AMERI-CAN MACHINERY LTD.

DBC 500

USER AND MAINTENANCE MANUAL

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1 INDEX

1.1 SUMMARY

INDEX

INDEX

INDEX

—L—

—M—

—P—

—S—

—T—

—U—

—W—

2 TO OUR CUSTOMERS

2.1 CONGRATULATIONS ON YOUR PURCHASE

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 CHOOSEN 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 EXPLAINATION

This manual s 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 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

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.

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
	**Chips projection**
	**Electrical power**
	**Danger of crushing hands**
	**Moving mechanical parts**

SIGNS RELATED TO PROHIBITIONS

SIGN	DESCRIPTION
	**Do not remove the safety devices**
	**Prohibited to repair / grease during motion**

SIGNS RELATED TO OBLIGATIONS

SIGN	DESCRIPTION
	**Must wear safety glasses.**
	**Must wear protective gloves.**
	**Must wear ear protectors**
	**It is compulsory to wear protective shoes**

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 INFORMATIONS TO 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 repected 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.

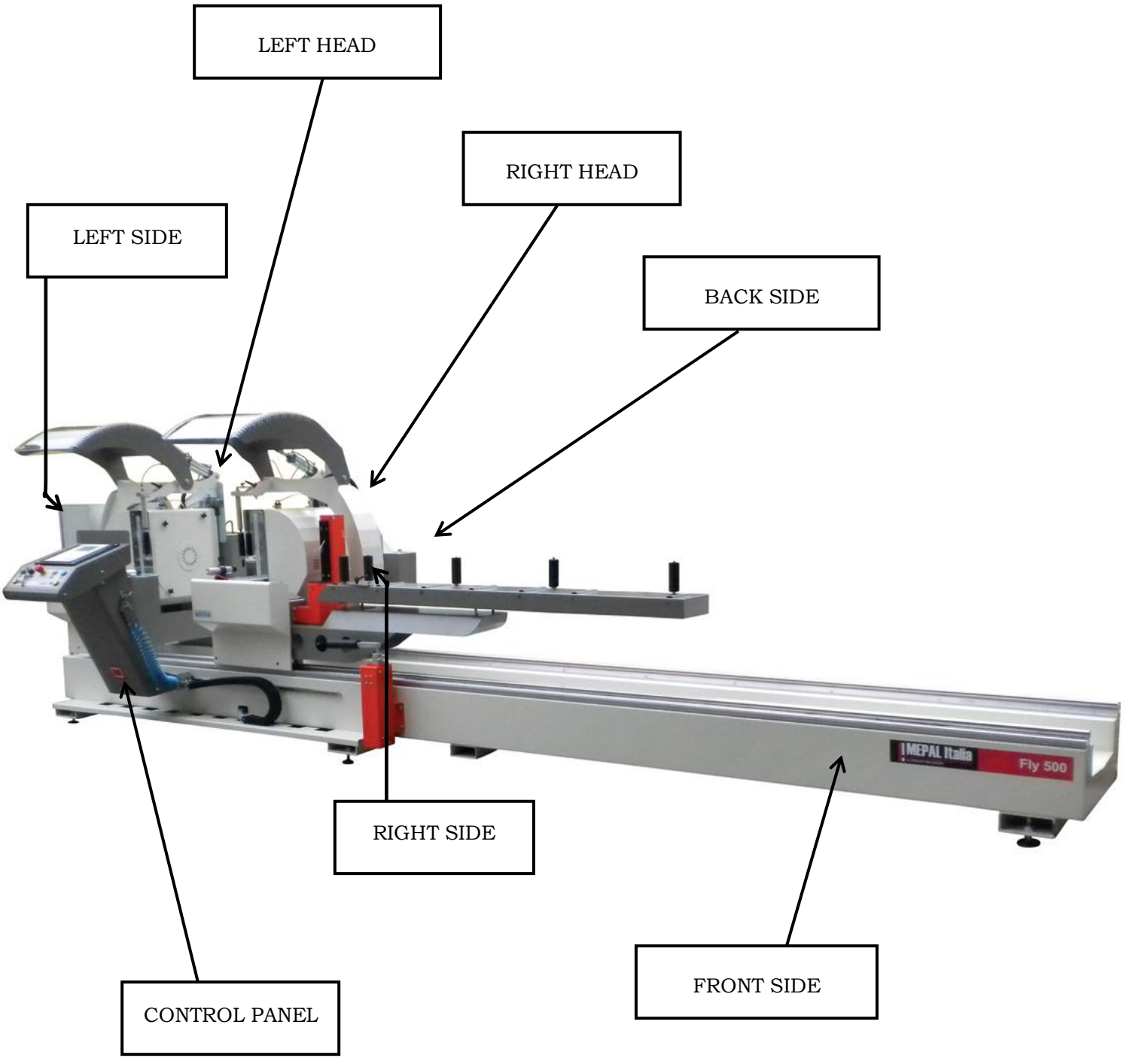
DICHIARAZIONE "CE" DI CONFORMITÀ MACCHINE

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.

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)	
DBC 500	**4**	**5**
Length (mm)	5350	6350
Weight (Kg)	1520	1650

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/cm2 (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^2).

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 appropiate 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.

OPERATNG 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 weared.

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 adjustement 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 maks.

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 maks.

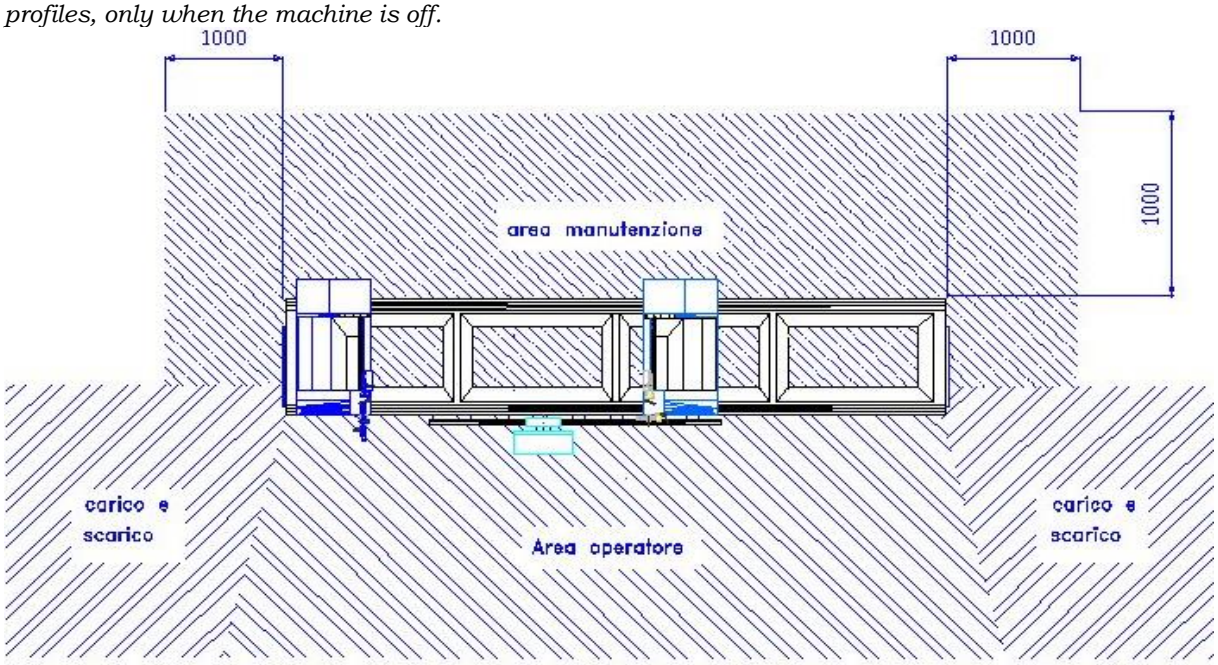
Do not start the machine if there is any anomaly.

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.*



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 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.

3.5 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.

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.

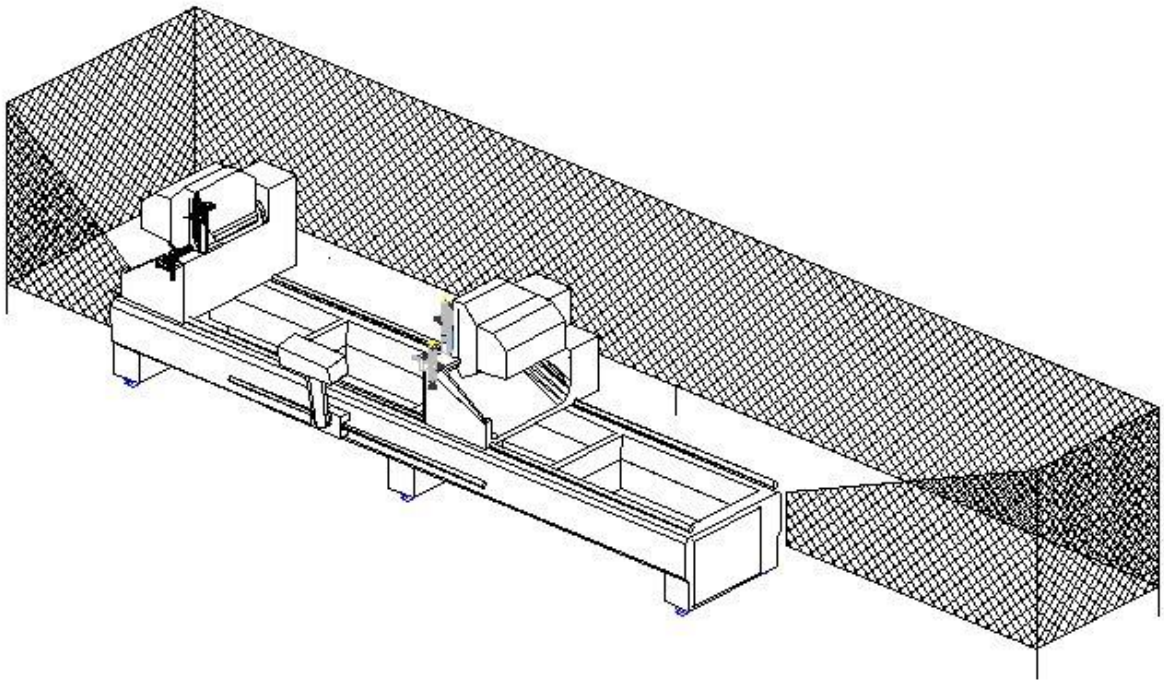
- At this point the engine blades can be started manually by one of the two switches on the console, marked with the symbol "engine". With rotary motion to the right (clockwise) and immediate counter-drive on the left (counterclockwise), the engine, on the right or left side, is started switched off.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

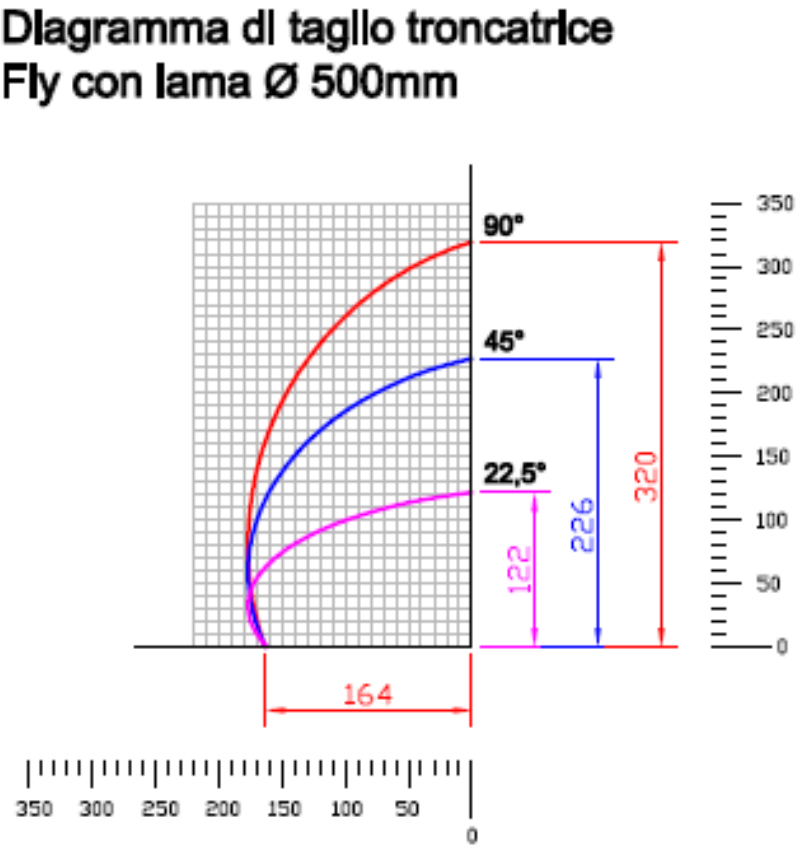
The double head miter saw is designed for cutting wires for the construction of fixtures, for building construction and architecture, or similar where it is necessary for high productivity, ease of use reliability, robustness and limited maintenance.

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

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 noiseness as required by the legislation

Tool: 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:

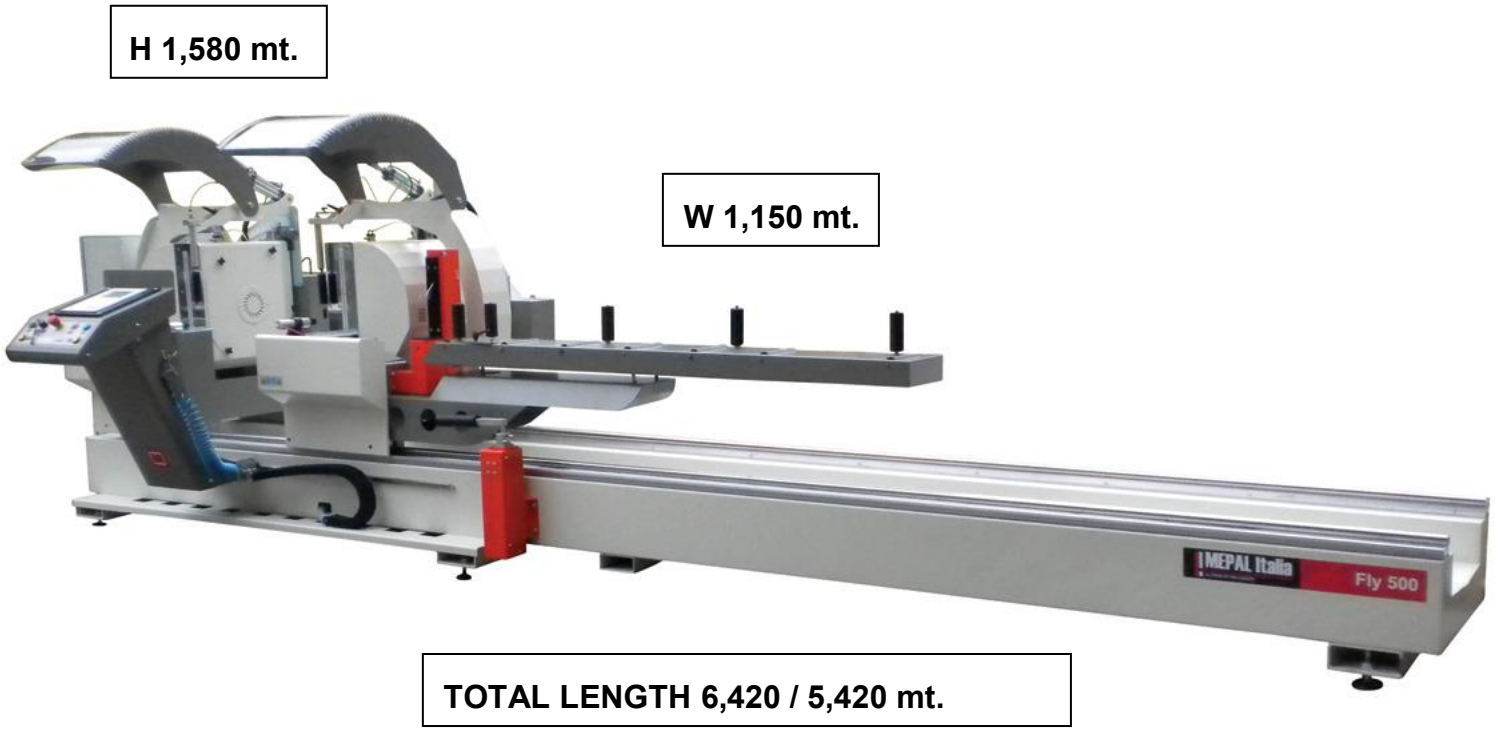
- Perform the proper operations ensuring that the movements of the machine cannot be a source of danger to third persons. It is necessary to immediately stop the ongoing operations whenever a third person is approaching parts moving or whose movement can be done by automated cycle.
- Verify that the 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.

4.8 DIMENSIONS



NOTICE: Total height includes mobile screens closed.

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

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

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.

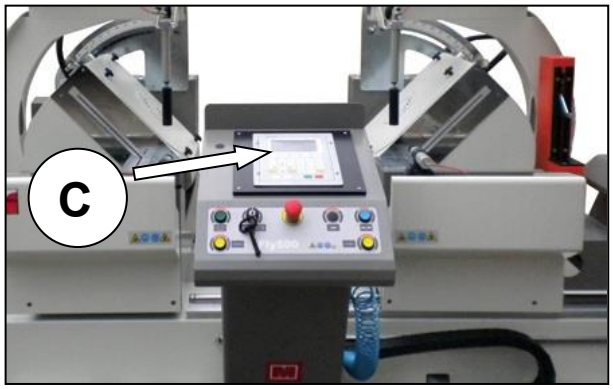
The motion of the clamps is controlled by the console through the specific button (A) at low pressure.

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.

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.

