



**AMERI-CAN**  
**MACHINERY LTD.**

# DUCM500



## **OPERATION AND MAINTENANCE MANUAL**

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## 2 TO OUR CUSTOMERS

### 2.1 CONGRATULATIONS ON YOUR CHOICE

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

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



**The customer has the responsibility to make sure that if this document undergoes changes by the Manufacturer, only the updated versions of the Manual are actually present at the point of use.**



**THE OFFICIAL LANGUAGE CHOSEN BY THE MANUFACTURER IS THE ITALIAN LANGUAGE**

**No responsibility is assumed for translations in other languages that do not conform to the original meaning.**

## 2.2 EXPLANATION

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 MEPAL ITALIA SRL.

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



**The term QUALIFIED PERSONNEL covers personnel who as a result of education and professional experience has been expressly authorized to perform the installation, use and maintenance of the machine.**



## 2.2.1 TO WHOM IT IS ADDRESSED

This manual is addressed to the user, to the leaders in charge of the shift, installation, operation, monitoring, maintenance and final dismantling of the machine.

## **2.2.2 PURPOSE OF THE MANUAL**

The manual explains the proper use of the equipment, as required by the design assumptions and the specifications. It provides instructions for moving, proper and safe installation, adjustment and use; provides information to address maintenance, it facilitates ordering spare parts.

## 2.2.3 UTILIZATION LIMITS

This manual is valid for the machine code into it expressly referred; the information can not be applied to other models of different series. All necessary information will be obtained from this manual without acquiring data from similar manuals of similar equipment or of other manufacturers.

## 2.2.4 SAFETY SIGNS

In order to draw attention in the manual some pictograms appear that will be divided as follows:



**PROHIBITION**



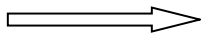
**CAUTION**



**INFORMATION**



**RESERVED TO  
QUALIFIED PERSONELL**



### **DETAILS INDICATIONS**

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





Drawings, tables and pictures are not numbered singly.

Wire diagrams and layouts are not numbered with separately.



## 2.2.5 SAFETY SIGNS

The signs should be applied in areas where they are easily visible and legible by anyone who approaches and at a point such that the person can react promptly to take the necessary action to avoid the danger. The rule provides that the safety pictograms are regularly checked and cleaned to ensure good readability at a safe distance.



### SIGNS RELATED TO HAZARDS

SIGN	DESCRIPTION
	<b>Chips projection</b>
	<b>Electrical power</b>
	<b>Danger of crushing hands</b>
	<b>Moving mechanical parts</b>

### SIGNS RELATED TO PROHIBITIONS

SIGN	DESCRIPTION
	<b>Do not remove the safety devices</b>
	<b>Prohibited to repair / grease during motion</b>

## SIGNS RELATED TO OBLIGATIONS

SIGN	DESCRIPTION
	<b>Must wear safety glasses.</b>
	<b>Must wear protective gloves.</b>
	<b>Must wear ear protectors</b>
	<b>It is compulsory to wear protective shoes</b>

### 2.2.6 COMPLIANCE WITH THE LAWS

Together with the rules of this manual the laws specific to the prevention of accidents at work must be respected by the customer.

### 2.2.7 MANUAL CONSERVATION

The manual is considered an integral part of the machine and must be kept in good condition until its final disposal. The manual should be kept in a protected, dry place, away from direct sunlight and should always be available and available for consultation in the workplace.

### 2.2.8 HOW TO ASK ANOTHER COPY OF THE MANUAL

In case of damage to the original, a copy can be requested at the expense of the applicant directly to the manufacturer.

## 2.2.9 INFORMATION FOR THE USER

1. This manual reflects the state of the art at the time of commercialization of the machine.
2. The manufacturer reserves the right to change products and manuals, without any obligation to update preceding products or manuals.
3. The characteristics of the materials can be changed at any time in the light of technological change without notice.
4. On the sale of the unit please inform the manufacturer, the address of the new owner so the transmission of any additions to the manual.
5. For further information or clarification you can contact the Service Department

**The manufacturer is relieved from any possible liability in the event that the machine will be:**

- 1) Used improperly
- 2) Used by not qualified personell
- 3) Used against what written in the present manual
- 4) Used againt the current Laws and Legislation
- 5) Used with a wrong main power supply
- 6) *Used exceeding its performance limits*
- 7) Subject to excessive mechanical stresses

**The user is committed to ensure that:**

- 1) All work related to transportation, connection, operation, maintenance and repairs are performed by qualified personnel
- 2) Qualified means (according to IEC 364) personnel that for training, education, experience, as knowledge of standards, legislation, safety measures and conditions of use and service, is able to carry out any necessary steps avoiding any possible danger and / or damage.
- 3) These people have all the instructions and information necessary, including any local legislation, and that they adhere to these to carry out any operation

4) Any operation on machines and equipment also indirectly is forbidden to unqualified personnel

5) Must be repeated during installation, with additional security measures, any local or special requirements and / or at least all of the conditions of prevention not acquitted

## **2.2.10 MARKING DATA AND DELIVERY CHECKS**

Make sure that the equipment for signs of damage and that the delivery is complete. In case of damage contact the insurance company or the supplier. If the supply does not conform to the order, contact the supplier immediately. Each item of equipment is a plate.

## **2.2.11 IDENTIFICATION PLATE AND CE MARKING**

Each machine is identified by a CE plate on which are reported in indelible way the reference data of the same. The position of the plate on the machine can vary from machine to machine.

For any communication with the manufacturer or service always refer to this reference.



## 2.2.12 DECLARATIONS

The machine is made in accordance with the relevant and applicable EU directives at the time of its release on the market.

### **DICHIARAZIONE “CE” DI CONFORMITÀ MACCHINE**

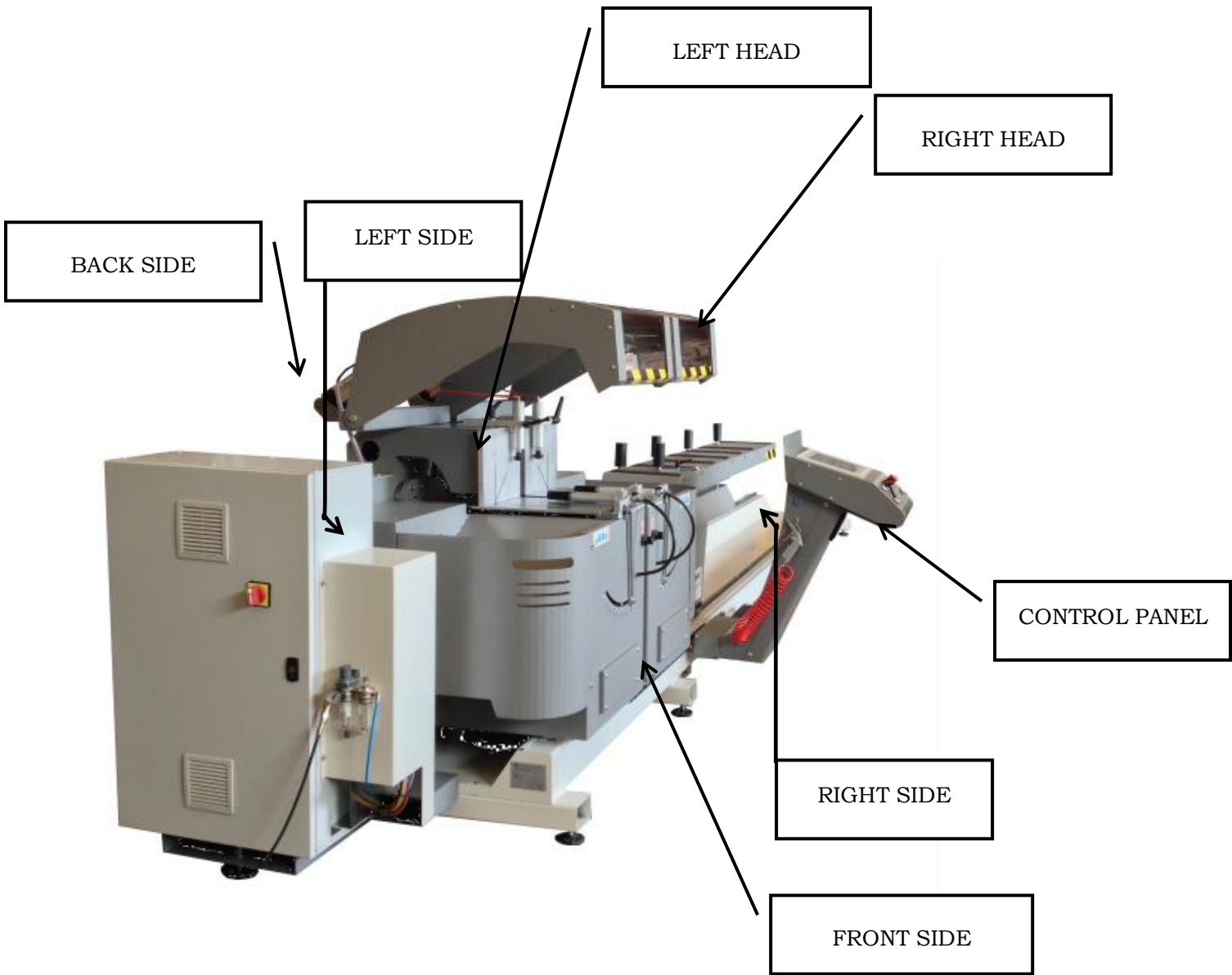
Si dichiara che la macchina indicata in calce è conforme alle seguenti Direttive Europee:

- Direttiva Sicurezza Macchine (2006/42/CE);
- Direttiva Bassa Tensione (2006/95/CEE e successiva modifica: 93/68/CEE);
- Direttiva Compatibilità Elettromagnetica (2004/108/CEE e successive modifiche: 92/31/CEE e 93/68/CEE).
- Direttiva macchine CEE 2006/42/CE.

### **PROHIBITION OF COMMISSIONING**

*The machine can not be put into service, after constructive changes or additions of other components not covered by the ordinary and extraordinary maintenance without having again to comply with the requirements of the Directive 2006/42 / EC and of the applicable EC Directives .*

# 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

### 3.2 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.

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

	Effective length of the basement (in meters)	
<b>FAST</b>	<b>4</b>	<b>5</b>
Length (mm)	5920	6920
Weight (Kg)	1620	1750

**Forks min. length: 1.000 mm**

**Forks min. distance: 800 mm**

## 3.3 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<sup>2</sup> (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 200x200 mm, minimum thickness 20 mm ⇒ contact pressure 1 Kg/cm<sup>2</sup>).

### GENERAL SAFETY WARNINGS

*The machinery has been designed to be used from only one operator that must position himself in front of the machine where is possible to reach easily all machine commands including the emergency commands. Moreover the operator must have the complete control of the work cycle.*

*The operator must immediately stop the operations in progress if for every reason the blade does not go down in the rest position or if any anomaly is noted.*

*The operator must stop the operations in progress if other people approach the machine.*

### LIGHTING

*Must be provided adequate lighting, natural or artificial in accordance with ISO 8995-89 on lighting at the workplace.*

### GROUNDUNG SYSTEM

*Must be performed at CEI 64-8.*

### INTENDED USE

*The cutting machine is adequate to cut light aluminium profiles using appropriate blades.*

### NOISINESS

*average sound vacuum pressure: 71,0 dba*

*average sound pressure at work: 86,4 dba*

*vacuum sound pressure: 87,0 dbwa*

*sound pressure at work: 101,0 dbwa*

*vacuum lop user place: 81,0 dba*

*lop user place at work: 97,0 dba*

*maximum sound pressure level in the user place 119,0db*

***It is advised the use of individual safety protection devices against noise in the case of prolonged use of the machine.***

# PREPARATION

## **PACKING**

*The machine is supplied with a shrink-wrapping.*

## **LEVELLING**

*The machine has to be levelled transversely and longitudinally.*

## **OPERATING TEMPERATURE**

*From 10 °C to 40 °C.*

## **CLEANING**

The machine should be cleaned with detergents, non-acids or non-aggressive to paints, we recommend specific industrial products.

Do not use acids, gasoline, paint thinner, turpentine or petroleum.

Use gloves and suitable clothing.

## **SAFETY DEVICES**

*Pressure switch of minimum pressure, if the pressure is not sufficient the blade will not start.*

*Valve of low and high pressure: when closing the clamps the pressure is about 2.5 bar only when pressing the two buttons and the work cycle begins then takes over a pressure of about 7 bar, to prevent crushing even if slight of the hands.*

*One way valves on the clamps: if the pressure is missing the clamps will remain closed and the profile locked.*

*Command cycle with two hands: you have to press both buttons simultaneously to start the cutting phase, with two-hand safety valve. The working cycle is interrupted releasing one of the two buttons.*

*Fixed protective casing.*

*Blade casing with protective strips of plastic against-intrusion. Replace them immediately if they get wearred.*

*At the rear of the turntable were applied two mechanical stops that prevent direct the plane in positions that may cause the meeting of the blade with the iron structure.*

## **RESIDUAL RISKS**

*Despite the barriers and safety devices, the machine has the residual risks caused by improper use of the machine or unpredictable situations. These risks are reported with safety signs.*

*Please be aware that in the electric panel even with main switch off there is electricity.*

*The pneumatic circuit even if disconnected remains under pressure. If in case of malfunction the blade does not come down, do not put your hands near to the work area until the blade is fully back and stopped. The operator must use precautions and individual devices according to the current legislation: glasses, gloves, headsets and all that is necessary according to the residual risk analysis in the workplace.*

*The operator must necessarily turn off and lock the main switch and unplug the machine from the air by venting the pressure from the air system if:*

*-must clean or remove protective casing to make any type of operations, he must wait the time required for the stopping of the blades and their return to the rest position.*

*-to carry out maintenance work in the machine working areas.*

*-to carry on whatever operation in correspondence of the machine blade.*

*-to carry on whatever adjustment operation on the machine.*

*The machine is equipped with safety devices: it is prohibited any alteration, modification or partial removal of these devices.*

*Check at the beginning of each work shift their presence and efficiency, otherwise alert immediately the responsible person.*

*The use of compressed air to clean or to blow up the chips must be carried on only with adequate eyes protection (glass).*

*The electrical equipments can cause accidents.*

# PREPARATION

The work areas should not be approached with the hands, being present in the machine components with sharp or high pressures and movements unwary can cause injury.

For every reason do not let unauthorized personnel to operate on the machine.

Do not wear jewels, unfastened, loose-fitting and dangling clothes that could catch in the moving parts.

It is advised the use of suitable clothing, safety shoes, safety glass, face masks.

Do not start the machine if there is any anomaly.

The working area must be always clean and dry.

During the assembly and disassembly of casing or other parts, do not align any holes with your fingers but with appropriate tools as there may be danger of crushing.

It is advised the use of suitable clothing, safety shoes, safety glass, face masks.

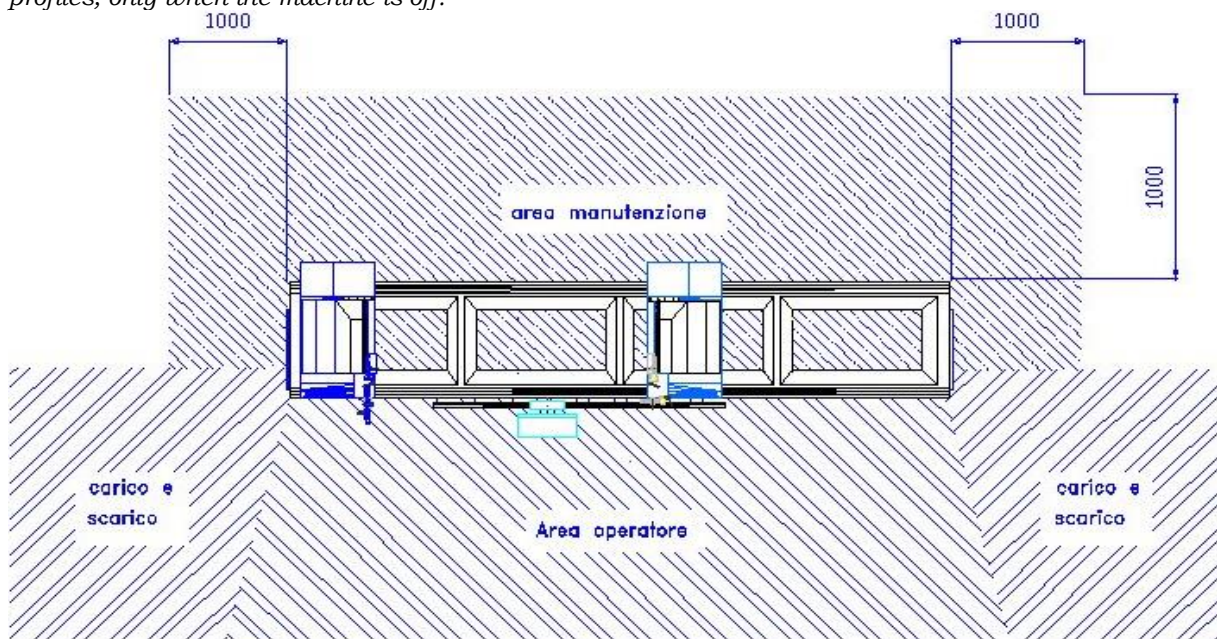
Do not start the machine if there is any anomaly.

During the assembly and disassembly of casing or other parts, do not align any holes with your fingers but with appropriate tools as there may be danger of crushing.

The safe area is the area indicated as **operator area**, in the rear area indicated as **maintenance area** must not stay anyone, particularly if you do not equip the machine with a chips and fumes extractor, as there is a filler pipe from which chips and fumes can be expelled. It is therefore necessary to provide optionally a bag or a suitable container for the collection of any chips.

It is forbidden to insert objects, tools or body parts inside the filler pipe for the suction of the chips: this action can cause damage to people and/or property.

The lateral area indicated as **load area** must be used only for the eventual loading and unloading of profiles, only when the machine is off.





# PREPARATION

## 3.3.1 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.



**The machine is not suitable for use in areas with explosive atmosphere, corrosive, with excessive amount of dust.**

## **3.4 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.

### **3.4.1 CONSOLE**

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.

## 3.5 CONNECTION TO ELECTRIC POWER

### 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 mm<sup>2</sup>) 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.

