



AMERI-CAN
MACHINERY LTD.

DUCCM 550



OPERATION AND MAINTENANCE MANUAL

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2 TO OUR CUSTOMERS

2.1 CONGRATULATIONS FOR YOUR CHOICE

Your machine is built with the most advanced technological system; this with the design strength are prerogative of precision and reliability.

The correct use and the adequate maintenance will maintain unchanged its functional and safety features, ensuring high level performances.

This manual is divided in three different sections:

- Commissioning: must be carried only by service and maintenance staff, after a careful reading of this manual.
- Use: must be carried out only by people who received adequate instructions by the service staff or a local representative.
- Maintenance: must be carried out only by the service and maintenance staff, adequately learned by the technicians or a local representative.

Damages due to the failure of following what written in the manual, or procedure conflicting with it, CANNOT BE ASCRIBED TO US.

Some maintenance and reparation interventions can prejudice the functional and/or safety features: these operations are eliberately omitted in this manual. The operations of maintenace, calibration, regulation, reparation that are not contemplated in this manual **must be carried out** by authorized personnel, or by a local representative.

2.2 EXPLANATION

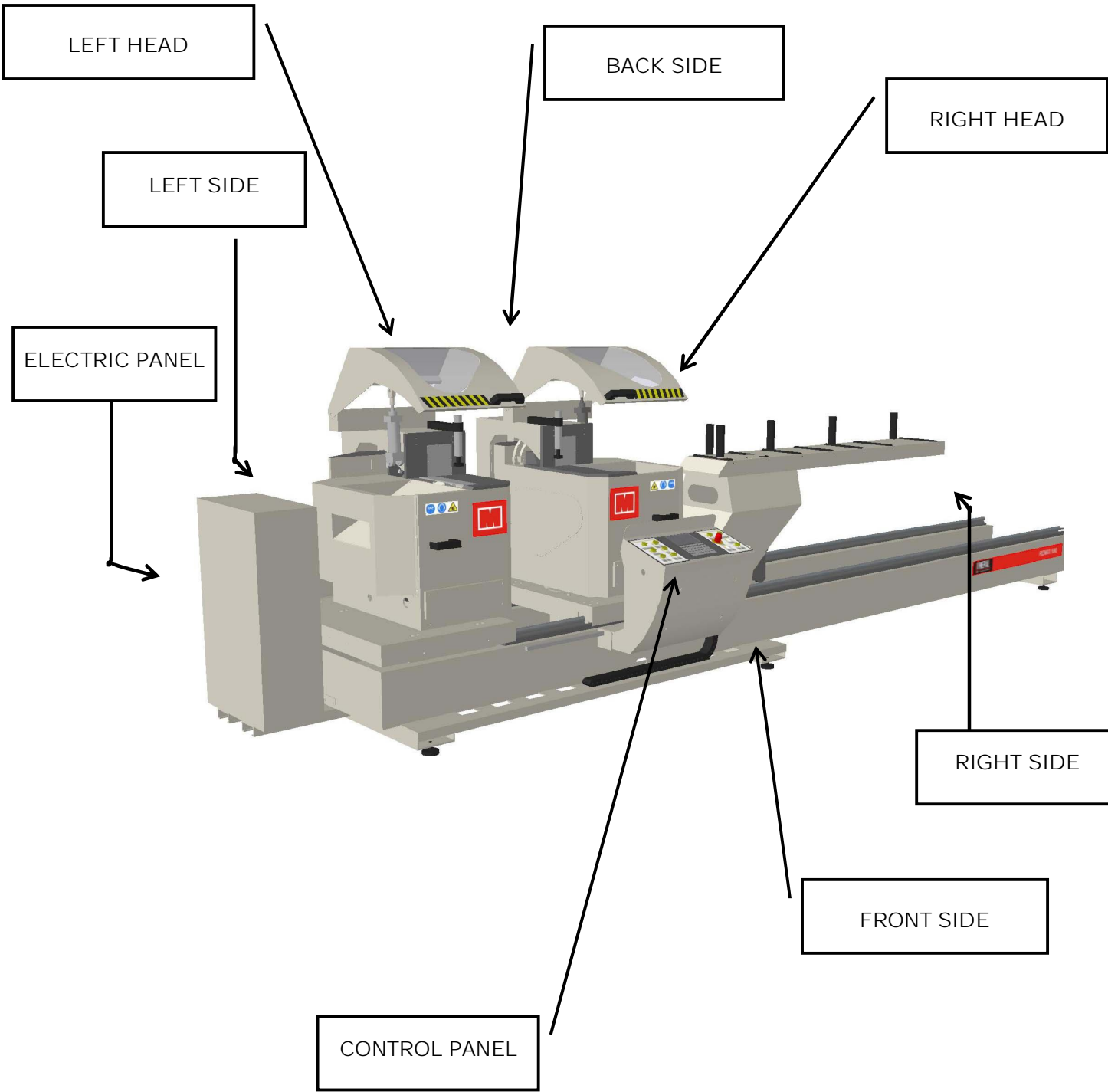
Drawings, tables and pictures are not numbered singly.

Wire diagram and layout are numbered with codes of the manufacturing company.

In the manual the following warnings are:

WARNING	Regarding features or technical requirements that, usually, must precede the operation.
ATTENTION	Regarding all the working and maintenance phases, must be observed scrupulously to avoid damages to person or to the machine.
DANGER	Usually used with the term that define the kind of the injury: ex. "Crashing danger"
DANGEROUS AREA	Define an area inside or near the machine where a person is exposed to risk.

TO OUR CUSTOMERS



2.3 SAFETY REGULATIONS

Under the European Directive 89/392/EEC, as amended by Directives 91/368/EEC, 93/44/EC and 93/68/EC, the machine has been constructed in full accordance of the following European safety

- EN 292 part 1 and part 2: Machinery safety
- EN 294: safety distances to prevent danger zones being reached with the upper limbs.
- EN 349: clearances to prevent crushing of parts of the body.
- prEN 547 part 1 and part 2: Safety of machinery.
- UNI 8459 Ergonomics of work systems.
- EN 418 Safety of machinery. Emergency stop equipment, functional aspects. Design Principles.
- pr EN 953 Safety of machinery. General requirements for the design and construction of guards (fixed, amovable)
- pr EN 1037 Safety of machinery. Isolation and energy dissipation. Prevention of unexpected start-up.
- pr EN 954-1 Safety of machinery. Safety related parts of control system - Part 1: General principles for design.
- pr EN 1088 Safety of machinery. Interlocking device with and without guard locking. General principles and provision for design.
- pr EN 983 Safety requirements for fluid power system and components. Pneumatics.
- UNI 6861 Oleo hydraulic and pneumatic systems. Graphic signs.
- UNI 4598 Tool machines. Graphic signs.
- UNI ISO 841 Numerical control of machines. Axis and motion naming.
- UNI 7543 part 1 Colors and safety signs. General requirements.
- UNI 7543 part 3 Colors and safety signs. Warnings.

2.4 MACHINE PACKAGING

The standard packaging of the machine provides:

- Machine accessories in a carton.
- Keys, this manual and possible other documents inside the electric cabinet.
- If requested, the profile support roller in a carton.

The machine, with all the accessories, is shrink wrapped .

If requested, the machine can be packed in a wooden box.

3 PREPARATION

3.1 LIFT AND HANDLING

The lift of the machine for the transport, loading and unloading, is contemplated for the use of a forklift. For this purpose on the frontal side of the machine are placed appropriate locations for the forks of the forklift.



The machine rests on 6/8 adjustable feet, that allow the passing of the forklift.

Before starting with the lift operations, it is necessary to be sure that the forklift capacity is greater than the machine weight and the forks long enough to support correctly its weight.

