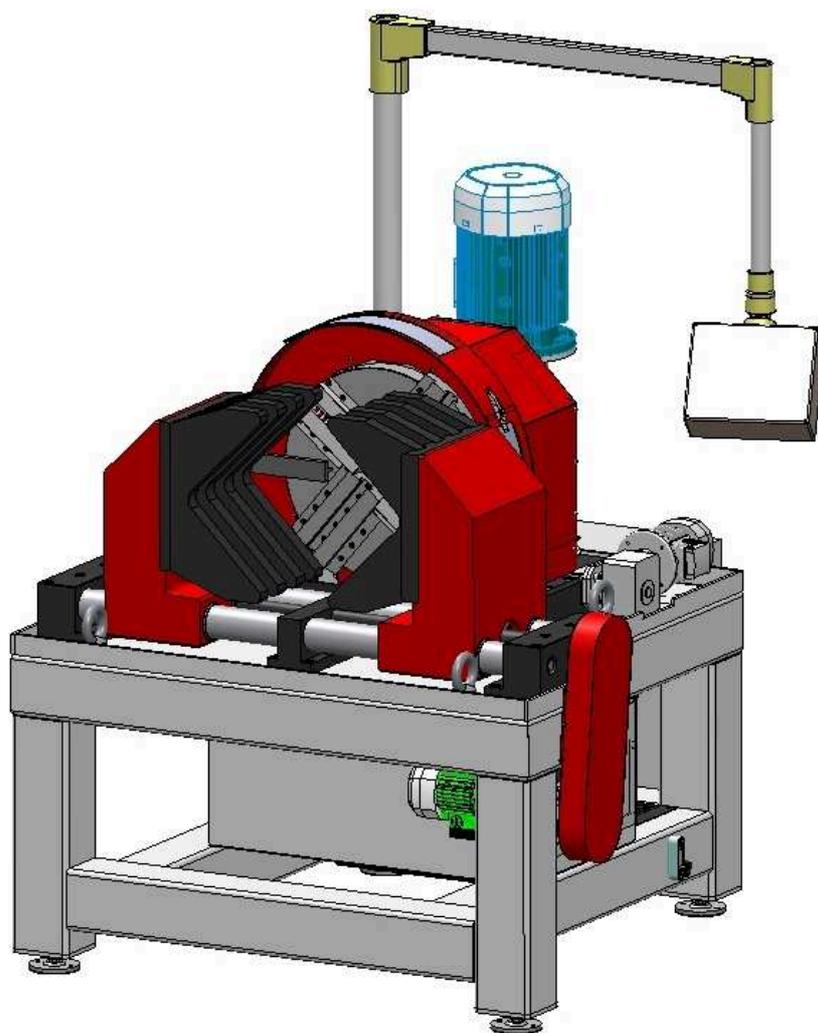




INSTRUCTION MANUAL



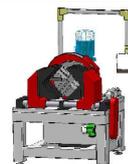
SB 500

SEMI AUTO

Range Ø 114/ 508 mm (4" — 20")

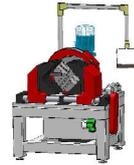
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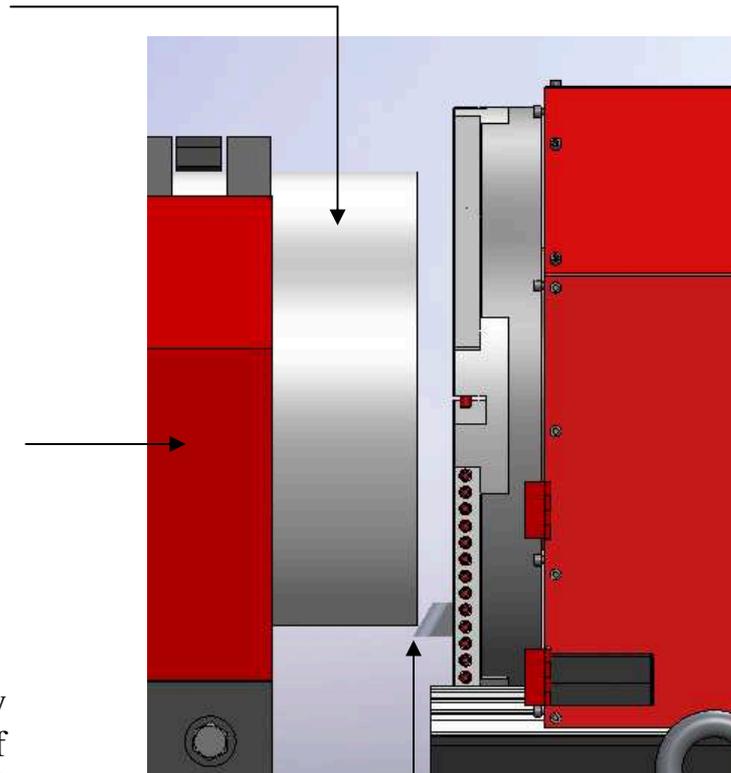


INTENDED USE OF THE MACHINE

This machine is intended to be used for prepping pipes for welding.

It works while inserted and locked into the OD of the pipe.

