USER INSTRUCTIONS

ELITE MODEL AFILAmaq MINI

APLICABLE FOR MACHINES ELITE MODEL

- AFILAmaq mini – Version 2016

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

THIS PAGE IS NOT WRITTEN INTENTIONALLY

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

Index

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

THIS PAGE IS NOT WRITTEN INTENTIONALLY

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

1. TECHNICAL SPECIFICATIONS AFILAmaq mini

Power engine	0,18 kW	**Transversal race**	200 mm.
Longitudinal race table	120 mm.	**Vertical race table**	120 mm
Grinding wheel inclination	± 40º	**Maximum diameter of the grinding wheel**	125 mm.
Machine measures	1300 x 780 x 950 mm.	**Net weight**	265 Kg.

2. SAFETY

2.1 Correct use

The machine must be in working condition and all safety protections provided in buying it. Any changes in security measures will be the responsibility of the operator.

Using the machine without the protective devices and the removal of any part of these devices, it is forbidden!

For a different or additional use and as a result for property damage or injury, ELITE will not be responsible and will not accept any warranty.

2.1.1 Work environment

This machine is made for working in the following environmental conditions:

Wet max. 70%
Temperature +5ºC a +40ºC
Height max. 1000 m.

This machine has not be designed for outdoor works.
This machine has not be designed to work under explosive conditions.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

2.2 General safety rules

¡If the signs or warning stickers suffer wear, must be removed immediately!
To avoid malfunctions, damage or physical injury, you should consider the following observations:

Keep the work area clean, free of oil, grease etc.
The disorder causes accidents.
Consider the work environment.
Do not expose tools to rain.
Do not use tools in damp or wet conditions.
Keep the area well lit.
It is forbidden to work with the machine in case of tiredness, lack of concentration or under the influence of drugs, alcohol or medication!

Forbidden to climb on the machine, possible falls and injuries and never tilt the machine!

Setting and maintenance order via this book should be made only by the machine operators who having enough technical knowledge.

Unauthorized persons, especially children, should be kept away from the machine!

When working with the machine do not wear loose clothing, long hair or jewelry such as necklaces, rings, etc.
Loose objects can be hooked to the moving parts of the machine and may cause serious damage.

Use protective equipment. Wear safety glasses. Wear a dust mask if cutting operations produce dust.

Wood dust can contain chemicals that have a negative impact on health. Take work with the machine in a well ventilated area, and with adequate safety mask!

Unplug the machine. When not in use, before performing maintenance or change of accessories, disconnect the machine from electrical current!

Repairs should only be carried out by professionals!
Accessories: Use only the recommended accessories by ELITE!
If you have any questions please contact your local dealer or our service ELITE customer.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

2.3 Additional safety instructions for universal grinding machine

The machine must be properly grounded.

Unplug from the electrical current before repairing the machine.

The supply voltage must not exceed 10% of the rated voltage of the machine, otherwise the electrical components can be damaged.

Safety guards in the wheel should be complete and in good condition without being disassembled or modified by accident.

In order to prevent accidents, do not touch the power steering or electric switch involuntarily.

When the piece is about the grinding wheel or grinding wheel is under review, power supply should be soft and slow enough to maintain security.

When the part is released, or goes out, or the grinding wheel is damaged, immediately stop the machine to avoid accidents.

If the machine is not used for more than a month in a wet season, the electrical components must be inspected before use. First, allow the engine to idle for a half hour in one third of the voltage specified to remove moisture, if necessary. Then the machine can run at full voltage.

Changing the workhead bearings should measure the position of the inner and outer shaft bearing and adjust the difference in length of the inner and outer grinding wheel holder accordingly. If you can not adjust, change the inner and outer grinding wheel holder and then change the bearings.

2.4 Forbidden use

Never use the machine outside the limits specified in this manual.
Using the machine without the safety devices is forbidden.
The dismantling or disabling safety devices are forbidden.
It is forbidden to use the machine with materials that are not explicitly mentioned in this manual.
Any change in the design of the machine is inadmissible.
Use of the machine for purposes that are not 100% equivalent with the instructions in this manual are forbidden.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

For a different or additional use and as a result for property damage or injury, ELITE will not be responsible and will not accept any warranty.

2.5 Safety regulations

Take care of the following safety regulations.
Any failure to observe these rules can lead to personal injury or to the machine itself.

Installation and maintenance of the machine described in this manual should be performed only by operators who know the operation and who have enough technical knowledge.

The AFILAmaq grinding machines are designed for sharpening cutting tools, excluding any other type of operation.

DANGER: HIGH TENSION

These warnings do not include all possible risks that improper use of the machine could result. Therefore, the operator must proceed with prudence and observing the rules.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

ACCORDING TO THE DECLARATION OF CONFORMITY EC
Machinery Directive

Appendix II A, from Directive 2006/42/CE

Elite Corte y Afilado S.C.P. company located on C/ de les Flors 20B de Sant Joan Samora (Barcelona)

Declares, under its own responsability,

that the machine Elite model AFILAmaq mini, with serial number ..... has been manufactured according the following directives:

2006/42/CE	Directive Machine
2006/95/CE	Directive low voltage
108/04/CE	Directive electromagnetic compatibility

As it meets all the essential safety requirements concerning him,
and in relation to the following technical standards:

EN 12100	Security machine
EN 60204-1-2006	Electrical equipment of the machine

Issue date:
Signature:

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

3. SETTING

3.1 Preparation

3.1.1 Delivery of the goods

At the time of the delivery, check that all parts are fine. If you notice damage or missing parts of the machine, contact your dealer or carrier immediately. You must immediately notify your dealer of visible damage, under the provisions of the warranty, otherwise the goods will be considered suitable for the buyer.

3.1.2 Unpacking

The machine is shipped from the manufacturer in a box or pallet carefully packed. When the wooden box is elevated Look out the box stand firm, do not swing. Open the box carefully.
When installing the machine, the body and the base of the machine must be level, should not rock.

3.1.3 Surface preparation

The machine parts that are not painted carried a thin layer of oil factory applied.
Clean them before using the machine using a common solvent avoiding nitro solvent or similar, and never use water.

NOTE
The use of paint thinners, gasoline, corrosive chemicals or abrasives can damage the surface of the machine!

Thus:
When cleaning, use a mild cleanser.