PREPARATION

In the following table the weights of the various models are written :

REMIX	Cutting length (in metri)	
	4	5
Lenght (mm)	5350	6350
Weight (Kg)	1500	1650

Forks min. lenght: 1.000 mm

Forks min. distance: 800 mm

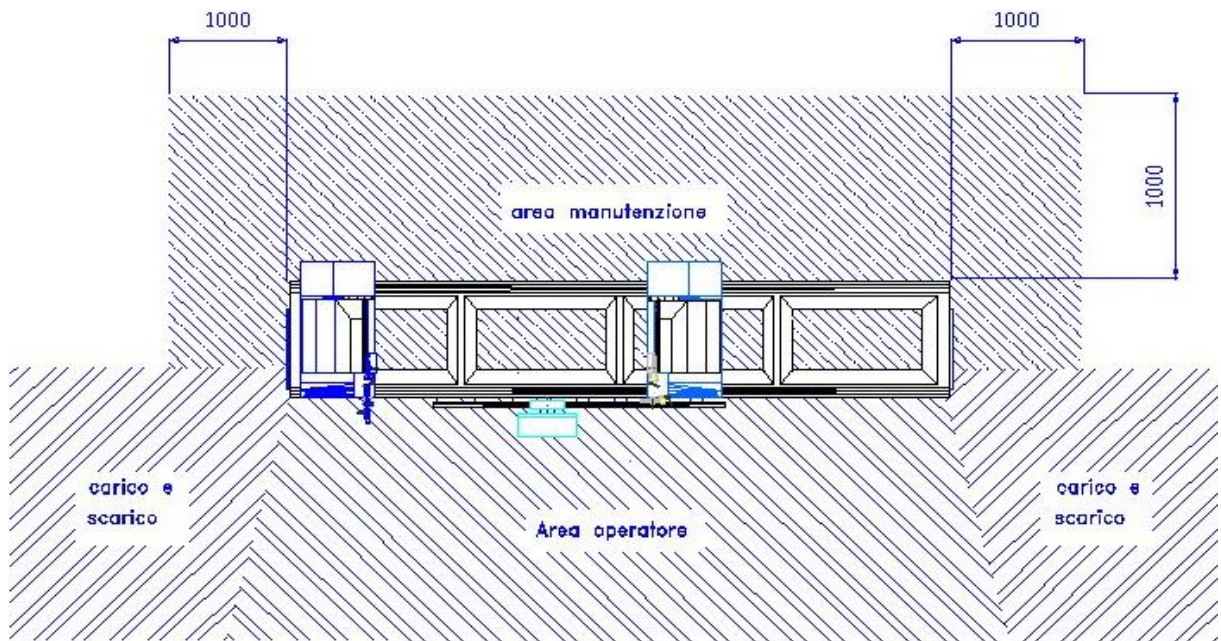
REMIX

3.2 ADVICES FOR THE WORKING PLACE

Suitable choice of the place of work of the machine is very important in order to obtain a good quality of production and proper functioning of the machine itself.

The choice of the workplace must take into account, the overall dimensions of the car and the movement of the material to be processed, both incoming and outgoing. The positioning to walls, or overall fixed dimensions in general, should be made, considering that it must be possible an easy access to all sides of the machine for normal operation of cleaning or maintenance.

The machine does not need foundations; however, it is appropriate that the bearing surface is sufficiently rigid and able to withstand localized pressures (in correspondence with the support feet) higher than 5 kg/cm^2 (corresponding to a concentrated load of 400 kg). If not it is necessary to increase bearing surface of the feet by means of steel plates, of round or square shape, with a thickness of at least $1/200$ of the surface.



(Example: plate $200 \times 200 \text{ mm}$, minimum thickness 20 mm \Rightarrow contact pressure 1 Kg/cm^2).

3.3.2 MORE ADVISES FOR THE WORKING PLACE:

- Absence of vibrations.
- Uniform heating or cooling of the machine to avoid localized deformation: it is not recommended, therefore, the installation of the machine in a place where sunlight or air currents, cold or hot, from one side only could invest it.
- Absence of dust in the environment.
- Operating temperature as constant as possible and in any event not less than 10°C (50° F) and not more than 35° C (95° F).
- Humidity of air not exceeding 80%
- Proper natural or artificial lighting.

3.3 SEPARATED PARTS ASSEMBLY

3.3.1 UNPACKING

Place the machine following the instructions in the previous paragraph.

Without the polyethylene cover, cut the straps that secure the boxes of accessories to the guide of the machine.

3.3.2 CONSOLLE

Remove one of the two stops at the end of the tubular round bar (sliding guide of the console) on the front of the machine, and insert the console. Check the regular sliding of the guide rollers, and thus retighten the end stop on the guide, making sure of the correct locking.

Move the console to the left until you come up against the stop and make sure the cable sheath is not blocked in motion. Repeat the verification to the right.

3.3.3 SCREENS

After performing the cleaning of the machine you can install any screens on arms of control.

We recommend the removal of protective films scratchproof only when you finish these operations.

The cleaning of the same should be done only with water and soap or cleaning products for domestic glass.

3.4 CONNECTION TO POWER SUPPLY

3.4.1 PNEUMATIC PARTS

The pneumatic supply of the machine is provided on the right side. The connection must be made at the entrance of the general shut-off valve, by means of rigid or flexible tubes such that, in the quantity required, allowing a pressure of at least 6.5 bar to the machine.

The machine is equipped with a filter with condensation separator and does not need air totally dehydrated, however, it is appropriate that the plant is made in order to limit the direct input of water and impurities.

If the connection between the machine and the distribution system of compressed air is carried out with flexible tubing it is appropriate to include an isolation valve also on the side of connection to a rigid plant.

ATTENTION: CRUSHING DANGER. When starting the pneumatic supply some unexpected movements will take place, for example, the lifting of protective screens and turning heads: before opening the compressed air supply, make sure there are not people in the immediate vicinity of the machine.



The machine control system pressure (6 bar) is made with the pressure regulator control knob: clockwise to increase and counterclockwise to decrease. The lowering of pressure takes place through the adjustment relieving of the regulator and, therefore, it is advisable to flow over the predetermined value, wait a few seconds for the stabilization and then go up slowly.

The adjustment the pneumatic system lubrication can be carried out on the lubricator on the side of the regulator: the operation must be done after completing all the tasks in this chapter. Dose adjustment for the fall of a drop of oil (transparent upper cylinder) every 4-6 complete cycles.

PREPARATION

3.4.2 ELECTRIC PARTS

The electrical supply of the machine is provided on the left side. The machine comes with a power cable 3 poles + ground (4x2.5 mm²) of 5 meters, with no plug.

Under the current regulations, the connection to the electrical line must be performed by qualified personnel.

The machine, unless the customer's particular requirements, comes ready to run on 380 volts - 50 Hz three-phase.



ATTENTION: Made the connection to the electrical line and a suitable grounding it is necessary to verify the correct motors rotation: if the blades are fixed to the crankshaft nut agree with the direction of rotation. Reversal of rotation, with even a limited duration, could cause the unscrewing by inertia, with dangerous consequences. Adhere to the following:

- Place the power switch, located on the door of the cabinet (left side) and check that the lights on the control console light "machine power".
- Turn the red emergency button in a clockwise direction (as indicated by the arrows).
- If the heads are tilted at an angle, take them at 90° through the tilting switches placed on the console.

REMIX

PREPARATION

- At this point the engine blades can be started. The rotation of the blade continues because of inertia, allowing you to check for proper movement through the front slot on the head: **the teeth of the blade must scroll from top to bottom** (clockwise on the right head and counterclockwise on the left head, watching the blades from the flat casing side). Conversely unplug the switch, reverse two phases on the power cord, and repeat all the operations
- Do not reverse the phases on the engines. Reverse the phases to the electrical line connection only.

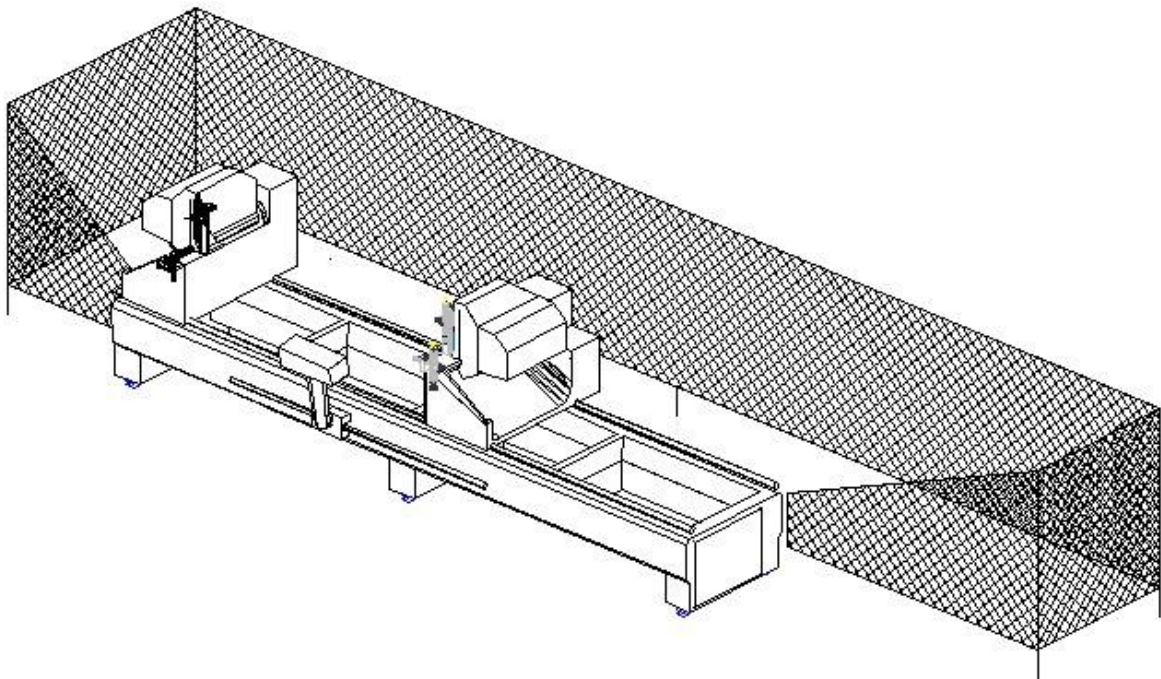
Unless otherwise stated, the next steps should be taken with the switch in the OFF position.