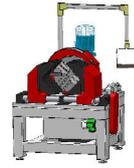
The bevel is obtained by bevelling tools of various shape and materials, depending by the nature of the material to be bevelled.



**THE MACHINE CAN BE USED ONLY BY SPECIALIZED OPERATORS WHO HAVE BEEN DULY TRAINED AND EDUCATED TO WORK WITH IT.
THERE IS NO SPECIFIC WARNING FOR MISUSE AGAINST DULY TRAINED OPERATORS**

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SAFETY PRESCRIPTIONS

G.B.C. Industrial Tools S.p.A. designs and assembles its machines in strict compliance with the safety regulations provided by the applicable EC directives and by the Italian laws regulating this matter.

G.B.C. Industrial Tools S.p.A. declines any responsibility for misuse of its machines and their use when in contrast with the regulation listed hereinafter and with the use and maintenance instructions hereto.

- Carefully read ALL the following regulations and the instructions herewith attached before starting any operation.
- Carefully ensure that the operator and the foreman using the machine are fully aware of all the regulations and all the instructions and that they are qualified to operate the unit.
- Strictly attain to the indications given by the international symbols applied on the machine and/or on its case.
- Do not perform any maintenance operation when the machine is plugged to the power supply.
- Before every use, ensure the power supply connections to be conform to the specs given by our manual.

The authorized operator in any case will not have to disregard the basic safety rules such as:

- Using gloves and goggles (safety gear supplied by the company responsible for the site or for the building)
- To properly illuminate the working area
- Ensure you are operating in an area which grants free movements (at least 1,5 metres around the operator)
- Do not replace the control system and do not replace parts with non original spare parts, and do not project violent water squirts on the machine
- Keep the hands away from hot and sharpened parts.

G.B.C. Industrial Tools S.p.A. remarks that for any non specified circumstances it is necessary to obtain the authorization of the manufacturer.



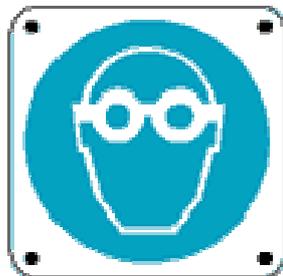
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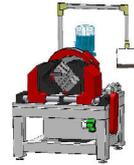
- Carefully read ALL the following regulations and the instructions herewith attached before starting any operation.
- Carefully ensure that the operator and the foreman using the machine are fully aware of all the regulations and all the instructions and that they are qualified to operate the unit.
- Strictly attain to the indications given by the international symbols applied on the machine and/or on its case.
- Do not perform any maintenance operation when the machine is plugged to the power supply.
- Before every use, ensure the power supply connections to be conform to the specs given by our manual.
- Supply adequate illumination to the working area;
- Ensure the working area allows a clearance around the operator of at least 1,5mt (tore)
- Do not replace the control panel and replace any part with original GBC parts.
- Do not use pressurized water on the machine.
- Do not touch hot and sharp parts
- The Instruction manual and the drawings will always give you quick and simple explanations.
- Any case not specified in this paragraph will require the manufacturer authorization.

Using properly the safety gear entails the only risks to be generated by the user's system and not by inborn defects of our machines.



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MACHINE STABILITY

Considering the mass of the machine no particular problem has been detected in regard to the operator safety.

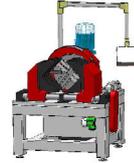
WORKPLACE

The workplace shall always be adequately illuminated offering enough clearance on the perimeter of the machine.