3.1.4 Working place

Select a suitable location for the machine.
Note the safety requirements of Chapter 2, and the dimensions of the machine.
The site chosen should have a proper connection to the electrical current.
Make sure the floor can support the weight of the machine. The machine must be leveled simultaneously at all points.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

3.2 Electrical connections

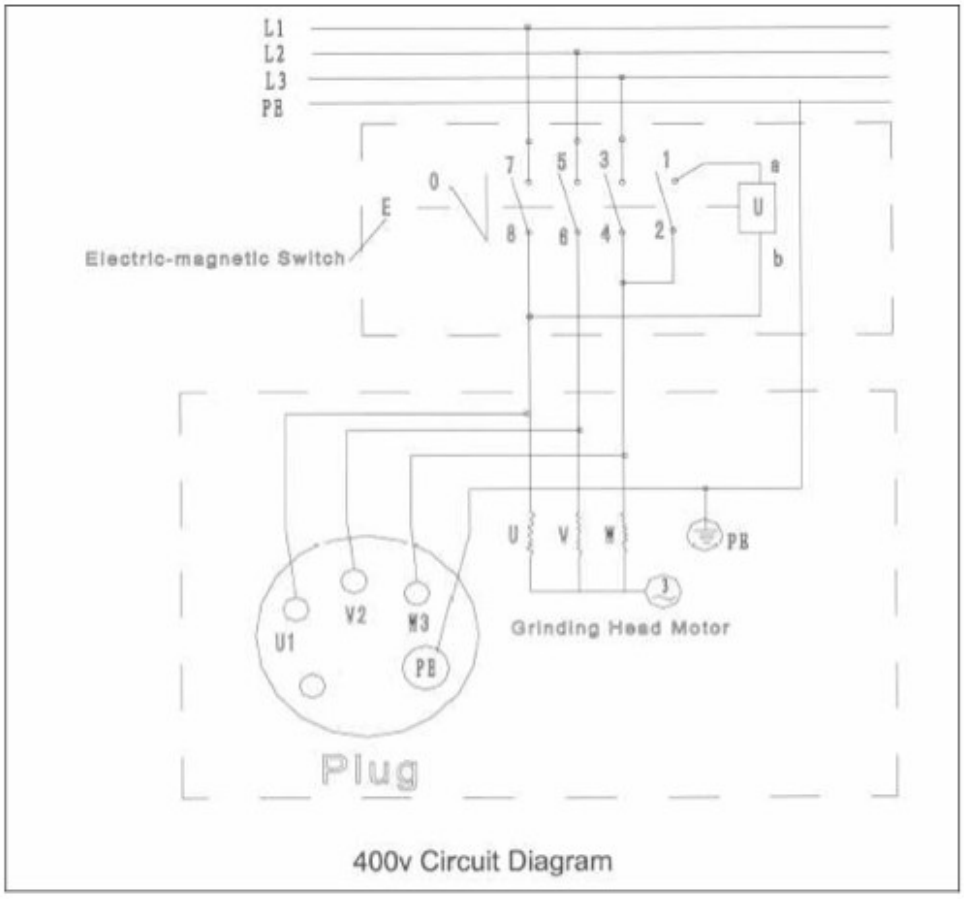
ATTENTION

When working with a machine ungrounded:
Serious injury from electrical shock may occur in case of malfunction!
Thus:
The machine must be grounded!

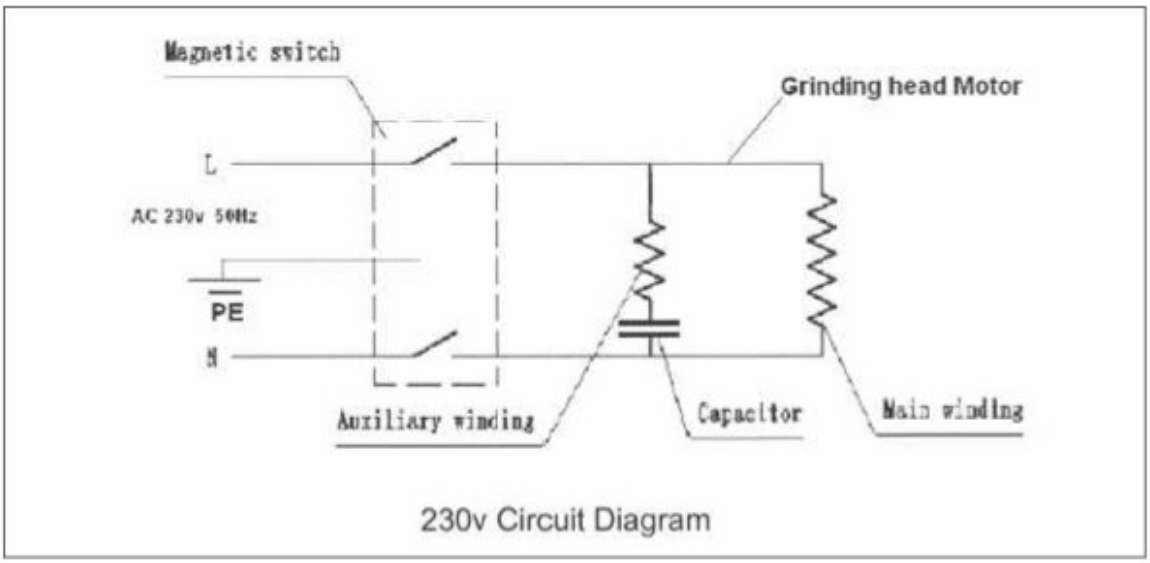
- The electrical connection of the machine is ready to work with a grounding!
- The plug must be connected only to a power outlet installed and grounded!
- The plug should not be changed. If the plug does not fit properly or is defective, only a qualified electrician can change or repair it.
- In case of repair or replacement of the ground wire it can not be connected to an active power outlet!
- The ground wire is distinguished by its yellow-green color. A damaged cable must be replaced immediately!
- Consult an electrician or service, to ensure that the grounding instructions are understood and the machine is properly grounded.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

3.2.1 Wiring diagram



400v Circuit Diagram



230v Circuit Diagram

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

3.2.2 Extension cable

Make sure the extension cable is in good condition and suitable for power transmission. A lower cable reduces the transfer of energy and heats considerably. The following table shows the correct size depending on the current and length.