## PREPARATION

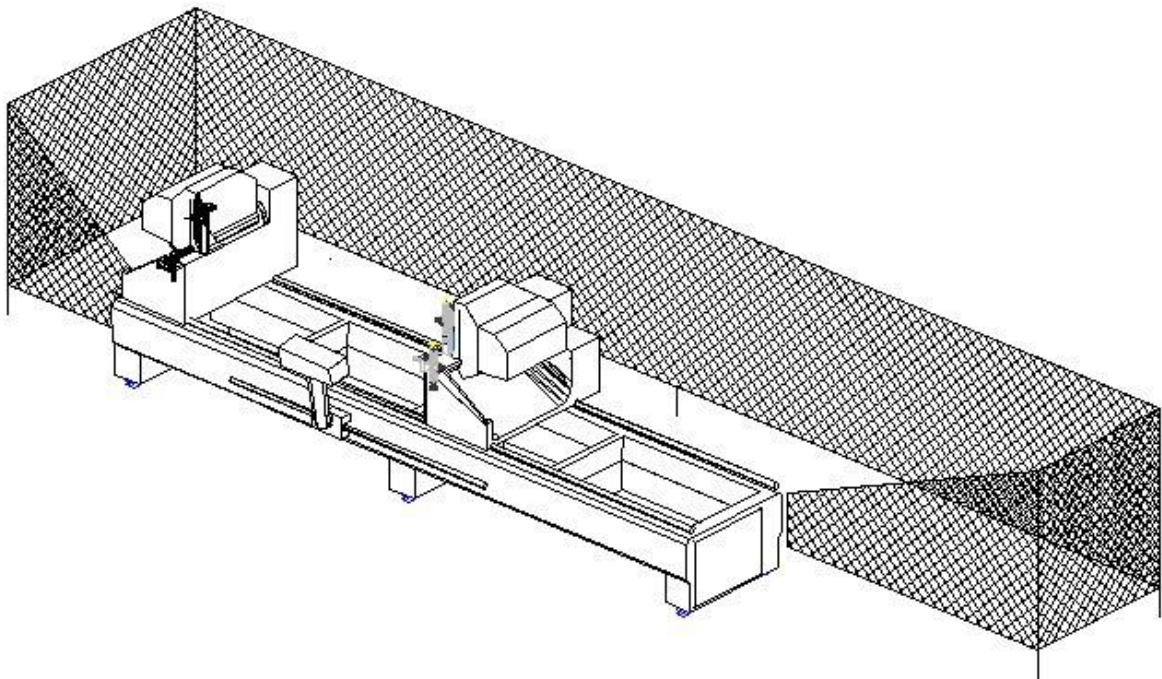
- At this point the engine blades can be started manually by one of the two switches on the console, marked with the symbol "engine". With rotary motion to the right (clockwise) and immediate counter-drive on the left (counterclockwise), the engine, on the right or left side, is started switched off. 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.

## 3.6 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 UNI EN ISO 13857:2008 / UNI EN 349:2008 / UNI EN 547 part 1 and 2.

## 3.7 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.

## 3.8 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%.

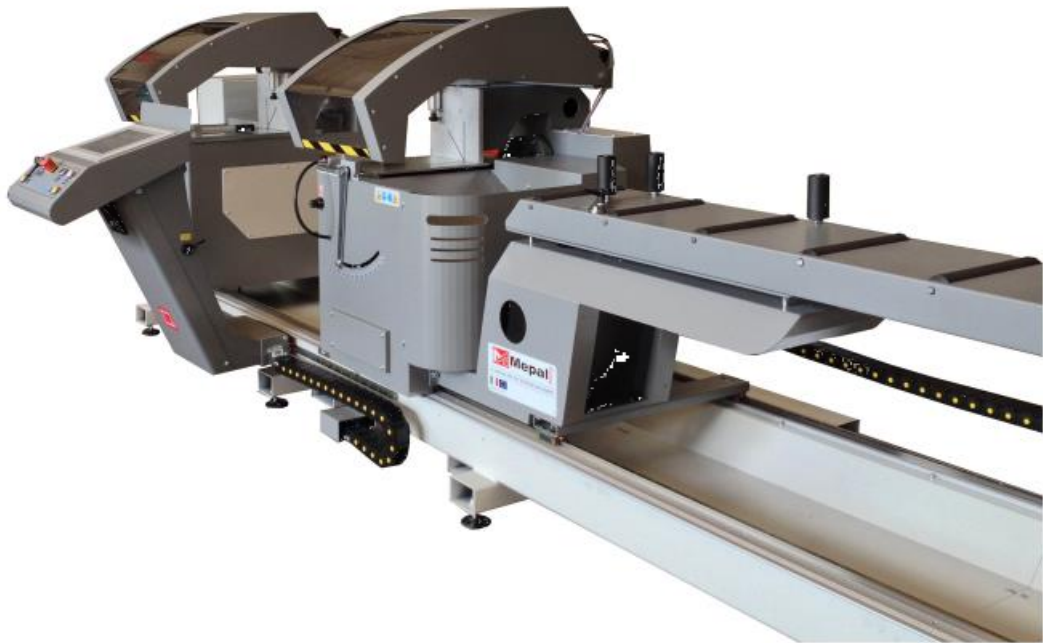


4

## GENERAL DESCRIPTION

4.2

### MACHINE



## 4.3 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.

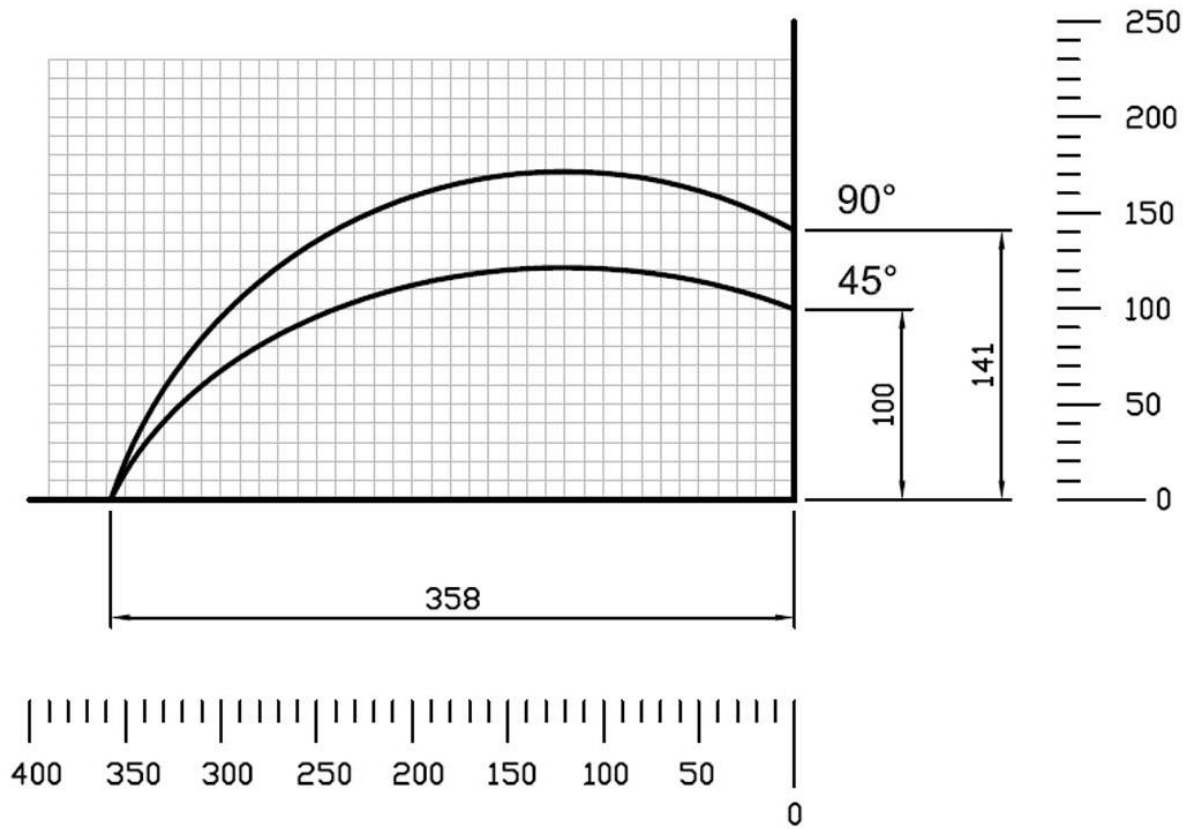
The main features of the machine, predetermined at the design stage and made in the construction phase, are the following

- High dimensional and geometric stability.
- 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

## 4.4 CUTTING DIAGRAMS

Ø500 mm blade



Tolerances = +/- 3 mm

## 4.5

### 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

## 4.6 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.
- 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 use of products / materials other than those specified by the manufacturer, which can cause damage and danger to the operator and / or those close to the machine, is considered incorrect and improper.**

## **RESIDUAL RISKS**

1. In any case, the operator must carry out operations in the vicinity of the blades without making sure that these have come back in the rest position and stopped;
2. In case of failure the blades could stay out in the cutting position: stop the machine and call for service. Always avoid approaching the blade without first making sure that they have stopped.
3. During the movement of the mobile carriage, the operator must carefully check that nobody is in the working area or around the machine.
4. It is forbidden to remove the safety devices.

## GENERAL DESCRIPTION

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.

### **Acoustic emission values:**

- The weighted level A of sound pressure in the workplace is 88.9 dB;
- The maximum weighted value C of instantaneous sound pressure in the workplace is 108.8 dB;
- The weighted sound power level A emitted by the machine is 104.8 dB.

After installing the machinery, the employer will be required to make a risk assessment of the noisiness as required by the legislation

Tool: Widia Blade maximum diameter 500 mm.

Blade shaft Ø30 mm.

Motor power 2,2 kW

## 4.7

### 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.
  - 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.

# GENERAL DESCRIPTION

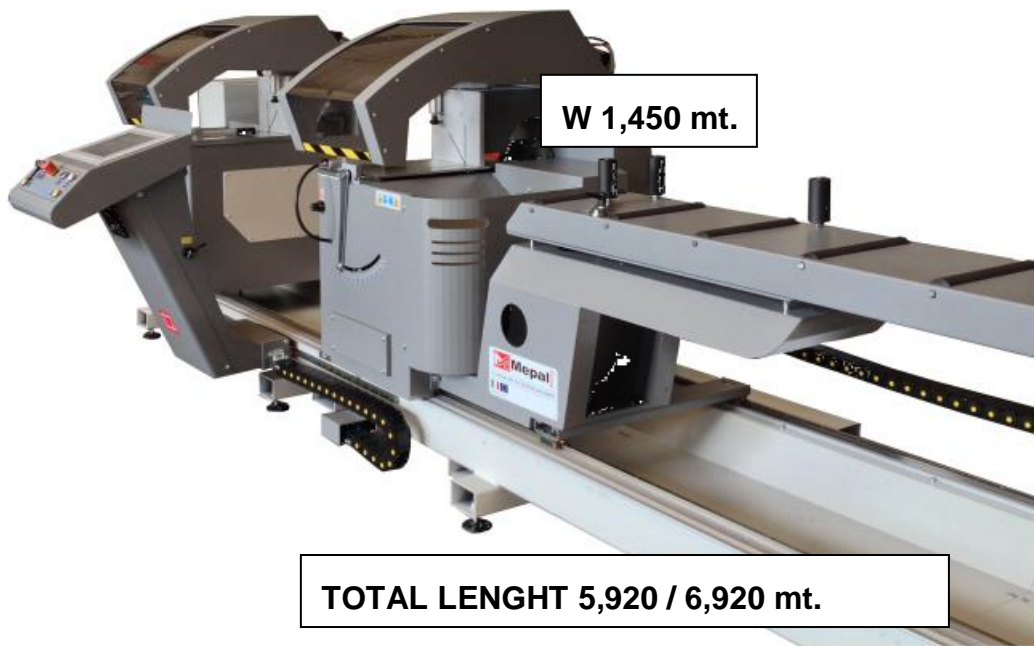
4.8

## DIMENSIONS

H 1,930 mt.

W 1,450 mt.

TOTAL LENGHT 5,920 / 6,920 mt.



NOTICE: Total height includes mobile screens closed.

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



## 4.9 MACHINE'S 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

## 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.



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.

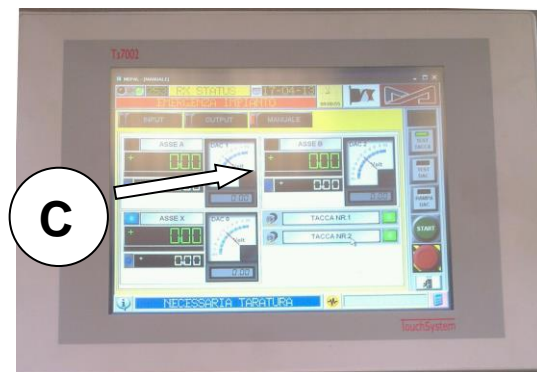
# GENERAL DESCRIPTION

## 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 HEADS 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 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.

# GENERAL 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.



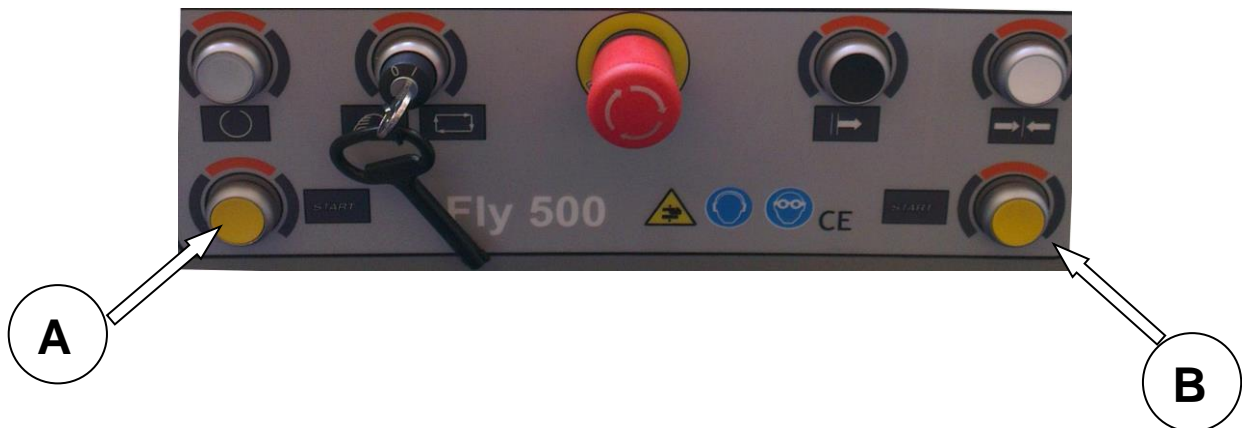
**BLADE RISING CYLINDER**

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)



## **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 CART 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.

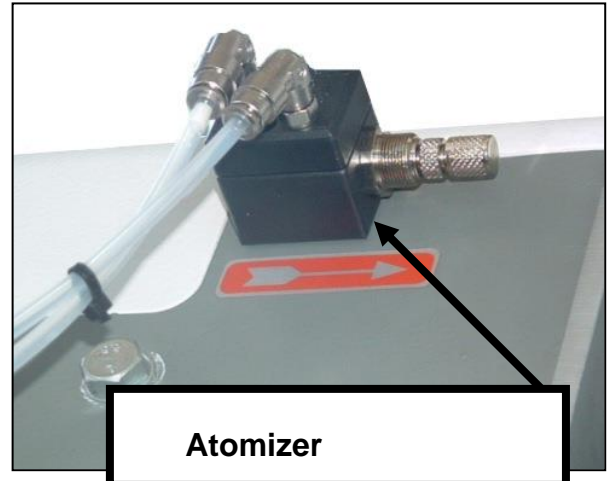
# GENERAL DESCRIPTION

## 4.9 BLADES LUBRICATION

The refrigeration-lubrication of the blades is provided by a pneumatic atomizer, 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.

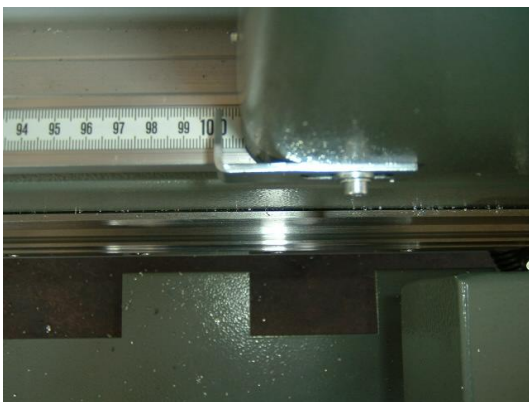
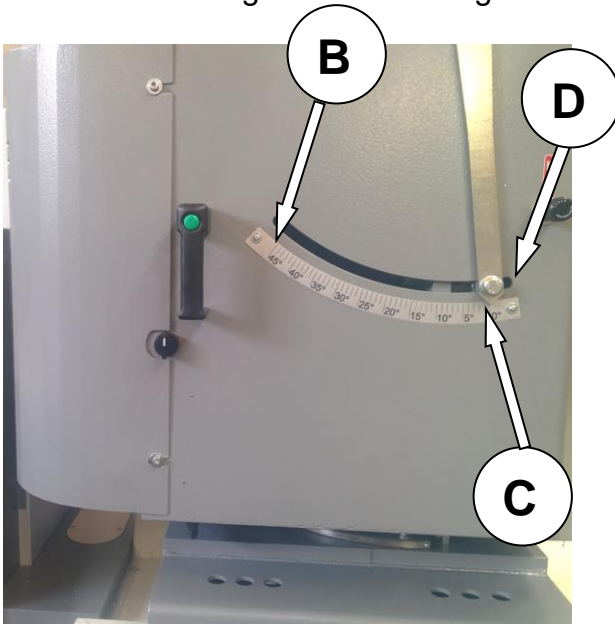
**WARNING:** the refrigerating fluid must have anti-oxidant features and shouldn't be aggressive towards the paint. We require non-toxic and not irritating products ACCORDING TO THE LAW.

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

## 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 references stops at positions of  $45^\circ$  (B) and  $90^\circ$  (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  $90^\circ$ ) and D (if recording  $45^\circ$ ) B; the intermediate positions are obtained by turning the appropriate index (C), making it slide along the slot to the desired degrees and locking it with a special key.

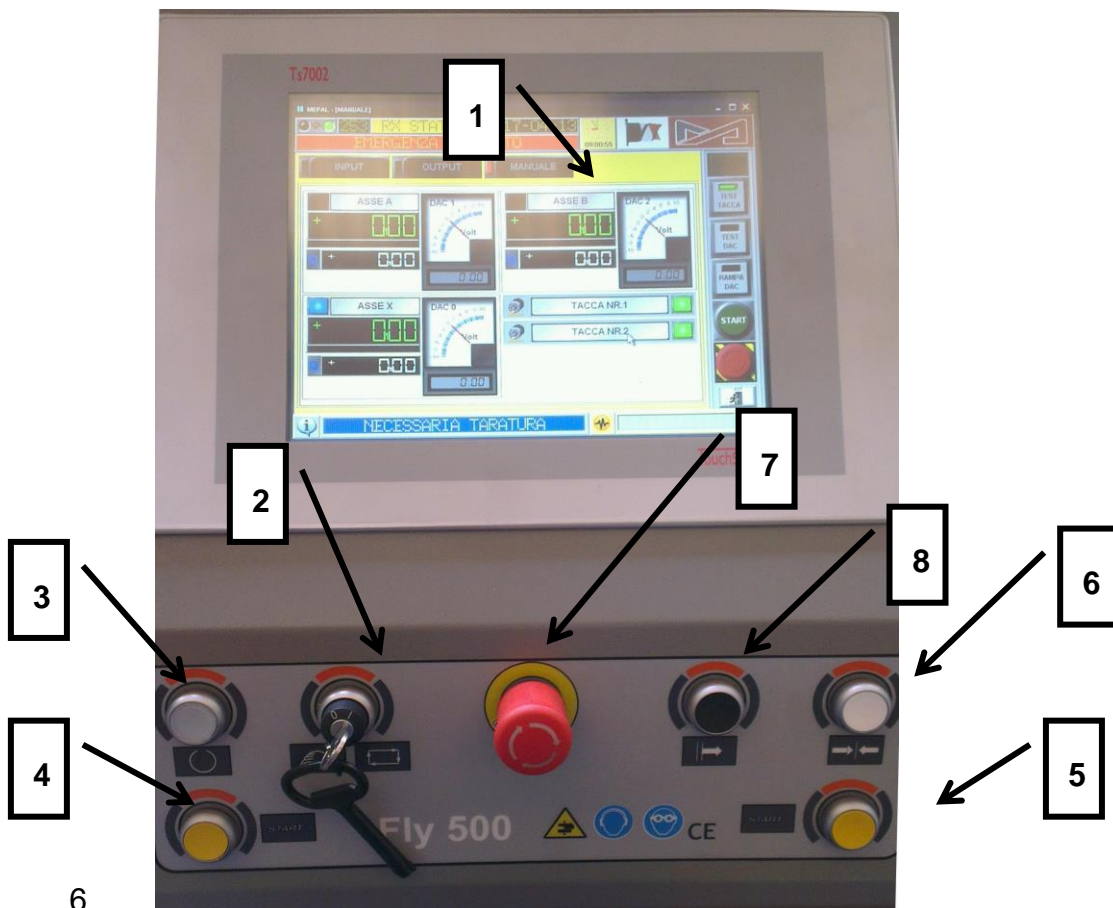


A graduated rod is installed in front part of the basement for reading of the blades' wheel-base.