REMIX

3.5 SAFETY PROTECTIONS

The machine complies with European standards of safety prevention and protection of the operator. It is however necessary that access to certain areas of the machine, in particular the rear side, is protected against accidental intrusion by third parties, during normal operation. The access should be allowed and easy for cleaning and maintenance, when the machine is stopped, by the assigned personnel.

In accordance with the EN 294 July 1993, the recommended security has the following characteristics:



The back side of the barrier for accidents prevention may be constituted by a wall or other form of protection. For the characteristics of the protection should be considered the current regulations and, in particular, the standards EN 294 / EN 349 / prEN 547-1 / prEN 547-2.

3.6 PRELIMINARY CLEANING

The machine, before being packed for shipment, is sprayed with protective antioxidant chemicals that must be removed before starting the machine.

Before proceeding make sure the switch is turned off.

Cleaning can be done with common detergents, non-acidic or non-aggressive to the paint: we recommend the specific products (according to the law) of industrial use or, without those, the normal household detergents. Use gloves and clothing suitable for the use of products used for cleaning.

Particular attention should be given to the longitudinal slide rails, which must also be cleaned under the moving head, moving it manually. After cleaning and complete removal of all traces of protective and detergents, grease them lightly wiping from top to bottom with a cloth soaked with oil. Move the mobile head repeatedly checking that gaskets do not tend to get stuck or topple over.

Do not use acids, gasoline or petroleum derivatives, solvents, trichloroethylene and similar.

The cleaning of protective screens, control panel, pressure gauge and, in general, of all the plastic parts must be made only with water and soap or inert detergent.

3.7 LEVELING

The machine sits on the floor with adjustable feet (6 or 8, depending on the length of the basement) which allow the horizontal leveling of that. The leveling must not, necessarily, be made with sophisticated tools not being necessary to make it perfectly horizontal, but rather a good support that does not lead to torsional stresses to the basement. It is sufficient a spirit level, at least 50 cm long and in good condition.

Using the handwheel, position the mobile head all the way to the right. Screw the central support legs so that the machine is resting only on the 4 legs at the extremities. By checking with a spirit level on the scroll bars, record extremes feet until the longitudinal and transverse leveling of the machine.

Bring in support the intermediate legs, without forcing.

WARNING: The longitudinal and/or transversal leveling operations are not critical: the machine works properly with slopes of 1%.

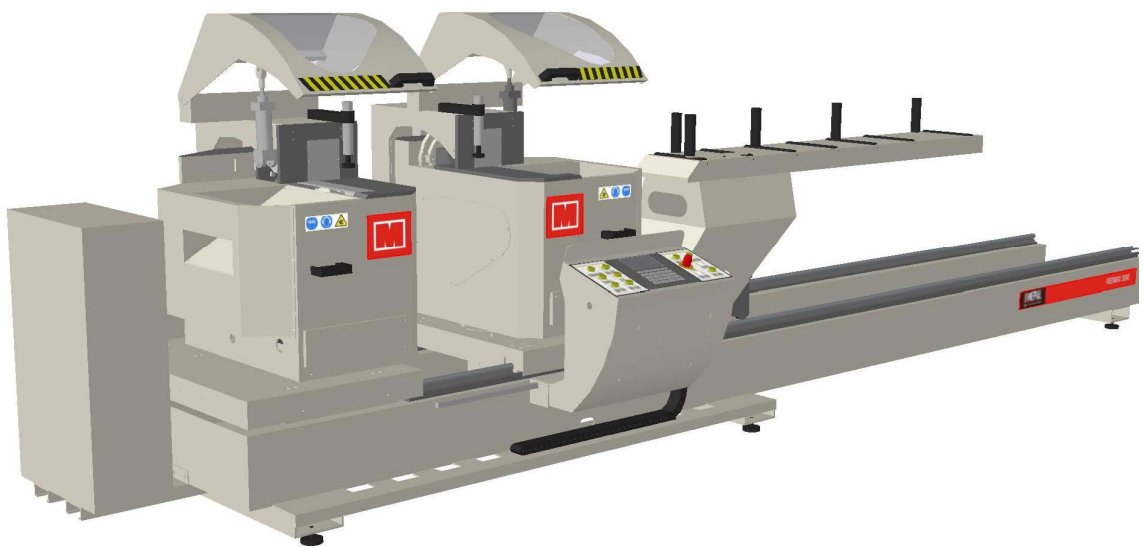
GENERAL DESCRIPTION DESCRIPTION

4

GENERAL DESCRIPTION

4.1

MACHINE



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GENERAL DESCRIPTION DESCRIPTION

4.2 MACHINE INTRODUCTION

The double head miter saw is designed for cutting wires for the construction of fixtures, for building construction and architecture, or similar where it is necessary for high productivity, ease of use reliability, robustness and limited maintenance.

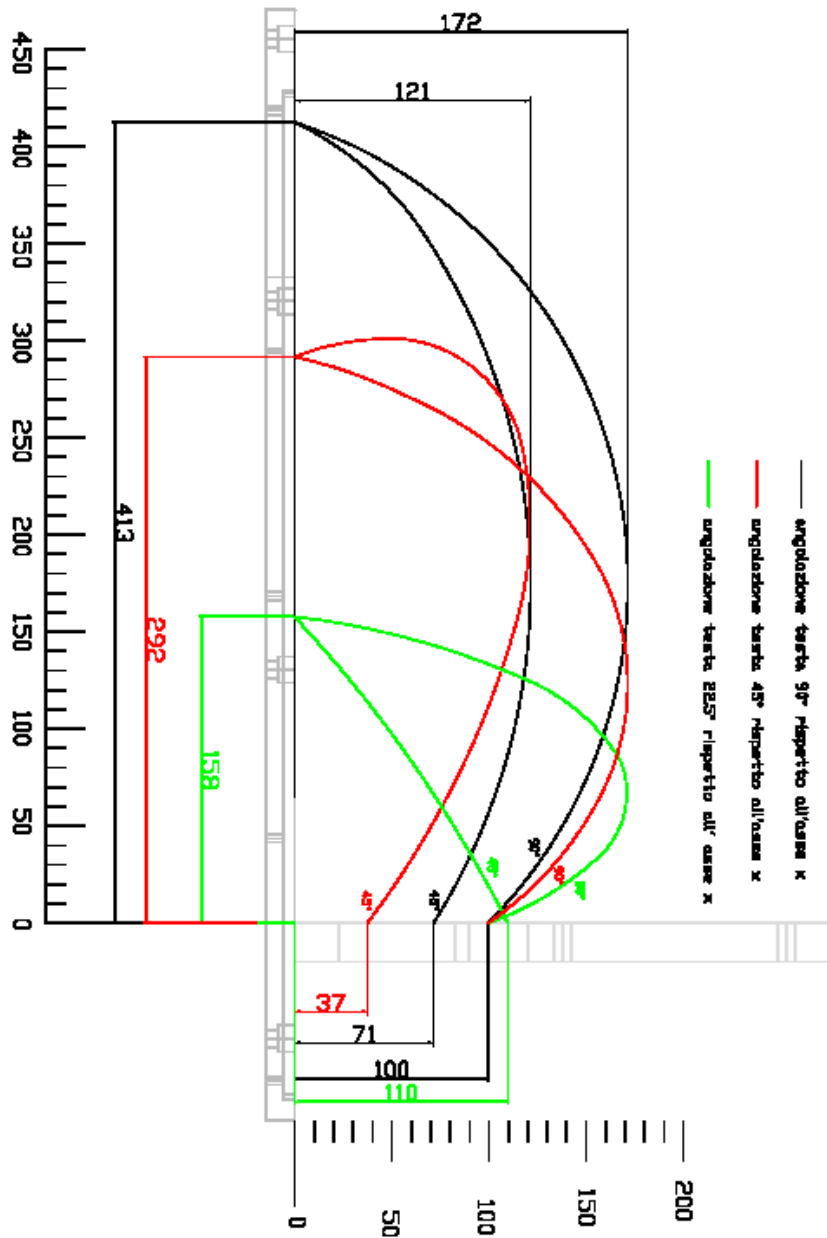
The main features of the machine, predetermined at the design stage and made in the construction phase, are the following