Amperes	Cable extension in meters					
	8	**16**	**24**	**33**	**50**	**66**
<5	16	16	16	14	12	12
5 to 8	16	16	14	12	10	n.r
8 to 12	14	14	14	10	n.r	n.r
12 to 15	12	12	10	10	n.r	n.r
15 to 20	10	10	10	n.r	n.r	n.r
20 to 30	10	n.r	n.r	n.r	n.r	n.r

n.r. = Not recomended

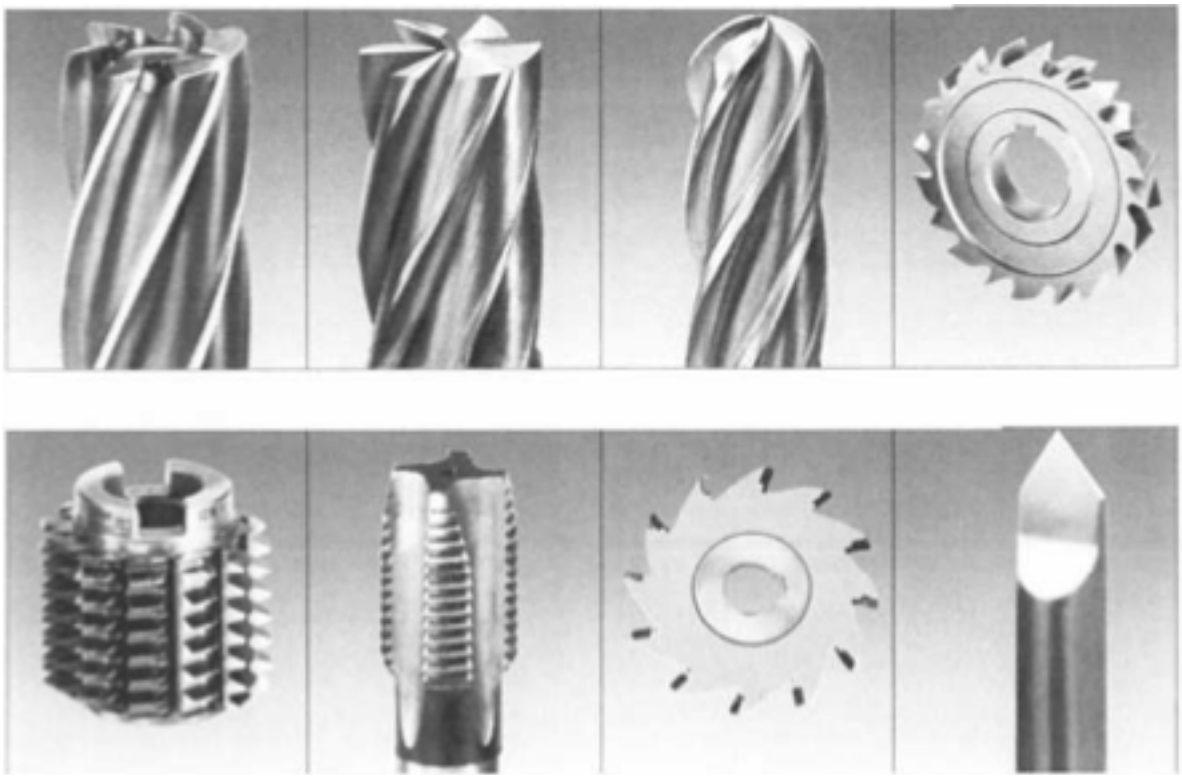
4. COMPONENTS AND MACHINE FUNCTIONS

1	Carriadge
8	Sanding disc holder
2	Slide table
9	Protective cover
3	Working table
10	Set screw
4	Adjustment knob
11	Wheel
5	Lock positioning
12	Columna
6	Wheel

4.1 Machine functions

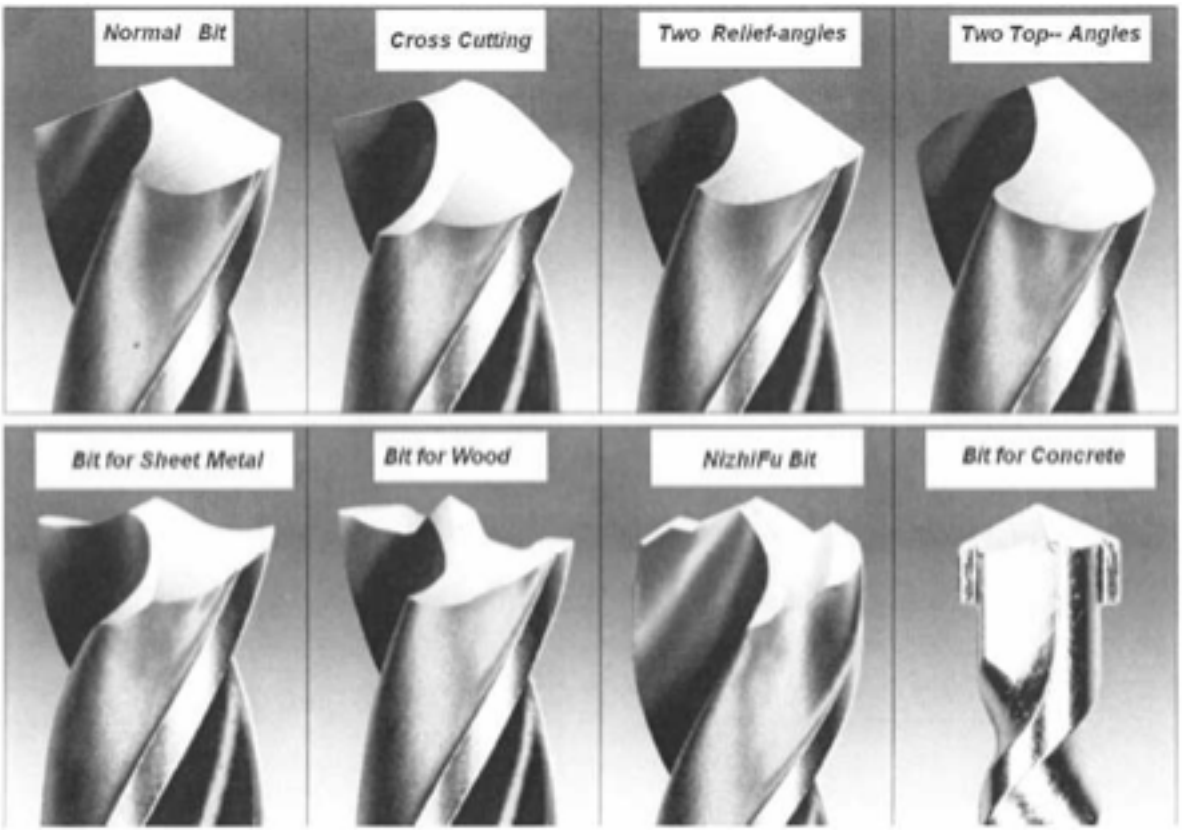
1. Sharpening of cylindrical mills	8. Sharpening of tap
2. Sharpening of mono angular mills	9. Grinding of twist drills
3. Sharpening of grooving tools	10. Sharpening of lathe tools
4. Sharpening of three cuts mills	11. Reamer sharpening
5. Sharpening of end mills	12. Sharpening of mother mill gear
6. Sharpening of saw blades	13. Sharpening of cutter pinion
7. Sharpening of tools carved	14. Straight sharpening.