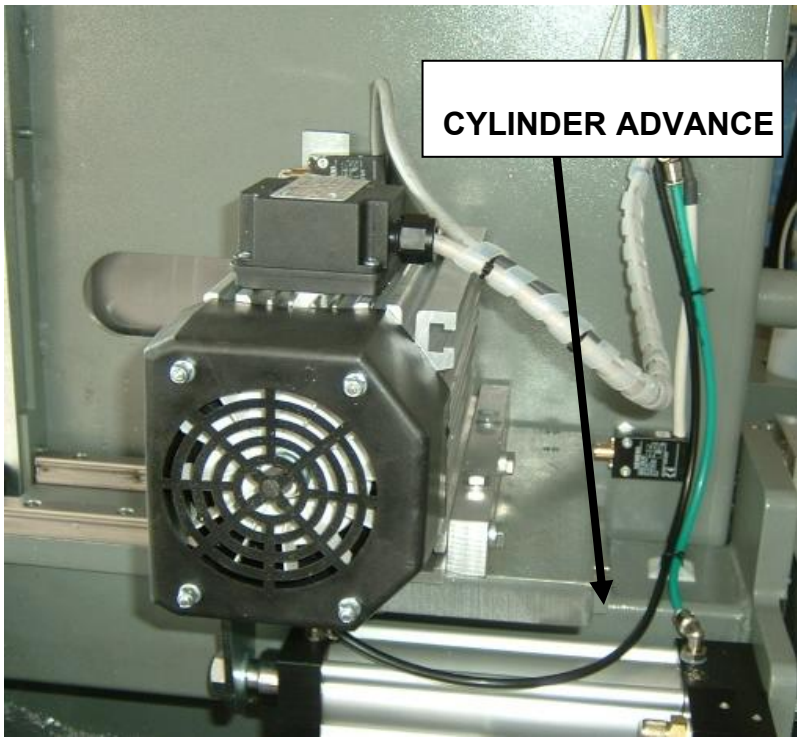
4.8.3 HEADS TILTING



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.

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.



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 two micro switches: one, controlled by a fixed cam, verifying 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 and equipped with warning light.

4.8.6 CART MOVEMENT

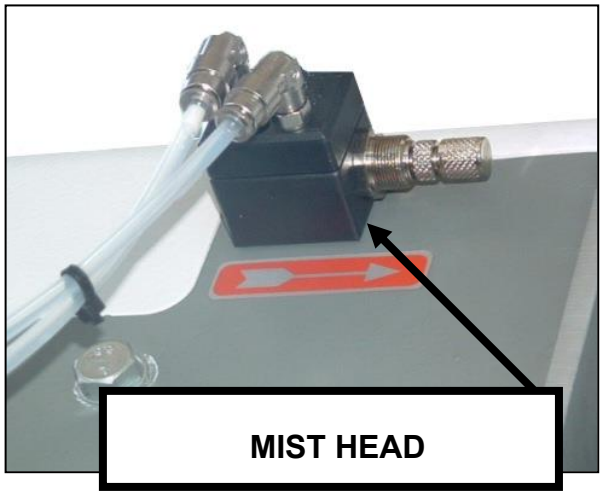
The carriage of the mobile head slides with the longitudinal axis of the machine on two horizontal cylindrical columns. The tank is always kept locked pneumatically. To move the cart work through the appropriate control installed in the console.

4.9 BLADE 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.

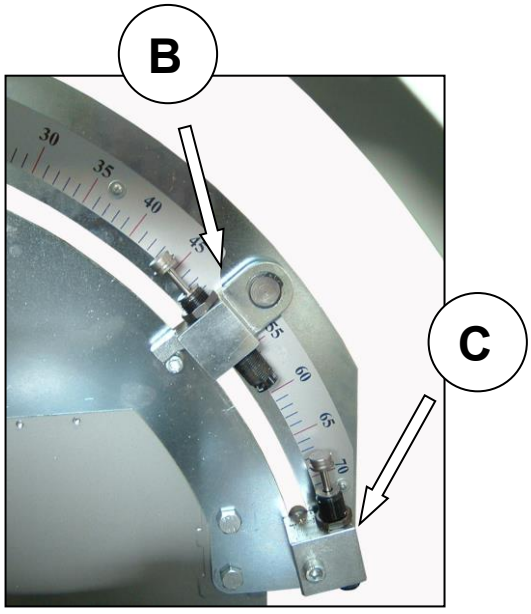
WARNING: the refrigerating fluid must have anti-oxidant features and shouldn't be aggressive towards the paint. We require non-toxic and not irritating products ACCORDING TO THE LAW.

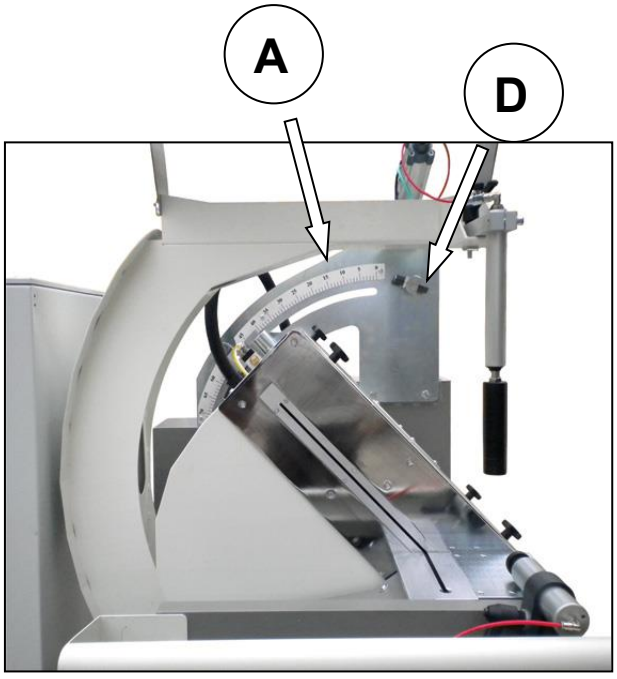
Carefully read the package instructions for preparation - Dilution in water and the maximum duration antimildew. The product is not recovered from the machine, so the term mold is considered only for the idle periods of the machine.

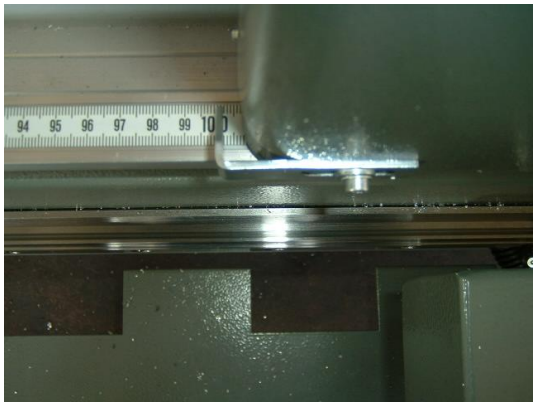
4.10 MEASUREMENT SYSTEMS

For DBC 500 Standard and DBC 500 DRV

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 ° (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.

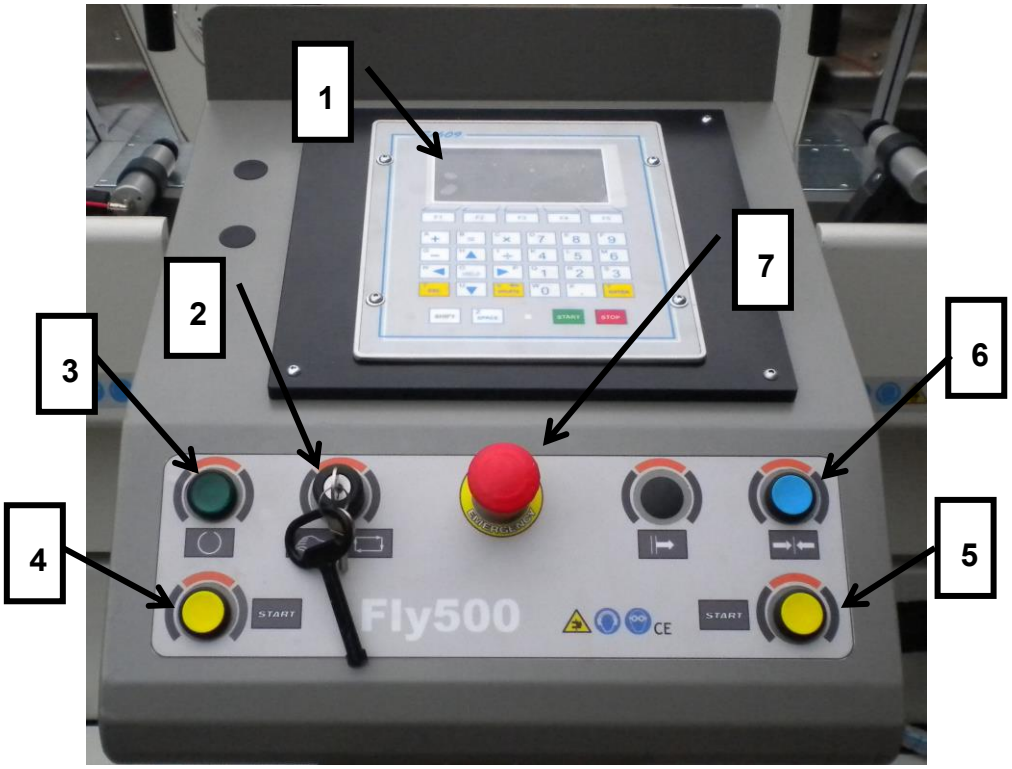






A graduated rod is installed in front part of the basement for reading of the blades' wheelbase.

4.11 CONSOLE



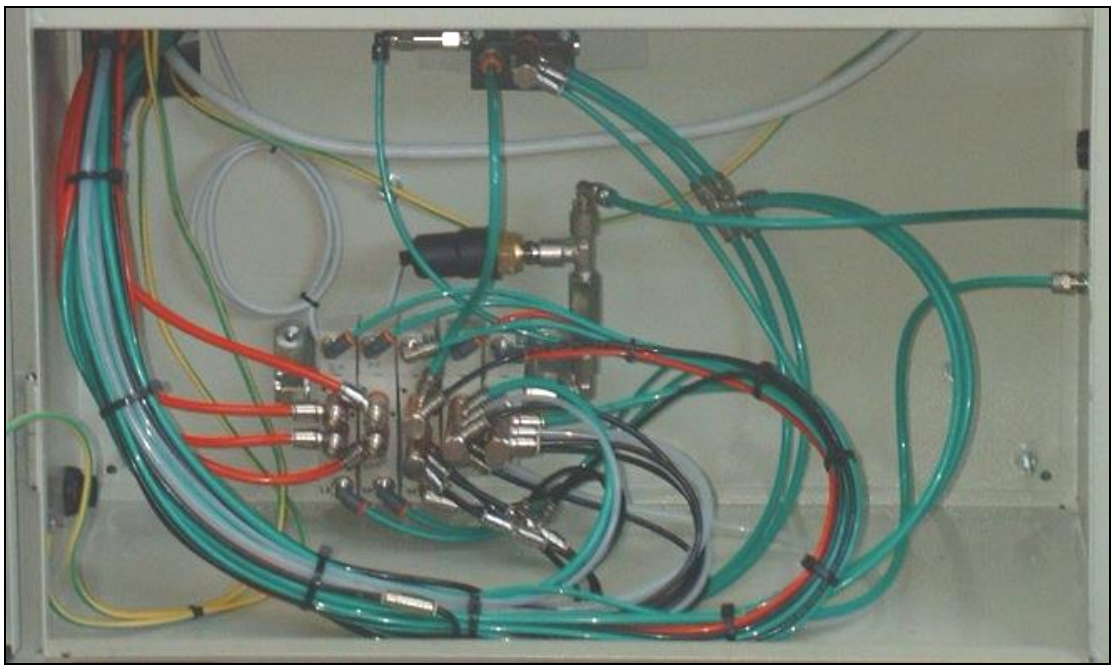
1	SCREEN CONTROL PANEL EXAMPLE
2	SAFETY KEY POWER ENGINE BLADE
3	ENABLING POWER BUTTON
4	BUTTON LEFT CUTTING PERFORMANCE
5	BUTTON RIGHT CUTTING PERFORMANCE
6	BUTTON OPEN / CLOSE CLAMPS
7	EMERGENCY PUSH BUTTON

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.

4.13 PNEUMATIC PARTS

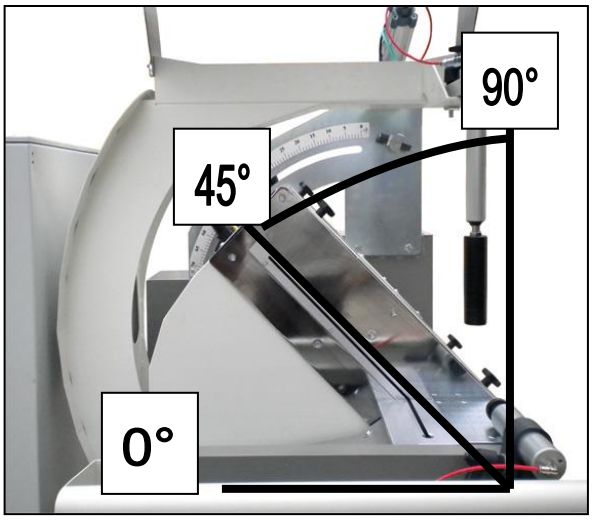
The pneumatic cabinet is placed in a special compartment on the right side of the machine. The pressure gauge can be seen from the door indicating the air pressure.



5 USE OF THE MACHINE

5.1 MEASUREMENT METHOD

5.1.1 HEAD 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.

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 °. Cutting a profile with inclinations other than 90 °, 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

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:

Distance between blades = Length - [ctg α + ctg β] x tot. Thickness

with: α = left head tilting

β = 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.

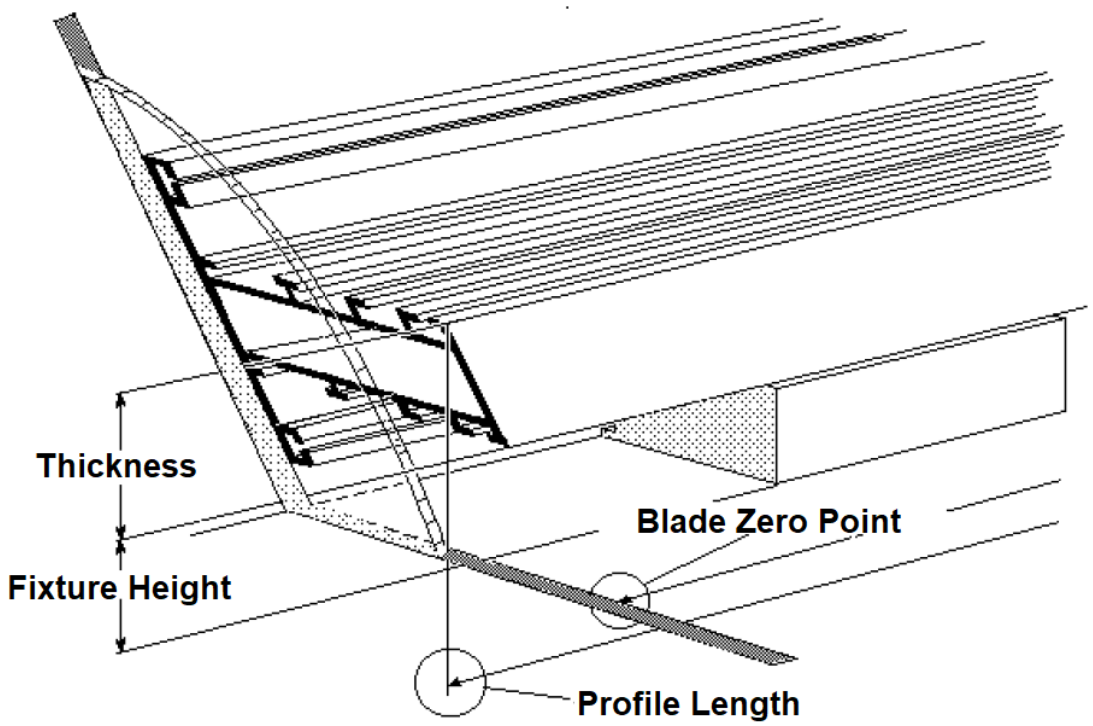
Tilting of 90/45 or 45/90:

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

Distance between the blades = Length - tot. thickness

Tilting of 45/45:

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.

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 positiion 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.

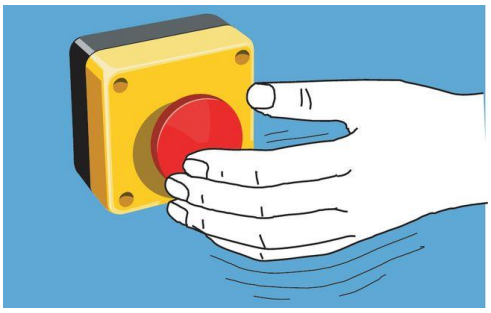
6) If the action of the buttons (2-3) is not contemporary (maximum lag time 0.5 seconds) the cut does not happen release both buttons and repeat.

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)

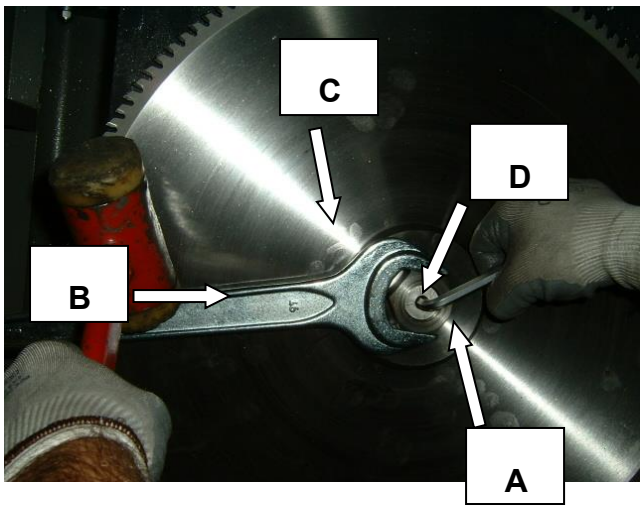
The operation of the Emergency Stop in the machine is executed by pressing the corresponding red button, such action causes the immediate stop all moving and started parts.