# GENERAL DESCRIPTION

## 4.11 CONSOLE

5



6

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



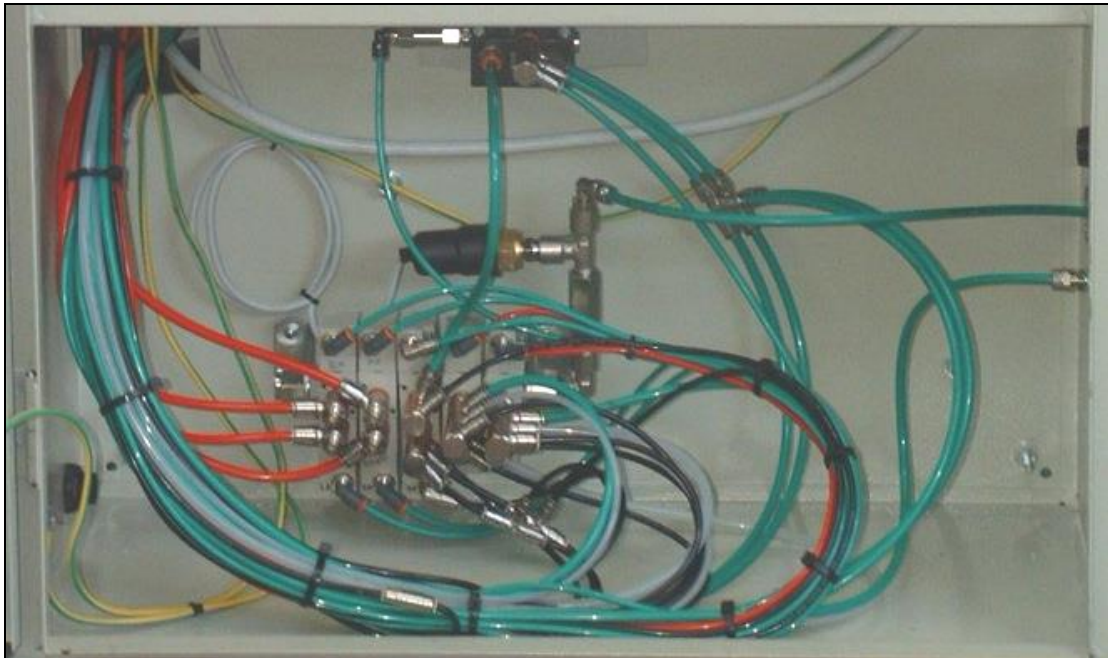
## 6.8 ELECTRIC CABINET

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.



## 6.9 PNEUMATIC PARTS

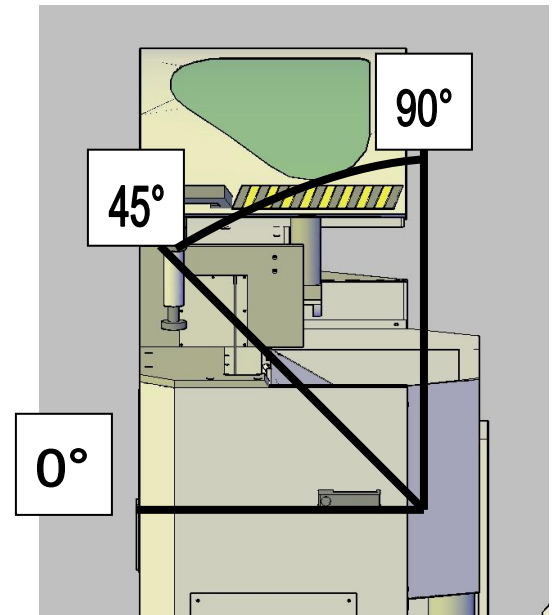
The pneumatic cabinet is placed in a special compartment on the right side of the machine. The pressure gauge can be seen from the door indicating the air pressure.



## 7 USE OF THE MACHINE

### 5.1 MEASUREMENT METHOD

#### 5.1.1 HEAD TILTING



The angle of inclination of the heads is considered at  $90^\circ$  when the blade forms an angle of  $90^\circ$  with respect to the horizontal plane. Conventionally is considered at  $0^\circ$  when the blade is fully rotated towards the outside of the machine and  $180^\circ$  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.

#### 5.1.2 LENGTH

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  $90^\circ$ . Cutting a profile with inclinations other than  $90^\circ$ , the operator must position the machine whereas the profile rests on the horizontal plane of the machine on the short edge, while the longer edge is detached from the plane of the whole

## USE OF THE MACHINE

thickness of the profile itself. When setting the measure one must also consider the thickness of the eventual counter-profile.

In fact, often and especially with aluminum profiles, on the horizontal supporting plane of the machine are installed counterblocks fixed, drawn in the negative shape of the profile to be cut. This will improve the horizontal support of the profile: instead of 5 mm (or less) it exploits the entire width of the tubular support and you get a much more stable. Doing so, however, the profile no longer rests on the floor, but at a certain distance from the same (exactly the thickness of the counter-profile) and the point of support is no longer the flap, or a tooth, but the tubular element. If the measure in length of the profile available to the operator does not refer to the side of support of the profile, but to the outside (i.e. at the long extremities of the profile), we use the formula:

$$\text{Distance between blades} = \text{Length} - [ \text{ctg } \alpha + \text{ctg } \beta ] \times \text{tot. Thickness}$$

with:  $\alpha$  = left head tilting

$\beta$  = right head tilting

Length = along the longer edge of the profile

tot. Thickness = distance between horizontal plane of the machine and the longest side of the profile. I.e. the thickness of the counter-profile plus the thickness of the profile, measured from the support point of the counter-profile and the side to which we refer the measurement.

### **Tilting of 90/45 or 45/90:**

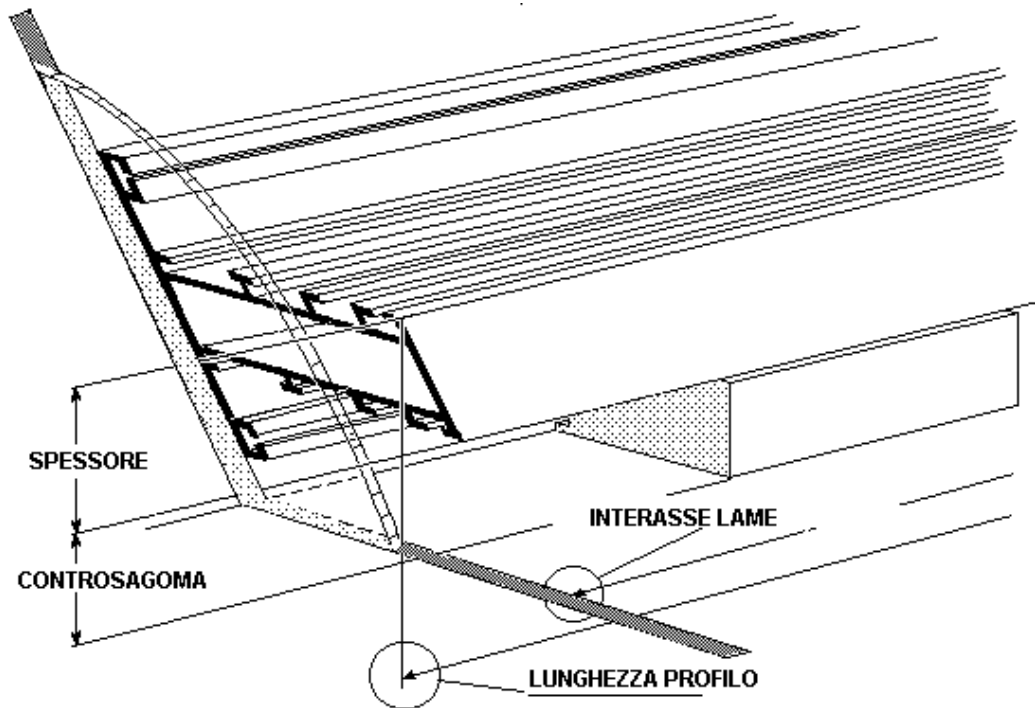
In the more general case of cutting at 45° the formula is simplified (ctg 45° = 1) and becomes

$$\text{Distance between the blades} = \text{Length} - \text{tot. thickness}$$

### **Tilting of 45/45:**

## USE OF THE MACHINE

Distance between blades = Length - 2 x tot. thickness



To facilitate the task of the operator, there have been inserted three indices of reference for the measurement: the first, as already anticipated in § 4.10 measurement systems, indicates the exact distance between the blades and it is used for cutting 90/90 (both heads at 90 °). The second should be spaced from the first value of "total thickness" of your most frequently used profile. The third must be spaced from the second of the same size (and therefore twice the value "total thickness" from the first).

Doing so, at least for the profile that is used most frequently, the operator does not need to calculate each time the measurement but, more simply will refer to the second index when a single blade is at 45 ° and the third index when are. both If then we get used to calculate the lengths of the profiles to be cut to the tip of the flap not stops but at the outer side of the tubular element, the reference marks will work no longer for only one profile but for the majority of the profiles of the same series.

# 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.
- 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.

## USE OF THE MACHINE

- 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)
- 9) Switch off the engines before changing the measurement, with the specific safety key (5)

**The operation of the Emergency Stop in the machine is executed by pressing the corresponding red button, such action causes the immediate stop all moving and started parts.**



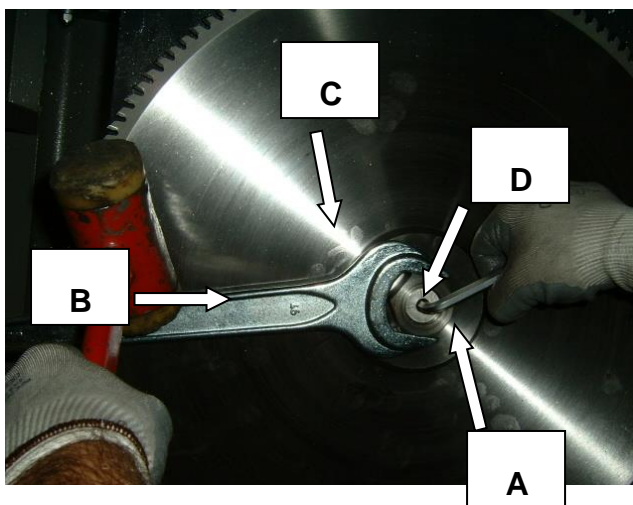
## 6 MAINTENANCE



**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 disconnecting the electric power and the pneumatic supply from the machine.

### 6.1 REPLACING THE BLADE



To replace the blade follow these steps::

- Put the wrench key (**B**) on the nut (**C**) the locks the flange (**D**)
- Insert the allen key (**A**) in the motor shaft turning it clockwise for the fixed head and counterclockwise for the mobile to loosen the nut (**C**)
- Remove the nut (**C**) and the flange (**D**)
- Replace the blade with a new one
- Place the flange (**D**) and the nut (**C**) in the initial position using the correct keys

### 6.2 WHAT TO DO IF: . . . .

#### 6.2.1 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.

## 6.2.2 THE POWER BUTTON DOES NOT LIGHT



If pressing the enable button occur does not general the switch is plugged in and that arrives to the current

the starting, make sure 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.

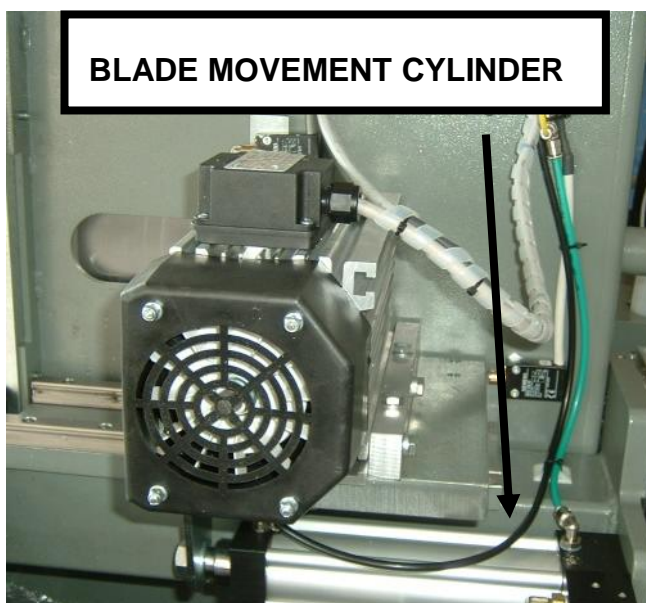
## 6.2.3 THE BLADE DOES NOT COME OUT

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.

## 6.2.4 THE BLADE COMES FORWARD IRREGULARLY

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.

# MAINTENANCE

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.

**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:

<b>Vanguard</b>	Supermatic 32	<b>Gulf</b>	ATF Dexron II
<b>Fiat</b>	GI/A	<b>Mobil</b>	ATF 220
<b>Esso</b>	ATF Dexron II	<b>AGIP</b>	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.

## 6.2.5 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.



**The manufacturer is not responsible for the failure to comply with these recommendations and for each other use deformed or not mentioned in the instructions.**

# MAINTENANCE

## 7.1 COMMON PROBLEMS



PROBLEMS	CAUSE	SOLUTION
MACHINE DOES NOT WORK	Main switch off	Turn on the main switch
THE MACHINE STOPS WHILE WORKING	There is one missing phase	Check the phases
	Thermal overcurrent	Find and remove the cause
THE CUT HAS NOT BEEN MADE EFFICIENTLY	Worn blade	Replace the blade
	Not enough lubrication	Check the lubrication
ABNORMAL WEAR OF THE PNEUMATIC PARTS	No pneumatic lubricant in the plant	
	Unpurified compressed air	Replace filter
	Water in the plant	Check and fix drain points

## 7.2 ORDINARY MAINTENANCE



**WARNING: All the maintenance operations must be carried out by personnel trained for the purpose.**

**Before performing any maintenance and / or repair, you must isolate the machine from the electric power supply and pneumatic power supply**

### 7.2.1 GENERAL PRESCRIPTIONS

Maintenance includes regularly scheduled inspections, checks and interventions to prevent interruptions and breakdowns, to keep under systematic control the state of machine lubrication and the condition of wearing parts.

Such operations, although simple, must be performed by qualified personnel.

The machine has been designed to minimize routine maintenance, it is the operator judge the state and its suitability for use.

It is recommended, however, to arrest and to intervene with maintenance every time you hear an operation is not optimal, this will always have maximum efficiency.

Always use the necessary safety protection and clothing.

Visually check the conditions of the individual parts of the machine, making sure that there are no defects caused by failures or deformation.

For all maintenance that does not require voltage it is necessary to turn off the machine by sectioning the power from the main switch, locking it, with a suitable padlock, in a position "O" (OFF).

Check and try once a month the proper functioning and operation of the Emergency Stops of the electrical panel.

In case of malfunction entrust the search of the failure only a to service technician or contact the Service Department of the manufacturer of the electrical panel.

Check the grounding according to CEI EN 60207-1 p. 18.2.2 regulation.

# MAINTENANCE

## 7.2.2 SCHEDULED MAINTENANCE PROGRAM

<b>Type of work</b>	<b>Frequency</b>
Cleaning the work area	Daily
Check oil level of the lubricator	Daily
Check operation stop emergency	Monthly
Lubrication of the carriage bearings of the mobile head	Monthly
Visual inspection of the Pneumatic hoses	Monthly
Removing cover from the motor side To remove chips	Every 3 months
Lubrication of the blade unit bearings	Every 3 months
Pneumatic valves operation checks	Every 6 months (qualified personnel is required)

## 7.3 SERVICE

The network of services is developed nationally and internationally.