Sharpening of grooving tools

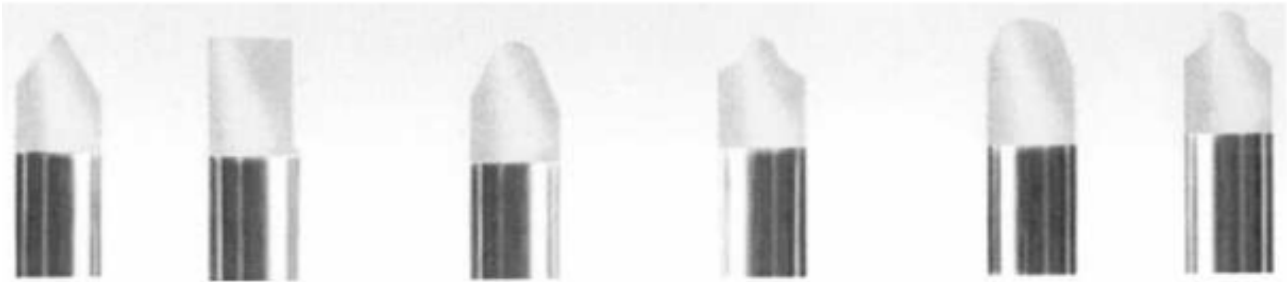


C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

Drills profile



Application examples



C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

5. ADJUSTMENTS

5.1 Workhead race

The grinding workhead is fixed to the column. The steering wheel of the workhead in the upper column can move. When the steering wheel is turned a circle, the workhead moves 2mm. When the steering wheel is turned a division, the workhead moves with precision of 0.02mm.
The wheel shaft is connected to the motor shaft. The axis angle grinding wheel can be adjusted by the adjusting lever (7).
The grinding workhead can be adjusted by loosening the two bolts. The safety cover can be rotated to 360º by the screw (10) on top of the cover.

5.2 Worktable

There is a T-slot of 14 mm wide at the worktable, which can be set any accessories in a proper position. The movement is done with the steering wheel (14).
The worktable race can be adjusted with the lock position (5) on the side of the column. The adjusting knob (4) can be used to adjust the table accurately. The steering wheel (14) is to allow movement of the table again.

5.3 Work sliding table

The work sliding table can be moved 150mm forward and backward. When the steering wheel (6) rotates a circle, the sliding table moves 3mm. A division on the scale shows the movement of 0.03mm.

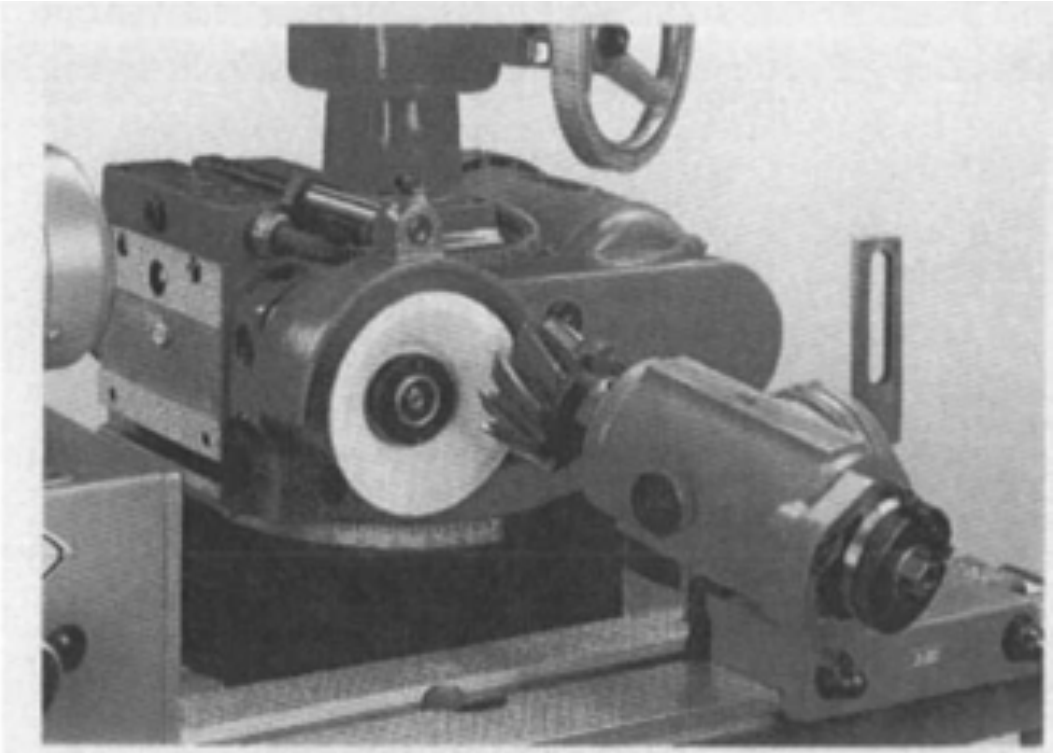
C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

6. OPERATION

6.1 Sharpening end mills (rear corner)

Apices template double rod is fixed in the machine. The support of the cutting tool is at the top of the clamp. The stop of the clamp is fixed to the sliding table. Buffer end gag is 3-5mm lower than the centerline of the shaft. The right hand rotates the shaft tooth per tooth, and the left hand moves the worktable in longitudinal and sharpens the cutting tool.