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 conterclockwise 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 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.

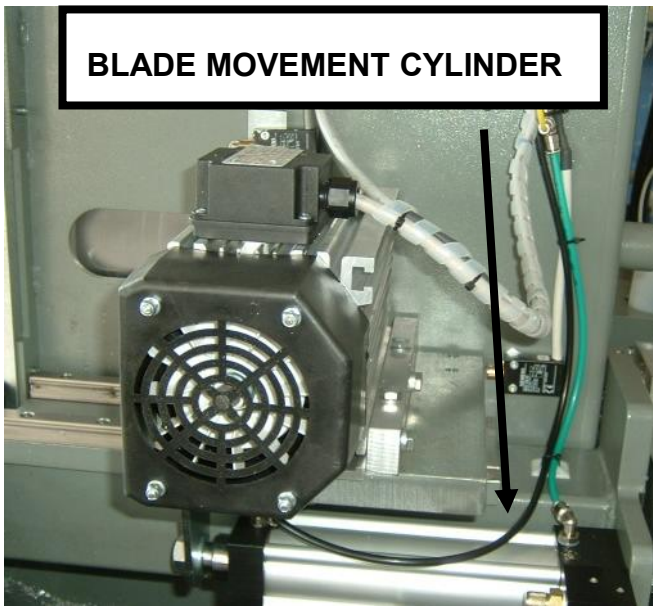
6.2.3 THE BLADE DOES NOT COME OUT

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 maxi-mum.

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:

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

WARNING: the minimum 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.

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.

7.2.2 SCHEDULED MAINTENANCE PROGRAM

Type of work	*Frequency*
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.: 905-542-2055

WARINING: 

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

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 pay-ment 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.

MAINTENANCE

AMERI-CAN MACHINERY LTD.

2650 Meadowvale Blvd, Unit # 5

Mississauga, Ontario, L5N6M5

Tel. 905-542-2055

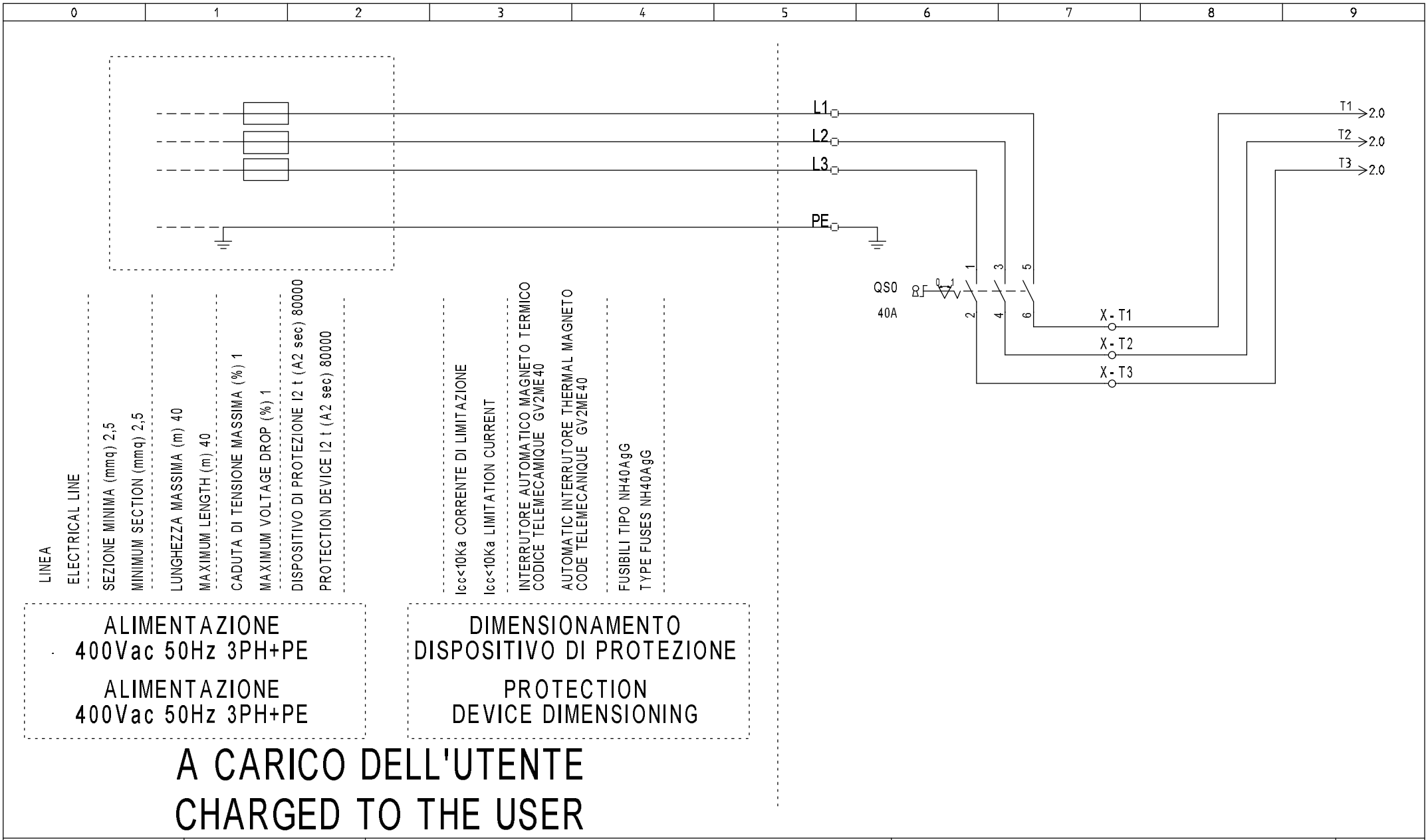
Fax.905-542-2261

www.ameri-can.ca

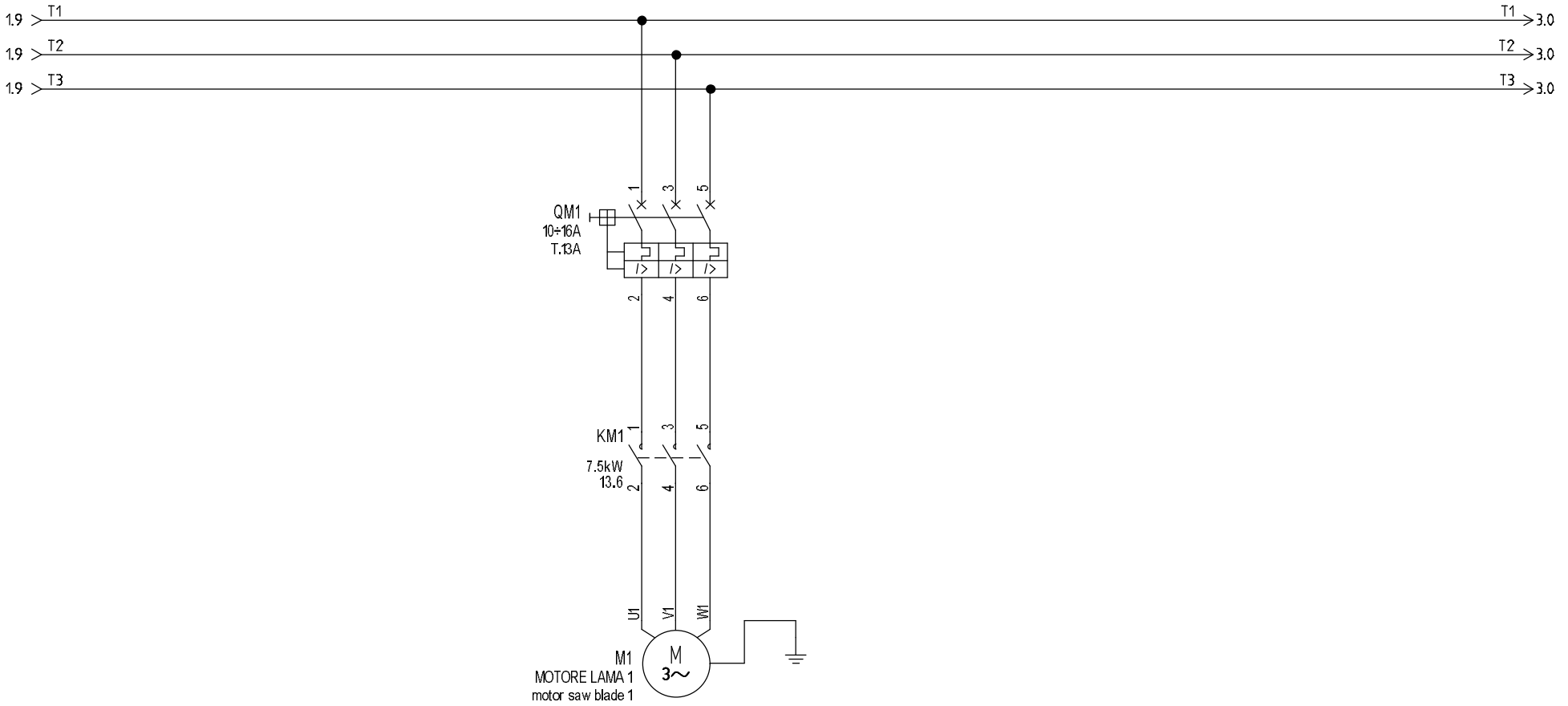
E-mail: service@ameri-can.ca

Commessa - Ordre:	A18-38
Progetto - Project:	PLAY GE
Cliente - Client:	ROBTECH
Disegnatore - Designer:	Ellevi product
Data - Date:	24/04/2018

Alimentazione - alimentation:	220Vac 3PH+PE
Tensione ausiliari - Auxiliaire tension:	110Vac/85Vac/24Vdc
Frrquenza - Frequence	50-60Hz
Corrente nominale - Courant	34.2A
Potenza totale - Electricité:	21.4kVA
Grado di protezione - Indice de Protection:	IP41



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 1
			COMMESSA - ORDER:	A18-38		DI 26
DATA	FIRMA		CLIENTE - CLIENT:	ROBTECH		
			TITOLO - TITLE:	instructions by customer		◁ ▷ 2
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



P=3kW

V=230VAC

I=13A

REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 2
			COMMESSA - ORDER:	A18-38	DI 26
			CLIENTE - CLIENT:	ROBTECH	
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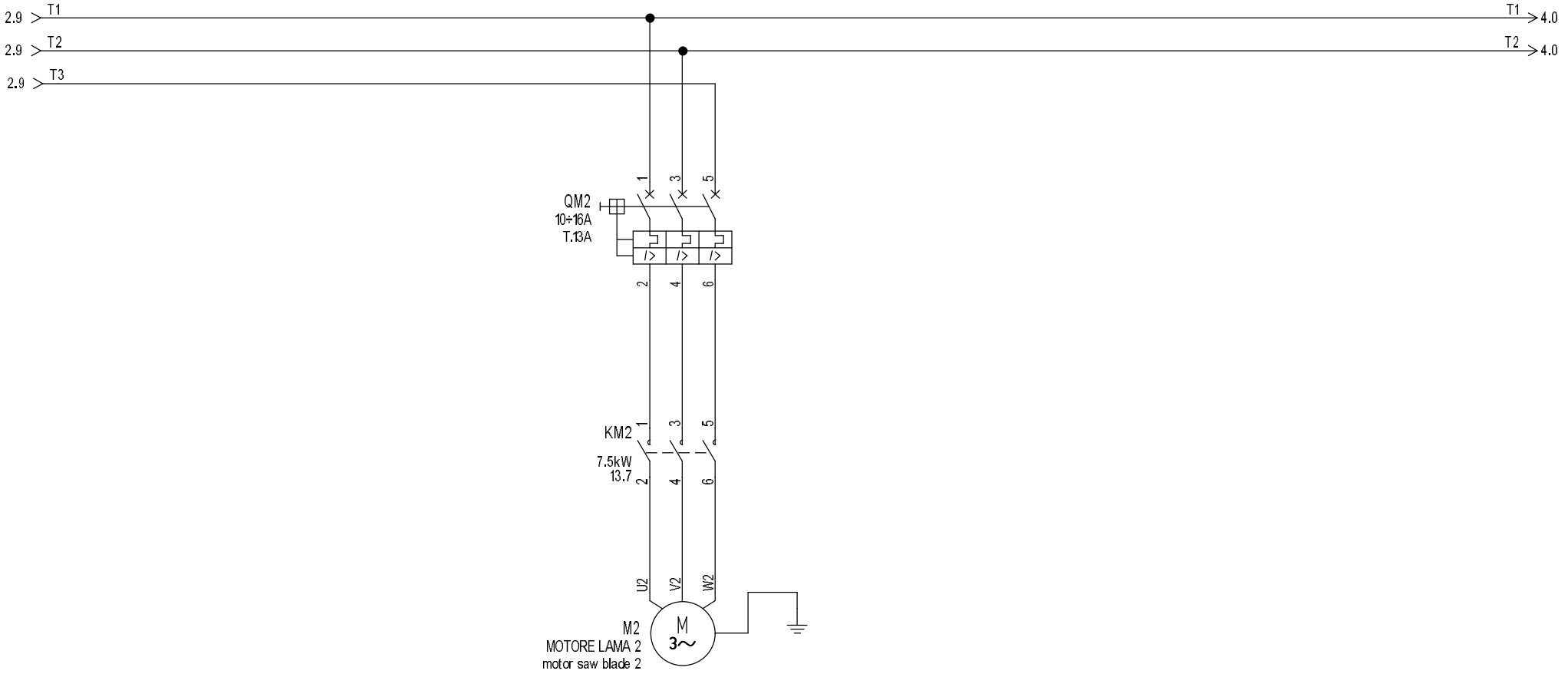
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018



P=3kW

V=230VAC

I=13A

REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 3
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			CLIENTE - CLIENT:	ROBTECH	
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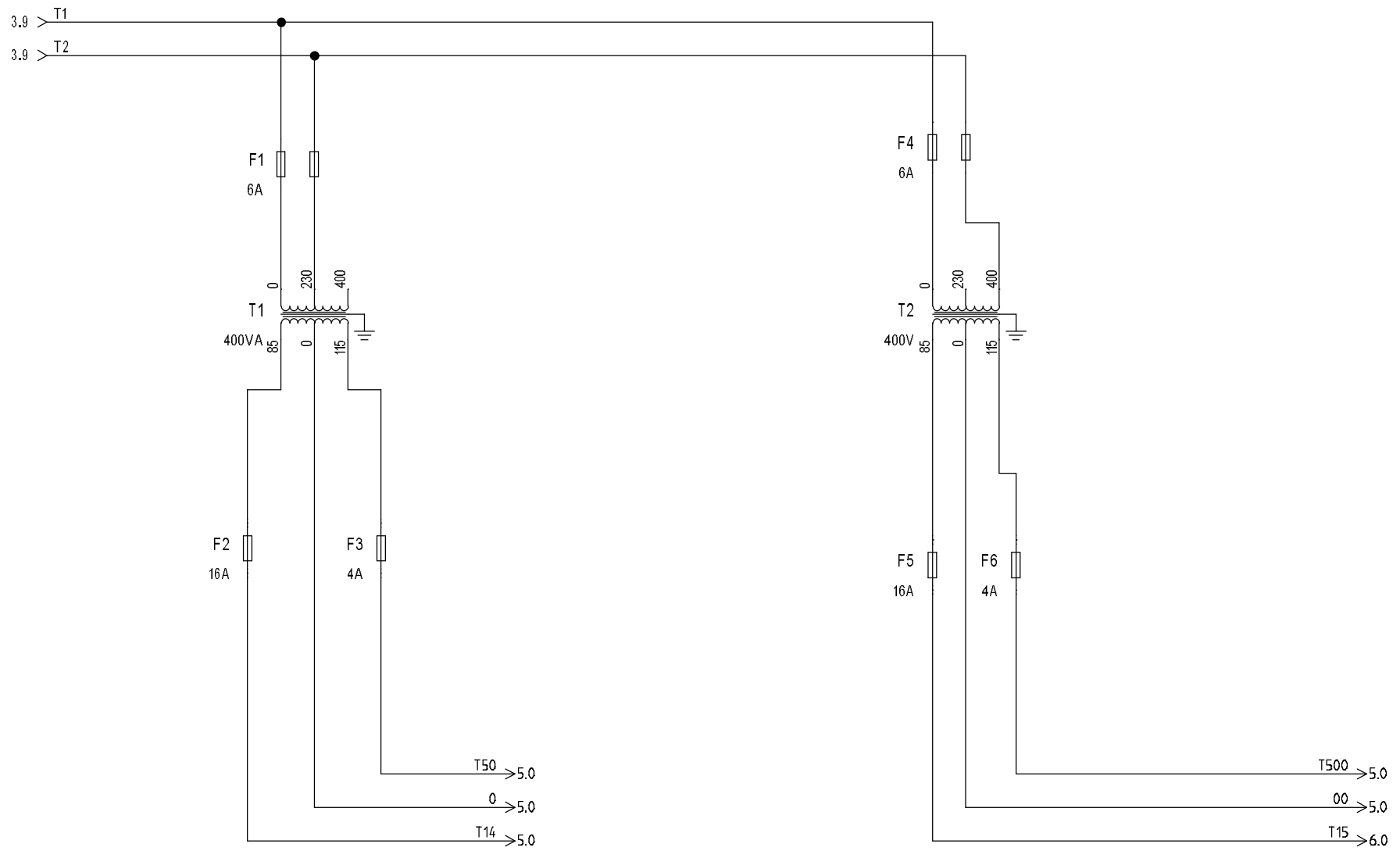
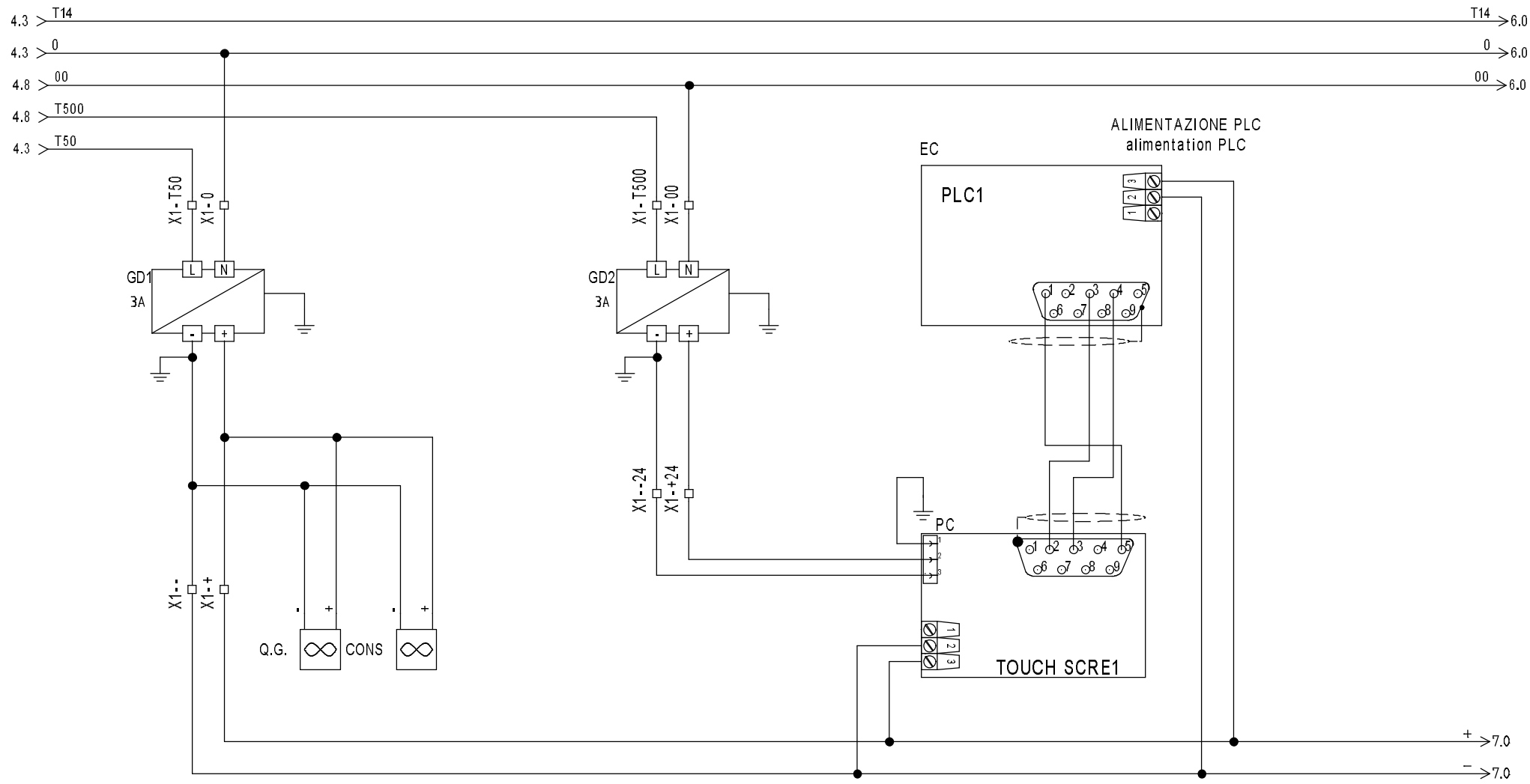
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018