- High dimensional and geometric stability and geometric.
- Low maintenance costs.
- Ergonomics work.
- Ease of maintenance.
- Full access to all its components.
- High cutting capacity.
- Easy to learn.
- High accuracy.
- Adaptability to the needs of the customer and operator

GENERAL DESCRIPTION DESCRIPTION

4.3 CUTTING DIAGRAMS

Ø500 mm blade



Tolerances = +/- 3 mm

REMIX

GENERAL DESCRIPTION DESCRIPTION

4.4 WORKING AREA

The working area of the miter saws has been designed to achieve the following characteristics:

- Wide visibility of the whole machine and of hazardous areas for third persons during the processing phases.
- Fall of the waste inside the basement, removable tanks for collection.
- Free fall of the chips, or, by external vacuum cleaners, conveying to the intake manifold.
- Good view of the shear zones, with maximum security protection from flying chips, scraps and / or fragments

GENERAL DESCRIPTION DESCRIPTION

4.5 WARNINGS FOR THE OPERATOR

- The machine is designed for use by a single operator.
- In case of accidental approach by third persons, and in presence of potential source of danger, stop ongoing operations through the emergency stop buttons.
- The operator must ensure that the refrigerant liquid which is introduced using the tanks is non-toxic and UNDER THE LAW.

The operator has the duty to turn off the main switch before:

- Move away from the machine.
- Proceed with cleaning and / or removal of the waste-holding tanks.

The operator has the duty to LOCK the main switch before:

- Make adjustments involving the opening of fixed guards.
- Intrude, in case of maintenance, in the areas of motion of the machine.

The operator has the duty of turning on the emergency switch before:

- Record the position of clamps.
- Record the advancement stroke of the blades.
- Perform any operation in correspondence with the heads.
- Place the stops for special angles.

The machine has low noise levels, where the processing, by the very nature of the material being processed and the tool will cause discomfort to the operator who, therefore, in the absence of barriers or other noise reduction systems, must wear the soundproof headphones

The machine is equipped with devices set for the protection and safety of the operator it is prohibited the tampering, removal or modification even partial of such devices and protection.

GENERAL DESCRIPTION DESCRIPTION

4.6 WARNINGS FOR THE MAINTENANCE

The maintenance staff of the machine must:

- Perform the proper operations ensuring that the movements of the machine cannot be a source of danger to third persons. It is necessary to immediately stop the ongoing operations whenever a third person is approaching parts moving or whose movement can be done by automated cycle.
- Verify that the liquid refrigerant which is introduced using the tanks is non-toxic and PURSUANT THE LAW
- Turn off the main switch before:
 - Get away from the machine.
- LOCK the main switch before:
 - Remove casing and/or fixed protections.
 - Intrude, in any case, in the areas of motion of the machine.
- Perform the maintenance operations as stated in the relevant chapter.

The maintenance staff must not:

- Perform any modifications.
- Tamper remove or modify even partially devices and safety guards.

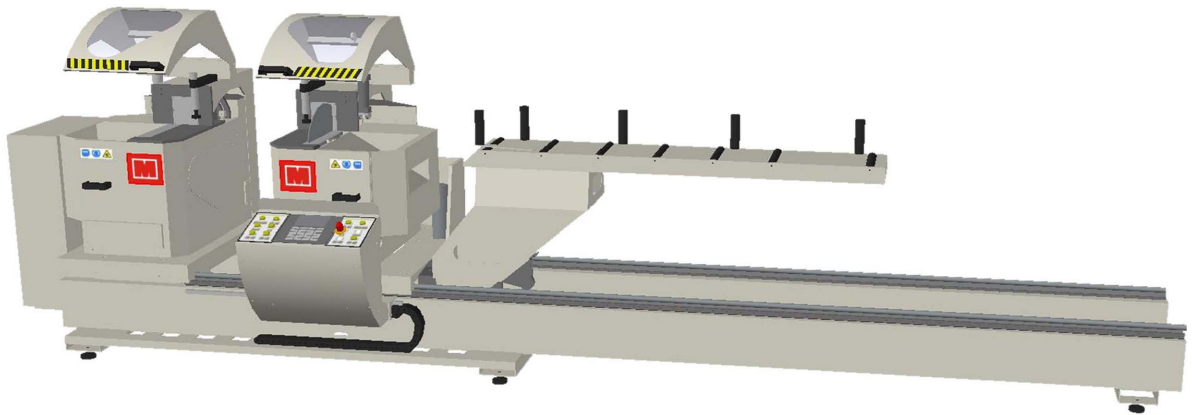
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GENERAL DESCRIPTION DESCRIPTION

4.7 DIMENSIONS

H 1,60 mt.

W 1,80 mt.



TOTAL LENGTH 6,420 / 5,420 mt.

NOTICE: Total height includes mobile screens closed.

Effective length of the basement (in meters)	4	5
Total length (in meters)	5,42	6,42

The manufacturer reserves the right to change without notice, to technical or commercial requirements, the measures listed

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GENERAL DESCRIPTION DESCRIPTION

4.8 MACHINE MOVEMENTS

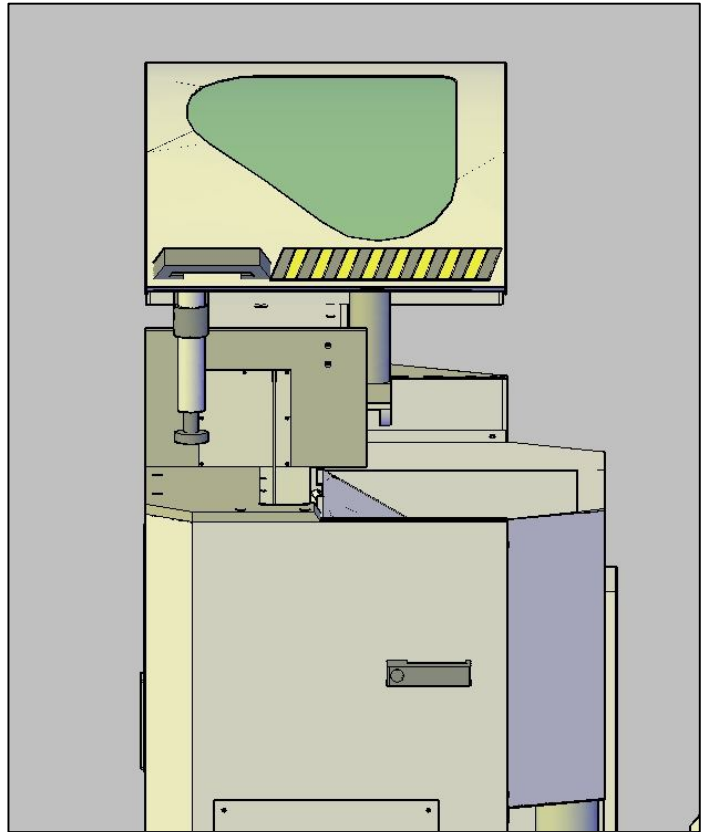
The main movements of the machine are:

- Opening / closing clamps
- Opening / closing screens
- Tilt heads
- Advancing blades
- Power on / off blades' engine
- Carriage movement

GENERAL DESCRIPTION DESCRIPTION

4.8.1 OPENING/CLOSING CLAMPS

The locking clamps, of the profile being processed, installed on the machine are constituted by pneumatic cylinders with simple operation. The vertical cylinder is provided with stopcock of insulation and, the horizontal one, with check valve for safety at the cutting of the supply tube. Every cutting head is equipped with two units of horizontal vices, each mounted on an arm which allows the movement axial (approaching / moving away from the work piece) and the transverse movement of approaching / moving away from the bearing surface. The horizontal arm of the clamp is, in turn, mounted on a bracket that can be translated longitudinally.



The motion of the clamps is controlled by the console through the specific button (A) at low pressure.