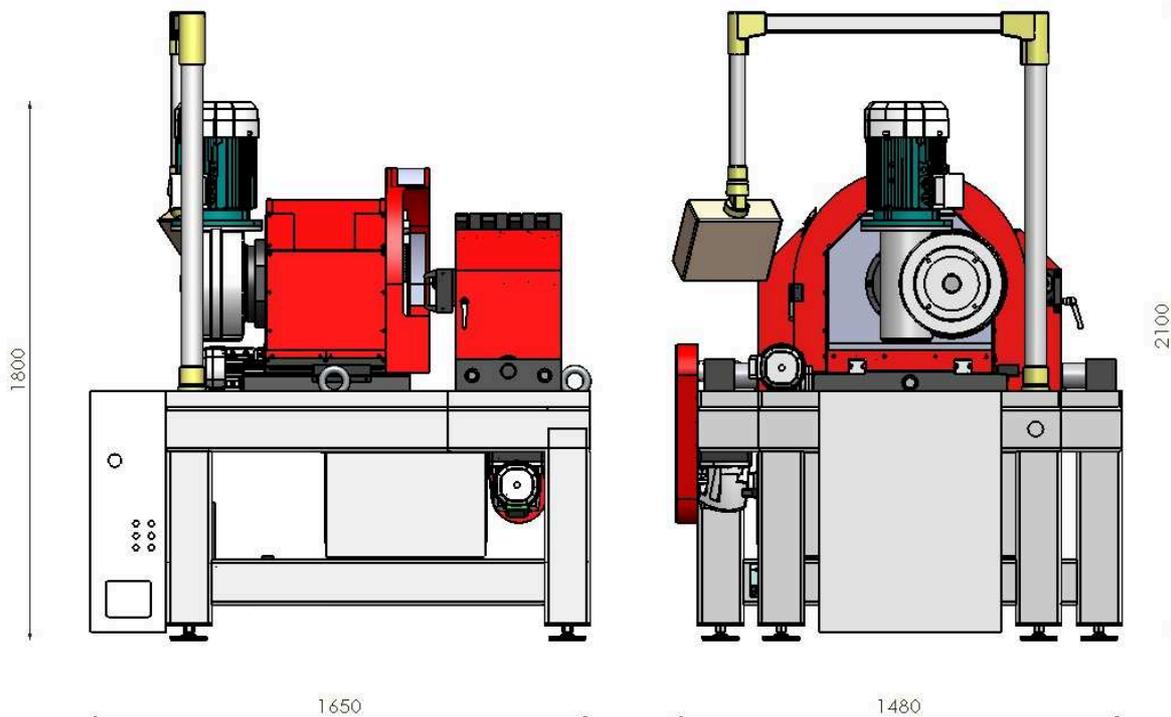
EMERGENCY BUTTON

As provided for the paragraph 1.2.4.3. of the attachment 1 of the Machinery Directive, portable machines are exempt to have this feature.





MACHINE DIMENSIONS



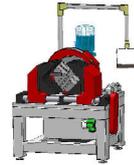
TRANSPOR RECOMMENDATIONS

Machine Weight	kg	2600
Shipping Dims	mm	2000x1600x2200
Shipping Weight	kg	2800

Over 25 Kg lifting equipment is required.

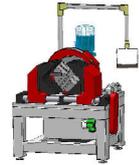
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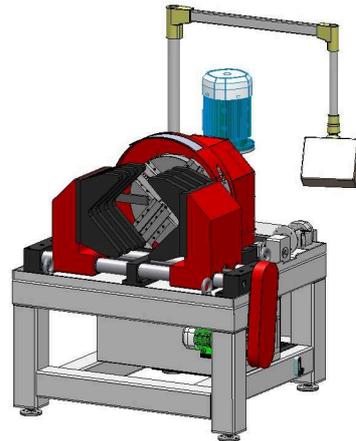
TECHNICAL FEATURES

FEATURES AND PERFORMANCE	UNIT MEASURE	VALUE
Locking Capacity	mm	114÷508
Supply Voltage	(V)	400
Main Motor Power	(KW)	9.2
Cooling Liquid Recirculation Pump Motor Power	(KW)	0.24
Head Feeding Motor Power	(KW)	0.37
Locking Jaws Motor Power	(KW)	0.37
Pipe Positioner Motor Power	(KW)	0.022
Overall Power	(KW)	10.202
Head Axial Stroke	(mm)	100
Speed	(RPM)	0÷20
Mandrel Rotation : Counter-Clockwise	-	-
4 Slots Mandrel	(mm)	520
Maximum Thickness That Can Be Beveled In One Step (Carbon Steel)	(mm)	22



MACHINE STANDARD EQUIPMENT

“ SB 500”

