



USER INSTRUCTIONS BOOK

ELITE

AFILAmag CC



AUTOMATIC CIRCULAR KNIVES GRINDING

MACHINE

Version 11/16



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1. HOW TO USE AND KEEP THE MANUAL

The instructions book is intended for all those who have contact with the machine.

The manual is intended for:

- Indicate the procedures for using the machine, according to the indications of the project and technical features.
- Provide the necessary instructions for offset, adjustment, use and cleaning.
- Facilitate ordering spare parts, provide information on residual risks.

Limits use of the manual:

The machine is intended for professional use and therefore the instructions book can never replace the experience of the operator.

Importance and conservation of the manual:

This manual must be considered for all purposes of the machine and must be kept until its demolition.

Request a new manual:

If misplaced and / or damaged, the user can ask the manufacturer for a new copy of the manual, the following details of the machine: the model, type, registration number and year of manufacture.

Manual update:

The manufacturer reserves the right to update production and with it the corresponding instructions and use, without obligation to update earlier production and manuals.

Details and explanations:

You, the owner, operator maintenance and repair may, at any time, contact the manufacturer for further clarification and information on the correct use of the machine and on possible procedures governing maintenance and / or repair.



Expiration of liability:

The manufacturer is considered exempt from any liability in case of:

- a) Improper use of the machine.
- b) Use of the machine by untrained persons.
- c) serious in maintaining Fouls provided.
- d) Interventions or unauthorized modifications.
- e) Use of non-original spare parts and not specific to the model.
- f) Failure, total or partial, of the instructions.



2. SAFETY RULES

- To use the machine the operator must know all the instructions contained in this manual well.
- Before using the machine, the operator has to know enough controls it.



WARNING: MOVING PARTS



DANGER: HIGH VOLTAGE

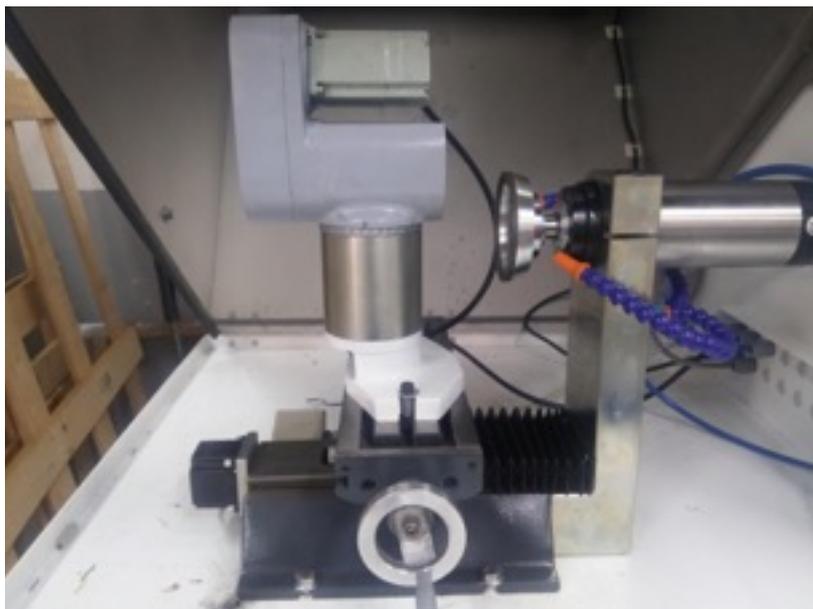
These warnings do not include all possible risks that an improper use of the machine could lead. That is why the operator must proceed with caution and observing the rules.