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GENERAL DESCRIPTION DESCRIPTION

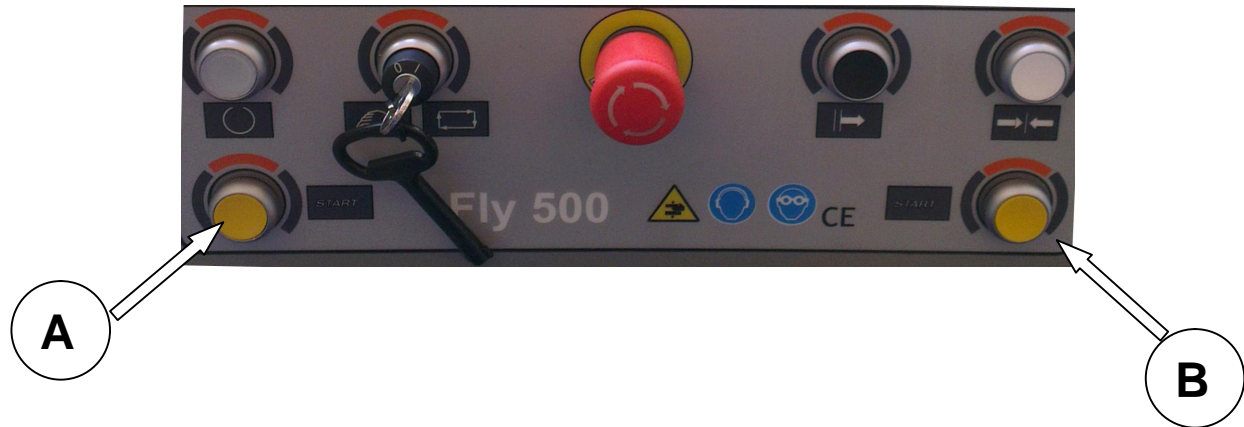
While the clamps are closing, if the hands of the operator stay blocked between the clamp and the profile or between the profile and the surface plate, the starting of the machine is performed at low pressure (about 1 bar), in such a way to avoid crushing danger. During the cutting phase, when the operator has both hands engaged and away from the work piece, the pressure switches to the value of the mains, reaching the maximum force of bracketing the work piece.

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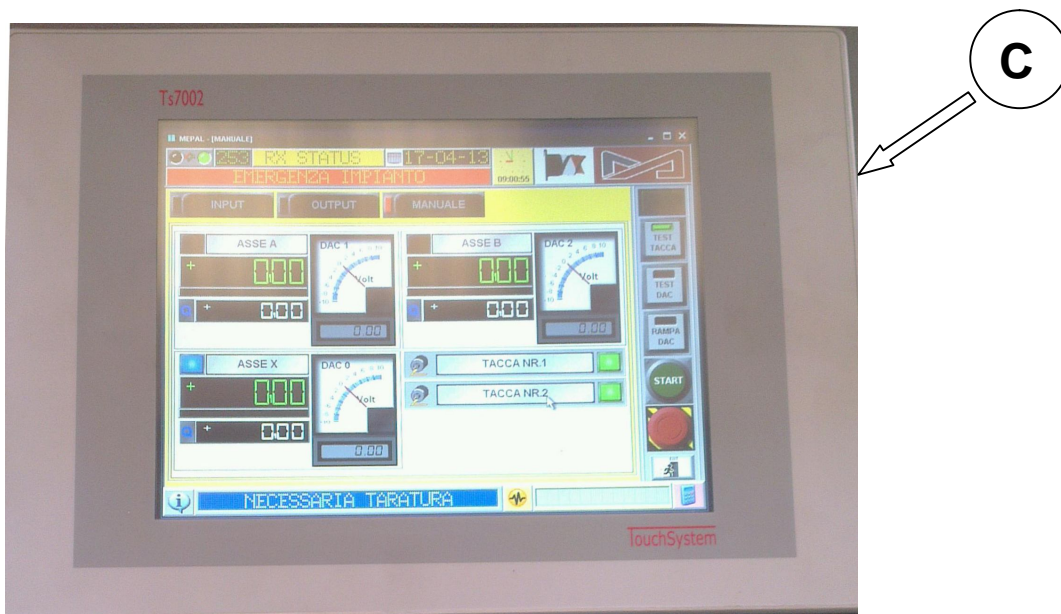
GENERAL DESCRIPTION DESCRIPTION

4.8.2 OPENING/CLOSING SCREENS

The protection screens positioned on the heads move due to pneumatic cylinders, they are closed when both buttons (A – B) are turned on.



4.8.3 BLADES TILTING



The cutting head is composed of a cart (fixed to the left and moving to the right, unless otherwise required by the customer) and a unit that can rotate around the axis

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GENERAL DESCRIPTION DESCRIPTION

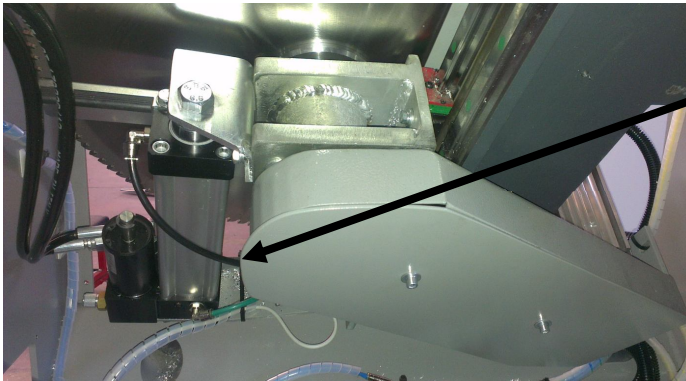
which coincides with the edge of the angle dihedron that is formed between the horizontal plane of support of the profile and the internal level of the blade (where for inside is meant the plane of the blade which is turned towards the opposite blade). In this way the cutting edge in correspondence of the supporting surface does not change with the angle. The horizontal plane of support of the profile is fixed with the cart, to which are anchored the clamps and, via the rear cantilever support, the screen with relating mechanics. The vertical support surface (in front of the operator) is formed from the front of the cutting unit, inside of which are: the cart feed blade (with associated motor and blade), the relative sliding guides, the cylinder oleo pneumatic of feed and the refrigerating nebulizer of the blade. The pin of rotation of the cutting unit is composed of a hollow cylinder for connection to any aspirator of chips (not supplied). The inclination of the heads is made automatically by the control (C) installed in the console in the case that the selector is set to automatic processing.

	REMIX	
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GENERAL DESCRIPTION DESCRIPTION

4.8.4 BLADES FEEDING

The blade is fixed on the shaft of the motor rotation which, in turn, is installed on a carriage sliding transversely to the longitudinal axis of the machine, contained within the rotating part of the head.



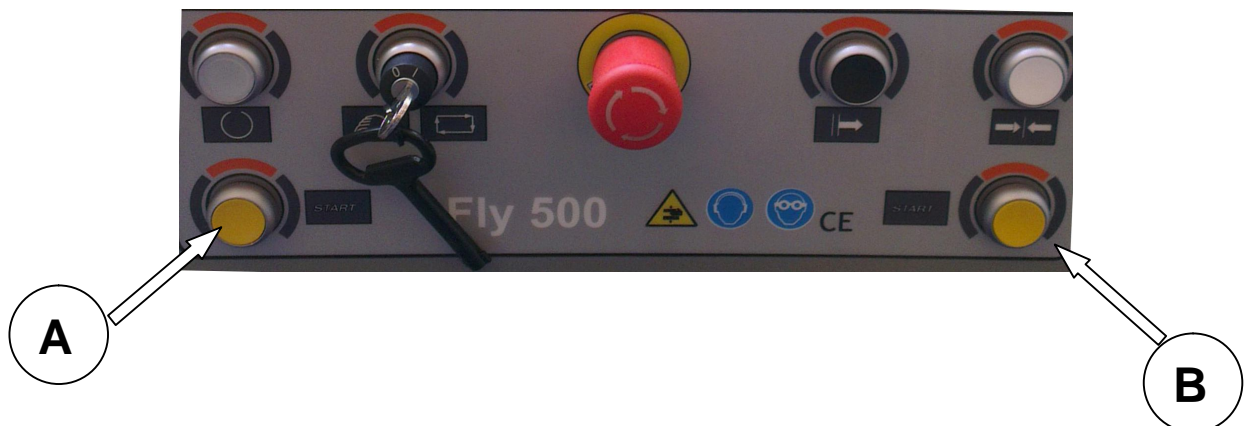
**BLADE RISING
CYLINDER**

The movement takes place via a pneumatic cylinder.

A gap separates the carriage sliding from the compartment blade to protect the moving part from the area with the highest density of chips.

The movement of the blade carriage drives a micro switch. This switch, controlled by a fixed cam, verifies the resting position (blade retracted), the other, controlled by an adjustable cam, upon reaching the predetermined forward position.