For specific problems, please contact the following numbers:



**TEL.: 9005542055**

**WARNING:** 

*When you decide not to use this machine, because hopelessly outdated or fails, take the unit out of service by making it inoperative and free of danger. Disconnect the machine from the power supply, disconnect the air ducts, disassemble tools and all parts added. Close them inside enclosures securely closed. Seal the machine in a rugged packaging, and dispose of operating in accordance with current regulations addressing the local organizations responsible for such operations.*

## 7.4 WARRANTY

*The AMERI-CAN ensures that the machine purchased, before being delivered to the buyer has been tested successfully. The warranty is 12 months and refers to the quality of the material and the lack of construction defects. In case of replacement of defective parts the customer is required to bear the costs of transport and between-packaging.*

*Damage due to tampering, falls, improper use of the machine are not covered.*

*It is recalled that modification interventions made by the user, without the express written consent of the manufacturer will void the warranty and relieves the manufacturer from any liability for damages caused by defective product.*

*This is particularly true when these changes are made on security devices, degrading their effectiveness. The same considerations apply when using non-original spare parts or other than those explicitly specified by the manufacturer as "safety devices".*

*We recommend, therefore, our customers to contact our Customer Service, before making the above work on the machine.*

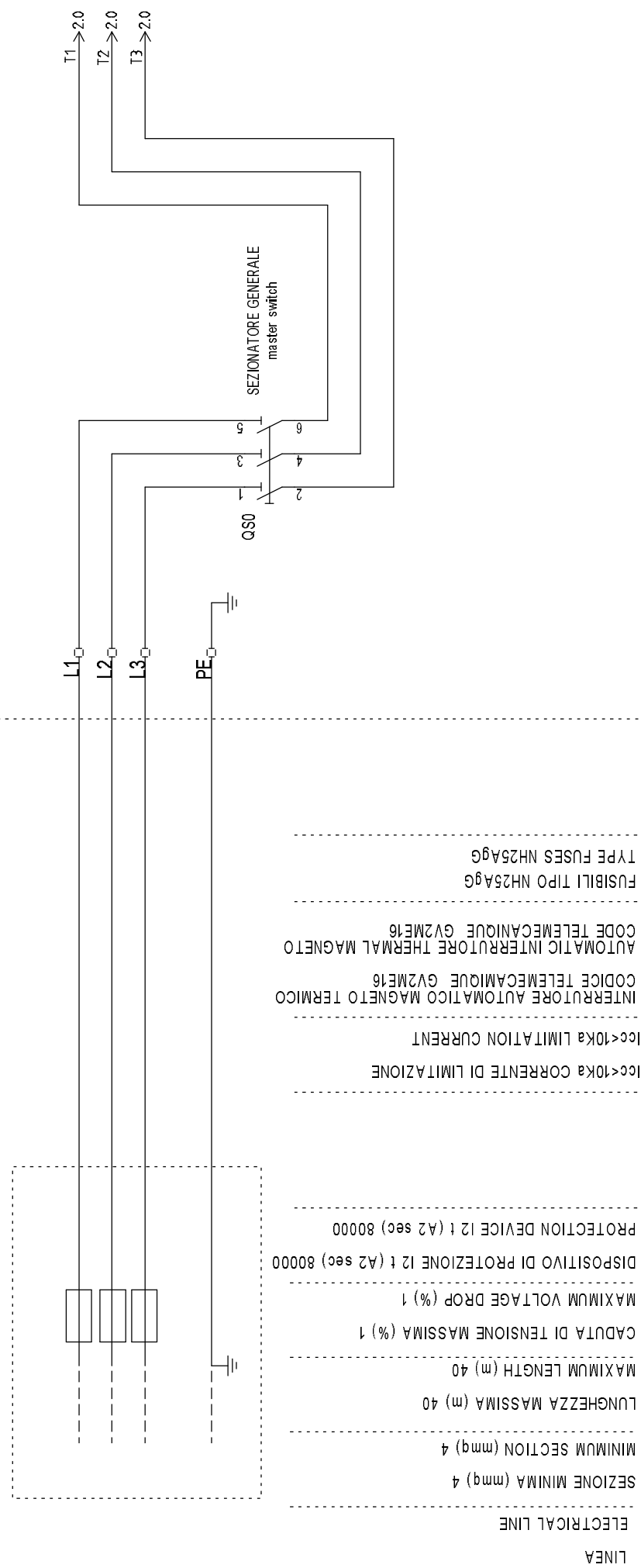
*Defects clearly and visibly present for the delivery of the product (cosmetic defects on visible parts, cracks, dents, malfunctions, missing parts etc.) Must be immediately reported to the company.*

*The guarantee does not apply if failure to comply with conditions of payment set of purchase. When servicing expenses, related to parts not covered by the warranty and other costs, they will be paid directly to the technician, who will issue a service card.*

*For such expenses will follow an invoice and will cost reported in the current price list.*





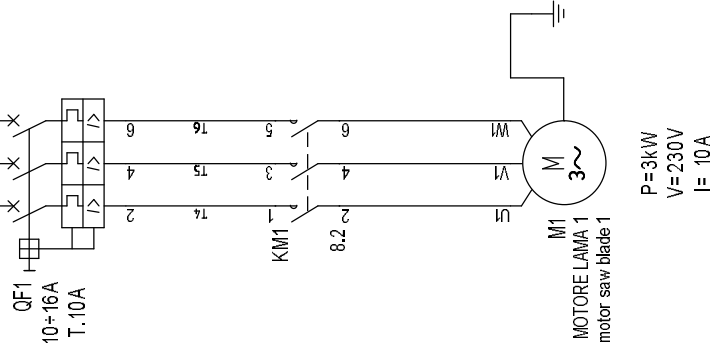


**DIMENSIONAMENTO  
DISPOSITIVO DI PROTEZIONE**

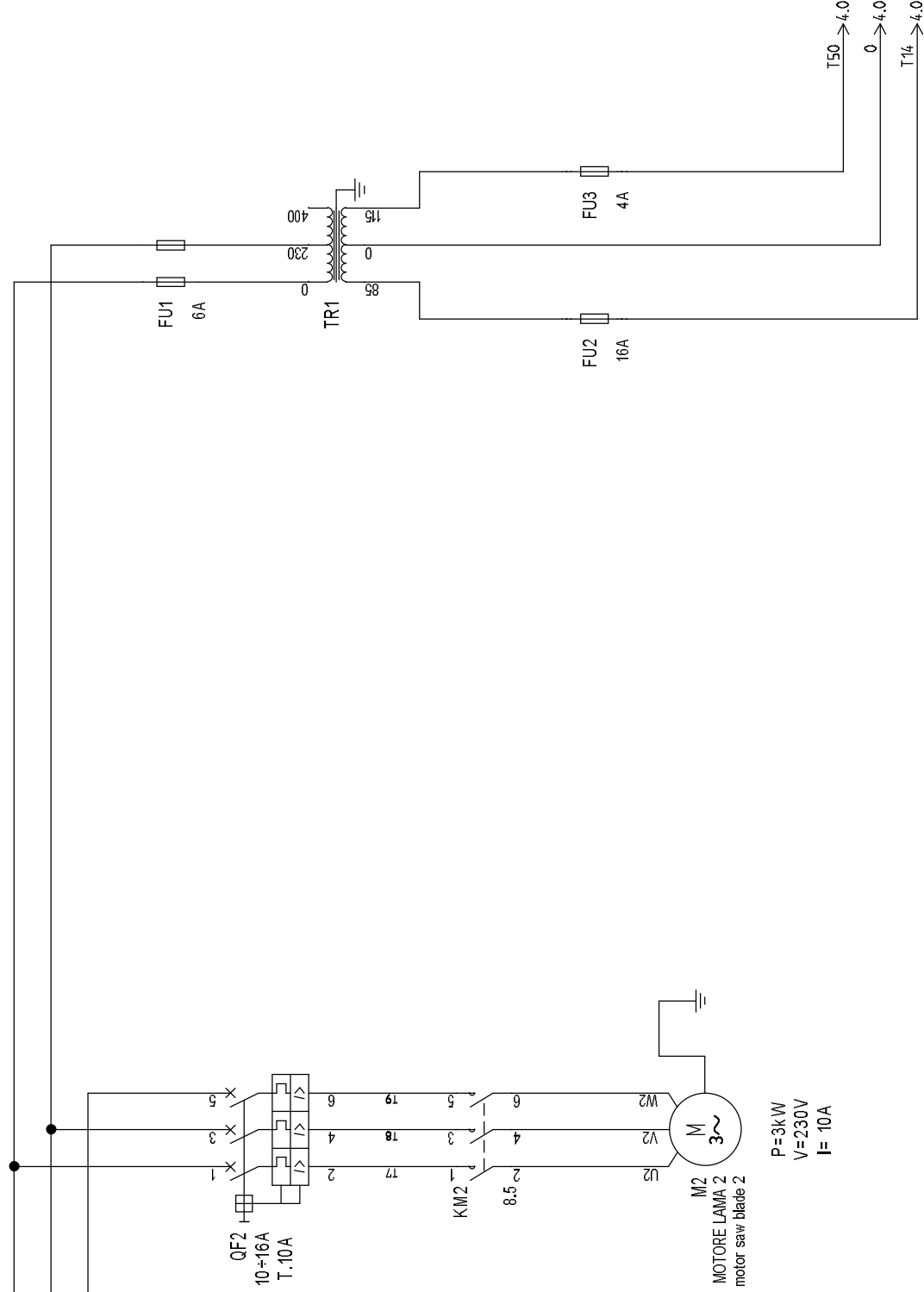
**PROTECTION  
DEVICE DIMENSIONING**

# A CARICO DELL'UTENTE CHARGED TO THE USER

1.9 > T1 → 3.0  
 1.9 > T2 → 3.0  
 1.9 > T3 → 3.0

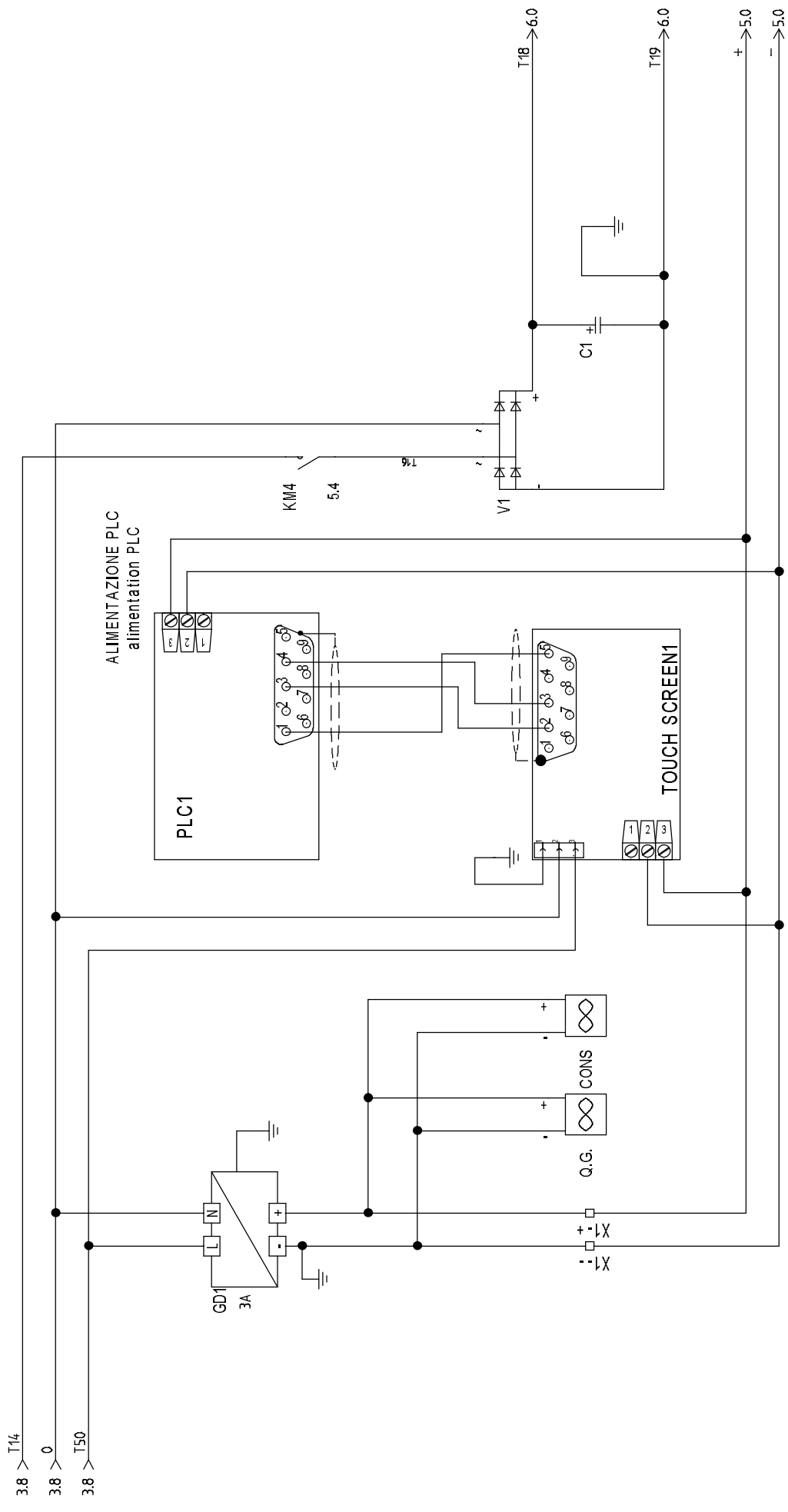


2.9 > T1  
 2.9 > T2  
 2.9 > T3



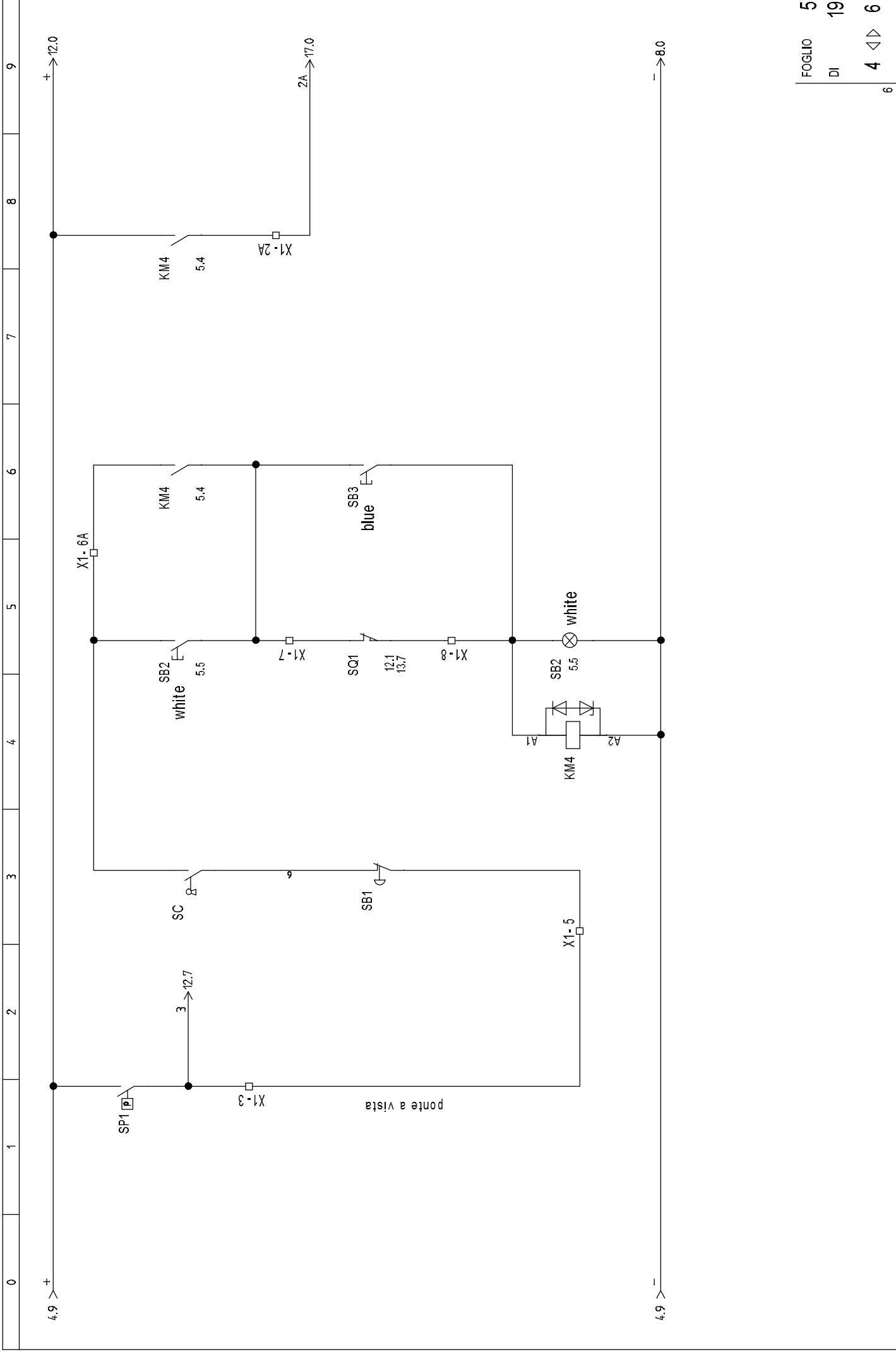
P=3kW  
 V=230V  
 I= 10A

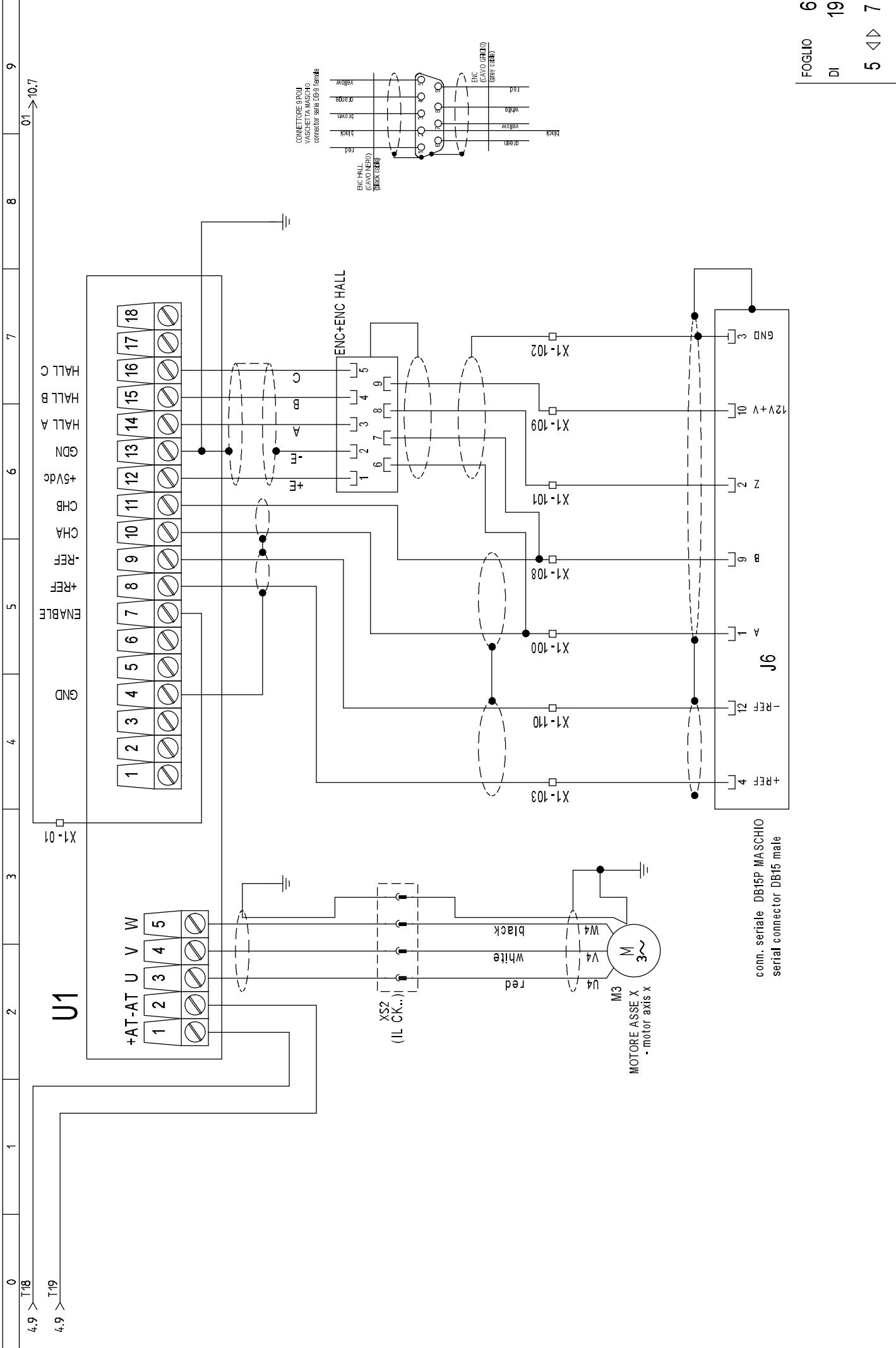
M2  
 MOTORE LAMA 2  
 motor saw blade 2