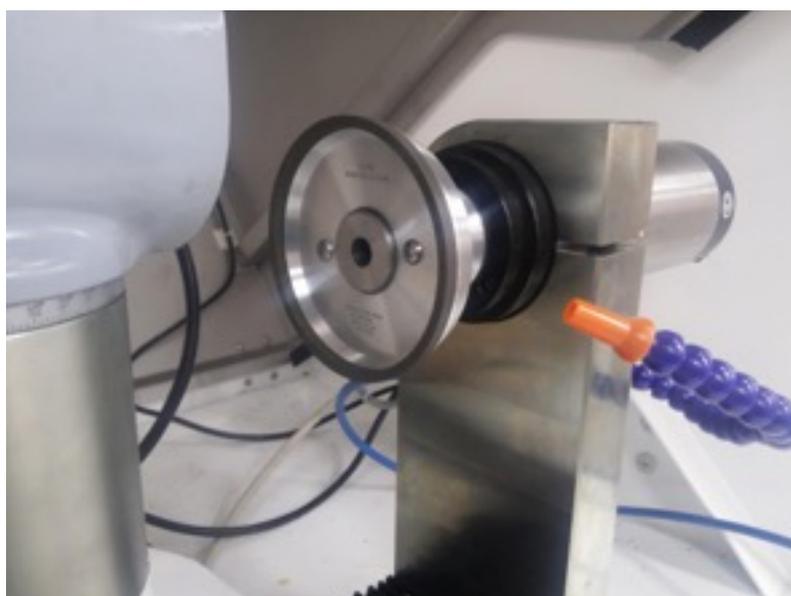
3. MAIN PARTS OF THE MACHINE

The grinding machine consists of the following parts:

Height Supplement for larger saws (optional)