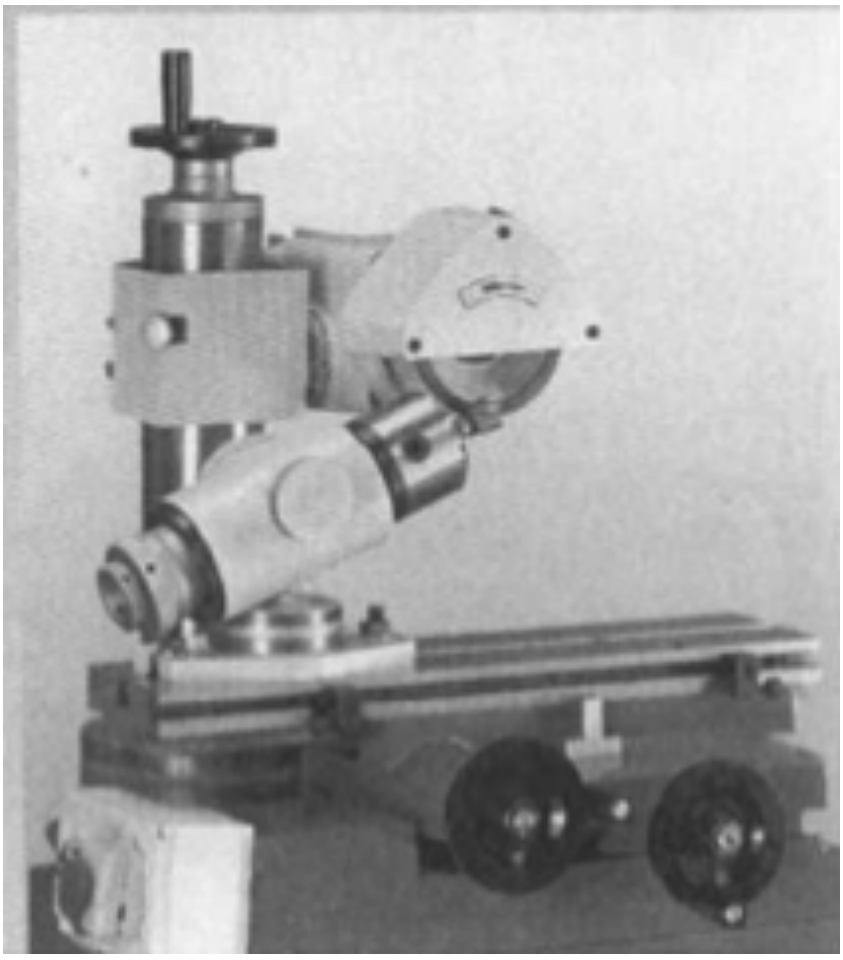
Make sure that the cutting tool does not slip out of the clamp when the worktable is moved to the sides.



C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

6.2 Sharpening of mono angular mills

The staff of the stem is fixed to the machine. Sanding wheel slants downward 3º-5º. The lathe tools moves 90º-92º to the left and it is fixed. The stop of the clamp is lifted to the front of the cutting tool. The right hand indicates the cutting tool, the left hand moves the worktable in the longitudinal direction and sharpens the mill.



C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

6.3 Sharpening of mills cutters T

We will use the fixture for straight shank mills. You will also need the drill sleeve for conical stem mills. The drill sleeve can be put directly into the hole of the tool holder. The grinding wheel tilts down 3°-10 ° and held by the seatback angle. The stop of the clamp is lifted to the side of the end mill. The right hand indicates the cutting tool, the left hand moves the worktable in the longitudinal direction and sharpens the mill.

6.4 Sharpening of three cuts mills

Sharpening the right:

The staff of the stem is fixed to the machine. The stop of the clamp rises to the front of the mill. The right hand indicates the cutting tool, the left hand moves the worktable in transversal direction and sharpens the mill.

Sharpening the side:

To sharpen the top of the mill, the clamp is used to index the mill. The toolholder axis tilts up 6º-8º, and moves 83º-88º from left to right and it is fixed. The right hand indicates the cutting tool, the left hand moves the worktable in transversal direction and sharpens the mill.

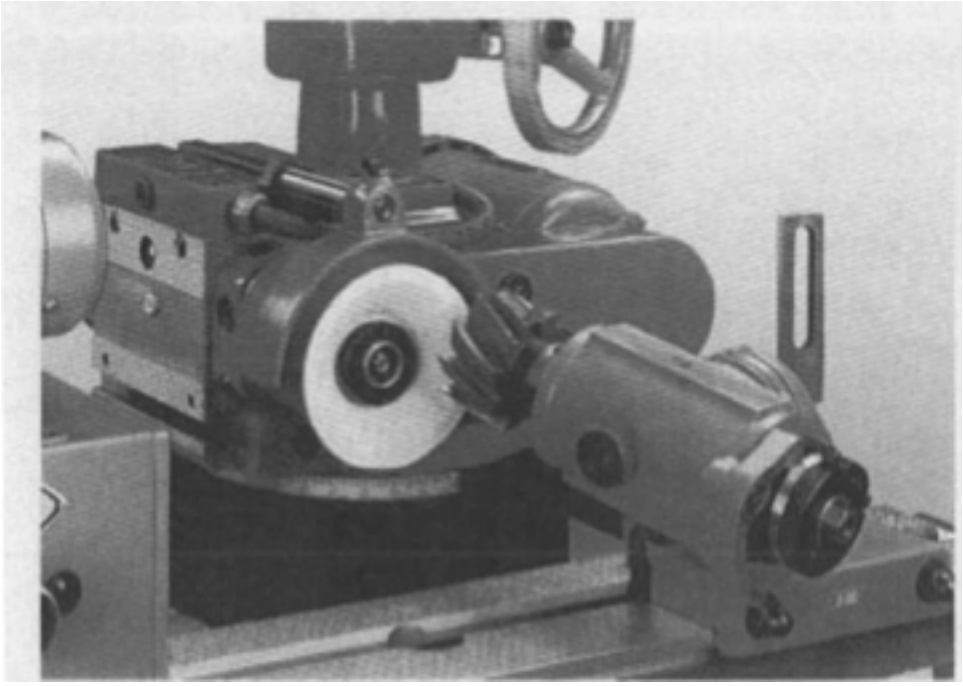
If the operator wants to sharp over three cuts mills tracks simultaneously, he can fix in the accessory stem and use the template double rod apices sharpening.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

6.5 Sharpening of end mills

Sharpening the outside:

Loosen the bolt and turn the column (12) to the right, with a 30° angle and then lock. The cutter placed in the clamps of the tool holder. Fix the clamp on the worktable. Place mill stand on top of the clamp. Move the worktable from left to right, while rotating the shaft of the toolholder and sharpens. When sharpening the back angle, the shaft of the grinding wheel and the shaft of the toolholder are adjusted up and down to the sharp end.