The feeding of the blades takes place holding down buttons simultaneously (A-B)



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GENERAL DESCRIPTION DESCRIPTION

4.8.5 TURNING ON/OFF BLADES' MOTORS

The rotation of the blades (switching on / off of the engines) is controlled via command buttons (A-B) located on the console.

4.8.6 CARRIAGE MOVEMENT

The carriage of the mobile head slides with the longitudinal axis of the machine on two horizontal cylindrical columns. The tank is always kept locked pneumatically. To move the cart work through the appropriate control installed in the console.

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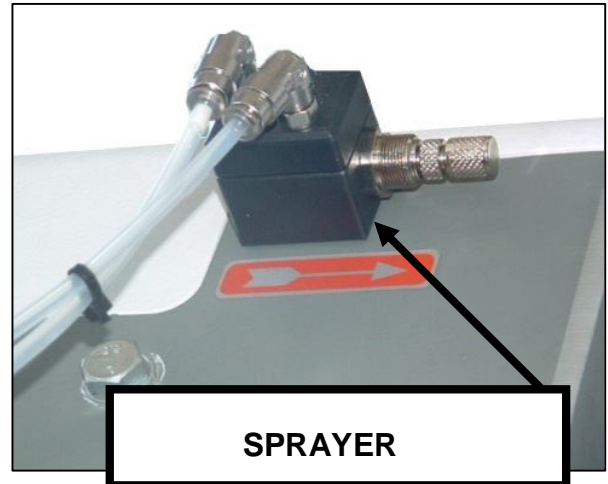
GENERAL DESCRIPTION DESCRIPTION

4.9 BLADES LUBRICATION

The refrigeration-lubrication of the blades is provided by a pneumatic nebulizer, adjustable, with pressure reduction (venturi), one on each head.

Two flexible tubes are connected to the nebulizer: one in parallel to the advancement of the blade cylinder (under pressure when the blade is moving out), the other directly to the tank of the liquid refrigerant.

The adjustment of the flow (micromist) takes place by measuring the air flow and, accordingly to the Venturi effect, it regulates the flow of the liquid.



The plastic fuel tank is positioned on the rear side of the head, protected by a movable sheet metal casing.

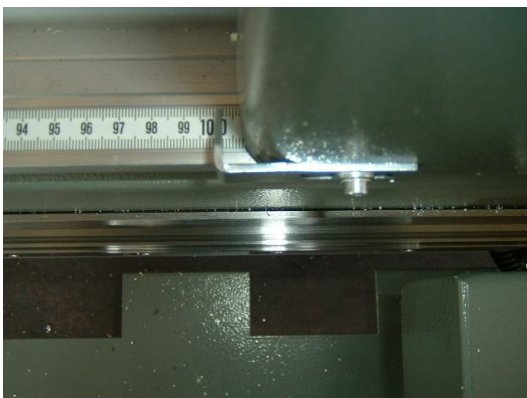
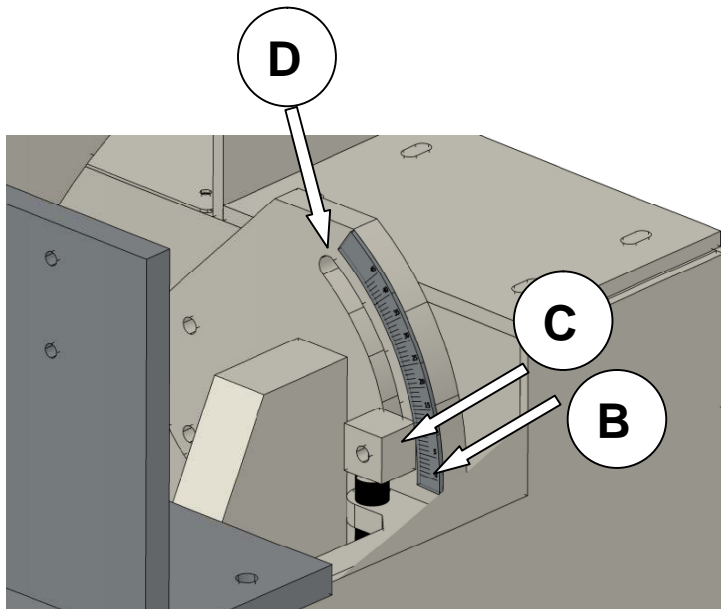
WARNING: the refrigerating fluid must have anti-oxidant features and shouldn't be aggressive towards the paint. We require non-toxic and not irritating products ACCORDING TO THE LAW.

Carefully read the package instructions for preparation - Dilution in water and the maximum duration antimildew. The product is not recovered from the machine, so the term mold is considered only for the idle periods of the machine.

GENERAL DESCRIPTION DESCRIPTION

4.10 MEASUREMENT SYSTEMS

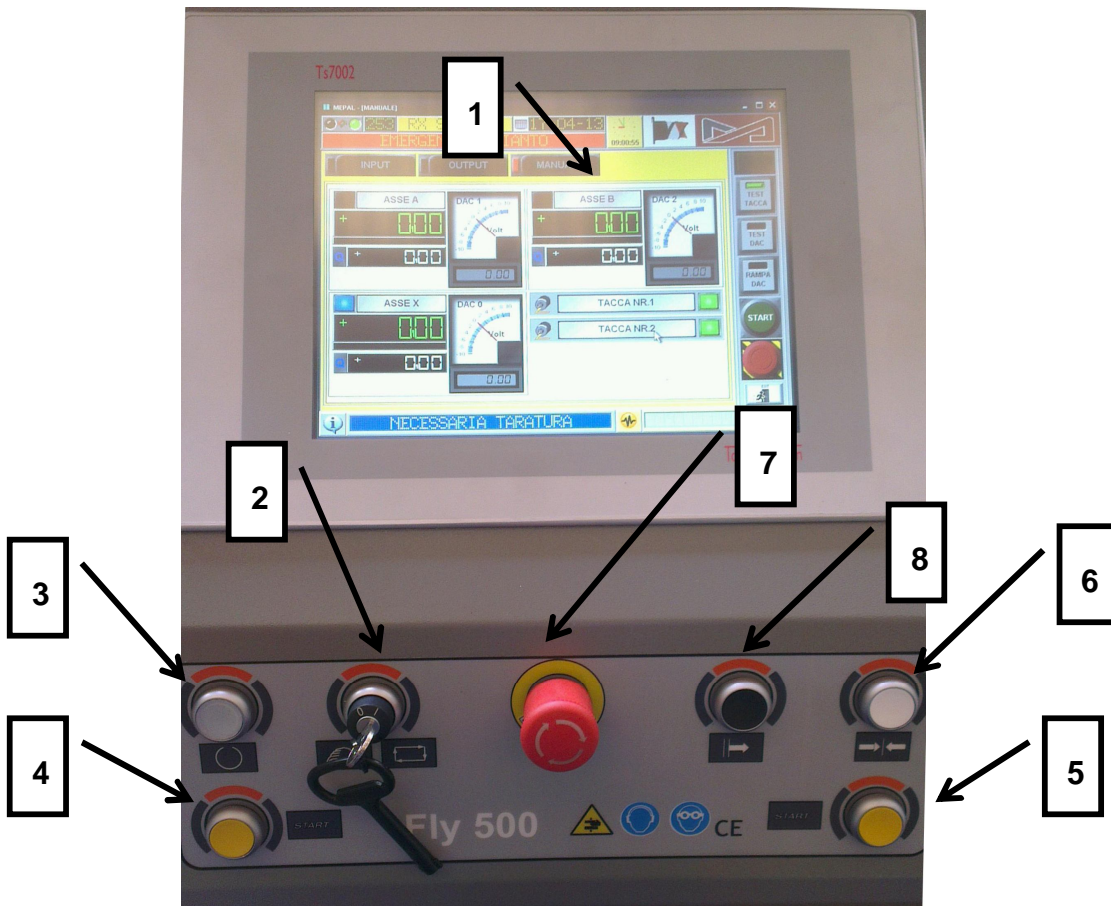
Measurement systems of the cutting miter blade are double linear (index with pantographed). Indices pantographed (A) are installed in the rear upper part of the heads for positioning intermediate degrees of the rotating heads. The index (A) can be read by the machine operator station. The heads have two external reference stops at positions of 45° (B) and 90° (D), prerecorded at the factory but with the possibility to record them, by adjusting the appropriate with the key strokes as shown in the drawings (If requiring registration of 90°) and D (if recording 45°) B; the intermediate positions are obtained by turning the appropriate block (C), making it slide along the slot to the desired degrees and locking it with a special key.