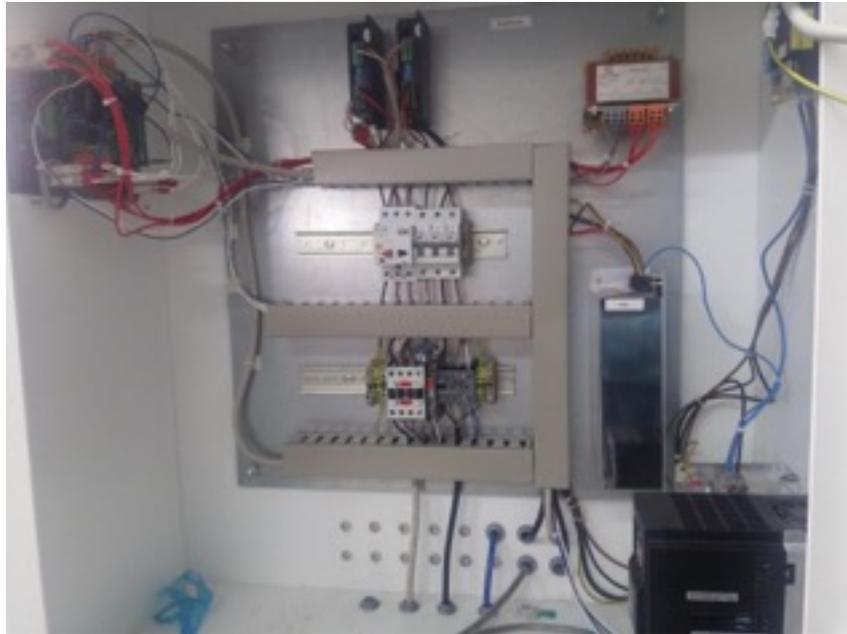


Spindle





Electric box



LCD display





General switch



Safety device





4. WIRING

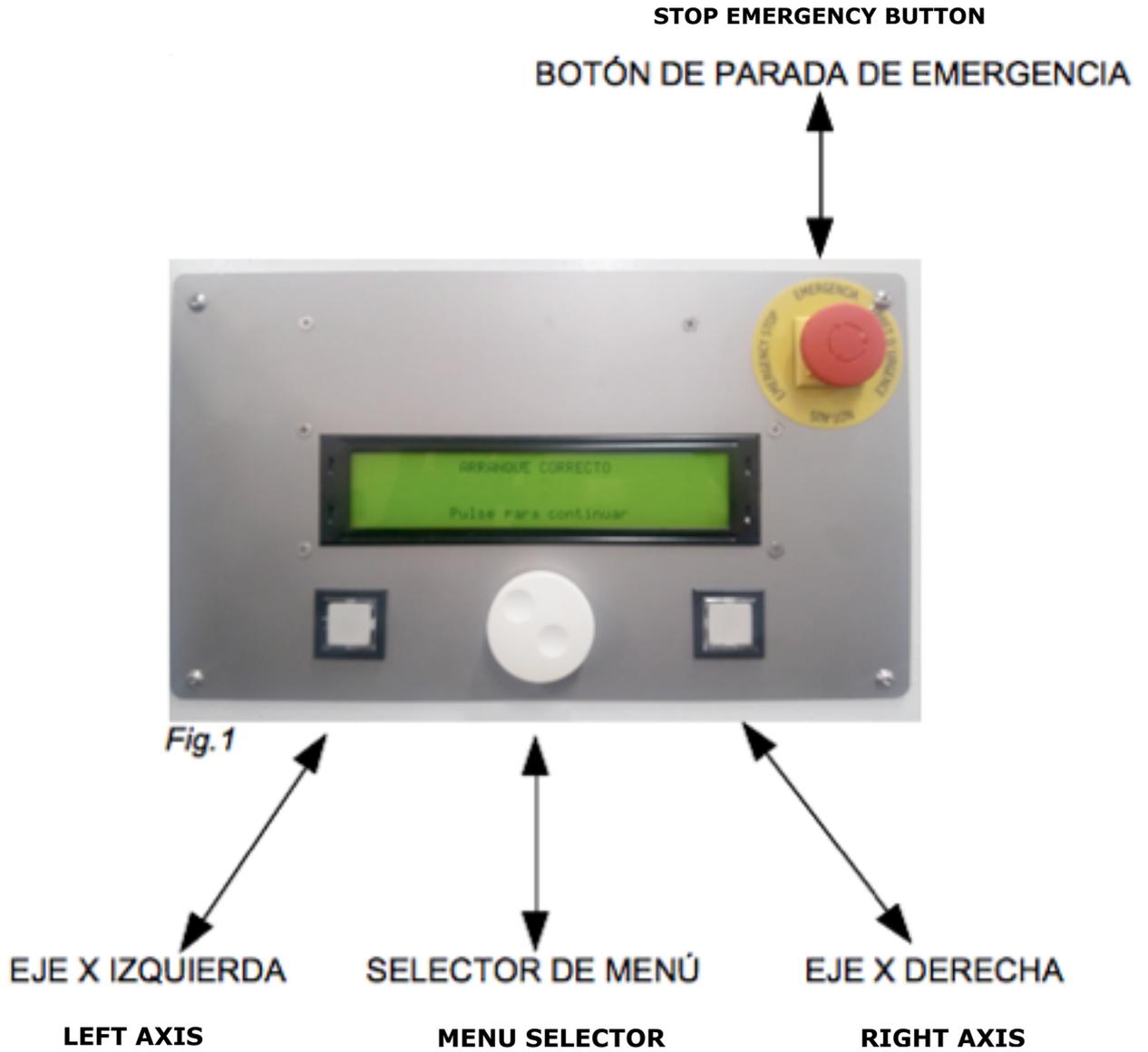
The machine is delivered without a plug and must be connected to a three-phase mains (400V or 220V + N + Pe), as described on the plate located on the rear side of the machine. Connect only the ground wire with the yellow-green (grounding) intermediate wire.

The direction of rotation of the motors must be checked by turning the pump motor on and check that it turns in the correct direction.

We reject all responsibility for a wrong connection, which in addition to causing a malfunction of the machine can harm people, animals, things.



5. USER INSTRUCTIONS





5-A. GRINDING OPERATION

Once the machine has been switched on, the message "Correct start up" (Arranque Correcto) (fig.1) will appear in case the system is OK. Pressing the menu button to continue will give power to the electrical cabinet.