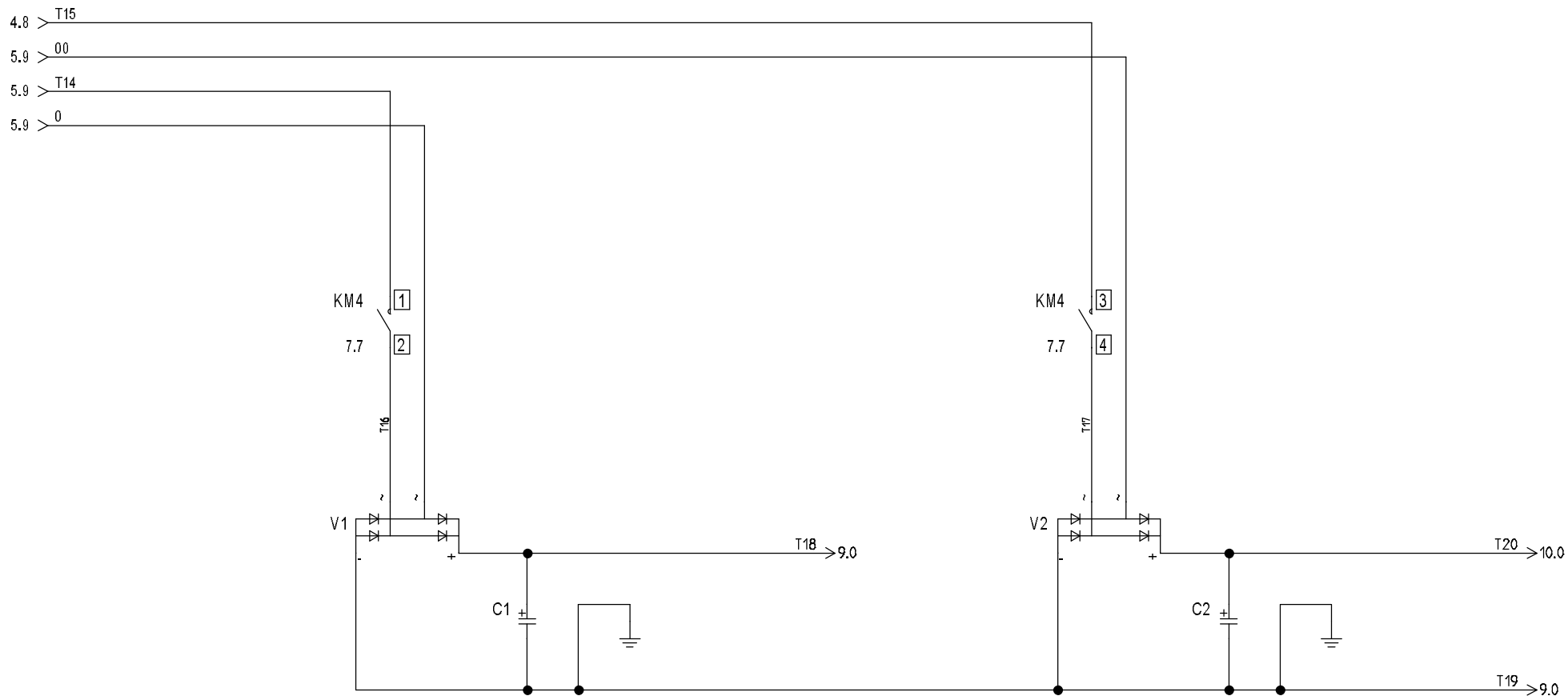
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 4
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	trasformatori		3 ◁▷ 5
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



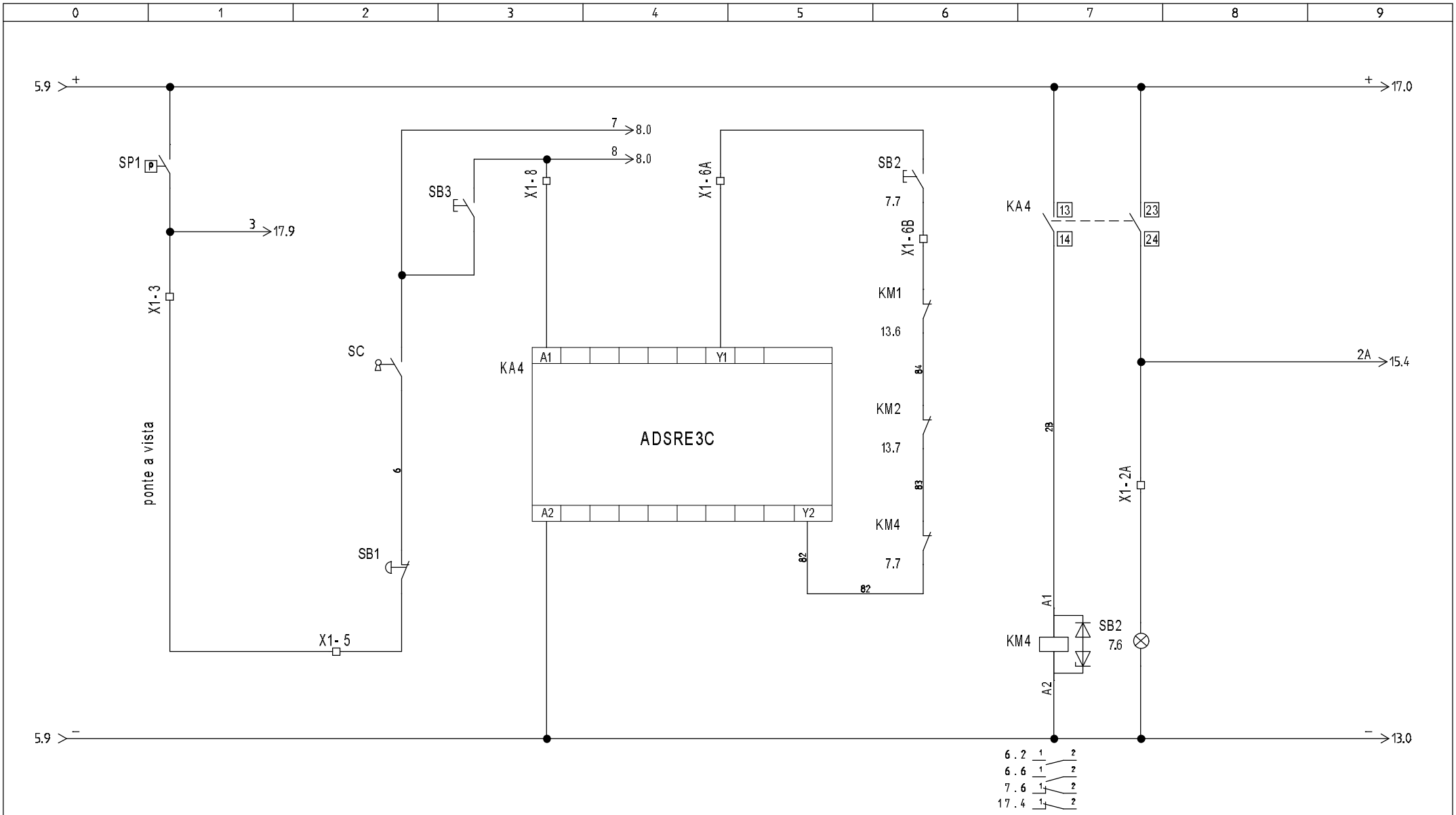
ALIMENTAZIONE AUX 24Vdc
alimentation aux 24Vdc

ALIMENTAZIONE AZIONAMENTO
alimentation axis driver

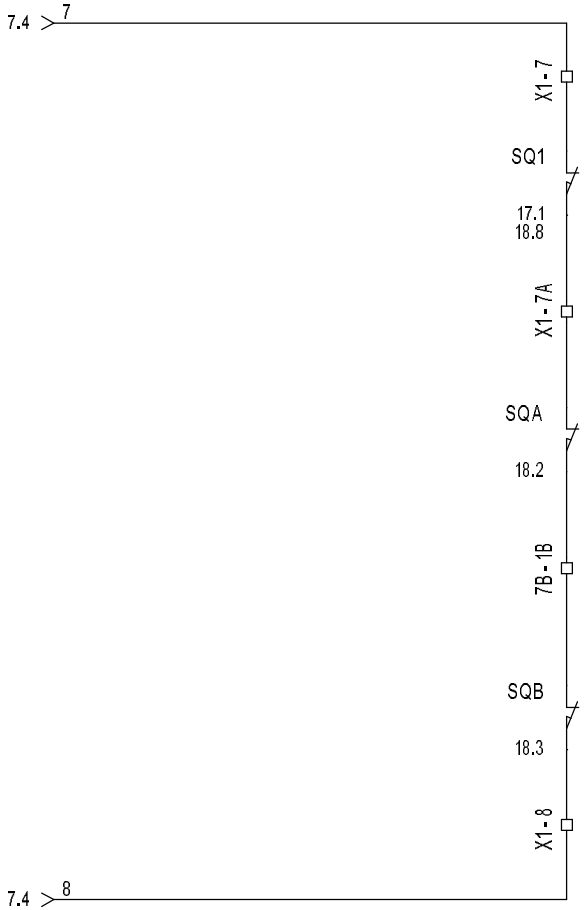
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 5
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	alimentation		4 ◁ ▷ 6
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



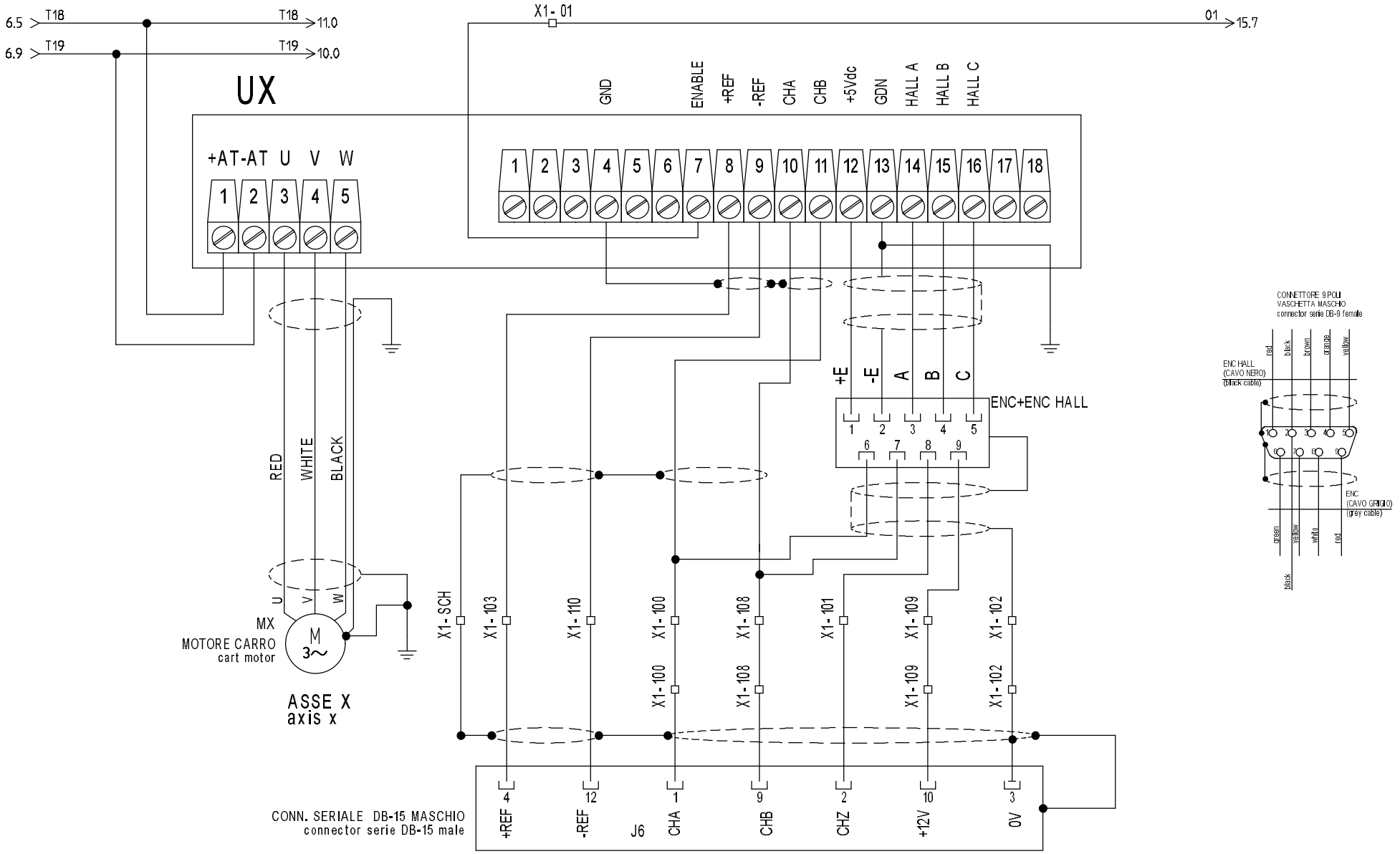
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 6
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	alimentation		5 ◁▷ 7
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