A graduated rod is installed in front part of the basement for reading of the blades' wheelbase.

GENERAL DESCRIPTION DESCRIPTION

4.11 CONSOLE



1	SCREEN CONTROL PANEL
2	SAFETY KEY POWER ENGINE BLADE
3	ENABLING POWER BUTTON
4	LEFT CUTTING BUTTON
5	RIGHT CUTTING BUTTON
6	START BUTTON - OPEN / CLOSE CLAMPS
7	EMERGENCY PUSH BUTTON
8	STOP BUTTON

REMIX

GENERAL DESCRIPTION DESCRIPTION

4.12 ELECTRIC CABINET

The electrical panel is contained in the left flank of the machine, in a separate compartment, closed by a door on which the general switch is fixed.

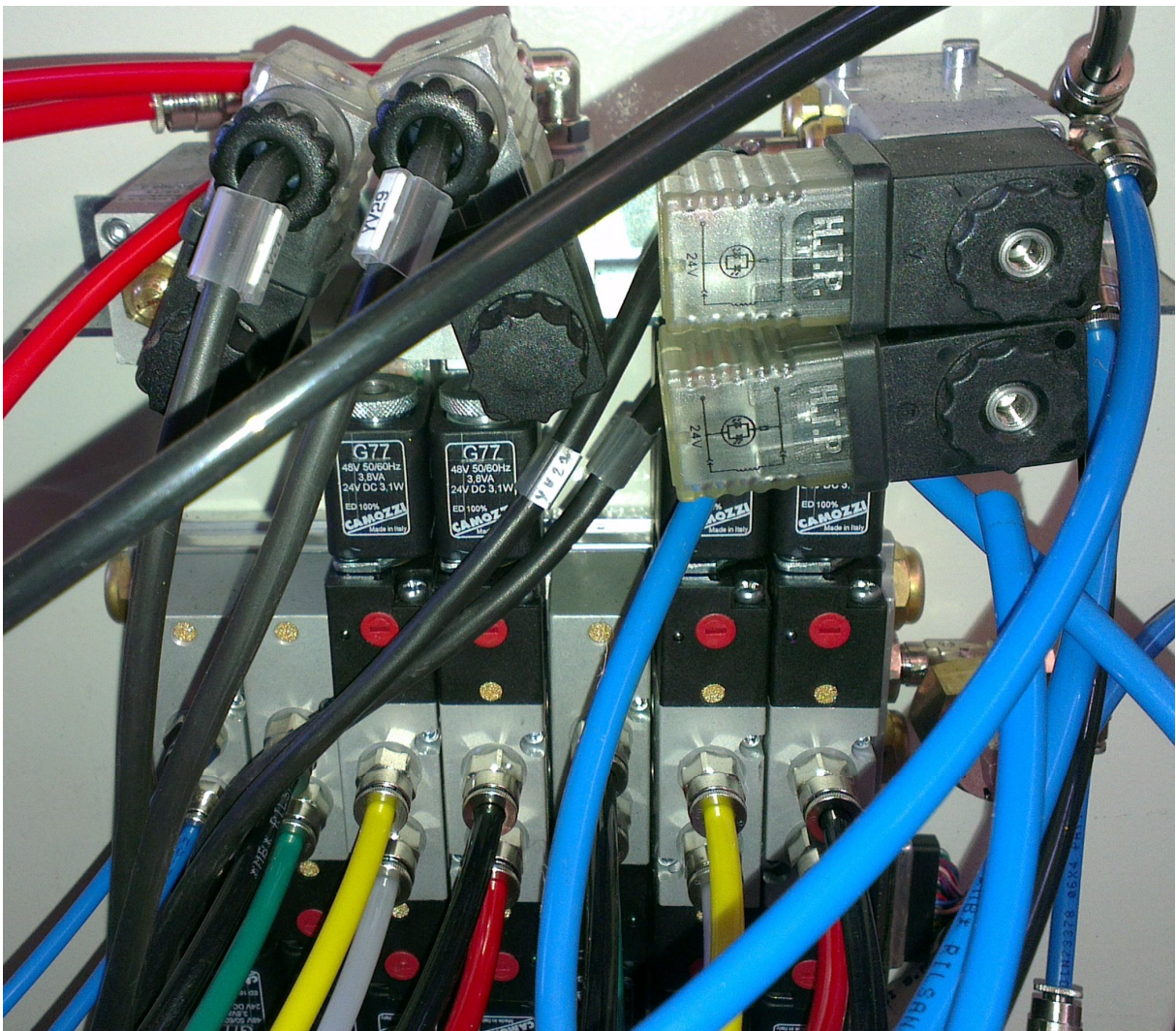


REMIX

GENERAL DESCRIPTION DESCRIPTION

4.13 PNEUMATIC PARTS

The pneumatic cabinet is placed in a special compartment on the right side of the machine. The pressure gauge can be seen from the door indicating the air pressure.



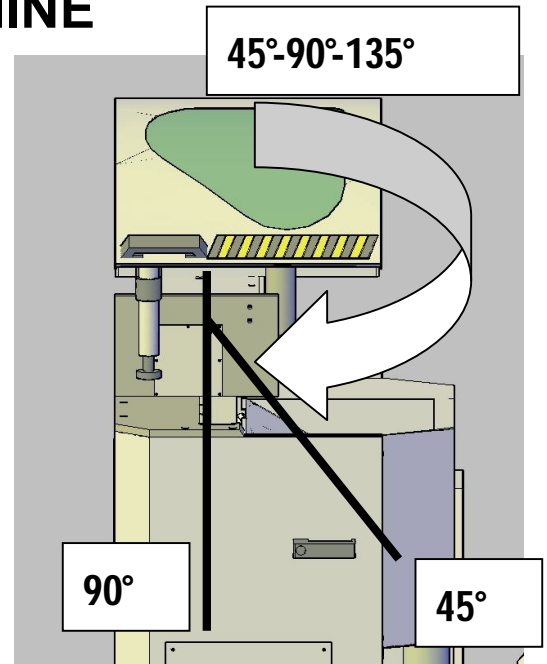
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USE OF THE MACHINE

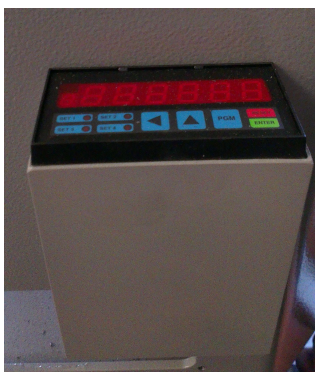
5 USE OF THE MACHINE

5.1 MEASUREMENT METHOD

5.1.1 BLADES TILTING



The angle of inclination of the heads is considered at 90° when the blade forms an angle of 90° with respect to the horizontal plane. Conventionally is considered at 0° when the blade is fully rotated towards the outside of the machine and 180° when the tilting occurs towards the inside. Thus, on the left head, the angle increases when it rotates clockwise, and vice versa on the right head, the angle increases counterclockwise. The inclination of the head is automatically performed by the control panel installed in the front console. The head rotation is performed pressing the blue button on the handle, the actual angle can be seen on the display as in the picture.



5.1.2 LENGHT

With the cutting-off machine, the operator can use only the measurement of the distance between the right blade and the left blade (distance between blades) or, more exactly, the measure between the left flank of the right blade and the right flank of the left blade: same measuring which is obtained by cutting a profile with the heads positioned at 90°.

USE OF THE MACHINE

5.2 CUTTING CYCLES

After positioning the movable cart to the desired distance and after it is locked in place, you can start cutting.

- 1) While the profile to be cut is leaning on the support of counter-profiles, or on the machine plate, you should lock it with the pneumatic clamping. Keeping the profile leaning with just one hand (note that it is not in the workspace of the jaws) press the close button (1): the cylinders move forward to press on the profile, the operation takes place at low pressure to avoid risk of crushing the hand.
- 2) When both buttons (2-3) are pushed the protection shields are lowered in working position and the blades come out.



- 3) Verify that all cylinders of the clamps are resting on the profile, if necessary unlock (by pressing the button 1), make the necessary registrations and re-lock.
- 4) Verify that the profile is correctly supported.

REMIX

USE OF THE MACHINE

- 5) Switch on the blades' engine with the two buttons (2–3) on the control console by pushing both of them at the same time.
- 6) If the action of the buttons (2-3) is not contemporary (maximum lag time 0.5 seconds) the cut does not happen release both buttons and repeat.
- 7) By pushing both buttons the blades come out, to stop the cutting release one or both buttons (2-3)
- 8) If both blades are completely inside, it is possible to unlock the profile: by only pushing the button (4)

	REMIX	
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6 MAINTENANCE

WARNING: all maintenance operations must be performed only by personnel trained for the purpose.