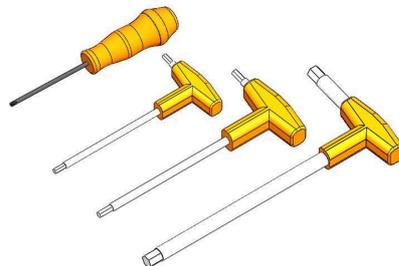


6mm Allen Key

5mm Allen Key

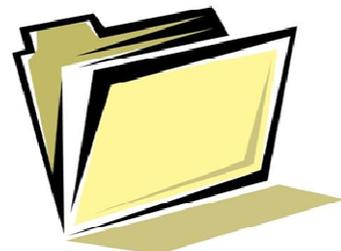
4mm Allen Key

T20 Torx Screwdriver



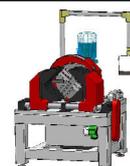
Technical Drawings

Instruction Manual

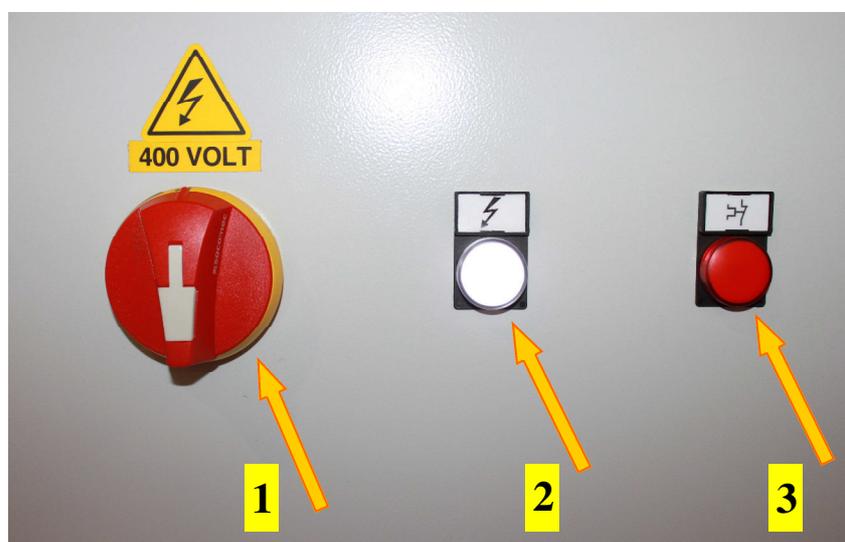


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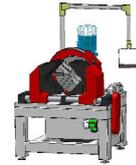
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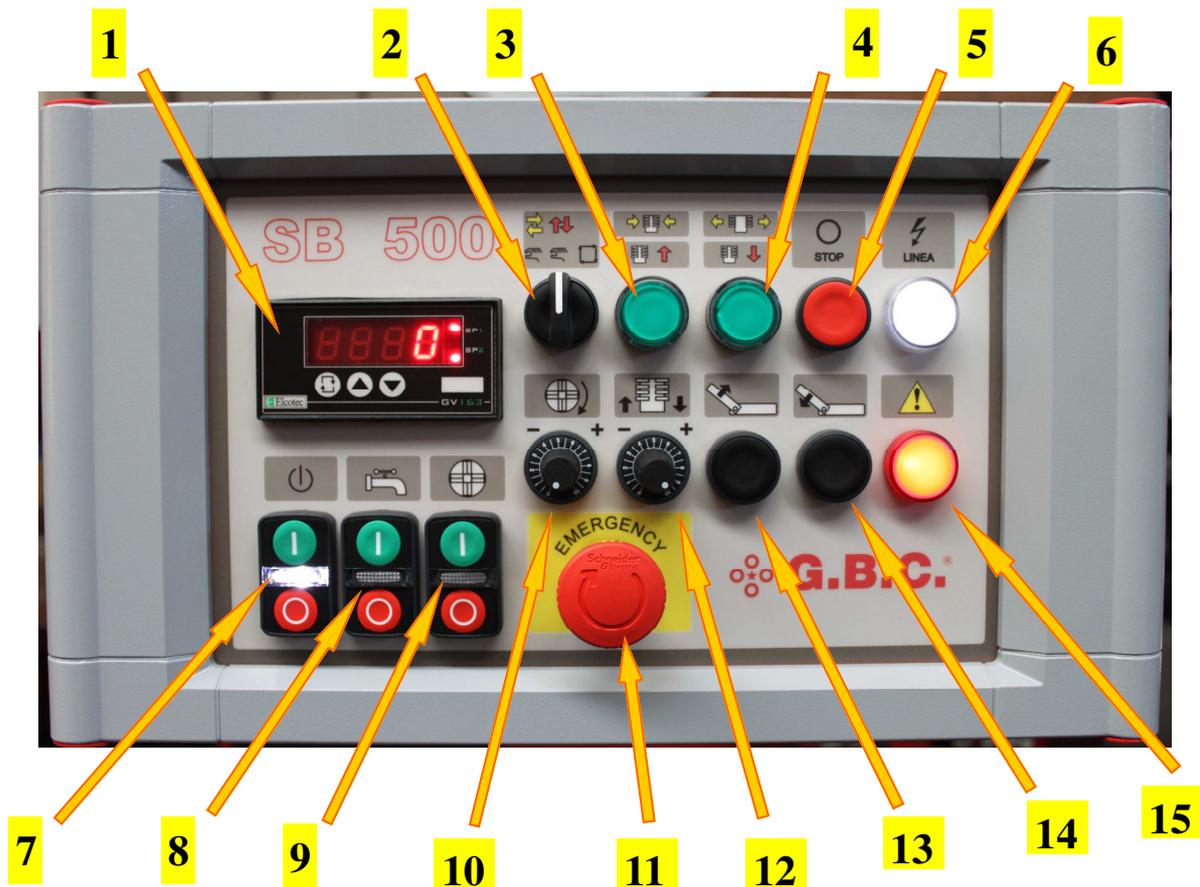
SWITCHGEAR CONTROLS



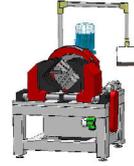
- 1) Main Switch.
- 2) Voltage Detection Led
- 3) Warning Led



CONTROL PANEL

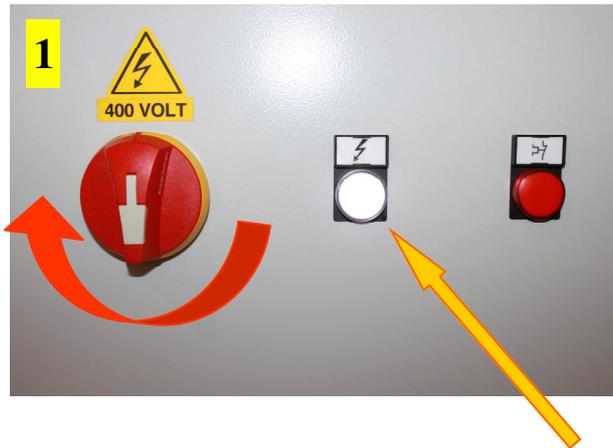


- | | |
|-------------------------------------------------|---------------------------------|
| 1) Digital Display | 9) Mandrel Rotation Start /stop |
| 2) Pipe Locking Selector/Head Feeding/Automatic | 10) Mandrel Speed Regulator |
| 3) Locking Pipe Start/Head Feeding Start | 11) Emergency Stop |
| 4) Unlocking Pipe Start/Head Withdrawal Start | 12) Head/Jaws Speed Regulator |
| 5) Main Stop | 13) Pipe Positioner “UP”. |
| 6) Voltage Detection Led | 14) Pipe Positioner “DOWN” |
| 7) Main Start /Stop | 15) Malfunction Led |
| 8) Cooling Pump Start /stop | |