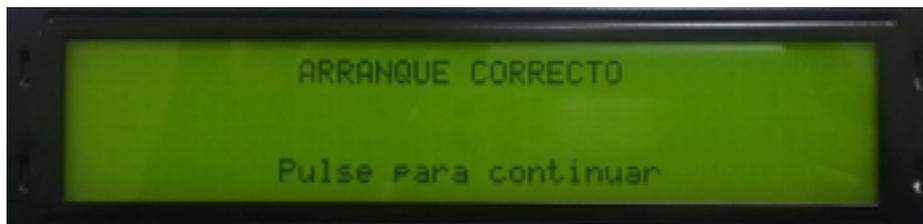


Figure 1

After pressing the menu selector, the following screen appears (see fig.2)



Figure 2

In this screen, you can select the following operations: 1. Sharpening (Afilado), 2. Production (Producción) and 3. Process values (Valores de proceso).

Select the program: 1. Adjust (see fig. 2), to set parameters of the sharpening operation by pressing the menu selector. Then the following screen will appear (see Figure 3).



Figure 3



1. Roughing (Desbaste): is the start-up process. The first numerical value indicates the total roughing (Fig. 3 See eg 0.04) and the second; The roughing by pass or partial thinning (Fig. 3 See ex. 0,01). Then, the application of the partial roughness by number of turns appears (Fig. 3 See G 1) and grind speed option for roughing expressed in RPM (Fig. 3 See RPM 9000). Select the parameters required for the program desired by the operator.

* **NOTE:** If "0.00" is entered in the total roughing option, this operation will be ignored.

2. Finishing (Acabado): once finished the roughing process begins the finishing process. In the first box the amount of total finish is shown (Fig. 3 See ex. 0,03), in the second box the amount of partial finishing (Fig. 3 See ex. 0,01). Then, the option of the partial finishing by number of turns appears (Fig. 3 See G 1) and wheel speed option for finish expressed in RPM (Fig. 3 See RPM 6000). Select the parameters required for the program desired by the operator.

* **NOTE:** If "0.00" is entered in the total roughing option, this operation will be ignored.

3. Lapped (Lapeado): the final polishing of the cutting edge is indicated, where the number of turns to be polished can be selected (Fig. 3, see G 4) and the speed of the grinding wheel (Fig.). Again, select the parameters required for the program desired by the operator and press the menu selector to go to the next screen (see fig.4).



Figure 4

All values can be changed by turning the menu selector. To do this, move to the desired option, press the selector and when the required value is reached, press the selector again to set the value.

To go to the next step of the process, turn the selector to the next option and press the selector again to switch the screen.

*NOTE: If you do not want to do any of the steps, you must indicate in the total value (the first box of each option) "0".

In the following screen (*fig.4*) the following parameters can be selected:

Direction of the grinding wheel rotation (Giro muela): to choose between horary (Horario) or counterclockwise (Antihorario) using the menu selector. Choose the option desired by the operator. (*see fig.4*)

Direction of the knife rotation (Giro cuchilla): to choose between horary (Horario) or counterclockwise (Antihorario) using the menu selector. Choose the option desired by the operator. (*see fig.4*)

Rotary speed of the knife (RPM cuchilla): expressed on screen in RPM blade. (See fig. 4) Choose the option desired by the operator.



Once the desired setting is selected, press the menu selector again to go to the next screen (see fig 5):



Figure 5

The following parameters appear on the screen shown below (fig.5):

To save (Guardar): allows you to store the previously selected data. To save them select this option using the menu selector and press it to store them (see fig 5)

To pass on (Transmitir): selecting this option using the menu selector will start the program. (See Figure 5)

After performing these steps, the operator must close the machine cabinet to finally start the program that has been configured.