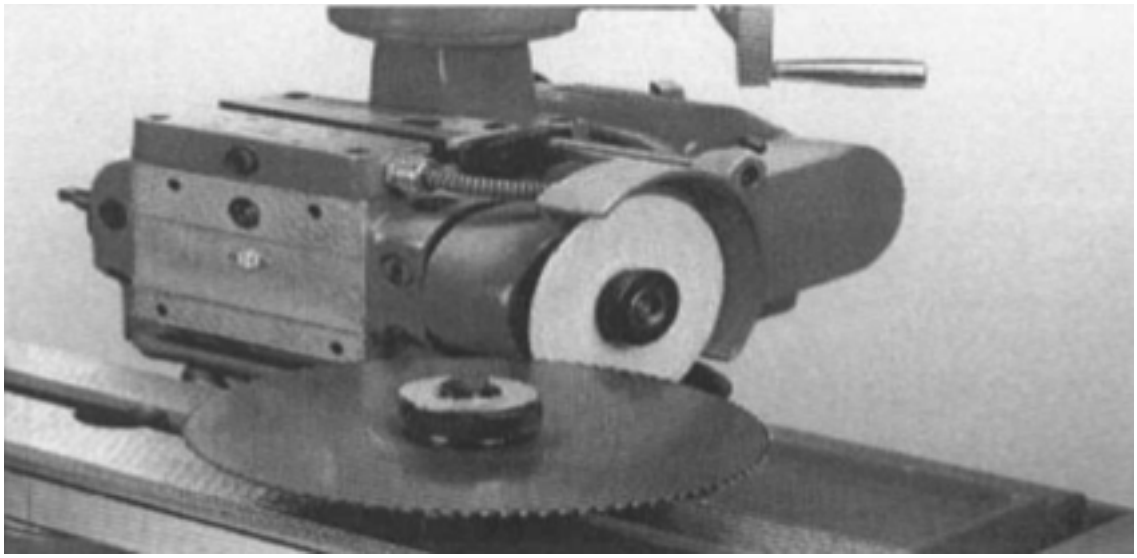
Sharpening of knives

Turn the workhead at an angle of 85º-90°, turn the column to the left at an angle of 60º and fixed them separately. Keep the center of the grinding wheel 5-10 mm lower the center of the sheet, and keep the sheet horizontal. The index of scale in the tail points on the sheet. The nut on the back is tightened. The worktable moves from right to left and sharpens.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

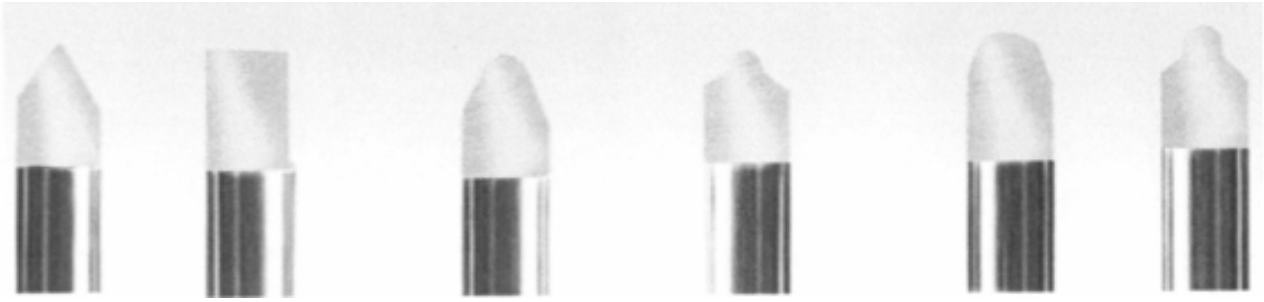
6.6 Sharpening of saw blades

To use stem template or template double stem apices. The top of the clamp is in front of the disk. The shaft of the sanding wheel tilts up 5º-10º to decide the back angle. The blade teeth should be sharpened one by one.



6.7 Sharpening of carving tools

The cutting tool is set to the shank of the toolholder. The toolholder turn right at an angle of 60°. Blocking position is set at a suitable position. The grinding workhead motor and the toolholder will start separately, so that the sanding wheel and the workpiece rotate in opposite directions. Use the steering wheel (6) for supply. Move the worktable and sharpen.



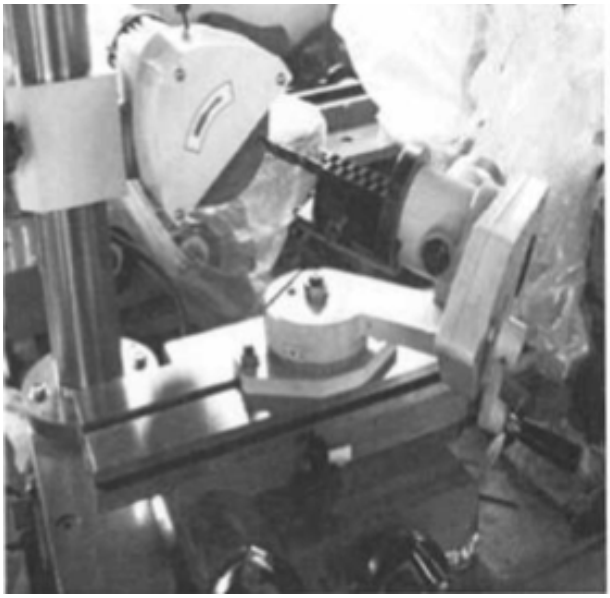
C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

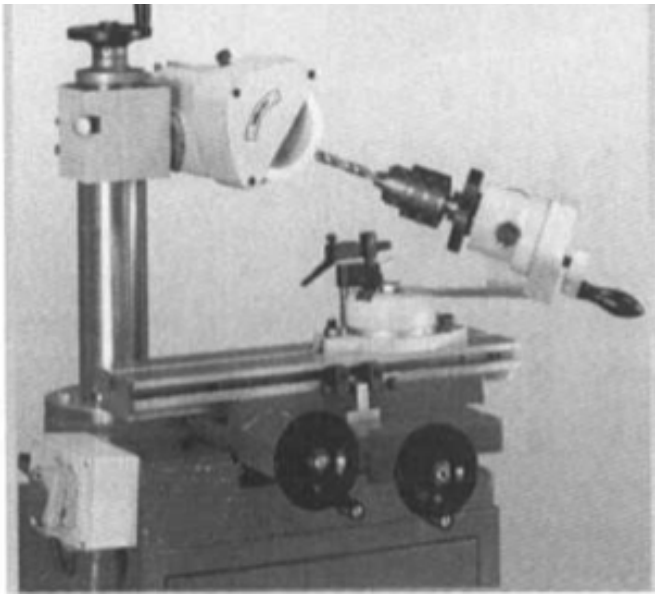
6.8 Sharpening of tap

The template tooth apex and concave type is used. The cutting tool is set at the top of the clamp. The right hand choose the tool tooth. The left hand moves the worktable and sharpens.