PRELIMINARY OPERATION

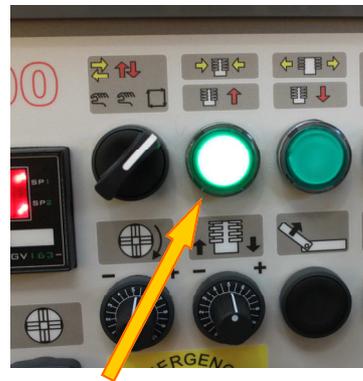
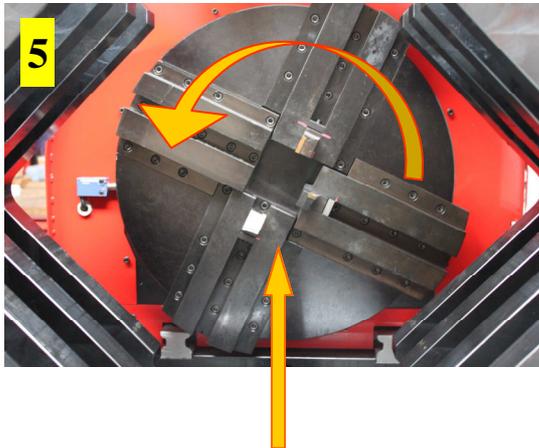
**N.B. THIS OPERATION MUST PER CARRIED OUT BEFORE
PROCEEDING WITH ALL THE SETTINGS**



- 1) Rotate the general switch to supply voltage to the machine. Now the white led will light.
- 2) Press the green button to enable the controls of the machine. Now the white light will turn on.

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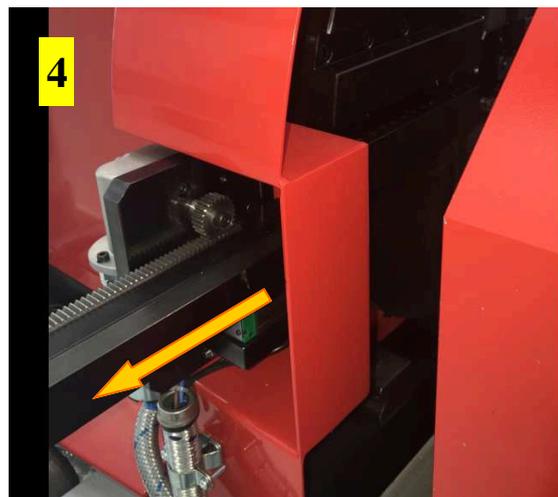
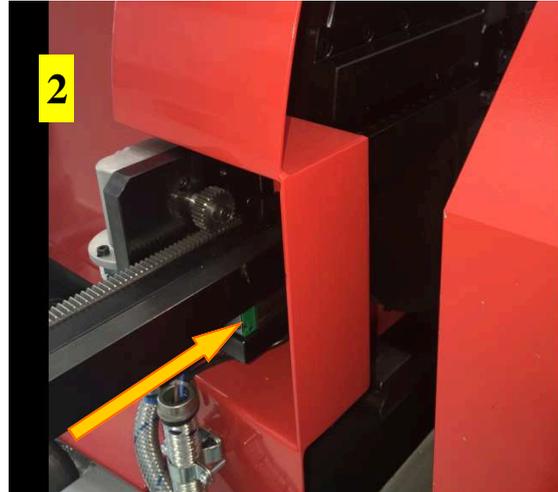
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3) Rotate the switch on “AUTO”. **N.B. If the mandrel is not in position the green light will not turn on.**

4) Now press the button “MANDREL ROTATION”, and the mandrel will start.

5) When the mandrel reaches the “START” position it will come to a stop and the green light will turn on as shown in the picture. Now you can proceed further and position the pipe along with all the other settings.

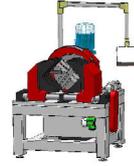
**PIPE POSITIONING AND LOCKING**

1 -2) Press the pipe positioner “DOWN” button to move the pipe positioner between the pipe and the chuck.

N.B. When the lever is down as shown in the picture #2 all controls are disabled except for the controls for the pipe locking system.

3) Push the pipe until it touches the pipe positioning bar then secure the pipe with the machine locking jaws.

4) Withdraw the pipe positioner using the button indicated by the green arrow in the picture #1.



5) Insert the pipe until it touches the end stop as shown in the picture #5.

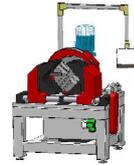
6) Rotate the selector in locking position (**Yellow Arrows**).

7) Press the green button and keep it pressed until the pipe is locked.

N.B. The jaws will automatically stop when reaching the maximum torque.

8) Press the pipe positioner “UP” button, and the end stop lever will return in the starting position.

N.B. When the lever is up all the controls are enabled.