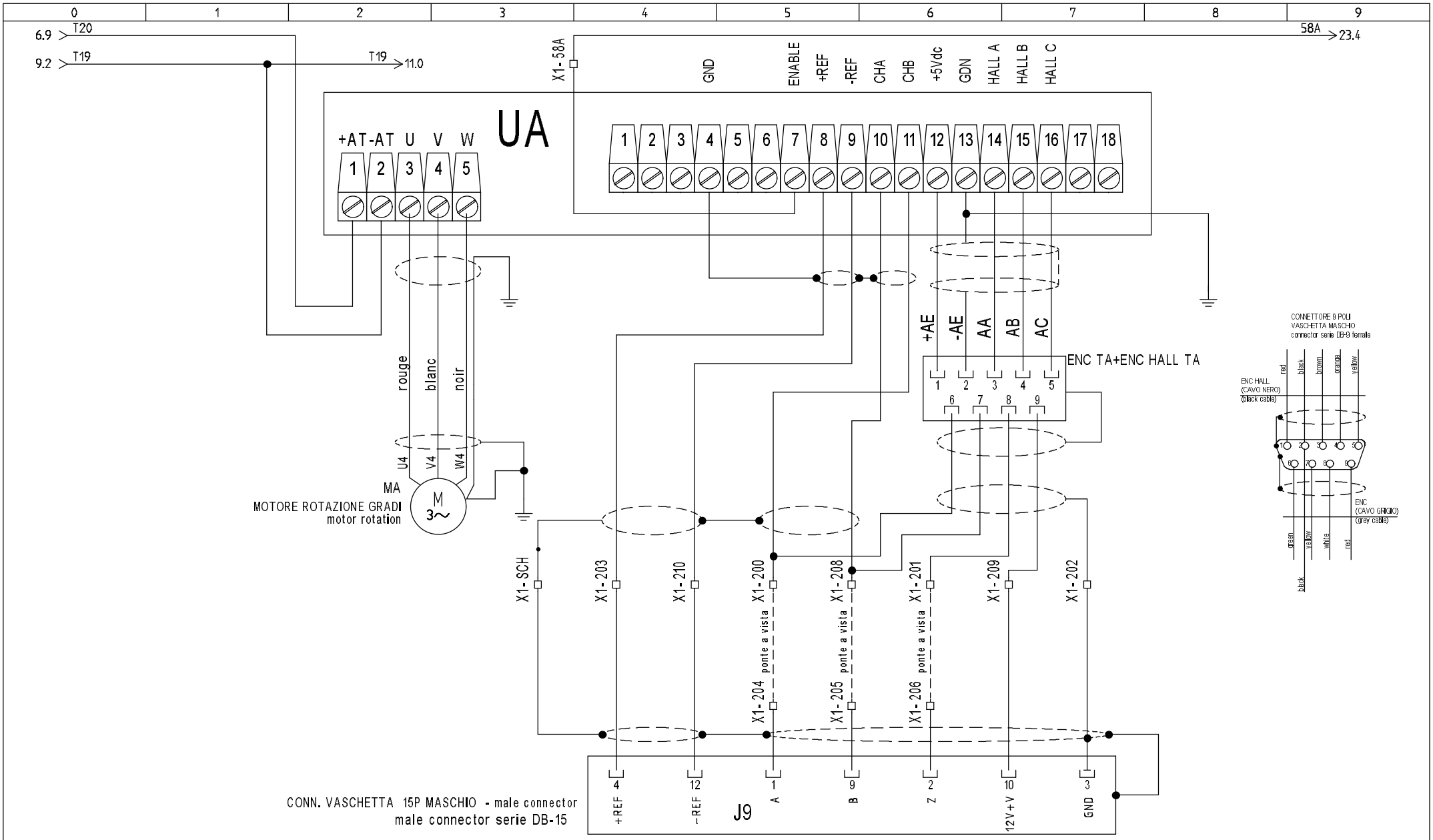
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 7
			COMMESSA - ORDER:	A18-38	DI 26
DATA	FIRMA		CLIENTE - CLIENT:	ROBTECH	
			TITOLO - TITLE:	ausiliario - auxiliary	6 ◁▷ 8
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018



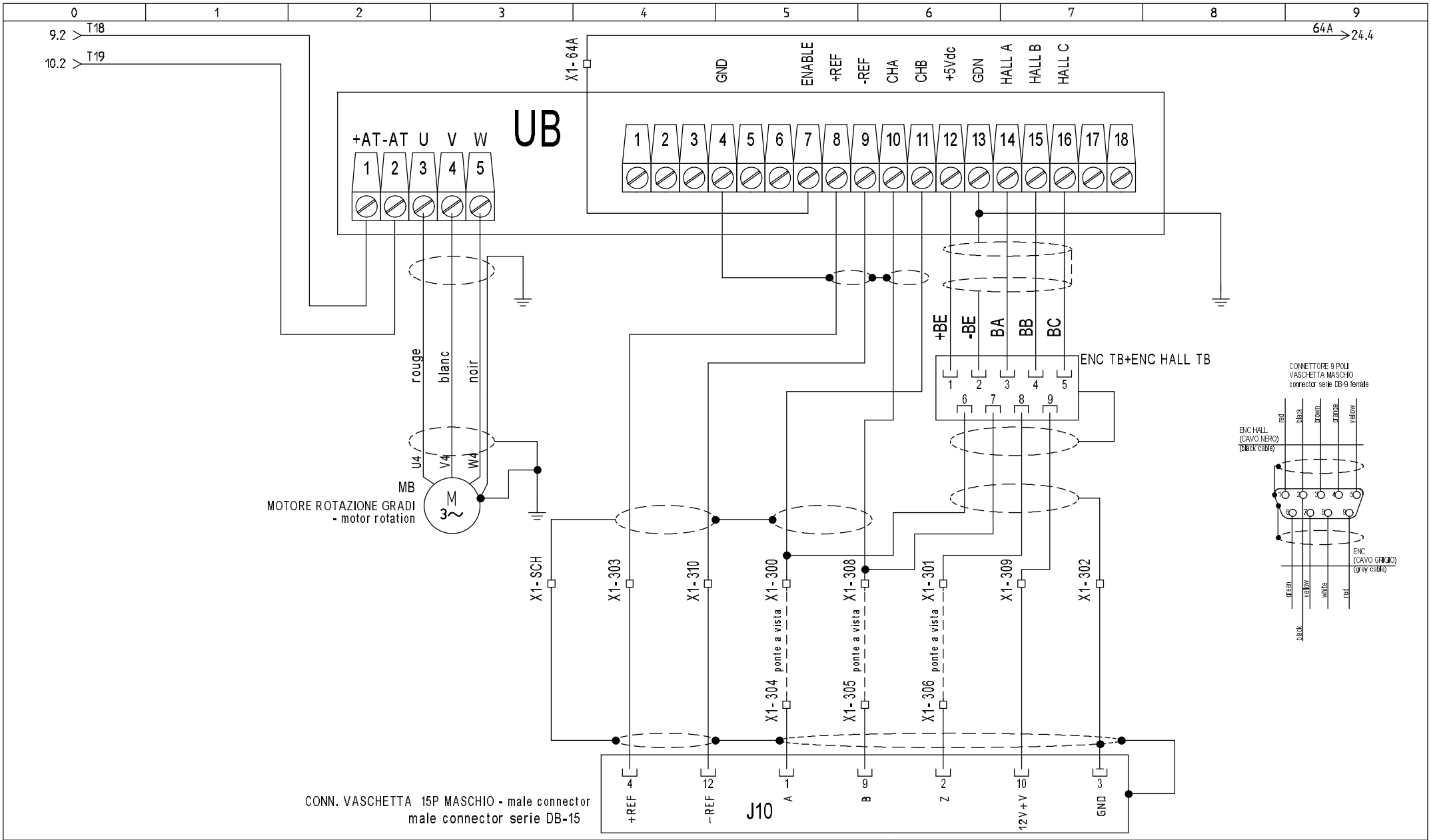
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 8
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	finecorsa		7 ◁▷ 9
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 9
			COMMESSA - ORDER:	A18-38		DI 26
DATA	FIRMA		CLIENTE - CLIENT:	ROBTECH		
			TITOLO - TITLE:	azionamento - axis driver		8 ◁▷ 10
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 10
			COMMESSA - ORDER:	A18-38	DI 26
DATA	FIRMA		CLIENTE - CLIENT:	ROBTECH	
			TITOLO - TITLE:	azionamento - axis driver A	9 ◁▷ 11
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 11
			COMMESSA - ORDER:	A18-38	DI 26
DATA	FIRMA		CLIENTE - CLIENT:	ROBTECH	
			TITOLO - TITLE:	azionamento - axis driver B	10 ◁ ▷ 12
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018

0	1	2	3	4	5	6	7	8	9

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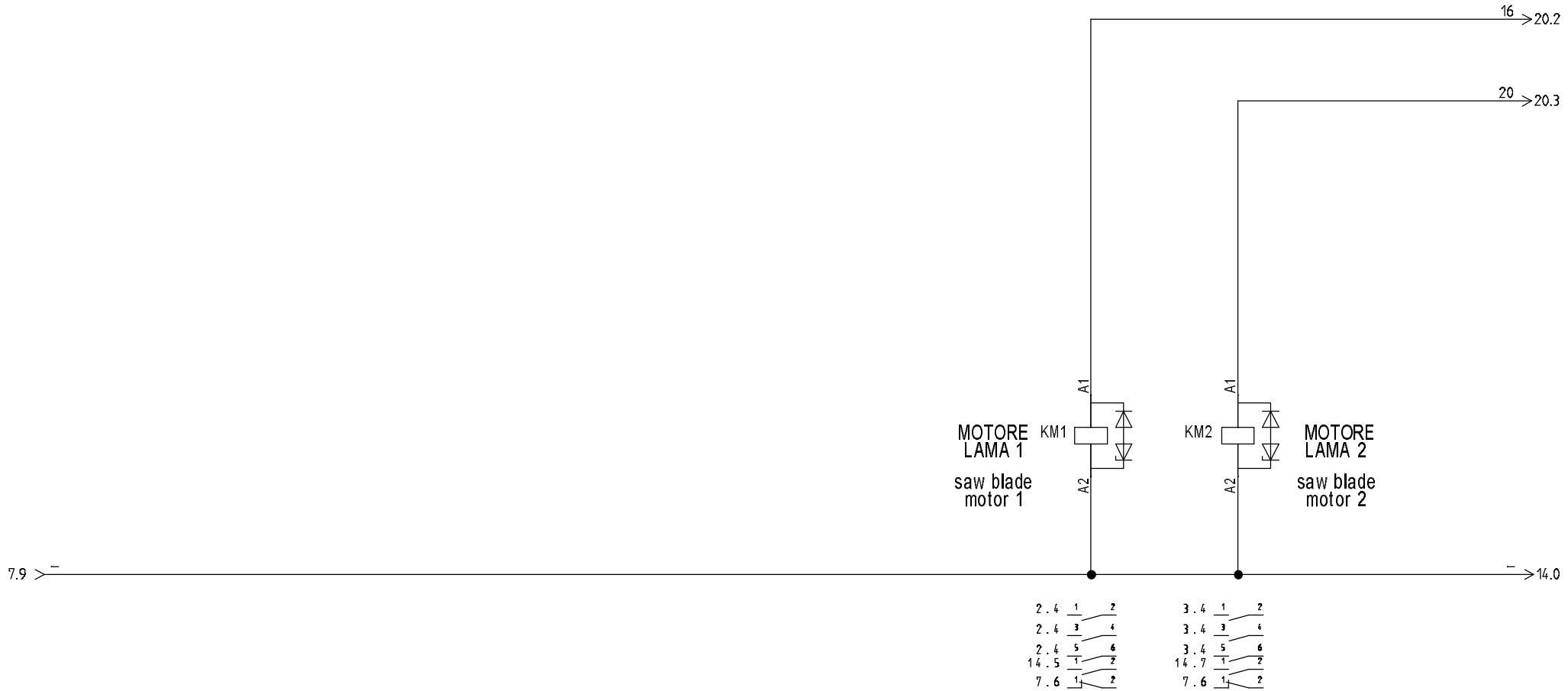
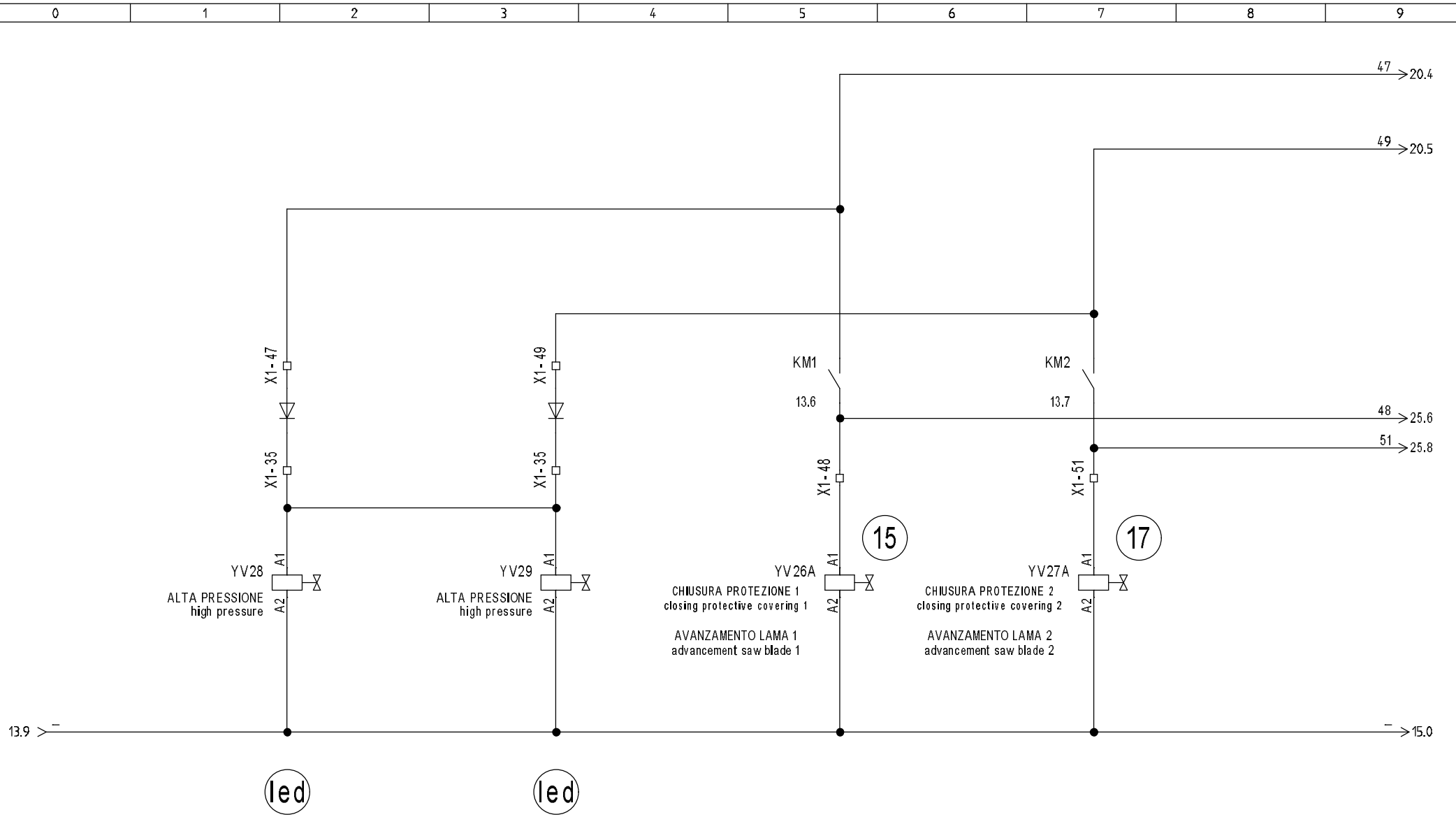
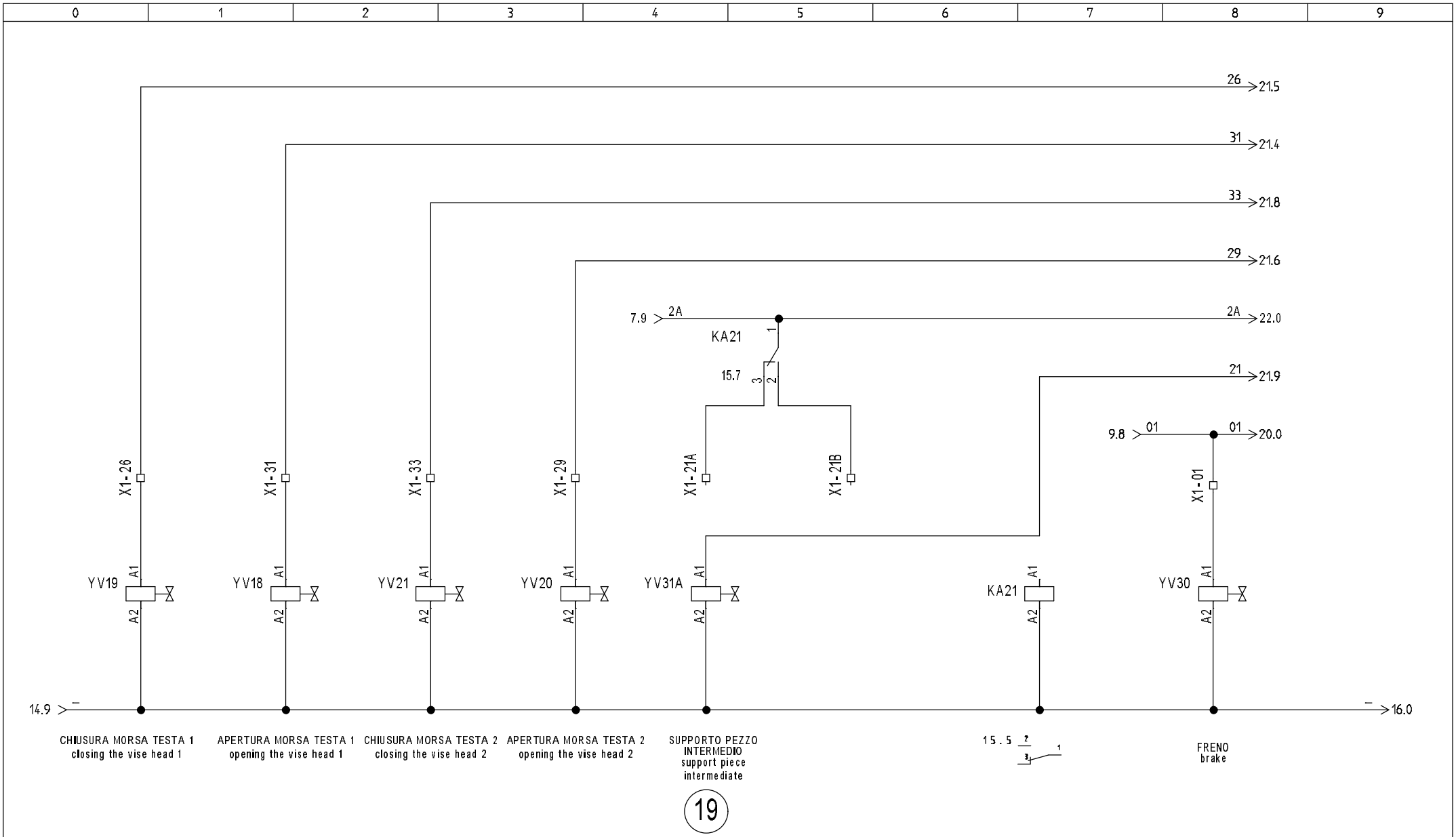
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 12
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	libero		11 ◁ ▷ 13
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



