. When the cutting ends a message will pop up that reads [Execution ended press F1 to exit].

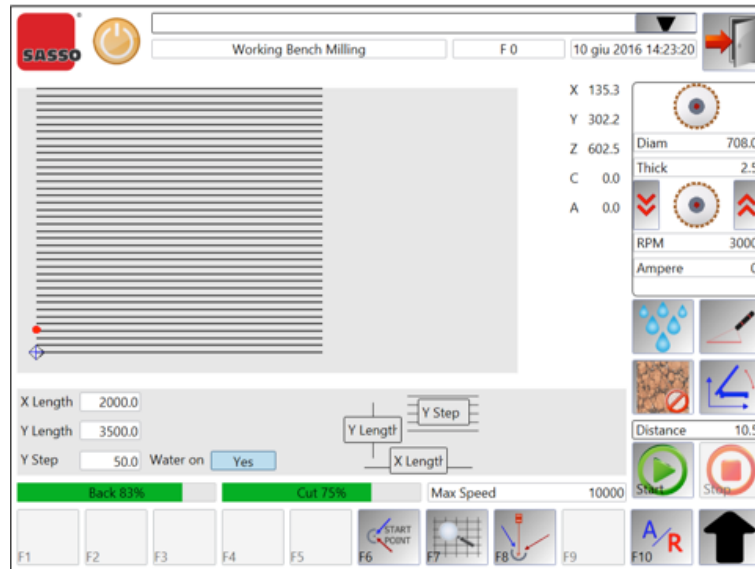


1. If you're on the main page and want to open an ISO file that was previously saved, press F10 and select the file in the folder that you want to open.

Execute the file as described above.

Planing the Table

F3 from the main menu

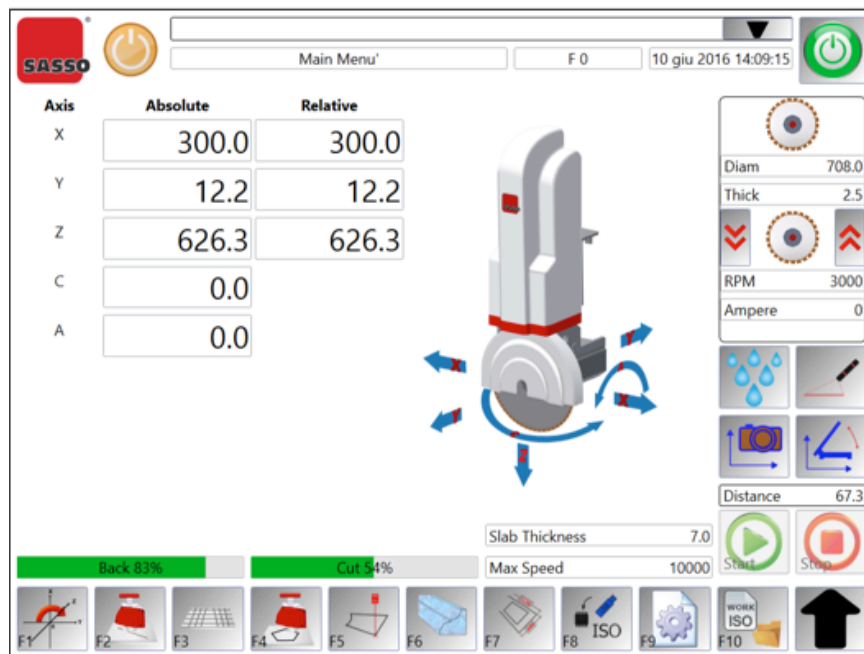


- Set RPM to 1700.
- Set feed to 200 IPM (refer to Max Speed on controller).
- Set blade diameter to match the planing wheel diameter (top right of Home screen).
- Measure your table width and length, add 2 inches to both (example:136"X, 82"Y, record these values for later).
- Set blade width to match planing wheel width/thickness (example: 1.6").
- Use planing wheel to touch the low spot on the table.
- Record your Z height (the value to the right of the letter Z).
- Raise the head up in Z and then all the way to the left (-X) 0 in X.
- Center your planing wheel with the front of the table (approx. 6.8 in Y).
- Safely lower to your previously recorded Z height (from low spot).
- Slowly move toward the table (+X) stopping approximately .5" short of table.
- Position the square water manifold in front of the wheel and the blue water nozzle on the rear of the wheel .
- Position the water valve at 45 degrees to split the water supply between the front and back of the planing wheel.
- From the home screen click F3 and then F4.
- Fill in ALL values:
Table L x W recorded earlier.
Make your Step slightly smaller than your wheel thickness (example: 1.4").
Water opening must be Yes.
- Verify potentiometer speeds are safe for starting.
- Click Start.
- Monitor the planing wheel audibly also watching motor amperage to regulate potentiometers based on material hardness.