6.9 Sharpening of drills

To use the template drills and flat grinding wheel. The tool holder is rotated to the left at an angle of 55°-60° and fixed. Put the drill into the holder. Allow the teeth plate point to the knife of the drill. Set the knife of the drill and remove plate from teeth. Turn the wheel and sharpen. The diameter of the drill is from 5 to 32.





6.10 Sharpening of the lathe tools

The tool holder and holder for lathes tools are used. The tool holder is used to adjust the knife angle. Set the blade after adjusting. Move the worktable and sharpening. Set the blade on the support. Use the tool to adjust the rear angle of the tool. Move the worktable and sharpen.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

6.11 Sharpening of reamers

The template double rod and wheel concave type will be used. The stop of the clamp rises to the inside of the knife. The right hand separates the tooth. The left hand moves the worktable in transversal direction and sharpen.

6.12 Sharpening of mother mill gear

The stem and double rod template will be used. The stop of the clamp is lifted off the knife. Use both hands to perform sharpening.

6.13 Sharpening of cutter pinion

The electric tool holder and the stem template will be used. Turn right column at an angle of 30°. Turn the tool holder to the left at an angle of 75º-80º and fix it. Press the button to activate the tool holder and grinding wheel. To Move the worktable in transversal direction and sharpen.

6.14 Straight sharpening

The electromagnetic plate is fixed on the worktable to the plane sharpening.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

7. MANTEINANCE

ATTENTION

Do not clean or realize machine maintenance while it is connected to the power source:
It can damage the machine and the person!

Therefore: Turn off the machine and disconnect it from the source supply before carrying out any maintenance or cleaning.

- The machine is low maintenance and contains only a few parts that must be serviced.
- Any damage or defect that could affect the safety of the machine, must be removed immediately.
- Repair activities can only be carried out by qualified personnel!
- Thorough cleaning ensures long life to the machine and is a safety requirement.
- The use of solvents, harsh chemicals or abrasive cleaners can damage the casing of the machine. For cleaning use only mild detergents.
- Apply a light coat of anti-corrosion (eg WD40) on unpainted surfaces of the machine.
- After each work shift, the machine and all its parts are thoroughly cleaned of dust and chips with vacuum cleanse. It's important not use compressed air for cleaning, then engages the particles within the guides and bearings.
- Check regularly that all warnings and safety instructions are available on the machine and legible.
- Before each use check the status of safety devices.
- The machine can not be stored in a wet place and must be protected from weather conditions.

Working repair can only be done by qualified personnel! The lack of maintenance will void the warranty and warranty claims!

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

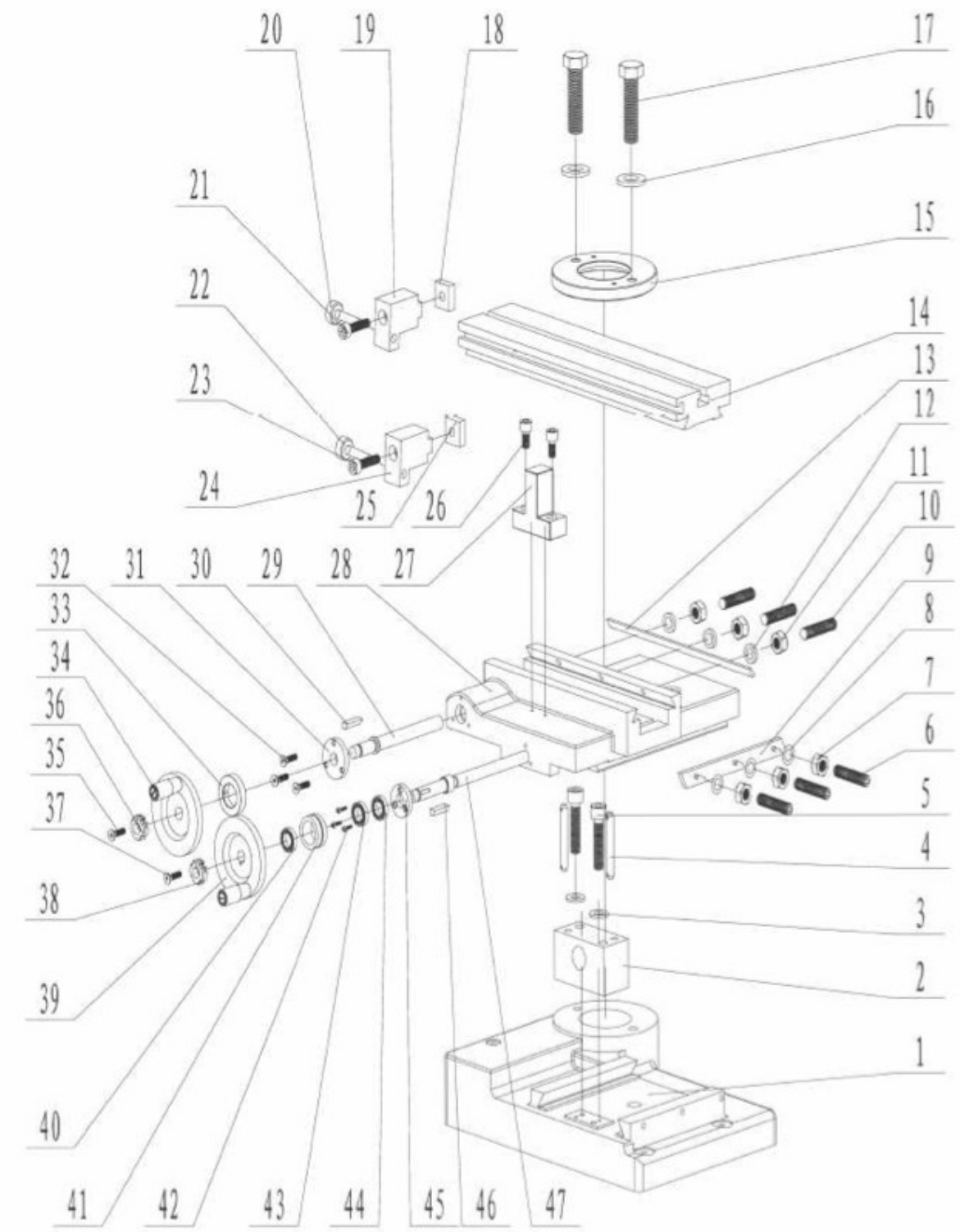
8 PART LIST

8.1 Part list

Parts list of the machine.