Otherwise, the following message appears on the screen "Open Cabin" (CABINA ABIERTA) "Close the cabin to start grinding" (Cierre la cabina para poder afilar) :

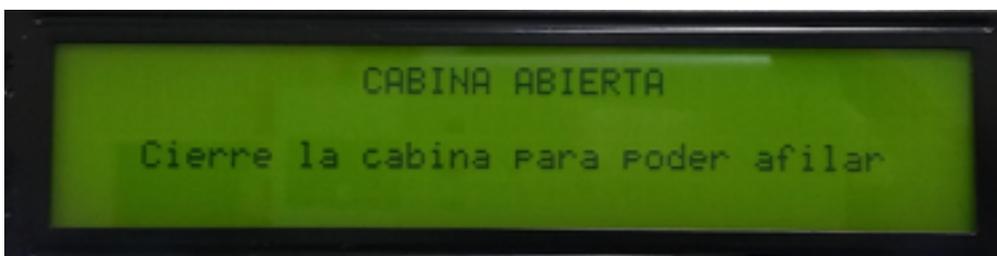


Figure 6

Finally, you should approach the blade until it rubs against the grinding wheel. Now you can start the sharpening process.



5-B. PRODUCTION OPERATION

The production operation is designed to sharpen several tools with the same diameter.

Fig.7



To program the production operation, go to the LCD menu screen. Select the program: 2. Production (Producción) (see fig.7), to set parameters of the production operation, by pressing the menu selector. You will then see the following screen (see Figure 8).



Fig.8

- 1. Diameter (Diámetro):** The first parameter corresponds to the actual measured diameter of the circular saw (Fig. 8 See eg 0.10) and the second; To the desired sawing diameter (Fig. 8 See eg 0.03).
- 2. Angle (Ángulo):** In this parameter you must enter the selected angle in the divider head (Fig. 8 See ex. 0°).
- 3. Roughing (Desbaste):** is the boot process. The first numeric value indicates the total roughing, which is calculated automatically by the program. The operator must only enter the values required for the partial roughing (Fig. 8 See eg 0.01) and for the grinding wheel speed expressed in RPM (revolutions per minute).



4. Finishing (Acabado): Once the roughing process is finished, the finishing process is started. In the first box the amount of total finishing is shown (Fig. 8 See ex. 0,04), in the second box the amount of partial finishing (Fig. 8 See ex. 0,01). Then, the option of the partial finishing by number of turns appears (Fig. 8 See G 2) and wheel speed option for finish expressed in RPM (Fig. 8 See RPM 4500). Select the parameters required for the program desired by the operator.

* **NOTE:** If "0.00" is entered in the total roughing option, this operation will be ignored.

4. Lapped (Lapeado): the final polishing of the cutting edge is indicated, where the number of turns that the polishing can be selected (Fig. 8 see Gr 7) and the speed of the grinding wheel (Fig.). Again, select the parameters required for the program desired by the operator and press the menu selector to move to the next screen (see fig.9).

Fig.9



In the following screen (fig.9) the following parameters can be selected:

Direction of the grinding wheel rotation (Giro muela): to choose between horary (Horario) or counterclockwise (Antihorario) using the menu selector. Choose the option desired by the operator. (see fig.9)

Direction of the knife rotation (Giro cuchilla): to choose between horary (Horario) or counterclockwise (Antihorario) using the menu selector. Choose the option desired by the operator. (see fig.9)

Rotary speed of the knife (RPM cuchilla): expressed on screen in RPM blade. (See fig. 9) Choose the option desired by the operator.



Fig.10



The following parameters appear on the screen shown below (*see fig.10*):

To save (Guardar): allows you to store the previously selected data. To save them select this option using the menu selector and press it to store them (*see fig. 10*)

To pass on (Transmitir): selecting this option using the menu selector will start the program. (*see fig. 10*)

Finally, you should approach the blade until it rubs against the grinding wheel. Now you can start the sharpening process.

This process will only be performed on the first blade, for the following blades, it will copy exactly the same process followed on the first blade.



5-C. PROCESS VALUES OPERATION

To program the process value operation, go to the LCD menu screen (see *fig. 11*) and select 3. Process settings using the menu selector.