All operations on the machine should be carried out only after turning off the main switch.

6.1 WHAT TO DO IF:


6.1.1 THE CLAMPS DO NOT OPEN

If at the end of a cutting the clamps do not reopen with the normal command, open the casing on the motor side and clean the guides.

If the problem persists: check whether the two micro switches on the saw carriage are functioning and if there is continuity of cables between micro and electric panel.

If the fault persists check the functioning of the solenoid valves.

6.1.2 THE POWER BUTTON DOES NOT LIGHT

If pressing the enable button occur does not general  the starting, make sure the switch is plugged in and that arrives to the current machine.

Check the limiting devices in the back of the machine base.

Check the contacts and the connection of the emergency switch (red mushroom head pushbutton on the console control).

Check the contacts and connections of the general enable button.

Check the pressure in the network and / or air leaks in the system.

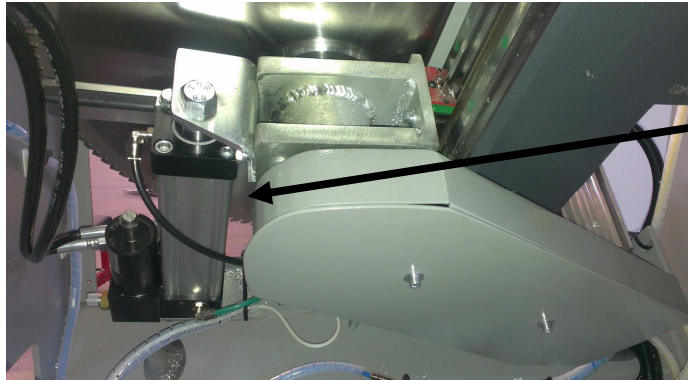
Check operation and wiring of the pressure switch within pneumatic cabinet.

6.1.3 THE BLADE DOES NOT COME OUT

Check the operation of solenoid valve with manual control of the coil.

Make sure for the arrival of the command into the connector of the coil it is inserted a signal light (LED) that lights up when power is supplied.

6.1.4 THE BLADE COMES FORWARD IRREGULARLY



**BLADE RISING
CYLINDER**

Air bubbles in the hydraulic system of the cylinder of blade feeding.

The blade is fixed on the motor shaft of rotation which, in turn, is installed on a table sliding transversely to the longitudinal axis of the machine, contained within the rotating part of the head.

The movement takes place via a pneumatic cylinder combined with hydraulic coaxial brake, within the stem. The brake oil is collected in a recovery tank (made of transparent polycarbonate), equipped with level indications of minimum and maximum.

That said, to eliminate the defect:

- 1) Turn off the main switch.
- 2) Remove the casing on the motor side.
- 3) Make the involved blade come forward by manual control on the coil of the exit blade (of the concerned head).
- 4) Check that the oil in the tank is not below the minimum level, top up if necessary and then make repeated strokes "all along" "all back" to evacuate the air inside the cylinder.

MAINTENANCE

WARNIG: before opening the cap on the compensation tank of the oil, is necessary to remove pressure from the machine and release the air in the circuit.

For oil top-ups use:

Vanguard	Supermatic 32	Gulf	ATF Dexron II
Fiat	GI/A	Mobil	ATF 220
Esso	ATF Dexron II	AGIP	Dexron II

WARNING: the minmum level must be verified when the brake is full, so when the blade is completly inside. The maximum level, instead, has to be checked when the brake is empty, so when the blade is completely out.

If the oil level is correct and the fault persists after topping up, unplug the mechanical coupling of the cylinder to the cart and operate unloaded strokes for the cylinder to check if it is seized or a seal has been reversed.

6.1.5 THE LUBRICATION SYSTEM DOES NOT WORK

For best efficiency and long life of the nebulizer, before periods of inactivity of the machine and, however, weekly we recommend cleaning of that and of the suction pipe of the liquid.

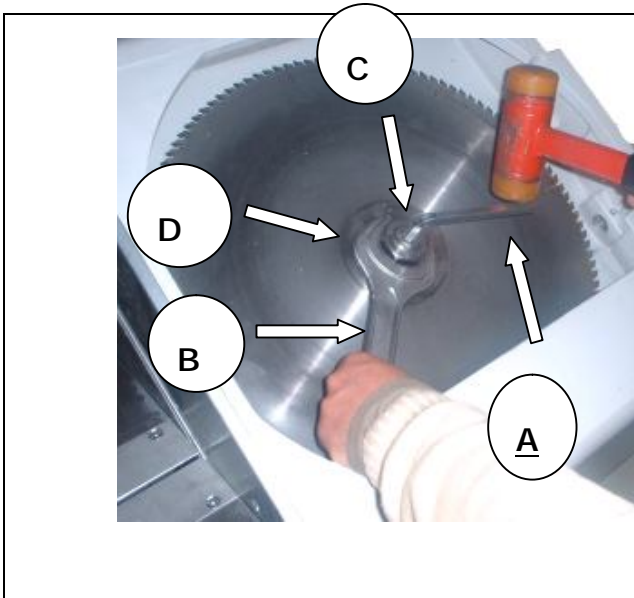
When the refrigerating nebulizer of the tool does not work regularly it is necessary to clean the whole circuit with soap diluted in water:

- 1) Remove the tank containing the fluid, empty and wash it.
- 2) Unplug the pipe that from the tank takes the liquid to the nebulizer; blow some compressed air inside it.
- 3) Remove the brass regulator from aluminum body of the nebulizer and wash it thoroughly with the help of a brush.
- 4) Open the body of the nebulizer by unscrewing the two screws: attention inside, between the two parts of the body, there is a steel ball propelled by a spring. Thoroughly clean each piece.
- 5) Reassemble the nebulizer and restore the system.
- 6) Run a few cutting cycles unloaded using only water in the tank.

Empty the water from the system and recover the liquid, filtering out any chips.

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6.1.6 REPLACING THE BLADE



To replace the blade follow these instructions:

- Put the open wrench **(B)** on the nut **(C)** locking the flange **(D)**.
- Put the allen wrench **(A)** in the motor shaft rotating it clockwise to unscrew the nut**(C)**.
- Remove the nut **(C)** and the flange **(D)**. Insert the new blade in the motor shaft.
- Place the flange **(D)** and the nut **(C)** in the original position locking them with the wrenches.

6.1.7 CLEANING THE MACHINE

Once a week, or more often if necessary, the machine must be cleaned.

Pay attention to the use of the compressed air: it must be used only to remove scraps and dust, not to penetrate the sliding systems (bearings, joints, etc...)

6.1.8 COMPRESSED AIR

The machine is equipped with a compressed air lubricator. Check at least once a month that the tank has oil enough and adjust the lubrication depending the season.

6.1.9 THE BLADE DOES NOT RISE

Test the inputs to check if the buttons 4 and 5 (4.11) are working properly.

Test if the solenoid valve works properly activating the corresponding output.

6.1.10 THE CARRIAGE DOES NOT MOVE

There is an EMERGENCY alarm?

Y: remove the cause and try again.

N: open the electric cabinet, check the drive: is the green light on?

N: no power, check fuses and circuit breakers in the cabinet.

Y: is the red light on?

Y: the drive is in protection mode due to overload, turn off the machine and wait some minutes. If the problem remains, turn the MAN/AUTO selector in the manual position and try to manually move the carriage to verify the absence of obstacles. If the problem remains check the power supply of the motor and motor itself.

N: the analog signal is missing, check fuses and connectors in the back side of the pc.

6.1.11 DEACTIVATION

WHEN THE MACHINE IS TO BE DECOMMISSIONED BECAUSE IT HAS BECOME OBSOLETE OR IT HAS IRREDEMIABLY BROKEN DOWN, IT MUST FIRST OF ALL BE PUT OUT OF SERVICE BY BEING RENDERED INOPERATIVE AND ANY DANGERS REMOVED. DISCONNECT THE MACHINE FROM THE POWER SUPPLY, DISCONNECT THE AIR PIPES AND REMOVE ALL TOOLS AND ADDITIONAL PARTS. COVER THESE ELEMENTS WITH PROPERLY SEALED WRAPPING. SEAL THE MACHINE INSIDE STURDY PACKAGING AND PROCEED TO ITS DISPOSAL IN CONFORMITY WITH THAT SPECIFIED IN THE STANDARDS AND REGULATIONS LAWS. CONTACT THE RELEVANT LOCAL BODIES FOR THIS OPERATION.