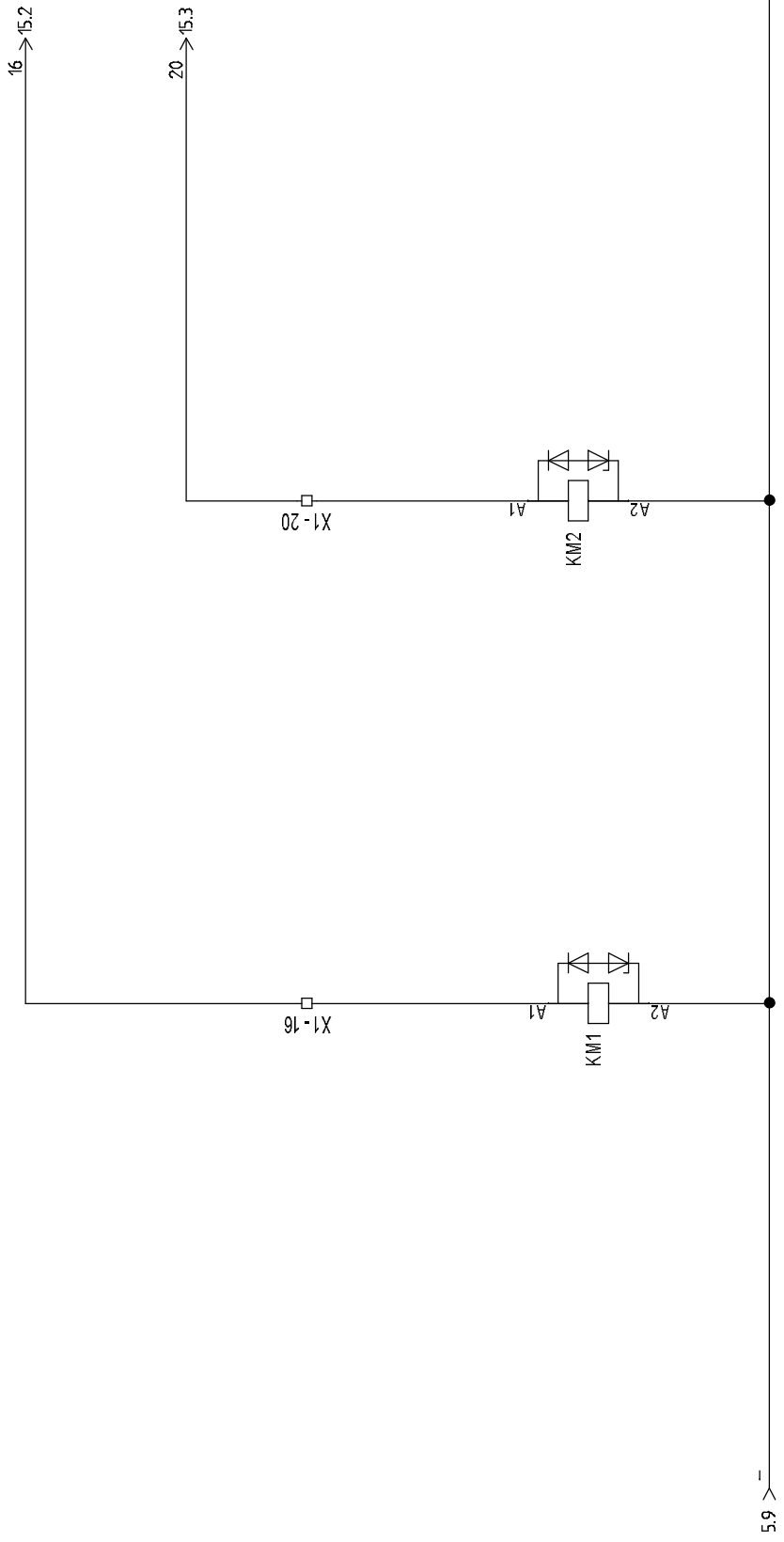
ALIMENTAZIONE AUX 24Vdc  
alimentation aux 24Vdc

ALIMENTAZIONE AZIONAMENTO  
alimentation axis driver

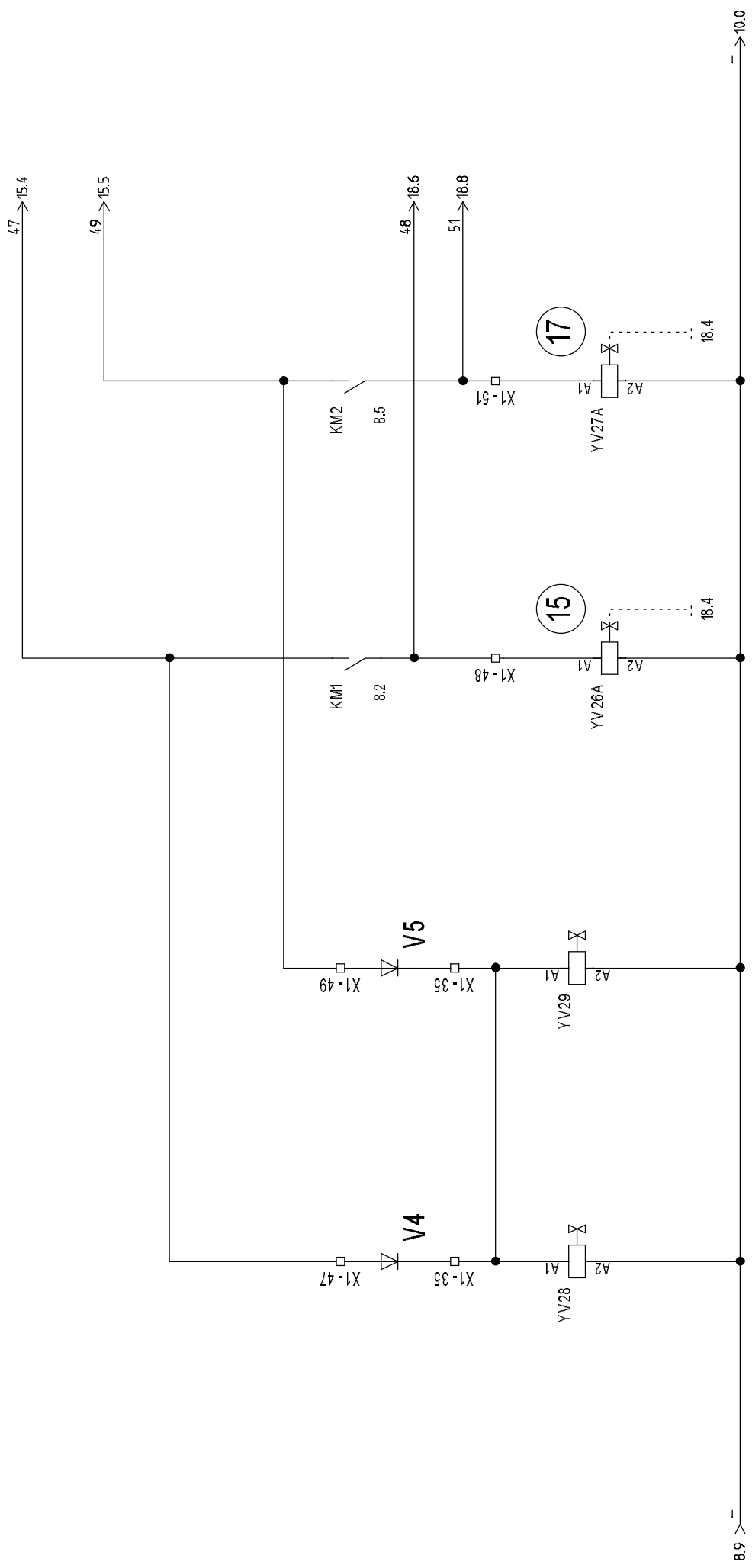




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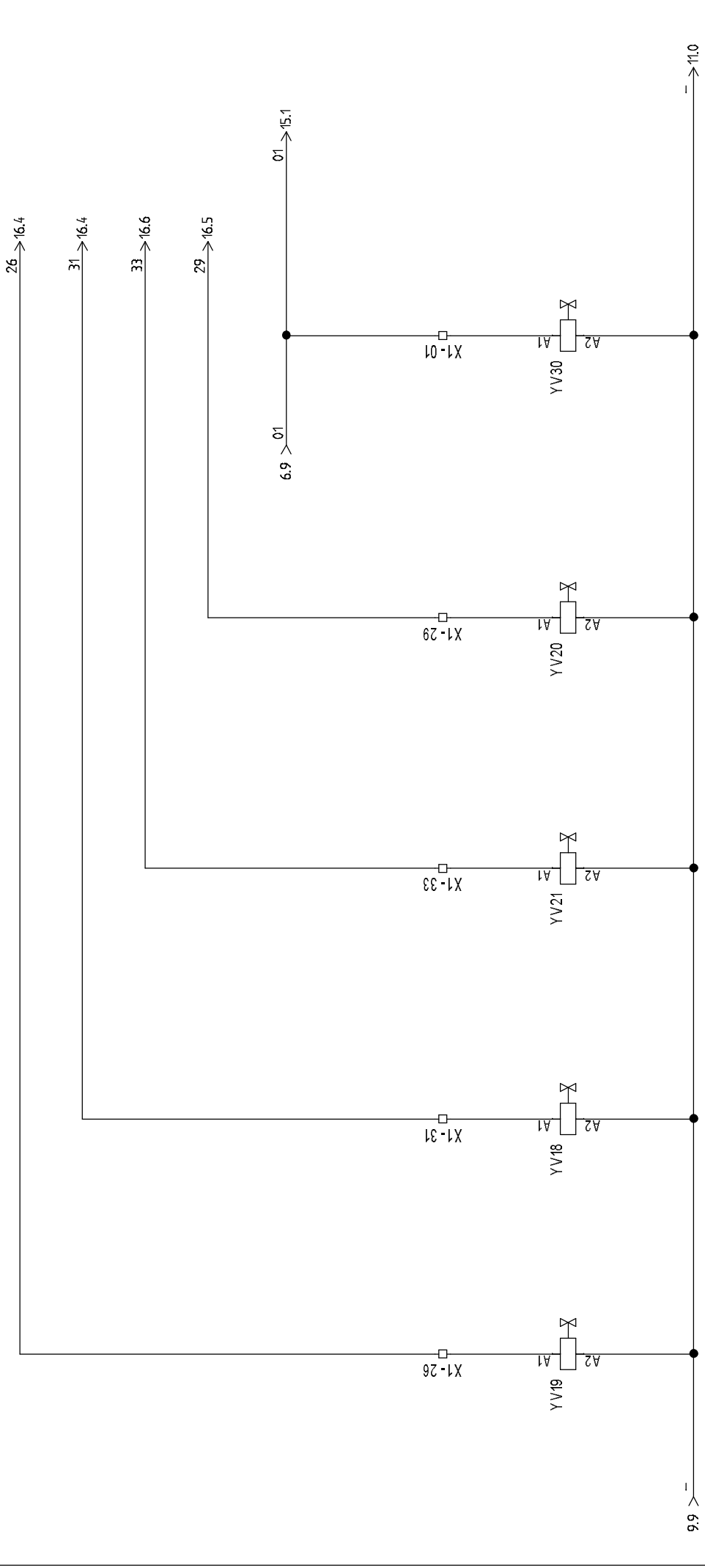


ALTA PRESSIONE  
high pressure

ALTA PRESSIONE  
high pressure

CHIUSURA PROTEZIONE 1  
closing protective covering 1

CHIUSURA PROTEZIONE 2  
closing protective covering 2



9.9 > -

CHIUSURA MORSA TESTA 1  
closing the vise head 1

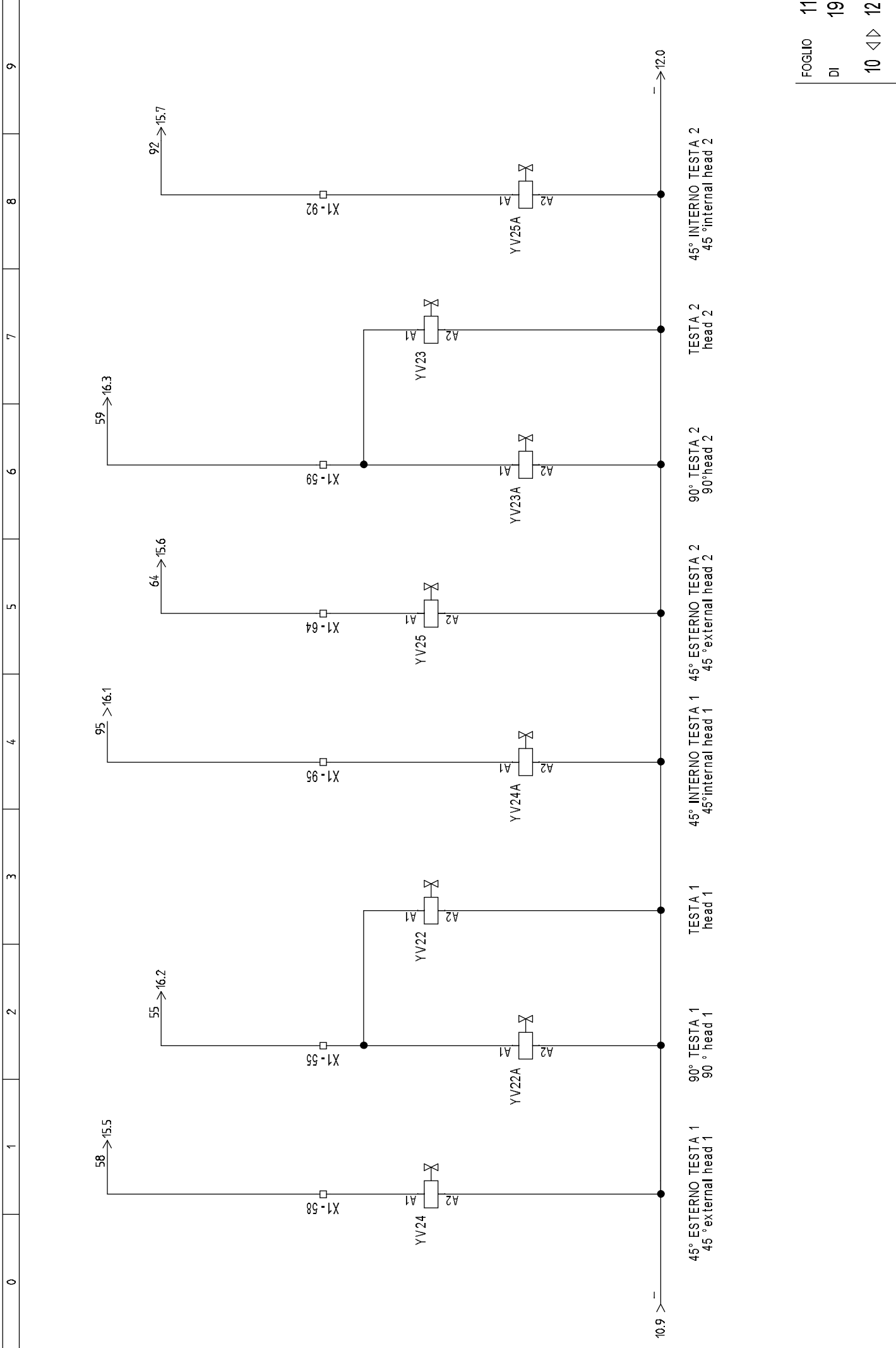
APERTURA MORSA TESTA 1  
opening the vise head 1

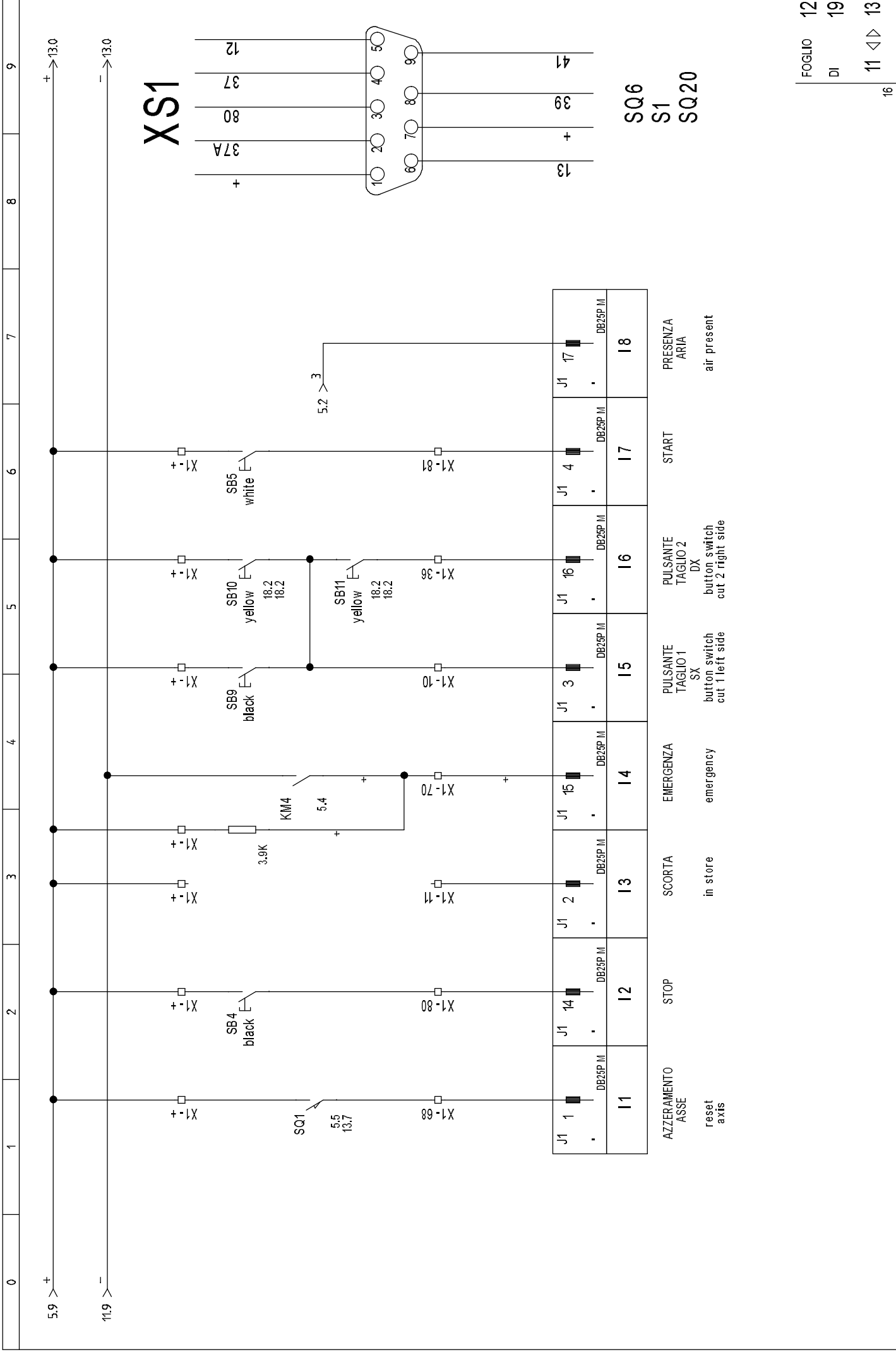
CHIUSURA MORSA TESTA 2  
closing the vise head 2