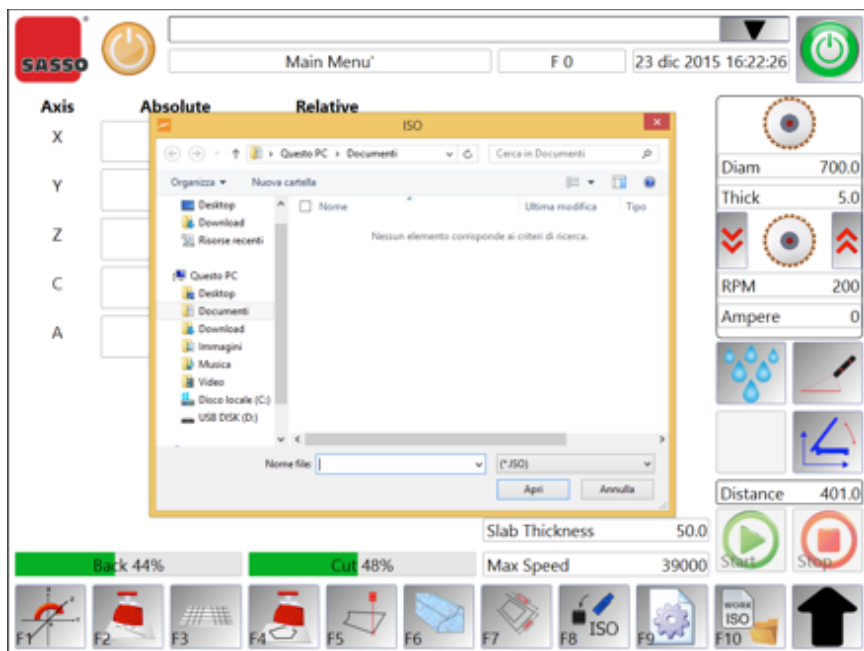
Press ESC to exit

Loading an ISO Program

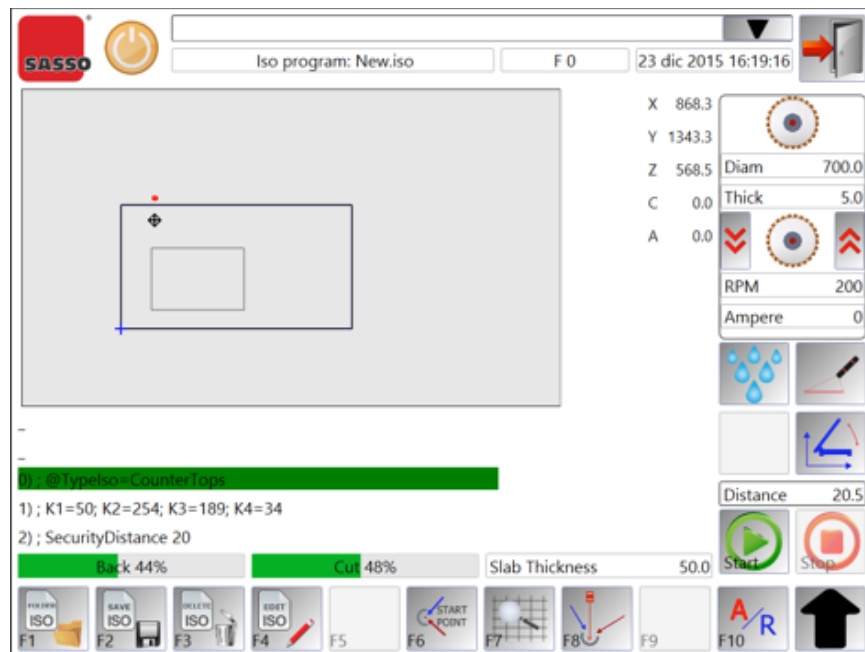
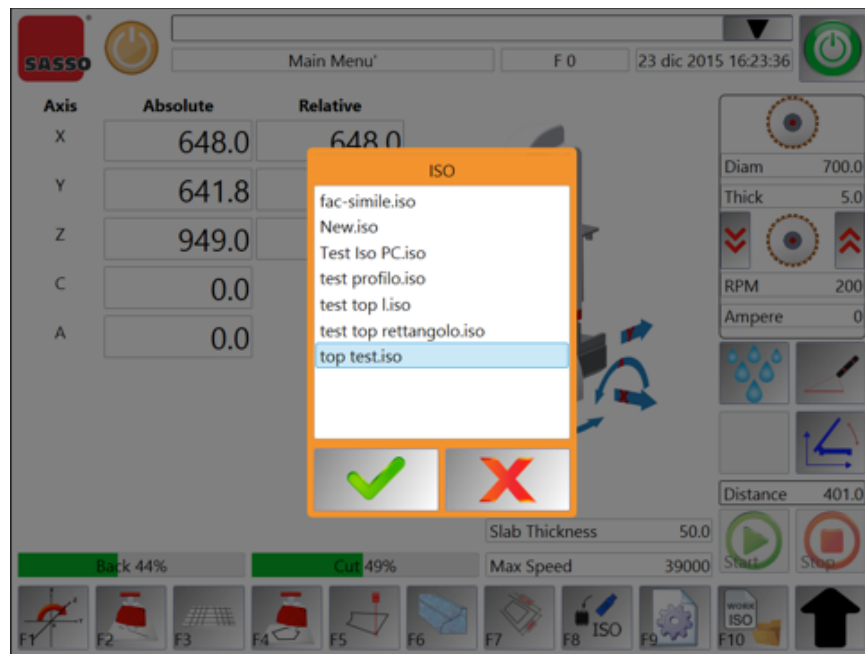
Once you're on the home page insert the USB drive into the USB slot on the control panel or access the file from the the network.



1. Press F8 to select the ISO file on the USB drive and load it into the service folder.



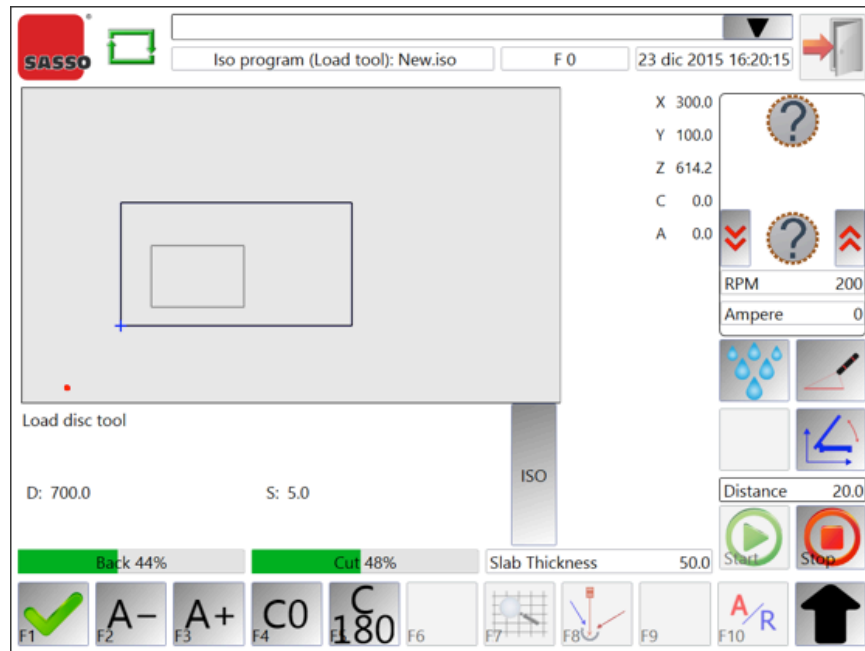
2. Press F10 to select the ISO file to work with which can be found in the service folder and then confirm it.



3. Rotate the C axis to the zero position.

3. Select the Absolute or Relative mode by clicking F10.

5. If you chose Relative mode, using the jog function bring the saw blade back to the profile point of origin. **Or**, bring the laser point back to the point of origin on the arc and press F8 to make the saw blade move there.