TOOLS SETUP



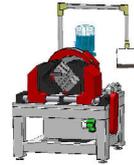
1) Open the lock and unhook the side door as shown in the above picture.



2) Get the selected tool and slide it in the mandrel slot making sure it is abutted to the back wall and move it in correspondence of the pipe wall as shown in the above picture, then fasten the grub screws to lock the tool in place.

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3) Once the tools are in position close the side door and hook the lock.

N.B. THE MACHINE SAFETY SYSTEM WILL DISABLE ALL FUNCTIONS WHEN THE SIDE DOOR IS OPEN.

N.B. WHEN THE SIDE DOOR IS OPENED DURING A WORKING SESSION THE MACHINE WILL AUTOMATICALLY STOP.



N.B. THE MACHINE REBOOTING PROCEDURE IS DESCRIBED BELOW :

1) CLOSE THE SIDE DOOR AND HOOK THE LOCK.

2) PRESS THE GREEN LIGHT TO REACTIVATE THE CONTROLS ON THE CONTROL PANEL.

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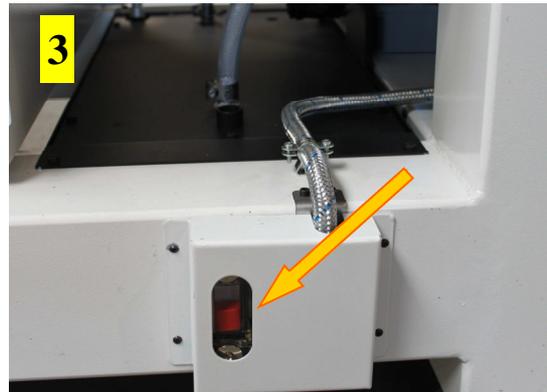
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COOLING SYSTEM SETUP

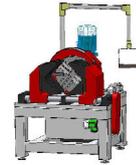


1) Position the nozzle of the cooling system right on the pipe edge as shown in the above picture.

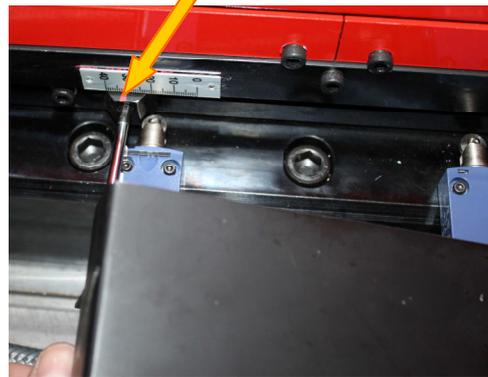
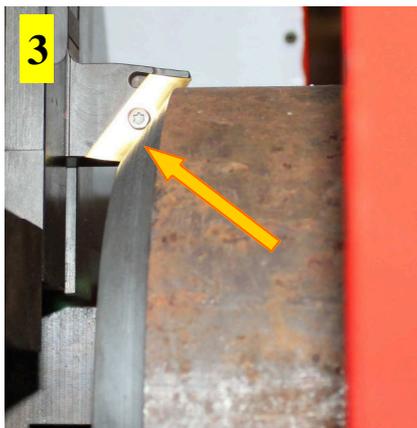
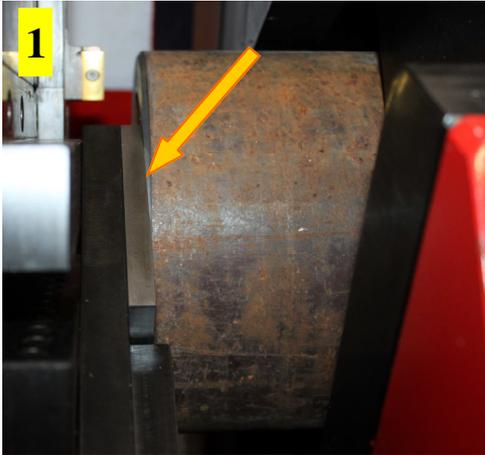


2) Fill the cooling tank with cooling liquid from the filler cap pointed by the arrow.

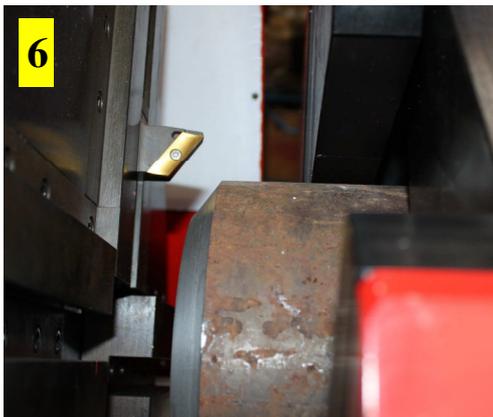
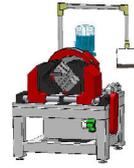
3) N.B. ALWAYS CHECK THE COOLING LIQUID LEVEL AS YOU WILL WANT TO AVOID THE COOLING PUMP TO INTAKE AIR AS THIS MAY CAUSE A FAILURE OF THE SYSTEM.