Fig.11

Once the process value operation is selected, the following screen will appear (see figure 12), in which the following parameters can be selected:

1. **Grinding wheel distance (distancia separación muela):** indicates the safe separation distance from the grindstone to the circular blade at the end of the working cycle.
2. **Time off light (tiempo desconexión luz):** Reflects the time in seconds it takes the cabin light to turn off once the auto-duty cycle has started. The value 0s (seconds) indicates that the cabin light is always on.

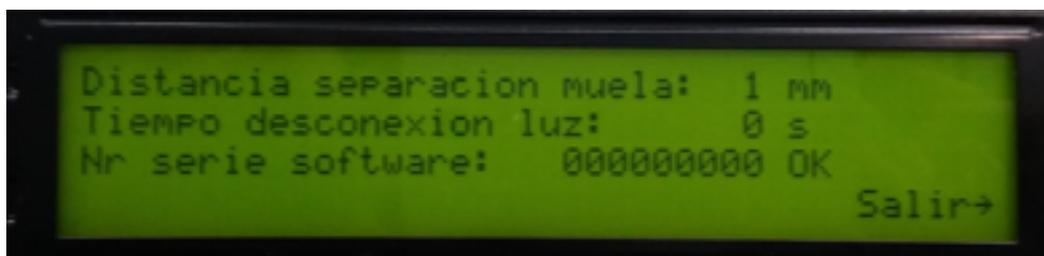


Fig.12

Once the parameters in figure 12 are selected, select at the menu selector the Exit (Saliir) option to start the automatic work cycle.



6. WORKING TECHNICAL FEATURES

Our Elite model CC machine allows the sharpening of circular blades up to 250 mm. Diameter (optionally up to 550 mm).

It is equipped with the following technical features:

1 CNC axis	Programmable grinding wheel engine for roughing and finishing operations.
2 Manual axes	Programmable blade speed from 1 to 70 RPM.
Very easy and friendly programming system, each step shows to operator the required values.	LCD display
Automatic grinding infeed. (manual and CNC controlled approaching)	Standard production program for equal diameter knives.
Circular knife angle from +90° to -90°	Automatic central lubrication system
Coolant equipment with 1,5 bar 30l/ min. With 60 lts. Tank, pump and nozzle.	Grinding program allows 3 steps (roughing, finishing and spark out)
Connection 400 V. 3 Ph 50 Hz. / 220 V 3 Ph 60 Hz.	



7. MAINTENANCE

Our machines require very little maintenance. In any case, it is recommended to carry out the following operations periodically (ATTENTION: before pressing the emergency button or disconnecting the machine):

- ❑ **Daily:** General cleaning of the machine.
- ❑ **Weekly:** Lubrication of the X-axis guide.
- ❑ **Periodically:** Replacing the drill (if applicable)

To replace the grinding wheel, proceed as follows:

- Switch off the machine using the general switch.
- Remove the two M5 or M6 allen screws located on the front of the grinding wheel.
- Remove the grinding wheel and proceed with its replacement.



8. PROBLEMS AND ITS SOLUTIONS

In case of malfunction please refer to the following instructions, taking into account that it is usually necessary to act on different parameters to solve a problem:

Some tips and solutions for potential problems:

❓ The machine does not start.

- o Solution - Check that the connection of the machine to the three-phase grid is correct and that the supply voltage corresponds to that indicated on the nameplate located on the machine. Check that the motors rotate in the direction indicated by the arrows, otherwise reverse the position of two of the wires in the socket.



9. WARRANTY

Machines manufactured by us are guaranteed against defects in workmanship or material under normal use and maintenance.

The period of validity of this guarantee is 12 months from the date of delivery and consists of the free replacement of the parts that prove defective.

Warranty operations may not be carried out if the machines have been modified by unauthorized persons and / or signatures, or if our instructions for use have not been followed or the machine has been used for other purposes for which it has been intended originally.

The guarantee does not include the parts subject to wear (tooth, push-to-tooth ...)



11. TECHNICAL FEATURES OF THE MACHINE

See the data plate placed on the machine.