6. Press the START button to begin the cut.1.
7. Put on the correct saw blade and confirm press F1 until the yellow line turns green.
8. When the cut is finished you will see the message [Execution ended press F1 to exit].

Alarm Messages

Note: All messages must be cleared and/or acknowledged by clicking the message at the top of the screen before you can continue

- **!!!!EMERGENCY!!!! 027: General Emergency.** To reset, press the blue RESET button
- **SAFETY BARRIER EXCLUDED-DO NOT OPERATE:** Either the controller (pendant) is inside the work area or the safety doors are open. To clear, move the controller (pendant) outside the work area and/or shut the safety doors
- **TOOL TOO LOW-OPERATION NOT POSSIBLE:** The tool is too close to the material and/or table to execute command. You must-raise the head manually in the Z axis.**Note:** If the head is already up in Z you may have an inaccurate tool diameter/length. Verify this value is correct at the top right of the home screen.
- **BLADE TILTED-OPERATION NOT POSSIBLE:** The A axis is not between 1° and 10° when homing (resetting). To clear, manually decrease the angle in the A axis by pressing the value to the right of the A axis on the home screen. Then press and hold A until the A axis is between 1° and 10°.
- **CALIBRATE THE BLADE:** Re-measure your blade. From the home screen, press F1, then press F3 to measure your tool automatically (see FAQ).
- **AXIS NOT RESET:** Reset all axes (home the machine). From the home screen, press F1, then press F1 a second time. Finally, press 'YES' to reset all axes.
- **TILT A AXIS OF ABOUT 20 DEG:** A axis is within 20° of 0° or 90°.-To automatically move to 90°, the head must be >20°. Either increase or decrease the angle of the A axis until it's >20° and retry command.
- **ANOMALY DRIVER X-Y-Z-C-A:** Salema driver error. Call your Sasso service technician.
- **WATER PRESSURE SWITCH OFF:** Loss of water pressure. Verify you have 1 scfm @100psi of clean, dry air and 10 gpm @40psi of clean grey water.
- **_AXIS POSITION ERROR:** There is an error in the specified axis. Call your Sasso service technician.
- **_AXIS REACHED POSITIVE LIMIT:** The head has reached the physical limit in one axis or multiple axes. Move the machine in the opposite direction of the limit switch its contacted. Example: If you were lowering the head when you encountered the limit, you must raise the head to clear. If you were moving the machine in X+, you need to move it in X- to clear.