END STOP ADJUSTMENT (FOR AUTOMATIC BEVEL)



- 1) Insert the pipe all the way down until it touches the end stop, then you can lock it in position by activating the locking jaws.
- 2) Execute a test bevel on the pipe, ensuring that the position of the two cams located on the head slide is not interfering with the working process, otherwise you will have to remove the protection and move the cam as shown in the picture.
- 3) When the bevel is completed stop the head in the position shown in the picture.



- 4) Loose the screws that hold the end stop protection and remove it to get access to the cams.
- 5) Lean the cam against the rear end stop “Head Forward”, as shown in the picture.
- 6) Move the head backward acting on the control panel until the tool has withdrawn from the pipe enough to be able to start a new bevel.
- 7) Lean the cam against the forward end stop “Head Backward” as shown in the picture.



MACHINE START



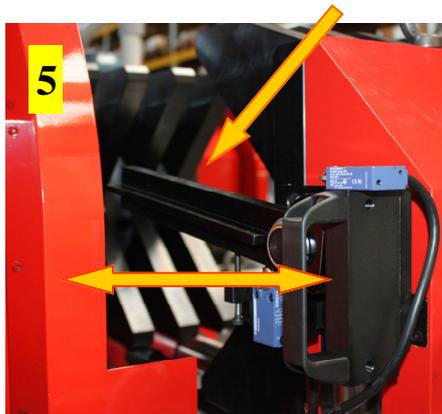
1) Rotate the main switch located on the switchgear. The white led should turn on.



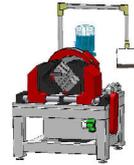
2) Press the green button on the control panel (reload button), the controls will be enabled.



PIPE LOCKING PROCEDURE



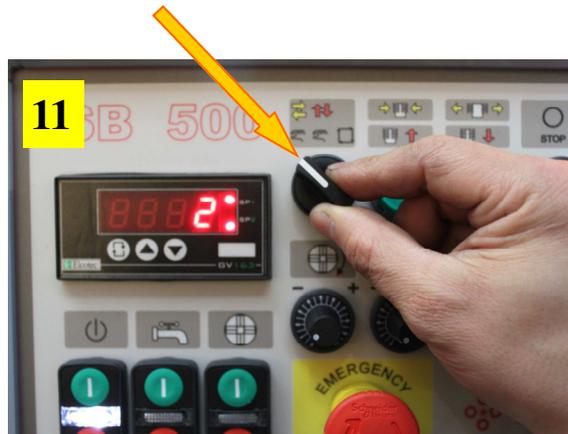
- 3) Press the Pipe positioner button “DOWN”, to lower the pipe end stop lever.
 - 4) Loose the positioner locking lever rotating it as shown by the arrow.
 - 5) The positioner can be moved forward or backward when required by using the handle as shown in the picture #3.
- N.B. When the lever is down as shown in the picture #3 all controls are disabled except for the controls for the pipe locking system.**
- 6) Rotate the lever in the opposite position making sure it is safely locked.



- 7) Insert the pipe and lean it against the pipe end stop as shown in the picture.
- 8) Rotate the selector in locking position (**Yellow Arrows**).
- 9) Press the green button and keep it pressed until the pipe is locked.
N.B. The jaws will automatically stop when reaching the maximum torque.
- 10) Press the pipe positioner “UP” button, and the end stop lever will return in the starting position.
N.B. When the lever is up all the controls are enabled.

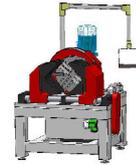


PIPE UNLOCKING PROCEDURE



11) Ensure the switch (**Locking System/ Head Forward/ Automatic**) to be oriented on pipe locking function (**yellow arrows**) as shown in the picture.

12) Keep pressed the green button until the pipe is released.



HEAD FEEDING



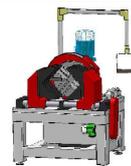
- 13) Turn the switch (**Locking System/ Head Forward/ Automatic**), on the central position as shown in the picture.
- 14) Keep pressed the green button and the machine head will begin advancing towards the pipe.
- 15) Turn the speed regulator either left or right to decrease or increase the head feeding speed.



HEAD WITHDRAWAL



- 16) Ensure the switch (**Locking System/ Head Forward/ Automatic**) is in central position
- 17) Keep pressed the green button to withdraw the head to the starting point.
- 18) Turn the speed regulator either left or right to decrease or increase the head withdrawal speed.



MANDREL ROTATION START/STOP

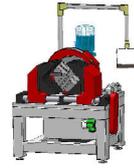


15) Press the green button shown in the picture (**MAIN START/STOP SWITCH**), per to enable the controls on the control panel.

16) Press the green button (**MANDREL ROTATION START**), and the mandrel will begin the rotation.

17) The speed can be adjusted by turning the speed regulator either to the left or to the right to decrease or increase the speed.

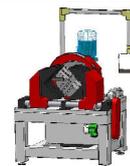
18) Press the red button (**MANDREL ROTATION STOP**), to get the mandrel to a complete stop.

**COOLING PUMP START/STOP**

19) Press the green button as shown on the picture #19 (**COOLING PUMP START STOP**), to activate the pump.

20) The cooling liquid flow can be adjusted by acting on the tap as shown in the above picture.

21) Press the red button (**COOLING PUMP STOP**), by doing so, the pump will stop the liquid flow.