APERTURA MORSA TESTA 2  
opening the vise head 2

FRENO  
brake

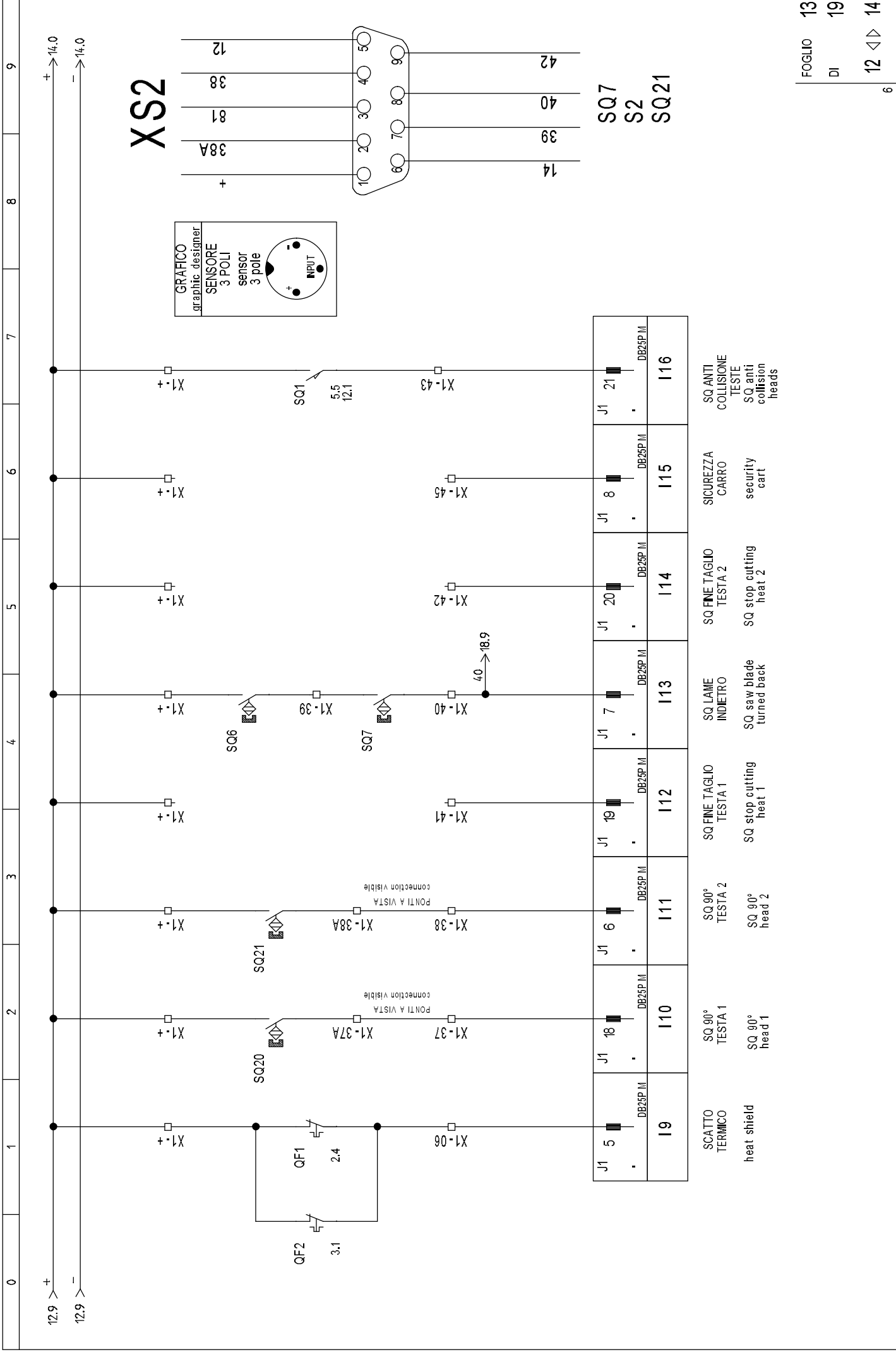
- > 11.0



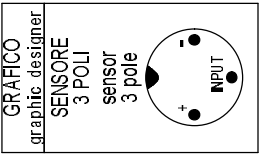


# XS1

SQ6  
S1  
SQ20



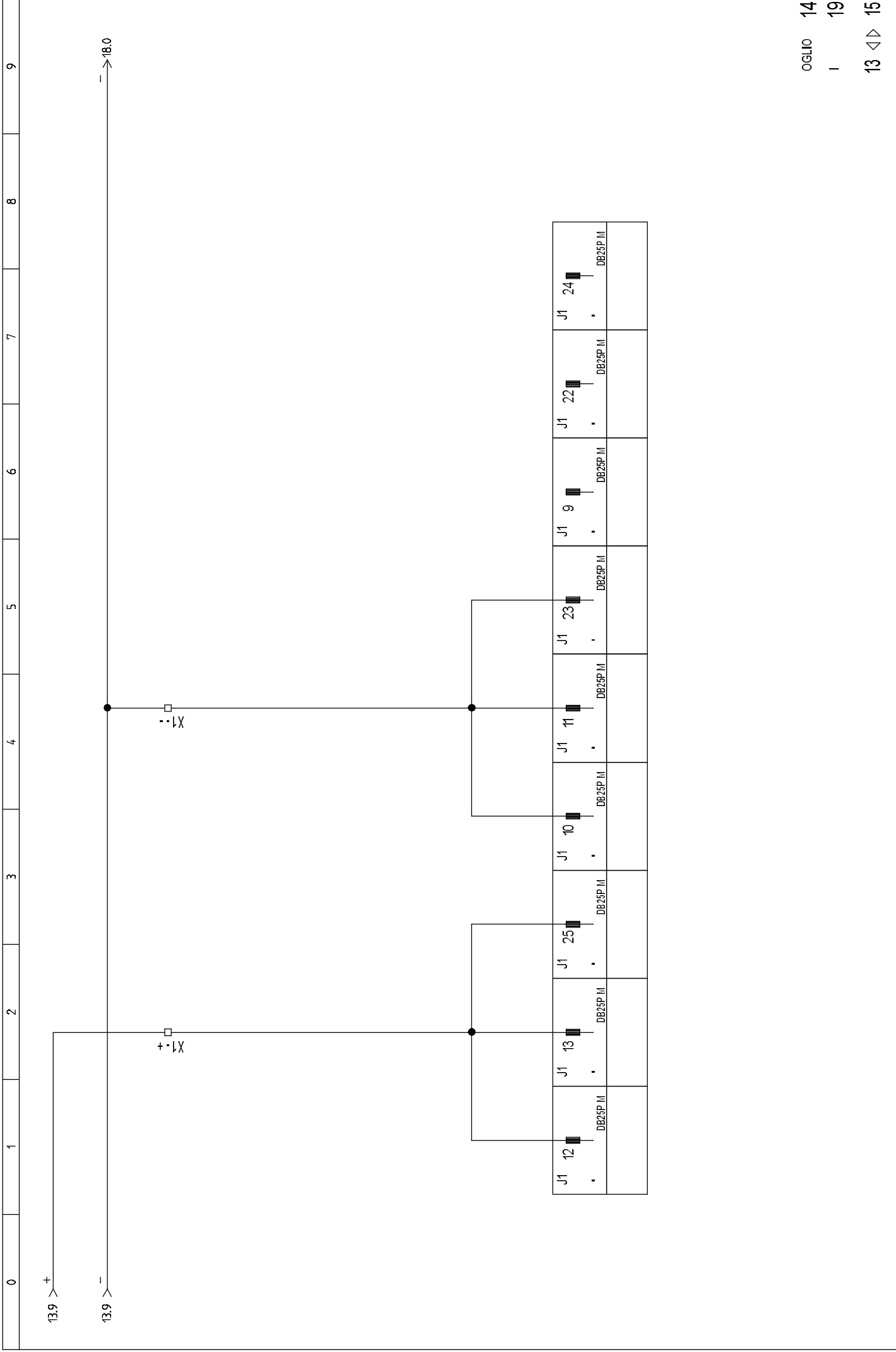
# XS2



SQ7  
S2  
SQ21

14 39 40 42

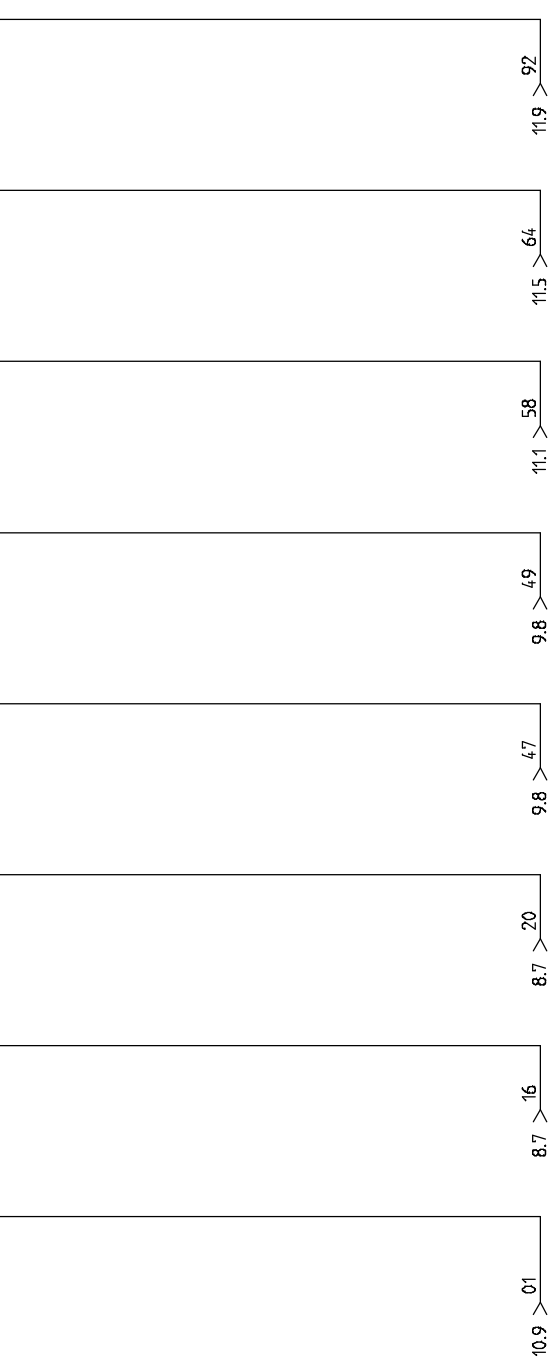
12.9 > +      + → 14.0  
12.9 < -      - → 14.0



ENABLE START/STOP START/STOP CHIUSSURA CHIUSSURA 45° ESTERNO 45° INTERNO  
 ASSE CARRO MOTORE LAMA 1 MOTORE LAMA 2 PROTEZIONE TESTA 1 PROTEZIONE TESTA 2

enable start/stop start/stop closing protective closing protective 45°external 45°internal  
 axis cart motor saw blade 1 motor saw blade 2 covering heat 1 covering heat 2 head 1 head 2

O1	O2	O3	O4	O5	O6	O7	O8
J2 .   1	J2 .   14	J2 .   2	J2 .   15	J2 .   3	J2 .   16	J2 .   4	J2 .   17
DB25P F	DB25P F	DB25P F	DB25P F	DB25P F	DB25P F	DB25P F	DB25P F



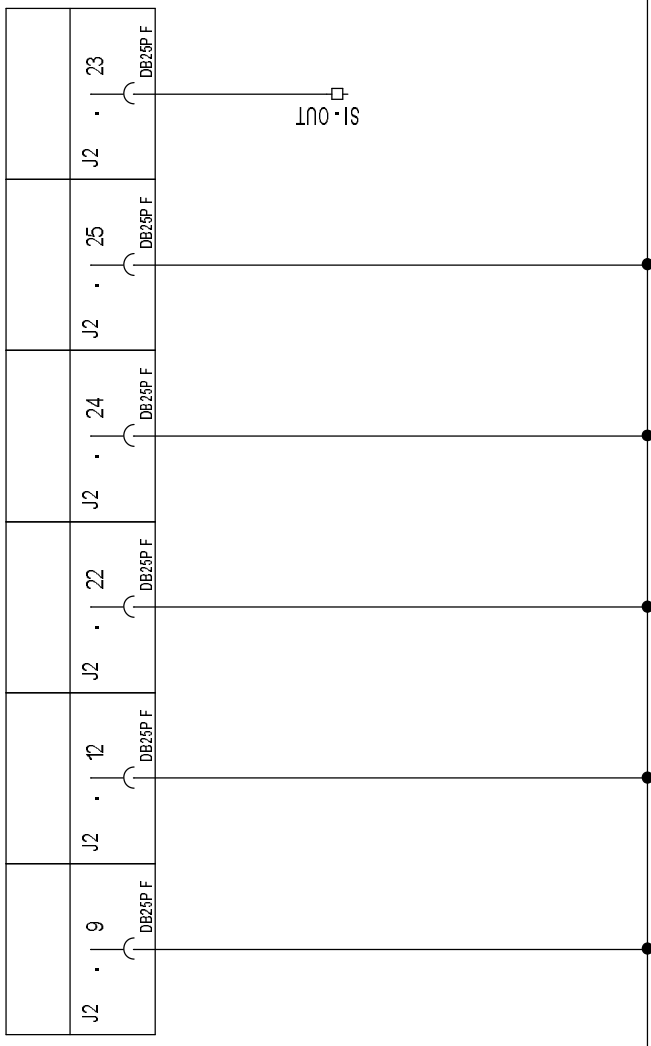
- (13) KM1
- (15) YV28 YV29 +KM1
- (17) YV28 YV29 +KM2
- (4)
- (10)
- (22)





5.9 > 2A

2A > 18.0





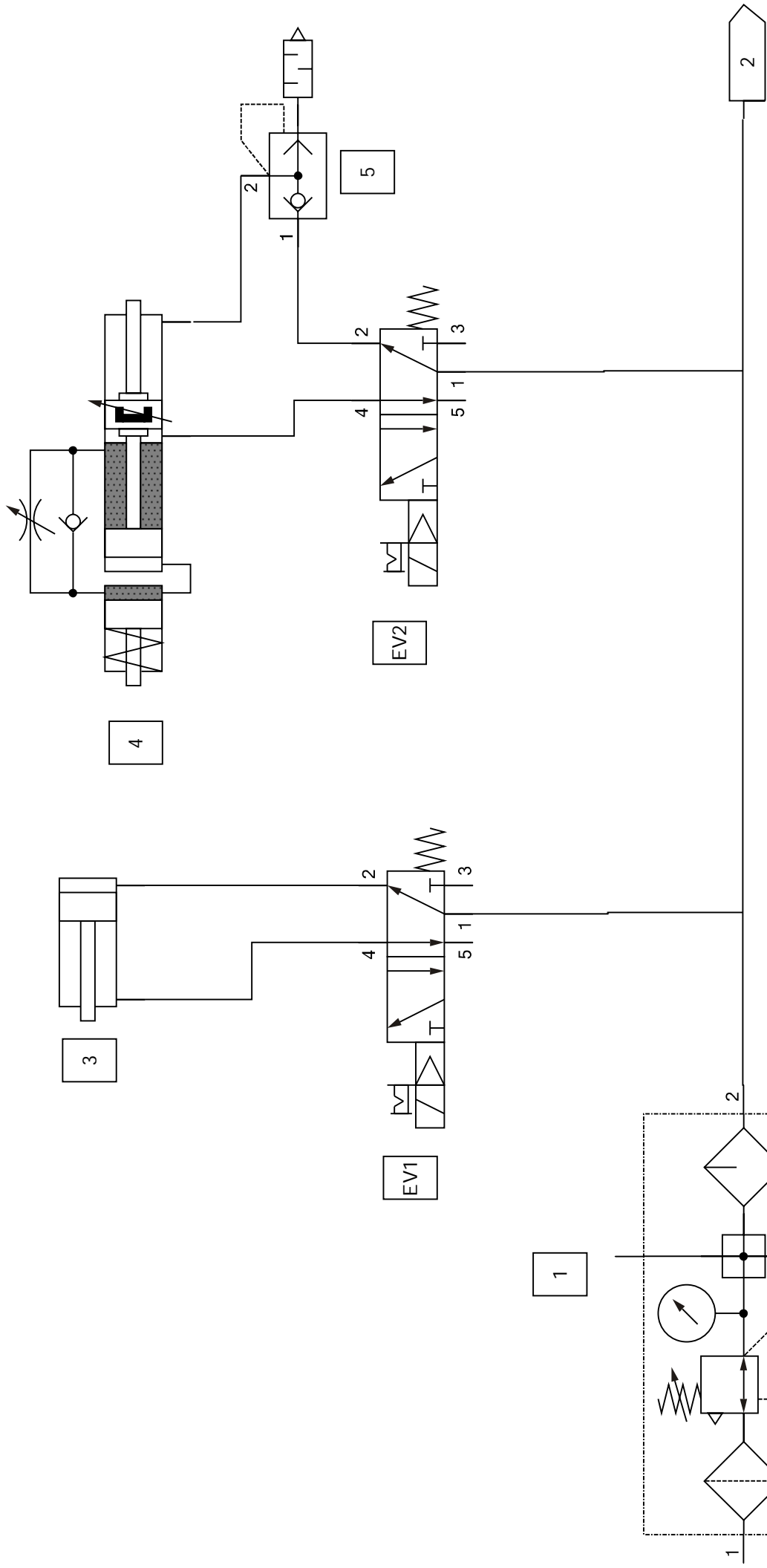
# GX4

1	BIANCO	26
2	MARRONE	31
3	VERDE	55
4	GIALLO	58
5	GRIGIO	52
6	ROSA	
7	BLU	33
8	ROSSO	29
9	NERO	59
10	VIOLA	64
11	GRI/ROSA	53
12	ROSSO/BLU	
13	BIA/VER	01
14	MARR/VER	
15	BIA/GIA	48
16	GIA/MARR	48B
17	BIA/GRI	51
18	GRI/MARR	51B
19	BIA/ROSA	55
20	ROSA/MARR	95
21	BIA/BLU	59
22	MARR/BLU	92
23	BIA/ROSSO	
24	MARR/ROSSO	-
25	BIA/NERO	-

cod. FLY 500 2014		pin	sigla	descrizione
CONN. 25P MASCHIO				
26	1	3	55	90° TESTA 1 CHIUSURA MORSE TESTA 1
52	5	5	52	AVANZAMENTO LAMA TESTA 1
33	7	7	33	CHIUSURA MORSE TESTA 2
29	8	8	29	APERTURA MORSE TESTA 2
64	10	64	10	45° ESTERNO TESTA 2
53	11	11	53	AVANZAMENTO LAMA TESTA 2
01	13	13	01	FRENO ASSE X
48	15	15	48	CHIUSURA PROTEZIONE TESTA 1
51B	18	17	51	APERTURA PROTEZIONE TESTA 2

# **SCHEMA PNEUMATICO PNEUMATIC DIAGRAM**

**DUCM 500**



IM4	IM3	IM2	IM1	I.M.	DESCRIZIONE MODIFICA	FIRMA	DATA	CONTROL.	DATA	DISEGNATO	CONTROLLAT.
										03-07-2014	03-07-2014
DISEGNO ESEGUITO CON SISTEMA CAD NON SONO AMMESSE MODIFICHE MANUALI											
										COD. CAD	I.M.
										SCALA	
										N. DISEGNO	<b>1</b>