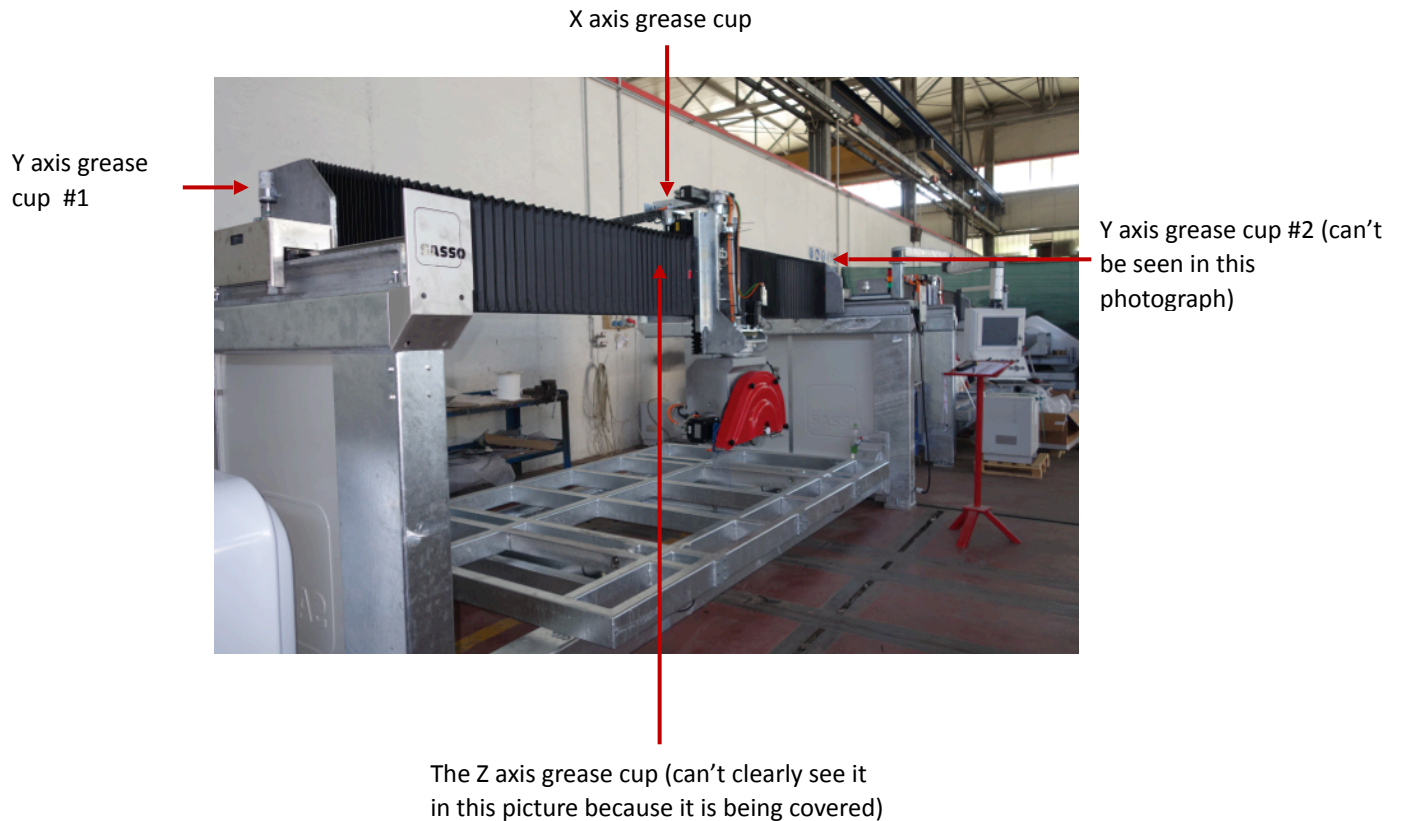
Maintenance

- Any damage to the safety devices on the machine during operations should be repaired immediately.
- Following any maintenance or repairs verify all safety devices, security guards, locks, etc., are functioning properly.
- Periodically inspect for proper machine lubrication.
- The tilt table should be lubricated a minimum of once a month.

Lubrication

Linear Guideways

- Y axis has one grease cup located on each side gantry rail.
- X axis has one grease cup located atop the bridge.
- Z axis has one grease cup located on the Z axis plate.



Note: Change the grease cups once every year based on operating the machine ten hours a day.

WARNING:It is strictly forbidden to lubricate the machine without first setting the emergency stop button and powering down the machine.

Main Saw Motor

- The main saw requires no lubrication.

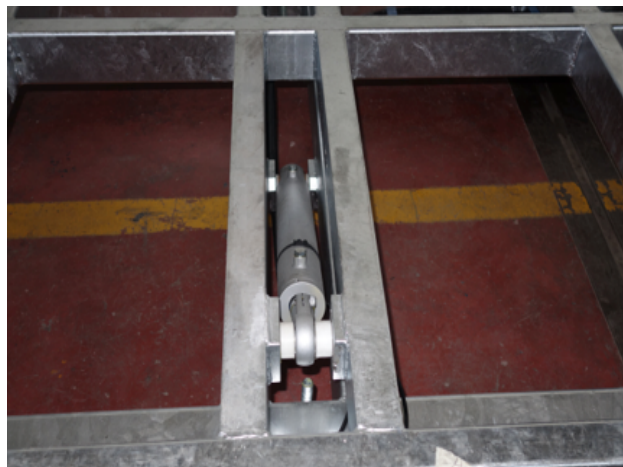
Tilt Table Lubrication

- There are two points per hydraulic cylinder (the K600 has one cylinder and the K600 Extreme has two) located on the side of the lift table. 2-3 pumps per grease point based on the machine operating ten hours per day should be sufficient
- The system is pressurized and should always remain charged.
- Grease type: IP ATHESIA GREASE 2

Grease fittings for the hydraulic cylinders
(located on the side of the tilt table).



Photograph of a hydraulic cylinder



Notes

[This area contains 15 horizontal grey bars, serving as a template for notes.]