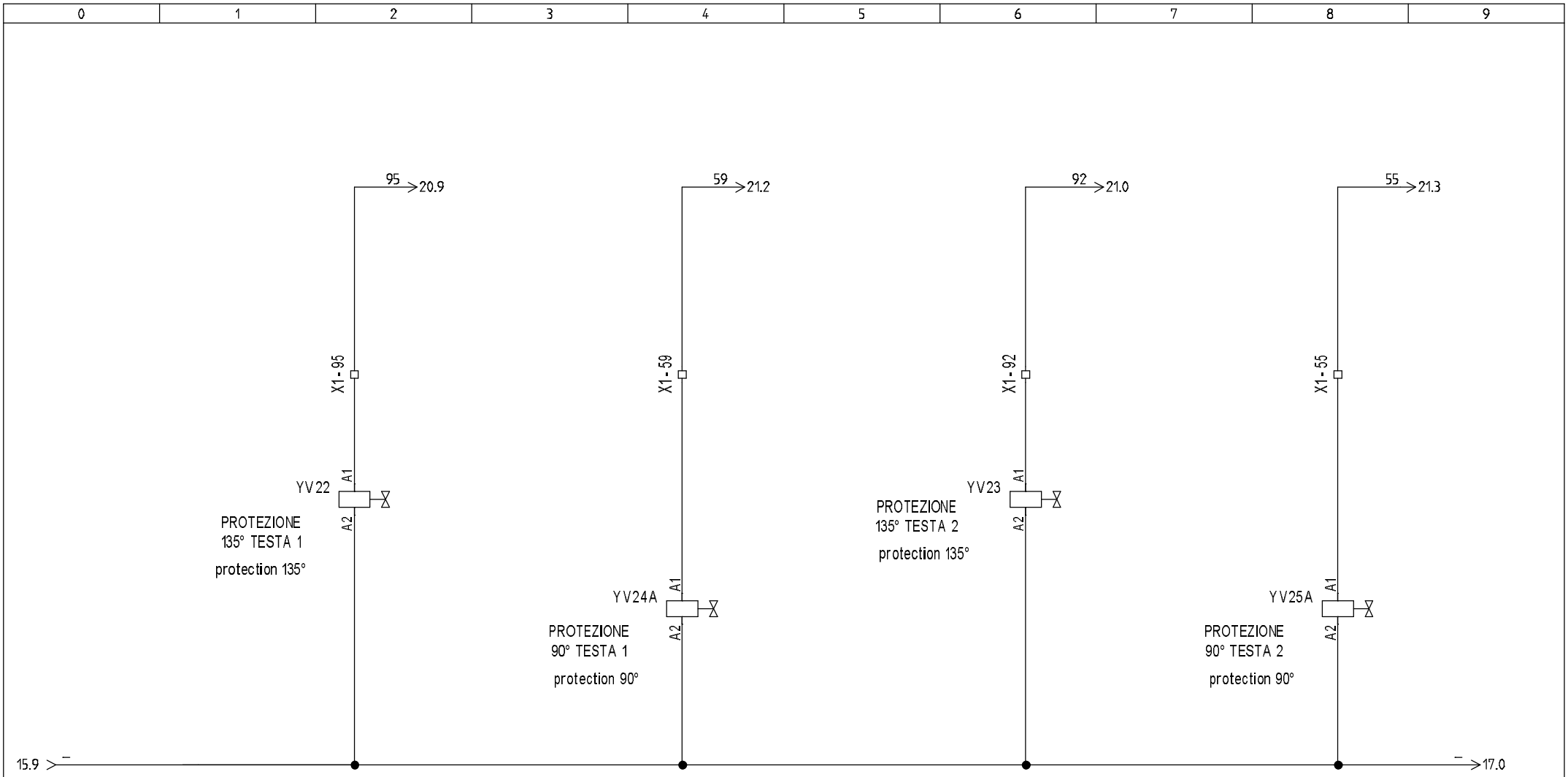
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 13
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	saw blade 1-2		12 ◁ ▷ 14
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



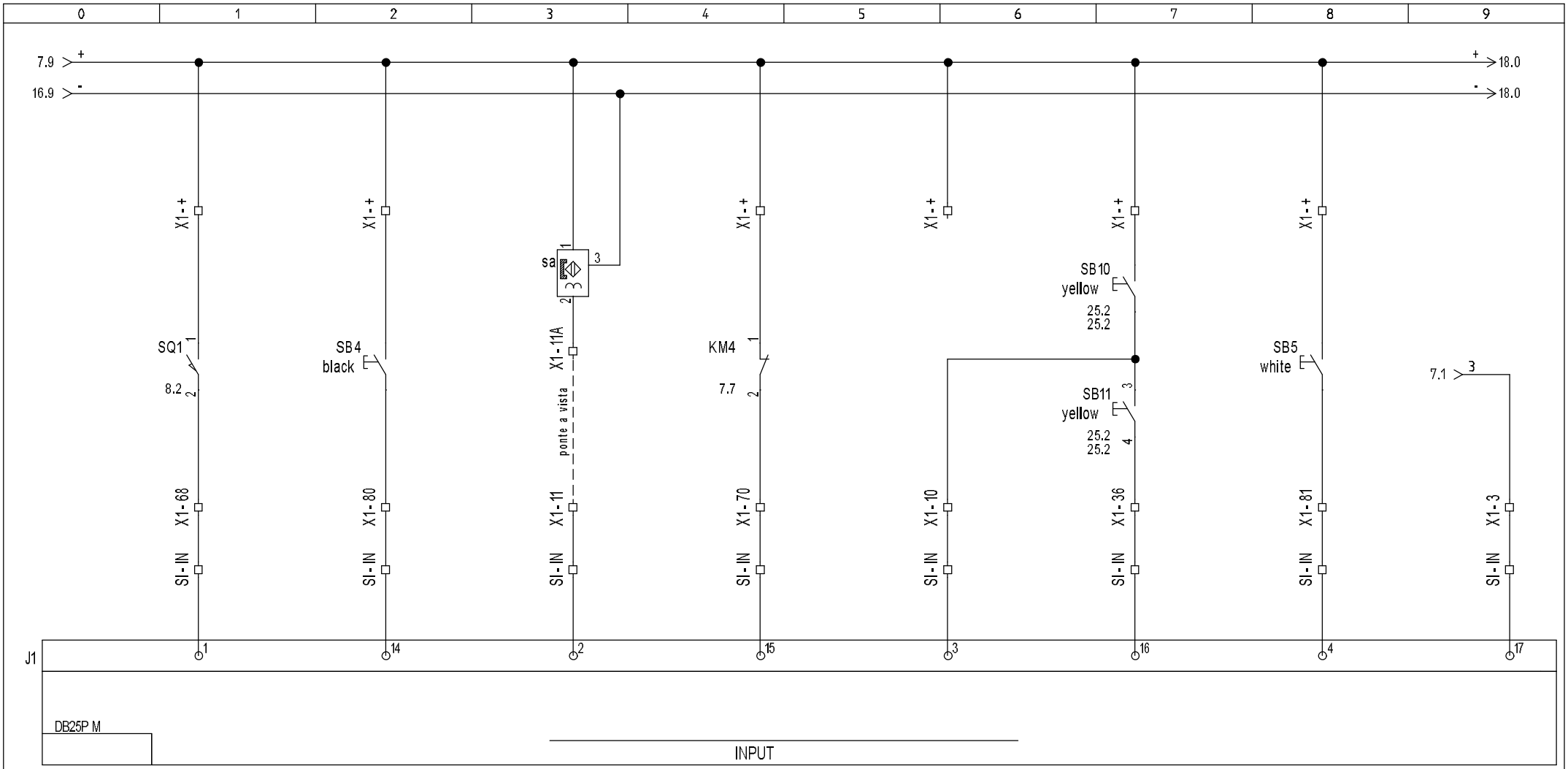
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 14
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	elettrovalvole - solenoid valves		13 ◁ ▷ 15
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



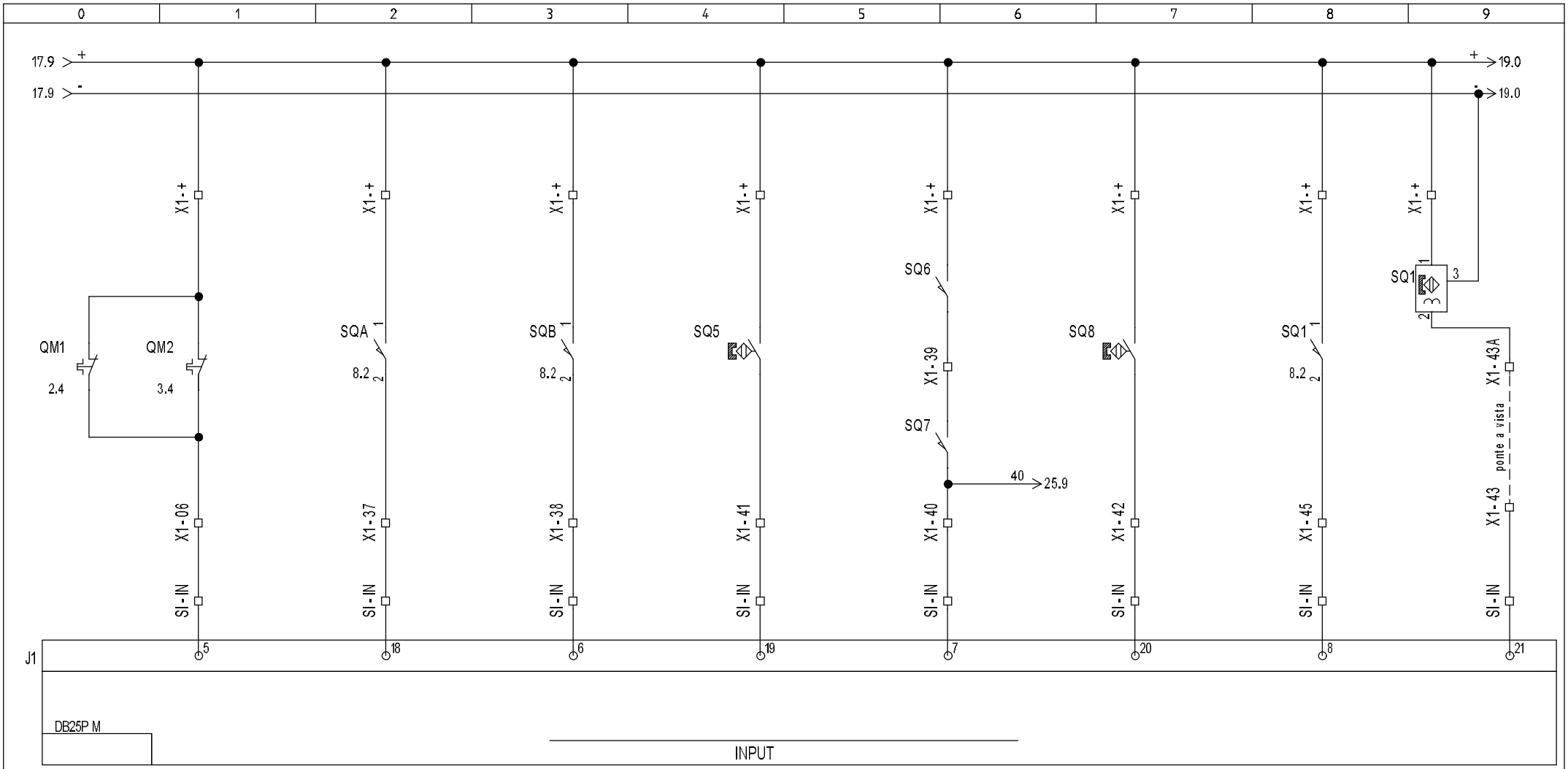
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 15
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	elettrovalvole - solenoid valves		14 ◁ ▷ 16
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



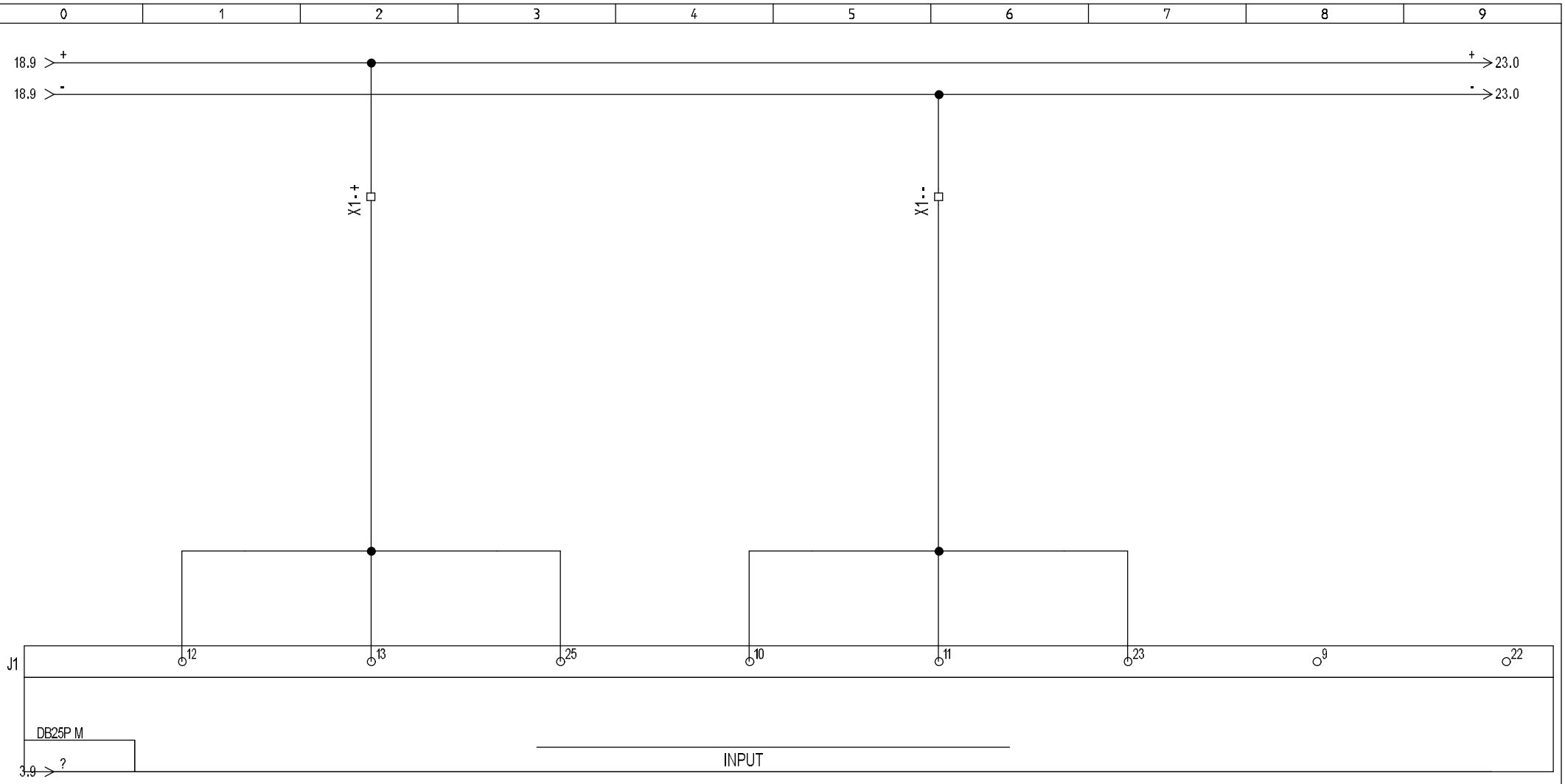
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 16
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	elettrovalvole - solenoid valves		15 ◁ ▷ 17
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 17
			COMMESSA - ORDER:	A18-38		DI 26
DATA	FIRMA		CLIENTE - CLIENT:	ROBTECH		
			TITOLO - TITLE:	input		16 ◁ ▷ 18
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