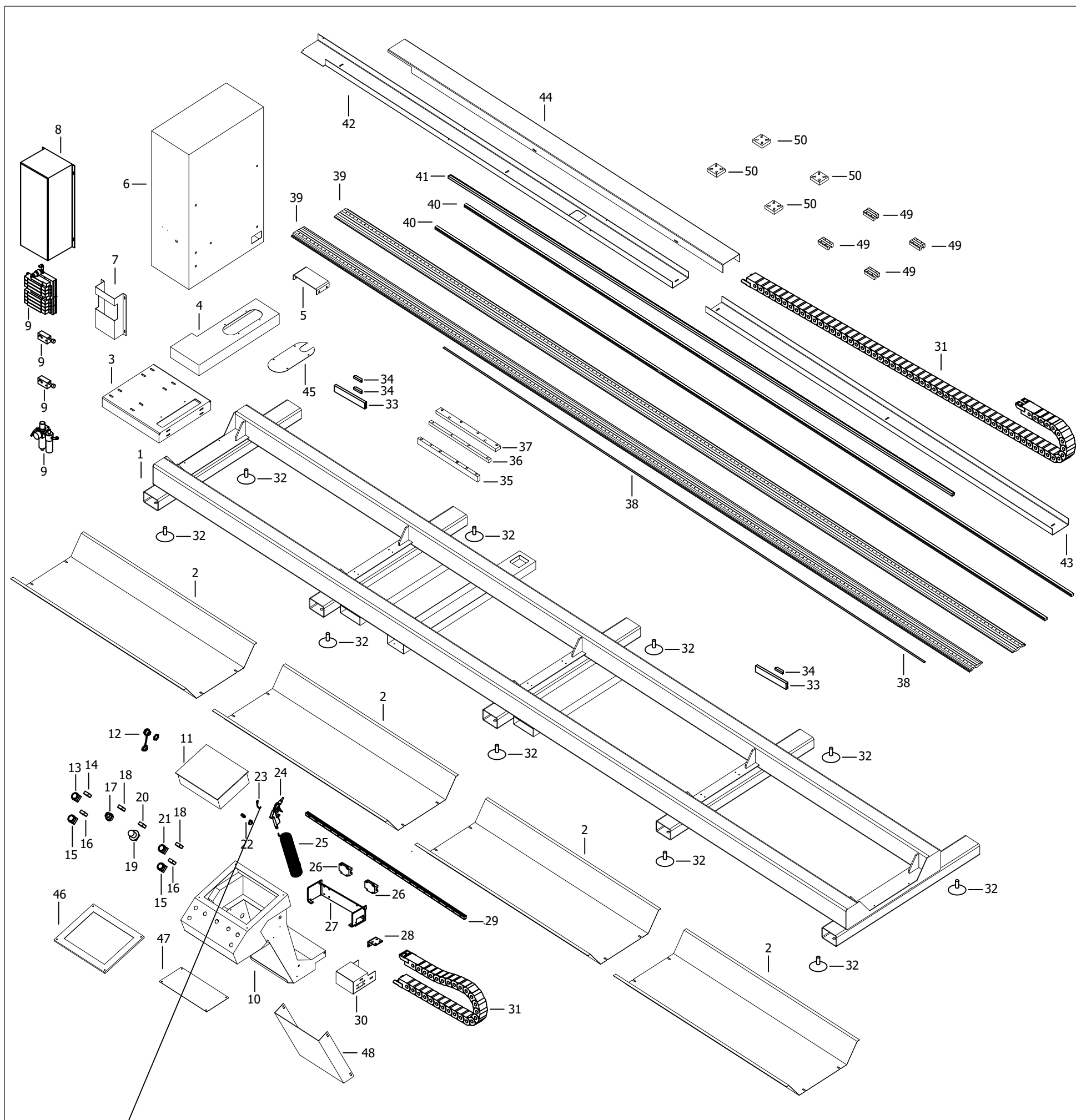




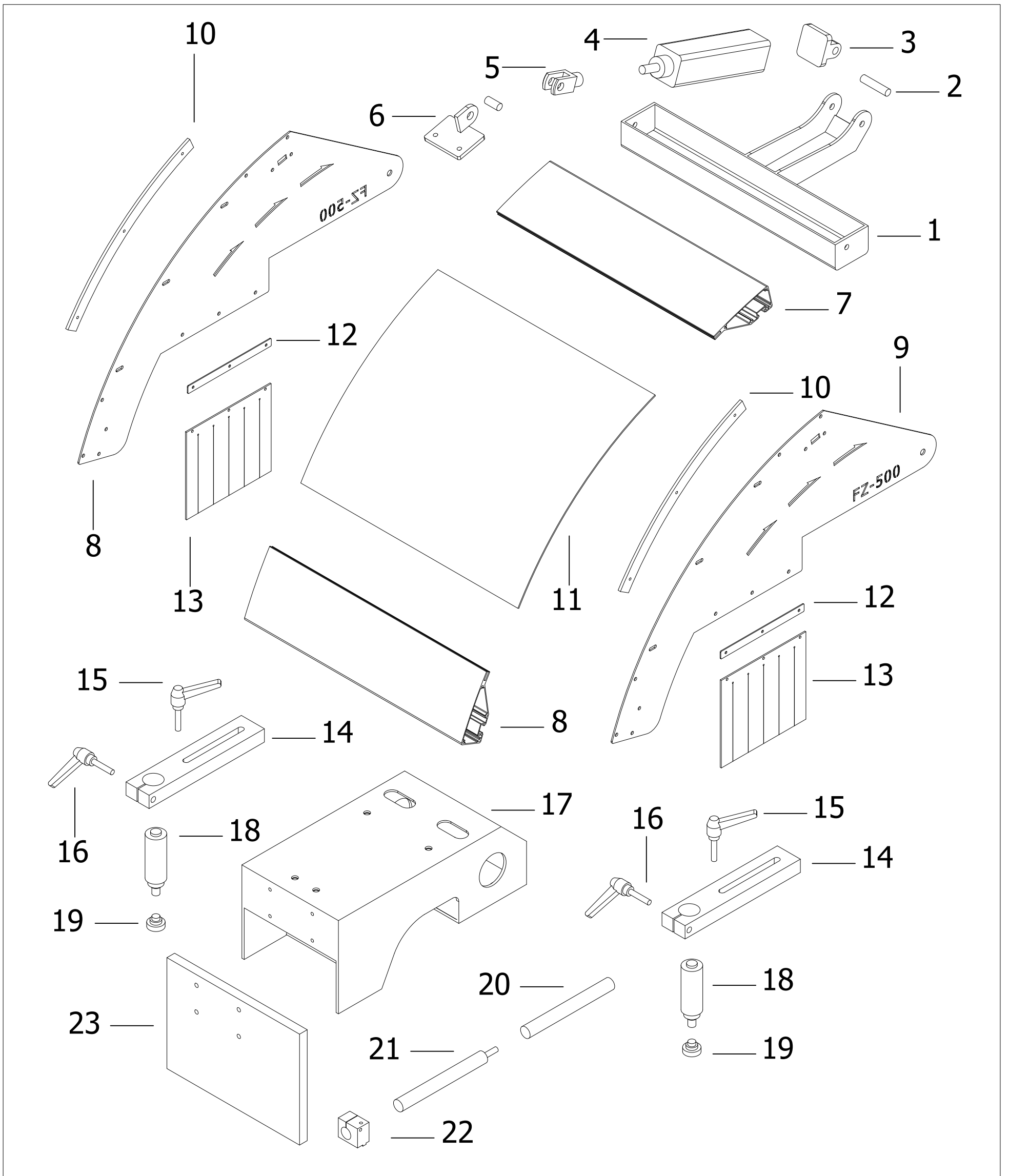


	A	B	C	D	E
1			<b>DISTINTA MATERIALE + FUNZIONI</b>		
2					
3	<b>Initials</b>	<b>Page</b>	<b>Code</b>	<b>Description</b>	<b>Function</b>
4	1	1	CA-71011+CA-70042+CA-70043	FRL Group	Air filtering and pressure regulation
5	2	1	CA-70045+CA-70046	Manostat	Pressure detection
6	EV1	1	BT-71082	Solenoid monostable valve 5/2	Mobile carriage brake
7	3	1	CN-71496	Cylinder D.40 C.5 D.E.	Carriage brake
8	4	1	CN-71372	Magnetic hydropneumatic cylinder Ø50 C.195 DX	Mobile blade rising cylinder
9	EV2	1	BT-71082	Solenoid monostable valve 5/2	Mobile blade rising valve
10	5	1	CA-71076	Quick discharge valve	
11	6	2	CN-71421	Magnetic hydropneumatic cylinder Ø50 C.195 SX	Fixed blade rising cylinder
12	EV3	2	BT-71082	Solenoid monostable valve 5/2	Fixed blade rising valve
13	7	2	CA-71076	Quick discharge valve	
14	8	2	CN-71169	Magnetic cylinder D.50 C.130	Mobile head cover movement
15	EV4	2	BT-71550	Solenoid bistable valve 5/2	Mobile head cover valve
16	EV5	2	BT-71550	Solenoid bistable valve 5/2	Mobile head tilting valve
17	9	2	CN-71319	Magnetic cylinder D.100 C.120 D.E.	Mobile head tilting cylinder
18	EV6	3	BT-71550	Solenoid bistable valve 5/2	Mobile head clamps valve
19	EV7	3	BR-71052	Elettrovalvola 2 pressioni NC	High/low pressure solenoid valve for mobile head
20	10-12	3	CN-70235	Clamp cylinder D.35 C.75	Mobile head vertical clamps
21	11	3	CN-70514	Clamp cylinder D.27 C.115	Mobile head horizontal clamp
22	13	4	CN-71169	Magnetic cylinder D.50 C.130	Fixed head cover movement
23					
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29					
30					
31					

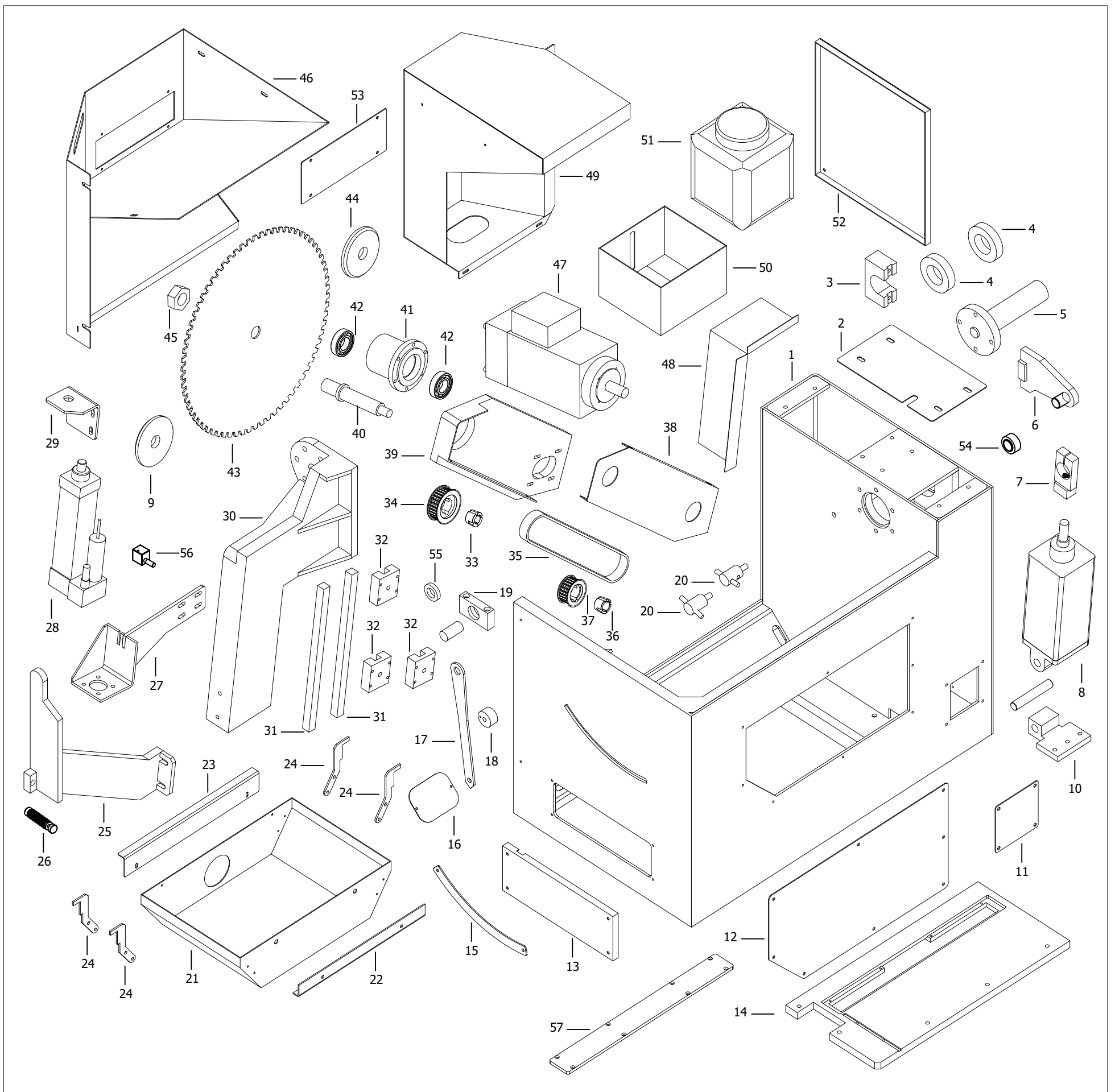
	A	B	C	D	E
32			<b>DISTINTA MATERIALE + FUNZIONI</b>		
33					
34	<b>Initials</b>	<b>Page</b>	<b>Code</b>	<b>Description</b>	<b>Function</b>
35	EV8	4	BT-71550	Solenoid bistable valve 5/2	Fixed head cover valve
36	EV9	4	BT-71550	Solenoid bistable valve 5/2	Fixed head tilting valve
37	14	4	CN-71319	Magnetic cylinder D.100 C.120 D.E.	Fixed head tilting cylinder
38	EV10	5	BT-71550	Solenoid bistable valve 5/2	Fixed head clamps valve
39	EV11	5	BR-71052	Elettrovalvola 2 pressioni NC	High/low pressure solenoid valve for fixed head
40	16-18	5	CN-70235	Clamp cylinder D.35 C.75	Fixed head vertical clamps
41	17	5	CN-70514	Clamp cylinder D.27 C.115	Mobile head horizontal clamp
42	EV12	6	BT-71082	Solenoid monostable valve 5/2	Intermediate support solenoid valve (optional)
43	19	6	CN-71342	Rotating cylinder D.50 C.140	Intermediate support cylinder (optional)
44					
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62					



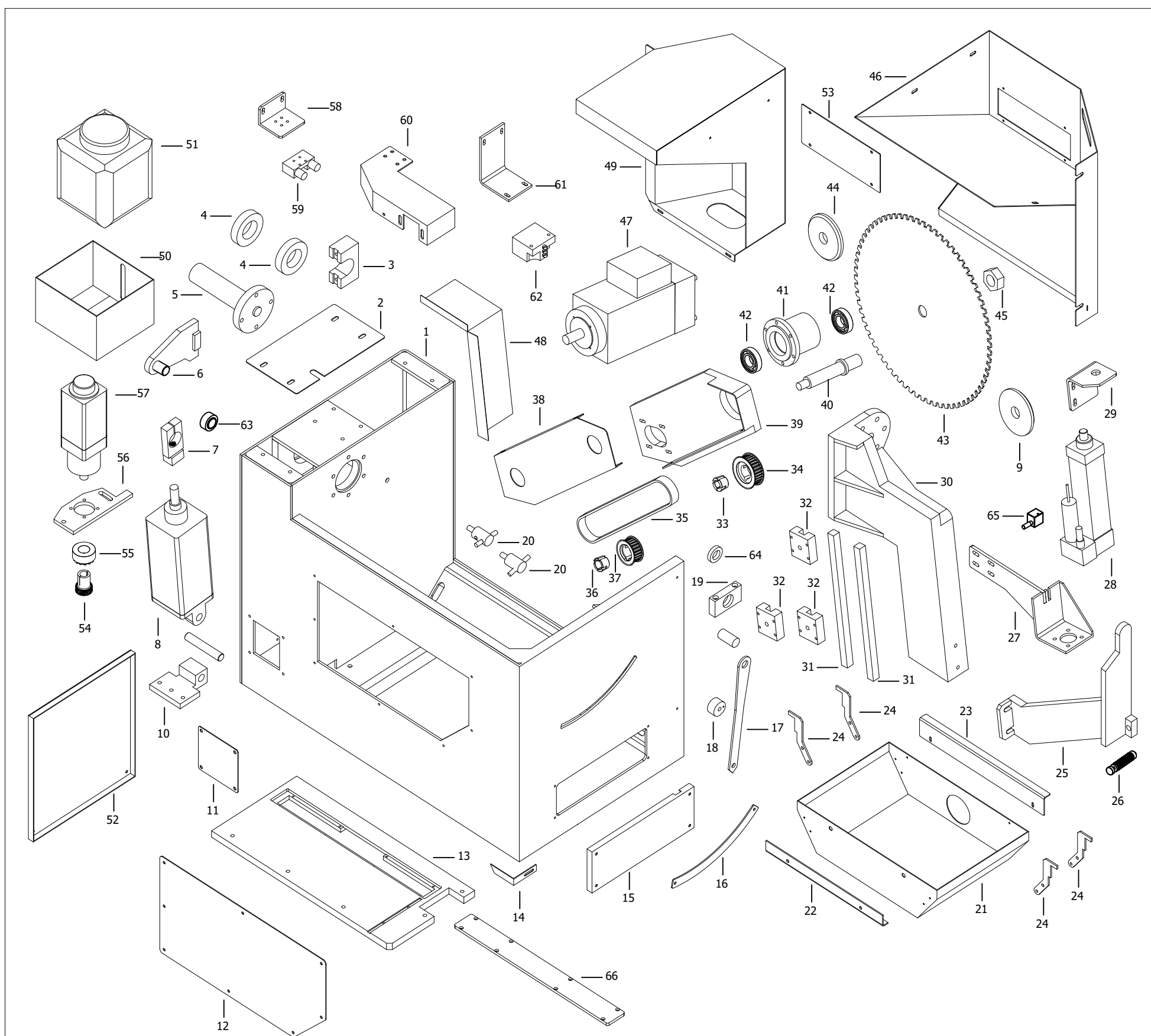
1	Basamento Fazer 4m _ IR-34174	18	Contatto _ M22-CK10	35	Fissaggio anteriore t.f. Fly500 _ LE-34194
2	Scivolo laterale basamento Remix _ LE-33235	19	Fungo di emergenza	36	Fissaggio posteriore t.f. Fly500 _ LE-34203
3	Sostegno elettrico Fazer _ IR-33286	20	Contatto _ EK01	37	Fissaggio posteriore alto t.f. Fazer _ LE-34352
4	Canalina anteriore Remix _ IR-33209	21	Pulsante chiusura morse	38	Asta metrica acciaio adesiva _ KG-70178
5	Staffa bassa x armadio el. Fazer _ LE-33572	22	Rac.Ø6 1/8 _ CA-70065+Rac.Ø4 1/8 _ CA-70121	39	Estruso basamento doppia testa _ TB-32492
6	Quadro elettrico Play _ AA-71827	23	Gancio pistola aria _ LE-32251	40	Guida lineare basamento 4m Fazer _ KL-34822
7	Chiusura manometro Skill _ LE-32991	24	Pistola aria _ CA-70052	41	Cremagliera Boxer modulo 2 _ EA-30242
8	Scatola impianto pneumatico 2T _ LE-33805	25	Spirale Rylsan Ø6 _ AX-70102	42	Canalina sx Fazer 4m _ LE-34171
9	Kit FLY 500 DRV CE 2014 _ CA-20129	26	Pattino flangiato per guida 20x20 _ DD-70551	43	Canalina dx Fazer 4m _ LE-34172
10	Consolle Fly500 2019 _ IR-34817	27	Attacco pattini consolle Fly500 _ LE-32414	44	Coperchio canalina Fazer 4m _ LE-34173
11	Controllo elettronico TS-7002 _ AA-71293	28	Staffa catena C3 _ LE-33338	45	Coperchio cavi anteriori Remix _ LE-33225
12	USB per controllo EC609 _ AA-70611	29	Guida consolle Fly500 _ KL-33411	46	Pannello Windows 2019 _ LE-34807
13	Pulsante di riarmo	30	Attacco catena consolle Play500 _ IR-32805	47	Chiusura sotto consolle Fly 2019 _ LE-34809
14	Contatto _ EK10	31	Catena portacavi IGUS _ DY-70700	48	Chiusura consolle Fly 2019 _ LE-34808
15	Pulsante start	32	Piedino M16 L60 _ EC-70000	49	Pattino per guida 20X20 _ DD-70567
16	Contatto _ M22-K10	33	Supporto camme 3 vie L=200 _ AA-70486	50	Spessore pattini carro m. Fly _ LE-33107
17	Chiave di sicurezza	34	Camma per fine corsa L=50mm _ AA-71174		