Nr.	Description	Qty.	Nr.	Descriptiva	Qty.
B-1	Base	1	**B-26**	Screw	2
B-2	Spindle nut	1	**B-27**	Locking stop	1
B-3	Ring	2	**B-28**	Guide	1
B-4	Pin	2	**B-29**	Spindle	1
B-5	Screw	2	**B-30**	Pin	1
B-6	Screw	3	**B-31**	Spindle drive	1
B-7	Hexagonal nut	3	**B-32**	Screw	3
B-8	Ring	3	**B-33**	Friction ring	1
B-9	Support guide	1	**B-34**	Knob	1
B-10	Screw	3	**B-35**	Screw	1
B-11	Hexagonal nut	3	**B-36**	Ring	1
B-12	Ring	3	**B-37**	Screw	1
B-13	Support guide	1	**B-38**	Ring	1
B-14	Worktable	1	**B-39**	Wheel	1
B-15	Column base	1	**B-40**	Ring	1
B-16	Ring	2	**B-41**	Friction ring	1
B-17	Screw	2	**B-42**	Screw	2
B-18	T nut	1	**B-43**	Bearing	1
B-19	End race	1	**B-44**	Bearing	1
B-20	Set screw	1	**B-45**	Spindle drive	1
B-21	Locking screw	1	**B-46**	Pin	1
B-22	Set screw	1	**B-47**	Spindle	1
B-23	Locking screw	1			
B-24	End race	1			
B-25	T nut	1			

Part list

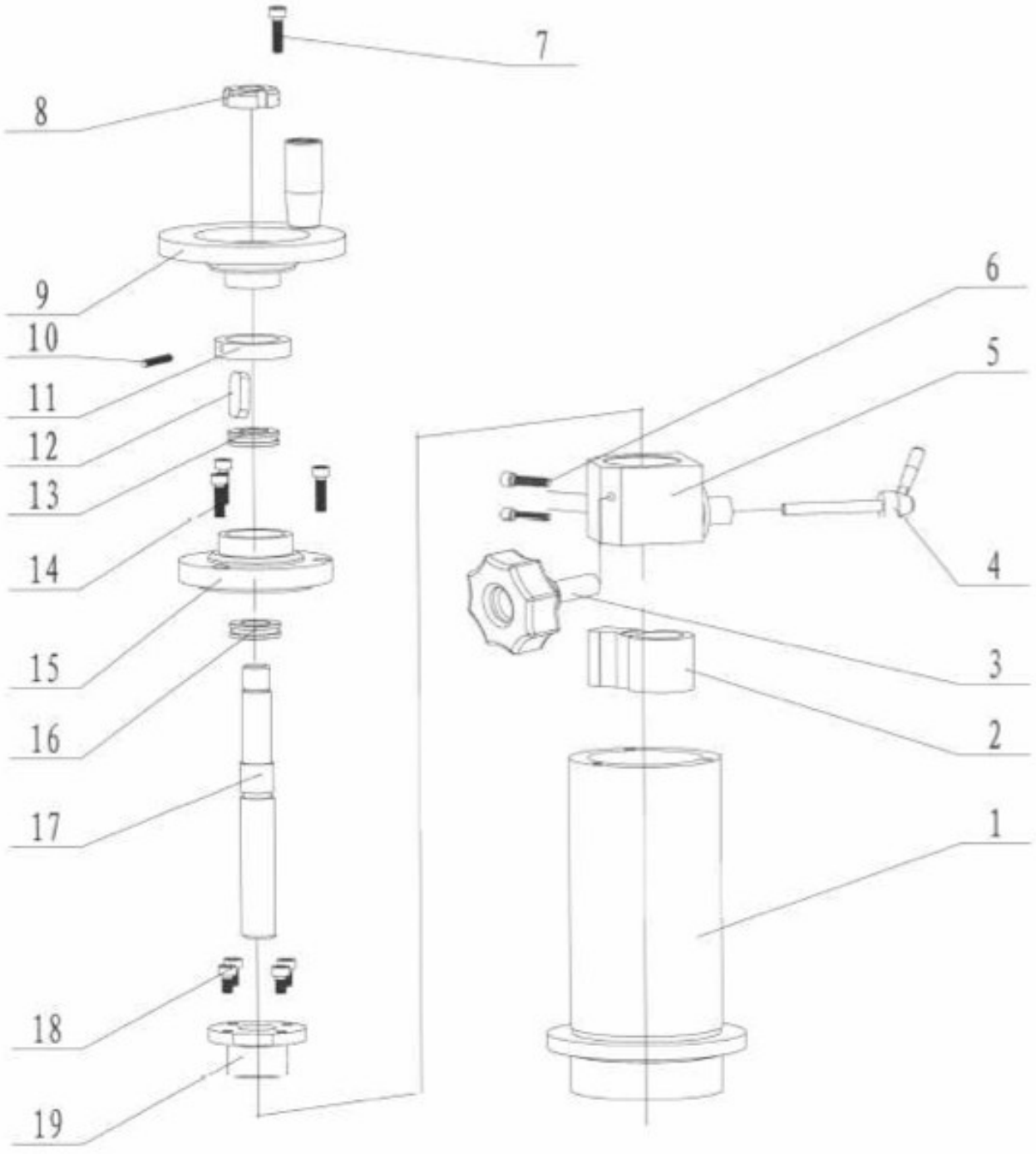


C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

Machine column

Nr.	Description	Qty.	Nr.	Descriptiva	Qty.
C-1	Pillar	1	**C-11**	Vernier	
C-2	Nut	1	**C-12**	Pin	1
C-3	Camlock	1	**C-13**	Bearing	1
C-4	Camlock	1	**C-14**	Screw	1
C-5	Machine body	1	**C-15**	Graduated cover	3
C-6	Screw	2	**C-16**	Bearing	1
C-7	Screw	1	**C-17**	Spindle	1
C-8	Locking nut	1	**C-18**	Screw	1
C-9	Wheel	1	**C-19**	Nut	3
C-10	Screw	1			

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat



C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat

8.2 Ordering of spare parts

For machines ELITE always use original spare parts to repair the machine.
The optimal adjustment of parts reduces installation time, increases the safety of use and preserves the life of the machine.

For any query contact us or contact your dealer.

C/Casanovas 1, 08782, St. Joan Samora - Barcelona (Spain) - Phone +34 932 935 178 - info@elite.cat