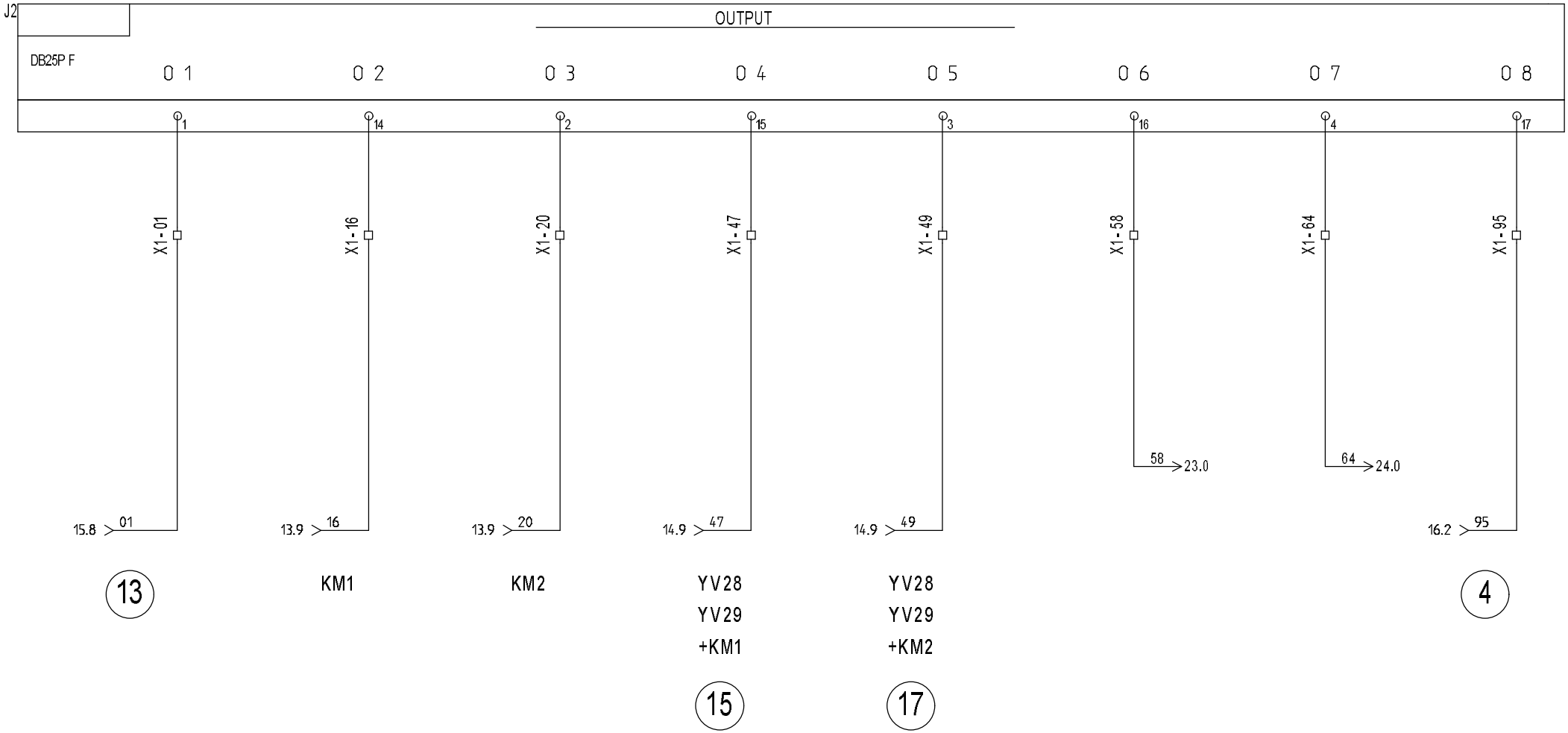
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 18
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	input		17 ◁ ▷ 19
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 19
			COMMESSA - ORDER:	A18-38	DI 26
			CLIENTE - CLIENT:	ROBTECH	
DATA	FIRMA		TITOLO - TITLE:	input	18 ◁ ▷ 20
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018

0	1	2	3	4	5	6	7	8	9

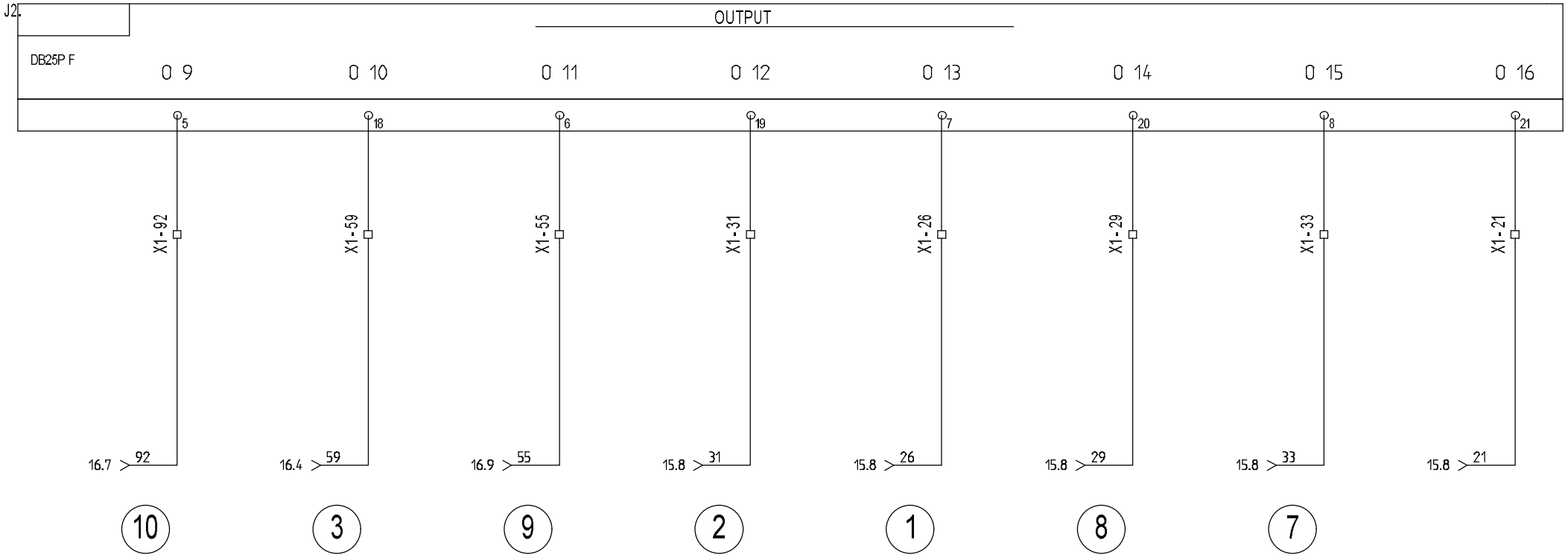
	ENABLE ASSE CARRO	START/STOP MOTORE LAMA 1	START/STOP MOTORE LAMA 2	CHIUSURA PROTEZIONE TESTA 1	CHIUSURA PROTEZIONE TESTA 2	ABILITAZIONE TA	ABILITAZIONE TB	PROTEZIONE A 135° TESTA1
	enable axis cart	start/stop motor saw blade 1	start/stop motor saw blade 2	closing protective covering heat 1				



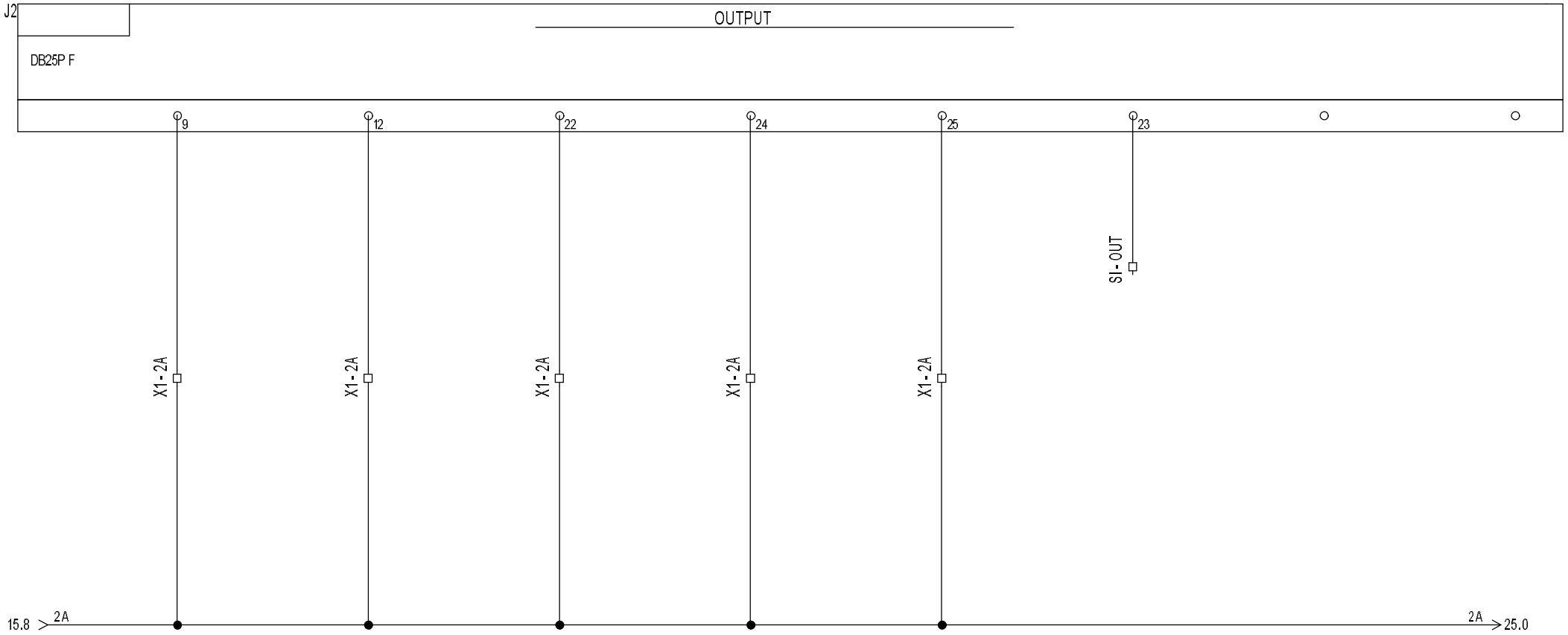
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 20
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	output		19 ◁ ▷ 21
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	

0	1	2	3	4	5	6	7	8	9

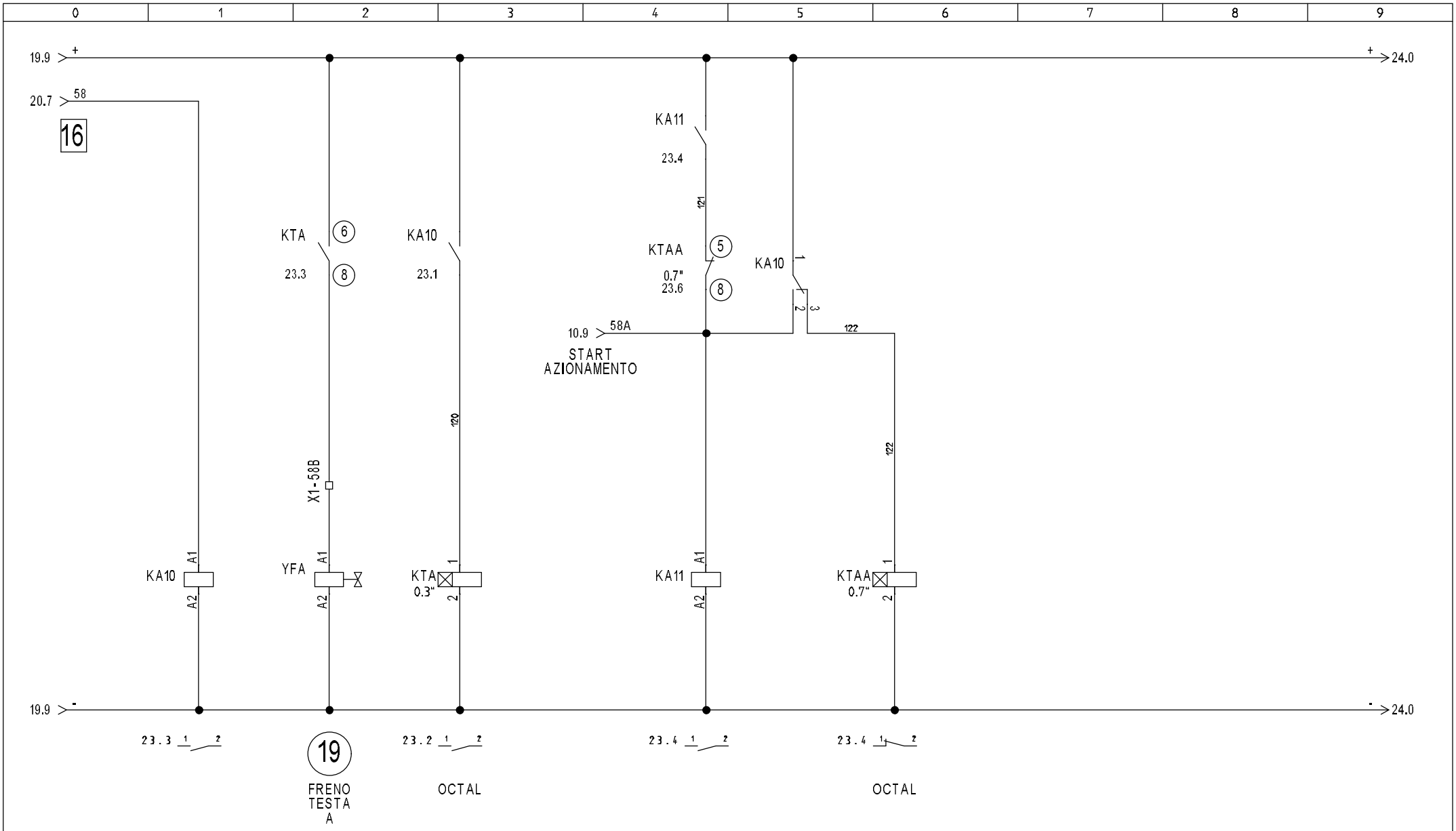
	PROTEZIONE A 135° TESTA 2	PROTEZIONE A 45° TESTA 1	PROTEZIONE A 45° TESTA 2	APERTURA MORSE TESTA 1	CHIUSURA MORSE TESTA 1	APERTURA MORSE TESTA 2	CHIUSURA MORSE TESTA 2	SUPPORTO PEZZO INTERMEDIO
	protection 135° head 2	protection 45° head 1	protection 45° head 2	opening the vise head 1	closing the vise head 1	opening the vise head 2	closing the vise head 2	support piece intermediate



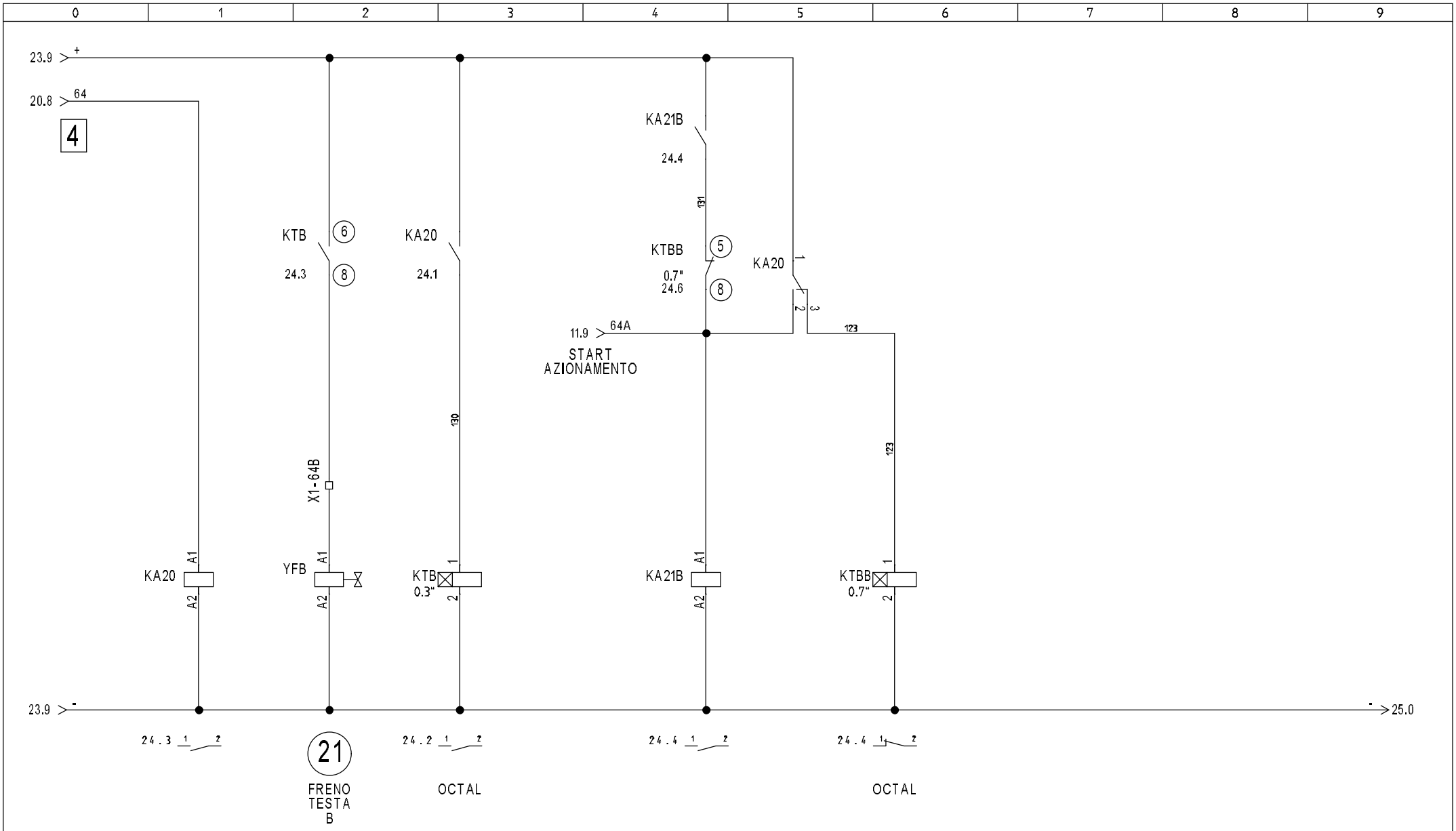
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 21
			COMMESSA - ORDER:	A18-38	DI 26
			CLIENTE - CLIENT:	ROBTECH	
DATA	FIRMA		TITOLO - TITLE:	output	20 ◁ ▷ 22
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018