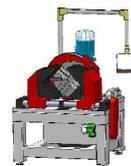
**AUTO MODE (Start/Stop)**

22) Rotate the switch to the right (**AUTO**), as shown in the picture.

23) Press the green button (**AUTOMATIC CYCLE START**) and the machine automatically starts with the parameters set before.

N.B. When the machine is in AUTO mode it automatically executes the bevel set in a prior moment and at the end of the operation it resets to the starting position ready to repeat the very same operation with the next pipe.

In AUTO mode you will be able to adjust the mandrel speed and the head feeding at anytime.



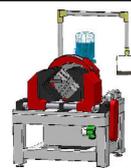
24) The AUTO cycle can be stopped at anytime by pressing the red button as shown in the above picture.



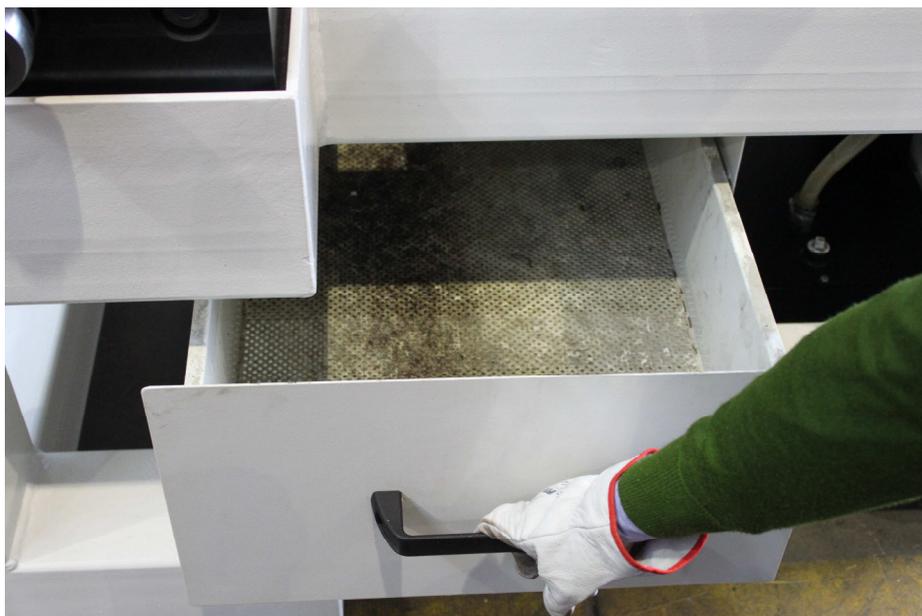
EMERGENCY STOP



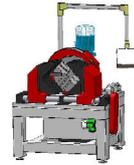
25) In case of an emergency press the red emergency button. The machine will cease any operation instantly.



SHAVINGS COLLECTION

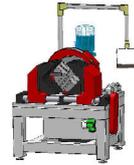


N.B. Empty the shavings collection drawer before it gets full.



ORDINARY MAINTENANCE

- 1) ALWAYS VERIFY THE MACHINE GENERAL CONDITIONS.
- 2) PERFORM A PERIODICAL CLEANING OF THE THREADED PARTS.
- 3) CLEAN THE MANDREL GUIDING SLIDES WHENEVER YOU FEEL IT NECESSARY.
- 4) ENSURE THE TOOL HOLDER SEATS TO BE ALWAYS CLEAN.
- 5) VERIFY THE COOLING LIQUID LEVEL BEFORE STARTING THE MACHINE.
- 6) ALWAYS USE SHARP TOOLS TO OBTAIN THE BEST PERFORMANCE FROM THE MACHINE.
- 7) EMPTY THE CHIPS CONTAINER BEFORE IT GETS COMPLETELY FULL.



TROUBLESHOOTING

The machine does not start.

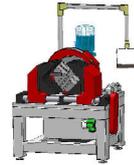
- 1) Check if the machine is plugged to the electric power network and that it is adequate to the machine absorption.
- 2) Check the lateral safety door to be perfectly closed.
- 3) Check if the green button on the control panel has been reset.

The machine vibrates and does not work.

- 1) Ensure the tools are in a good condition, otherwise replace them immediately with a set of new sharp tools.
- 2) Reduce the chuck RPM.
- 3) Reduce the head feeding.

The machine does not bevel. Check the tools conditions and ensure that the pipe you are bevelling does not require special tools due to its material composition. Always make reference to GBC sales department.

The acoustic emissions are within the maximum limits provided by the machine directive in force. Evidence is stored at the manufacturing department where all the acoustic tests performed on every single machine are filed.



MALFUNCTION WARNINGS



- **1 BLINK, 1 PAUSE** = Head in wrong position for AUTO cycle launch or for the pipe end stop lowering.
- **2 BLINKS, 1 PAUSE** = Pipe end stop is not lifted for AUTO cycle or for the head feeding forward command.
- **3 BLINKS, 1 PAUSE** = Head end stop failure.
- **4 BLINKS 1 PAUSE** = Pipe end stop failure.
- **5 BLINKS, 1 PAUSE** = Mandrel in wrong position for the AUTO cycle launch.
- **RED LIGHT ALWAYS ON** = Low cooling liquid level.