1	Base carter lama Fazer _ IR-33251	11	Plex frontale Fazer 2016 _ GG-34264	21	Cilindro pressore D.27 C.115 _ CN-70514
2	Perno cilindri carter lama Fly500 _ LA-34223	12	Fissaggio bandella Fly500 _ LE-34204	22	Blocco morsa verticale Fly500 _ LE-32927
3	Cerniera femmina _ CN-71271	13	Bandella laterale carter _ GG-32950	23/A	Pianetto verticale dx Fazer _ LE-34315
4	Cilindro magnetico Ø50 corsa 140 _ CN-71529	14	Supporto morsa verticale Fazer _ LE-34202	23/B	Pianetto verticale sx Fazer _ LE-33001
5	Forcella con clips _ CN-71270	15	Maniglia a ripresa M12x60 R83 _ FS-70112	-	-
6	Staffa carter lama Top800 _ IR-33149	16	Maniglia a ripresa M12x40 R83 _ FS-70111	-	-
7	Estruso capote Fazer500 _ LE-34901	17	Supporto superiore Fazer _ IR-33252	-	-
8	Lato carter plex unico Fazer sx _ LE-34424	18	Cilindro 35/75 con servo valvola _ CN-70235	-	-
9	Lato carter plex unico Fazer dx _ LE-34433	19	Tampone morsa tondo + gomma _ LX-70025	-	-
10	Bordo plex Fazer _ LE-34211	20	Tampone morsa verticale Fly500 _ LX-34225	-	-

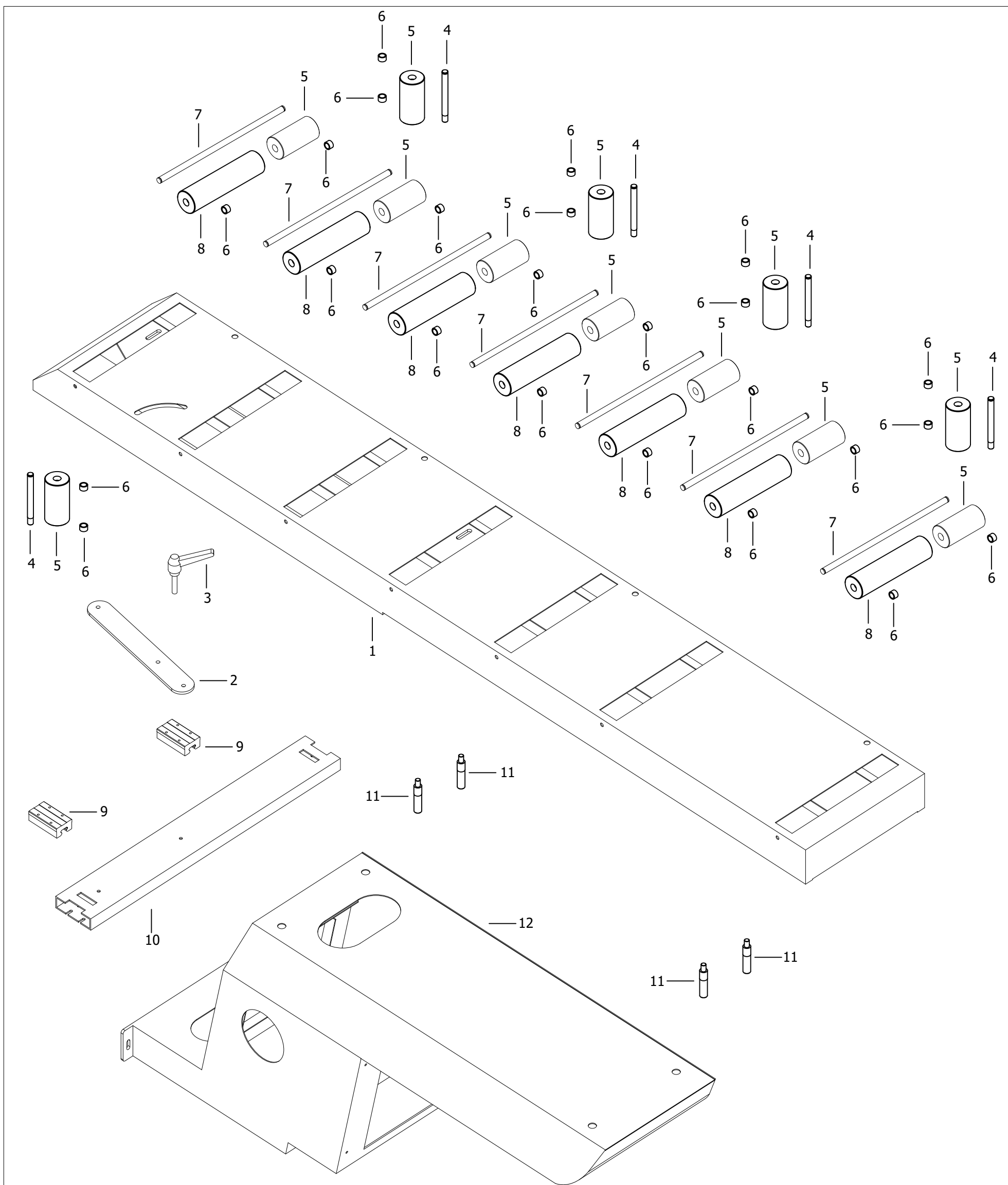


1	Carro fisso Fazer _ IR-33259	20	Battuta 90/45 Andromeda _ LA-33519	39	Carrello lama t.f Remix _ IR-33202
2	Chiusura dietro carro Fazer _ LE-33269	21	Cassetto di scarico Fazer _ IR-34107	40	Perno lama t.f. Remix _ LA-33261
3	Serraggio perno rotazione testa _ LE-31216	22	Fissaggio cassetto Fazer _ LE-34109	41	Attacco perno lama Remix _ LA-33263
4	Cuscinetto obliquo a sfera _ DD-90917	23	Laterale cassetto Fazer _ LE-34110	42	Cuscinetto NTN 6206 ZZ _ DD-71422
5	Perno testa Fly500 _ LE-32570	24	Gancio cassetto Fazer _ LE-34108	43	Lama HM Ø500 F.30 Z.120 B.4 _ GP-70532
6	Leva rotazione gradi Fazer _ LE-32937	25	Braccio x battuta t.f. Remix _ IR-33198	44	Flangia interna lama _ LE-30855
7	Supporto snodo sferico Fazer500 _ LE-34900	26	Deceleratore M20x1,5 _ ED-70281	45	Dado M30x1,5 h.24mm sx _ EC-71086
8	Cilindro ISO Ø100 C.120 magnetico _ CN-71319	27	Appoggio cilindro lama Fazer _ IR-33276	46	Carter motore t.f. Fazer _ IR-33287
9	Flangia esterna	28	Cilindro oleopneumatico d.50 C.195 _ CN-71619	47	Motore E71-M 2P 3 kW 220/380 V _ BK-71403
10	Attacco basso cilindro Fazer _ IR-32938	29	Staffa salita lama t.f Remix _ LE-33233	48	Protezione interna t.f. Remix _ LE-33227
11	Coperchio laterale cilindro Fazer _ LE-32936	30	Braccio rotazione lama t.f. Fazer _ IR-33200	49	Carter lama t.f Fazer _ IR-34206
12	Pannello 3 Andromeda _ IS-32463	31	Guida uscita lama _ KL-33410	50	Staffa portatanica 5 litri _ LE-31478
13	Coperchio ant. testa Fazer _ LE-31454	32	Pattino flangiato per guida 20x20 _ DD-70551	51	Tanica da 5 litri _ AC-70879
14	Piano orizzontale Fazer _ LE-32940	33	Bussola conica 1108 Ø19 _ GA-32112	52	Coperchio post. testa Fazer _ LE-31687
15	Arco carro fisso Remix _ GG-33271	34	Puleggia dentata _ DW-71583	53	Coperchio scarico Fazer _ LE-34209
16	Piastra sostegno inclinato Fazer _ LE-31684	35	Cinghia dentata _ DW-71584	54	Snodo sferico _ DD-70006
17	Indice gradi Andromeda700 _ LE-33091	36	Bussola conica 1108 Ø24 _ GA-71087	55	Cuscinetto nazionale 6905ZZ _ DD-71106
18	Battuta gradi	37	Puleggia dentata _ DW-71223	56	Nebulizzatore _ CH-70032
19	Supporto ant/post testa Fly _ LE-31592	38	Protezione cinghia t.f Remix _ 33231	57	Pianetto lama Fazer _ LE-33000

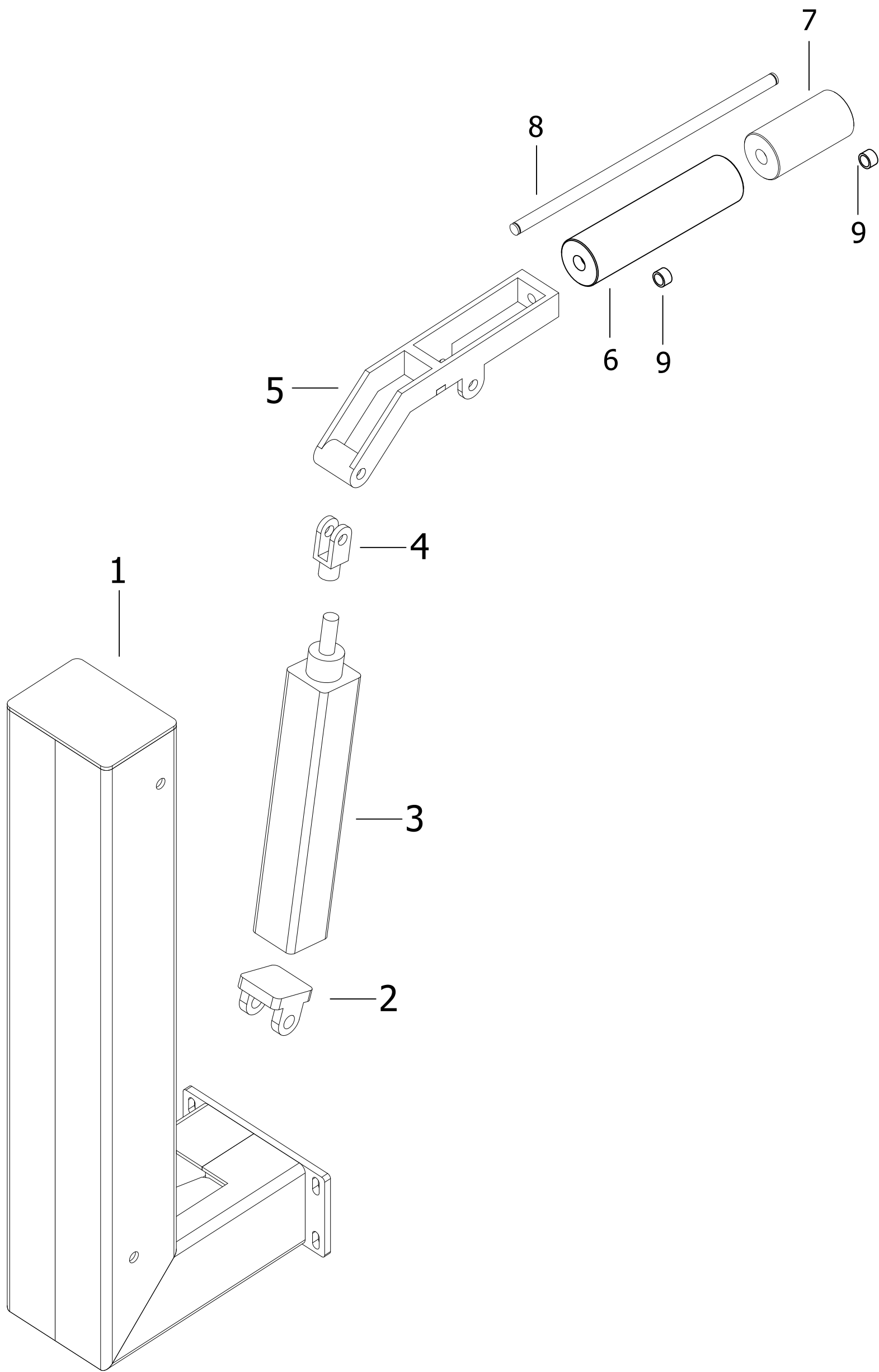


1	Carro mobile Fazer _ IR-33256	23	Laterale cassetto Fazer _ LE-34110	45	Dado M30x1,5 h.24mm sx _ EC-71086
2	Chiusura dietro carro Fazer _ LE-33269	24	Gancio cassetto Fazer _ LE-34108	46	Carter motore t.m. Fazer _ IR-33288
3	Serraggio perno rotazione testa _ LE-31216	25	Braccio x battuta t.m. Remix _ IR-33197	47	Motore E71-M 2P 3 kW 220/380 V _ BK-71403
4	Cuscinetto obliquo a sfera _ DD-90917	26	Deceleratore M20x1,5 _ ED-70281	48	Protezione interna t.m. Remix _ LE-33226
5	Perno testa Fly500 _ LE-32570	27	Appoggio cilindro lama Fazer _ IR-33277	49	Carter lama t.m. Fazer _ IR-34205
6	Leva rotazione gradi Fazer _ LE-32937	28	Cilindro oleopneumatico d.50 C.195 _ CN-71619	50	Staffa portatanica 5 litri _ LE-31478
7	Supporto snodo sferico Fazer500 _ LE-34900	29	Staffa salita lama t.m. Remix _ LE-33232	51	Tanica da 5 litri _ AC-70879
8	Cilindro ISO Ø100 C.120 magnetico _ CN-71319	30	Braccio rotazione lama t.m. Fazer _ IR-33199	52	Coperchio post. testa Fazer _ LE-31687
9	Flangia esterna	31	Guida uscita lama _ KL-33410	53	Coperchio scarico Fazer _ LE-34209
10	Attacco basso cilindro Fazer _ IR-32938	32	Pattino flangiato per guida 20x20 _ DD-70551	54	Pignone denti elicoidali _ EA-80007
11	Coperchio laterale cilindro Fazer _ LE-32936	33	Bussola conica 1108 Ø19 _ GA-32112	55	Calettatore RCK 40 30x55 _ DR-70542
12	Pannello 3 Andromeda _ IS-32463	34	Puleggia dentata _ DW-71583	56	Fissaggio motore t.m. Fly500 _ LE-32412
13	Piano orizzontale Fazer _ LE-32940	35	Cinghia dentata _ DW-71584	57	Motore _ AA-72135 + Riduttore _ AA-71624
14	Indice carro mobile Fazer _ LE-34210	36	Bussola conica 1108 Ø24 _ GA-71087	58	Staffa freno pneumatico _ LE-34650
15	Coperchio ant. testa Fazer _ LE-31454	37	Puleggia dentata _ DW-71223	59	Freno pneumatico _ DD-72069
16	Arco carro mobile Remix _ GG-33270	38	Protezione cinghia t.m. Remix _ 33230	60	Staffa catena Fazer _ LE-33283
17	Indice gradi Andromeda700 _ LE-33091	39	Carrello lama t.m. Remix _ IR-33201	61	Staffa micro t.m. Remix _ LE-33224
18	Battuta gradi	40	Perno lama t.m. Remix _ LA-33262	62	Finecorsa multipista di precisione _ AA-71313
19	Supporto ant/post testa Fly _ LE-31592	41	Attacco perno lama Remix _ LA-33263	63	Snodo sferico _ DD-70006
20	Battuta 90/45 Andromeda _ LA-33519	42	Cuscinetto NTN 6206 ZZ _ DD-71422	64	Cuscinetto nazionale 6905ZZ _ DD-71106
21	Cassetto di scarico Fazer _ IR-34107	43	Lama HM Ø500 F.30 Z.120 B.4 _ GP-70532	65	Nebulizzatore _ CH-70032
22	Fissaggio cassetto Fazer _ LE-34109	44	Flangia anteriore lama _ LE-30855	66	Pianetto lama Fazer _ LE-33000





1	Completivo rulliera Remix _ IR-33221	11	Perno rulliera Fly500 _ LA-32442	-	-
2	Piastra rulliera Fazer _ LE-31691	12	Supporto rulliera Fazer _ IR-33247	-	-
3	Maniglia a ripresa M8x40 R65 _ FS-70418	-	-	-	-
4	Perno rullo verticale _ LA-30726	-	-	-	-
5	Rullo verticale _ LE-31613	-	-	-	-
6	Bronzina rullo _ DD-70933	-	-	-	-
7	Perno rullo orizzontale Fazer _ LA-34902	-	-	-	-
8	Rullo orizzontale _ LE-31612	-	-	-	-
9	Pattino per guida 20X20 _ DD-70567	-	-	-	-
10	Traverso pattini rulliera Remix _ iR-33286	-	-	-	-



1	Supporto rullo Fazer _ IR-34181	5	Attacco rullo intermedio Fazer _ IR-34182	9	Bronzina rullo _ DD-70933
2	Forcella Mod. G per cil. 62 Ø40 _ CN-71151	6	Rullo orizzontale _ LE-31612	-	-
3	Cilindro ISO Ø40 corsa 200mm _ CN-70668	7	Rullo verticale _ LE-31613	-	-
4	Cerniera femmina per cil. 62 Ø40 _ CN-71152	8	Perno rullo orizzontale Fazer _ LA-34902	-	-