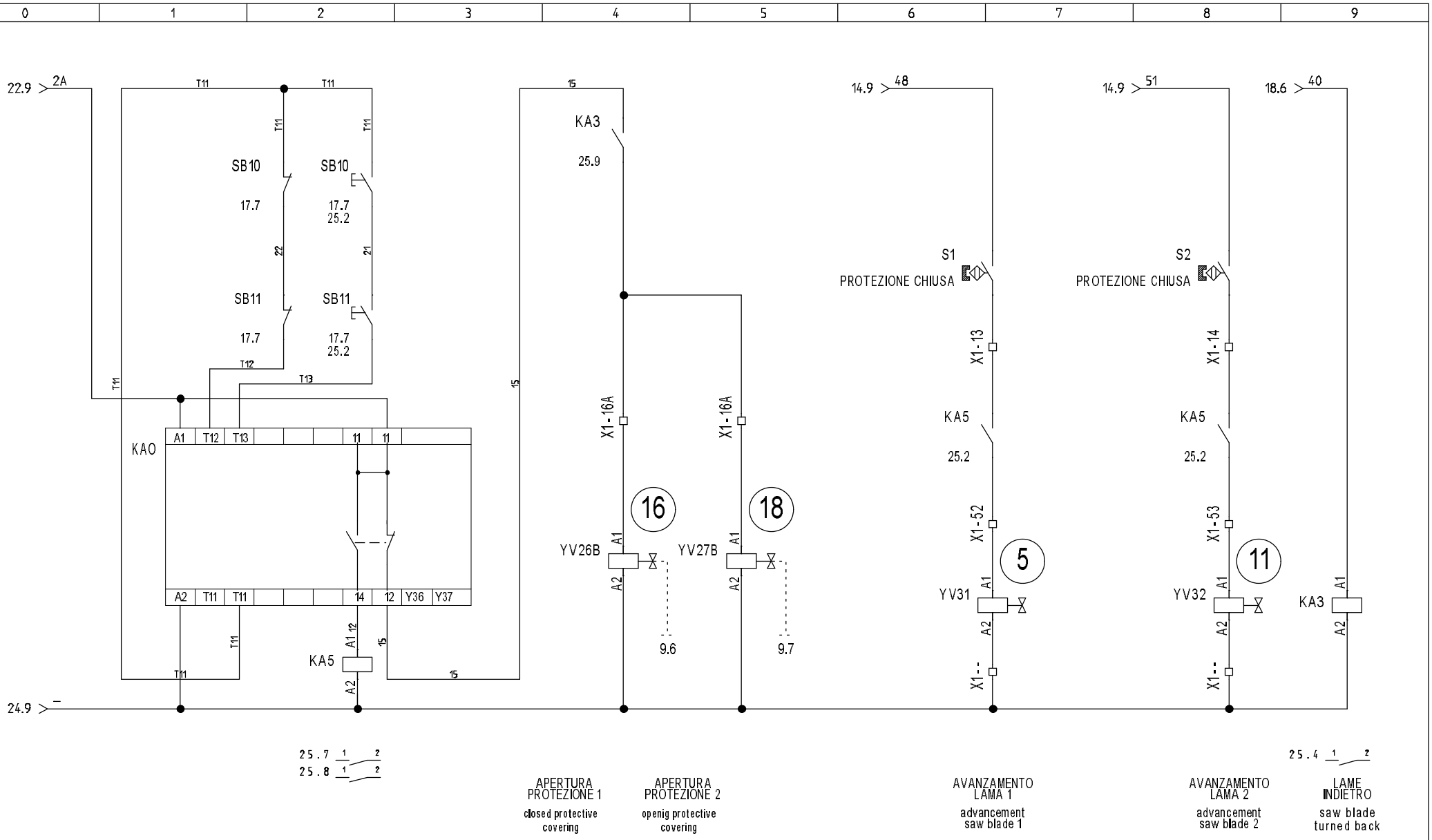
REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 22
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:	output		21 ◁ ▷ 23
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE		FOGLIO 23
			COMMESSA - ORDER:	A18-38		DI 26
			CLIENTE - CLIENT:	ROBTECH		
DATA	FIRMA		TITOLO - TITLE:			22 ◁ ▷ 24
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	



REVISIONE	MODIFICA		PROGETTO - PROJECT: PLAY GE		FOGLIO 24
			COMMESSA - ORDER: A18-38		DI 26
			CLIENTE - CLIENT: ROBTECH		
DATA	FIRMA		TITOLO - TITLE:		23 ◁ ▷ 25
			DIS. - DES: Ellevi product	DATA - DATE: 24/04/2018	



REVISIONE	MODIFICA		PROGETTO - PROJECT:	PLAY GE	FOGLIO 25
			COMMESSA - ORDER:	A18-38	DI 26
DATA	FIRMA		CLIENTE - CLIENT:	ROBTECH	
			TITOLO - TITLE:	comando 2 mani	24 ◁ ▷ 26
			DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018

0	1	2	3	4	5	6	7	8	9

GE

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

REVISIONE	MODIFICA	
DATA	FIRMA	

PROGETTO - PROJECT:	PLAY GE		FOGLIO 26
COMMESSA - ORDER:	A18-38		DI 26
CLIENTE - CLIENT:	ROBTECH		
TITOLO - TITLE:	schema valves		25 ◁ ▷
DIS. - DES:	Ellevi product	DATA - DATE: 24/04/2018	

PNEUMATIC DIAGRAM

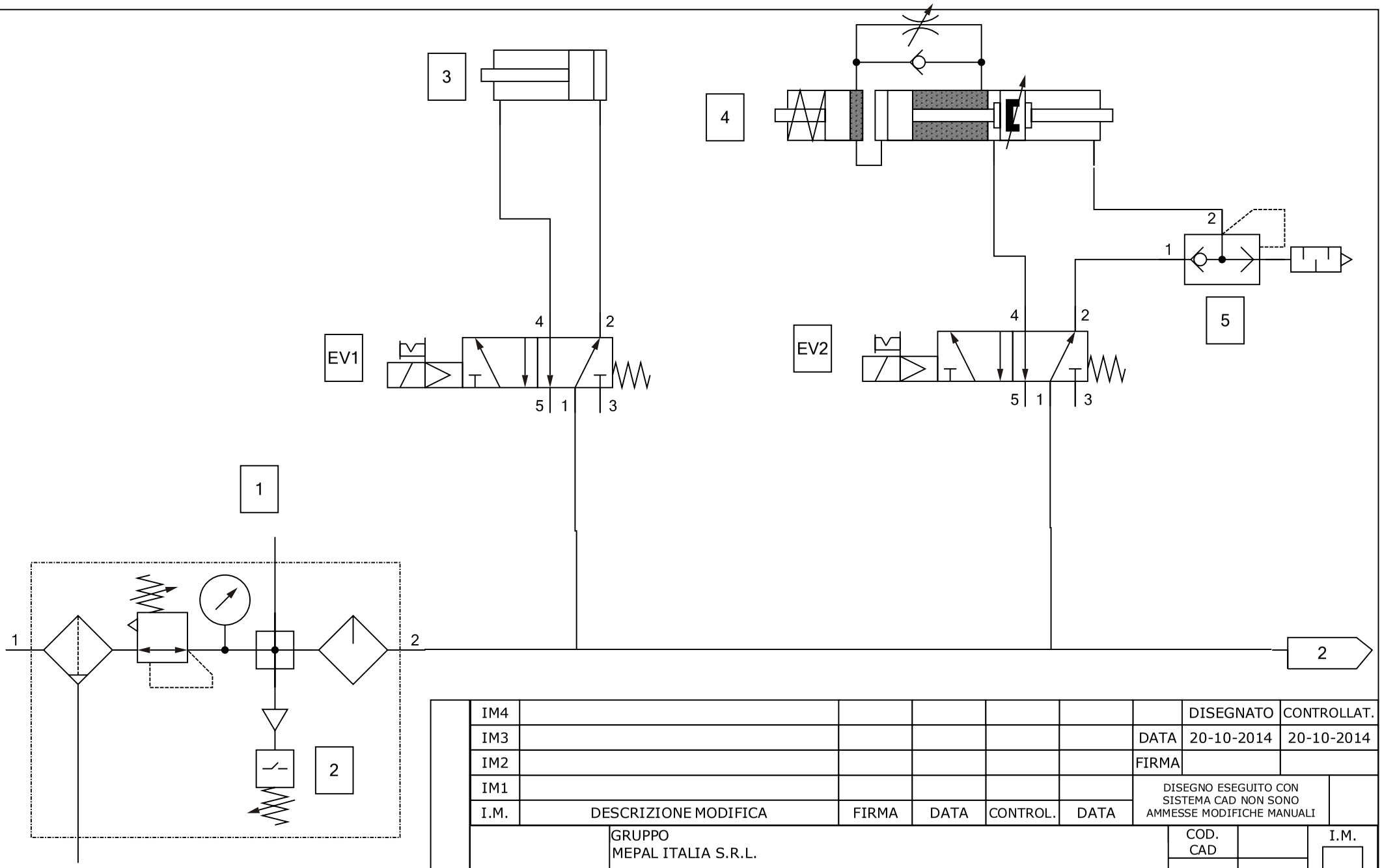
DBC 500 GE

DISTINTA MATERIALE + FUNZIONI

Sigla	Foglio	Codice	Descrizione	Funzione
1	1	CA-71011+CA-70042+CA-70043	Gruppo filtro con lubrificazione dell'aria	Filtraggio e regolazione pressione dell'aria
2	1	CA-70045+CA-70046	Pressostato esagonale + cappuccio	Rilevamento pressione
EV1	1	BT-71082	Elettrovalvola monostabile 5/2	Azionamento freno carro mobile
3	1	CN-71496	Cilindro corsa breve D.40 C.5 D.E.	Freno carro mobile
4	1	CN-71148	Cilindro oleopneumatico D.50 C.195 DX	Uscita lama testa mobile
EV2	1	BT-71082	Elettrovalvola monostabile 5/2	Azionamento cilindro uscita lama testa mobile
5	1	CA-71076	Valvola di scarico rapido	
6	2	CN-70385	Cilindro oleopneumatico D.50 C.195 SX	Uscita lama testa fissa
EV3	2	BT-71082	Elettrovalvola monostabile 5/2	Azionamento cilindro uscita lama testa fissa
7	2	CA-71076	Valvola di scarico rapido	
8	2	CN-71150	Cilindro magnetico D.40 C.110	Movimentazione carter protezione testa mobile
EV4	2	BT-71550	Elettrovalvola bistabile 5/2	Azionamento cilindro carter testa mobile
EV5	2	BT-71550	Elettrovalvola bistabile 5/2	Azionamento cilindro spost.45°/90° carter prot.
9	2	CN-71324	Cilindro magnetico D.25 C.125	Cilindro spost.45°/90° carter prot. testa mobile
EV6	3	BT-71550	Elettrovalvola bistabile 5/2	Azionamento cilindri pressori testa mobile
EV7	3	BR-71052	Elettrovalvola 2 pressioni NC	Passaggio alta/bassa pressione testa mobile
10-12	3	CN-70235	Cilindro pressore D.35 C.75 + servovalvola	Bloccaggio orizzontale pezzo testa mobile
11	3	CN-70514	CILINDRO PRESSORE D.27 C.115	Bloccaggio verticale pezzo testa mobile
14	4	CN-71150	Cilindro magnetico D.40 C.110	Movimentazione carter protezione testa fissa

MEPAL ITALIA S.R.L.
TIPO MACCHINA: FLY500 GE
DATA: 12/12/2017
TITOLO: DISTINTA MATERIALE + FUNZIONI

	A	B	C	D	E
32			**DISTINTA MATERIALE + FUNZIONI**		
33					
34	**Sigla**	**Foglio**	**Codice**	**Descrizione**	**Funzione**
35	EV8	4	BT-71550	Elettrovalvola bistabile 5/2	Azionamento cilindro carter testa fissa
36	EV9	4	BT-71550	Elettrovalvola bistabile 5/2	Azionamento cilindro spost.45°/90° carter prot.
37	15	4	CN-71324	Cilindro magnetico D.25 C.125	Cilindro spost.45°/90° carter prot. testa mobile
38	EV10	5	BT-71550	Elettrovalvola bistabile 5/2	Azionamento cilindri pressori testa fissa
39	EV11	5	BR-71052	Elettrovalvola 2 pressioni NC	Passaggio alta/bassa pressione testa fissa
40	16-18	5	CN-70235	Cilindro pressore D.35 C.75 + servovalvola	Bloccaggio orizzontale pezzo testa fissa
41	17	5	CN-70514	CILINDRO PRESSORE D.27 C.115	Bloccaggio verticale pezzo testa fissa
42					
43	EV12	5	BT-70036	MICROVALVOLA NC 3/2 Ø4 (304MB)	ON/OFF spostamento pianetto testa fissa (optional)
44					
45	EV13	6	BT-71082	Elettrovalvola monostabile 5/2	Azionamento supporto intermedio (optional)
46	21	6	CN-71342	Cilindro rotante D.50 C.140	Supporto intermedio pneumatico (optional)
47					
48	EV14	6	BT-71082	Elettrovalvola monostabile 5/2	Azionamento freno testa fissa
49	22	6	CN-72058	Cilindro D.E. con molla Ø80/5	Freno inclinazione testa fissa
50	EV15	6	BT-71082	Elettrovalvola monostabile 5/2	Azionamento freno testa mobile
51	23	6	CN-72058	Cilindro D.E. con molla Ø80/5	Freno inclinazione testa mobile
52					
53					
54					
55					
56					
57					
58					MEPAL ITALIA S.R.L.
59					TIPO MACCHINA: FLY500 GE
60					DATA: 12/12/2017
61					TITOLO: DISTINTA MATERIALE + FUNZIONI



IM4							DISEGNATO	CONTROLLAT.
IM3						DATA	20-10-2014	20-10-2014
IM2						FIRMA		
IM1						DISEGNO ESEGUITO CON SISTEMA CAD NON SONO AMMESSE MODIFICHE MANUALI		
I.M.	DESCRIZIONE MODIFICA	FIRMA	DATA	CONTROL.	DATA			

GRUPPO
MEPAL ITALIA S.R.L.

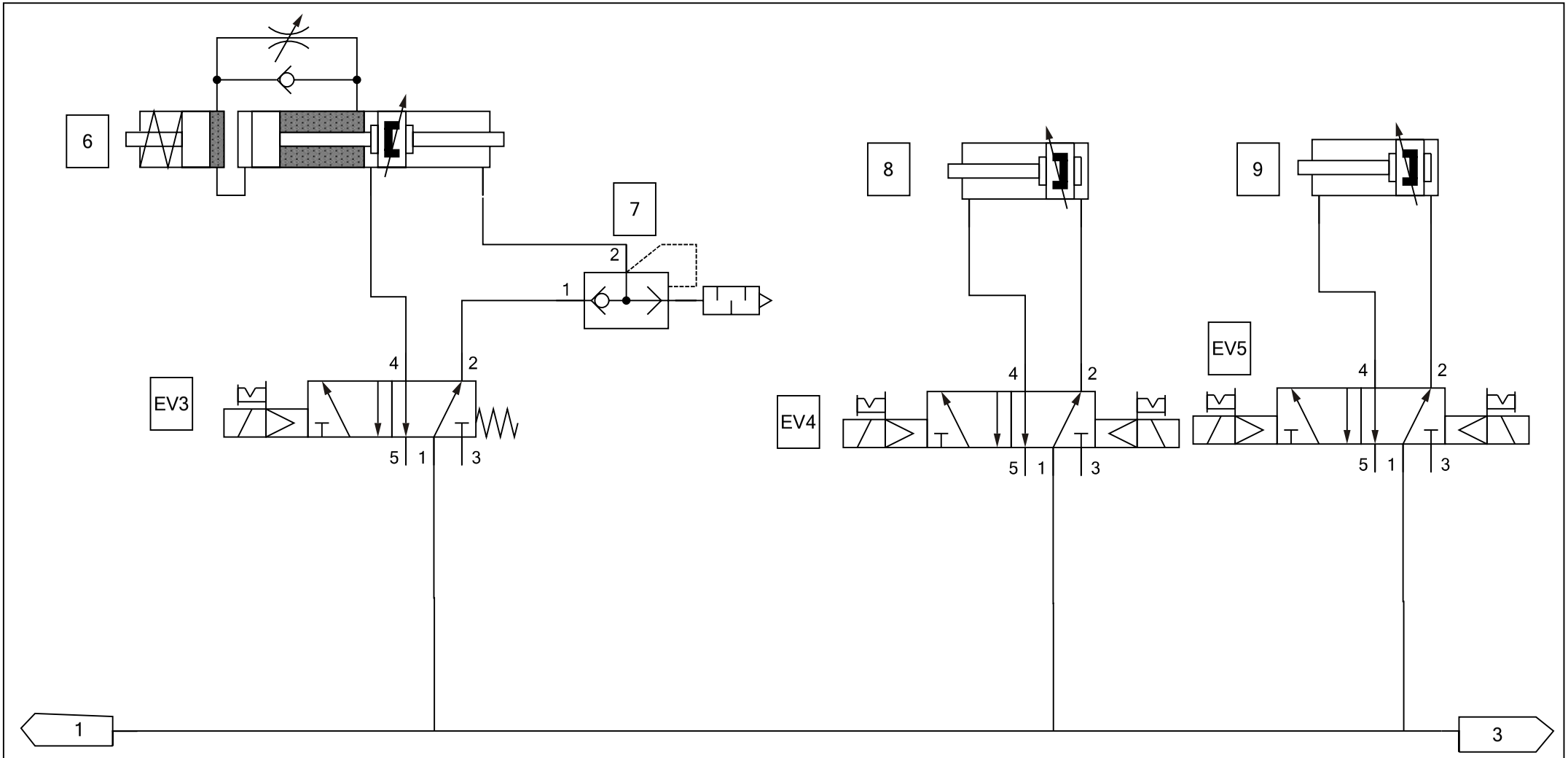
COD. CAD

SCALA

I.M.

DENOMINAZIONE
IMPIANTO PNEUMATICO FLY500 GE - PNEUMATIC SCHEMATIC FLY500 GE

N. DISEGNO
1



IM4							DISEGNATO	CONTROLLAT.
IM3						DATA	20-10-2014	20-10-2014
IM2						FIRMA		
IM1						DISEGNO ESEGUITO CON SISTEMA CAD NON SONO AMMESSE MODIFICHE MANUALI		
I.M.	DESCRIZIONE MODIFICA	FIRMA	DATA	CONTROL.	DATA			

GRUPPO
MEPAL ITALIA S.R.L.

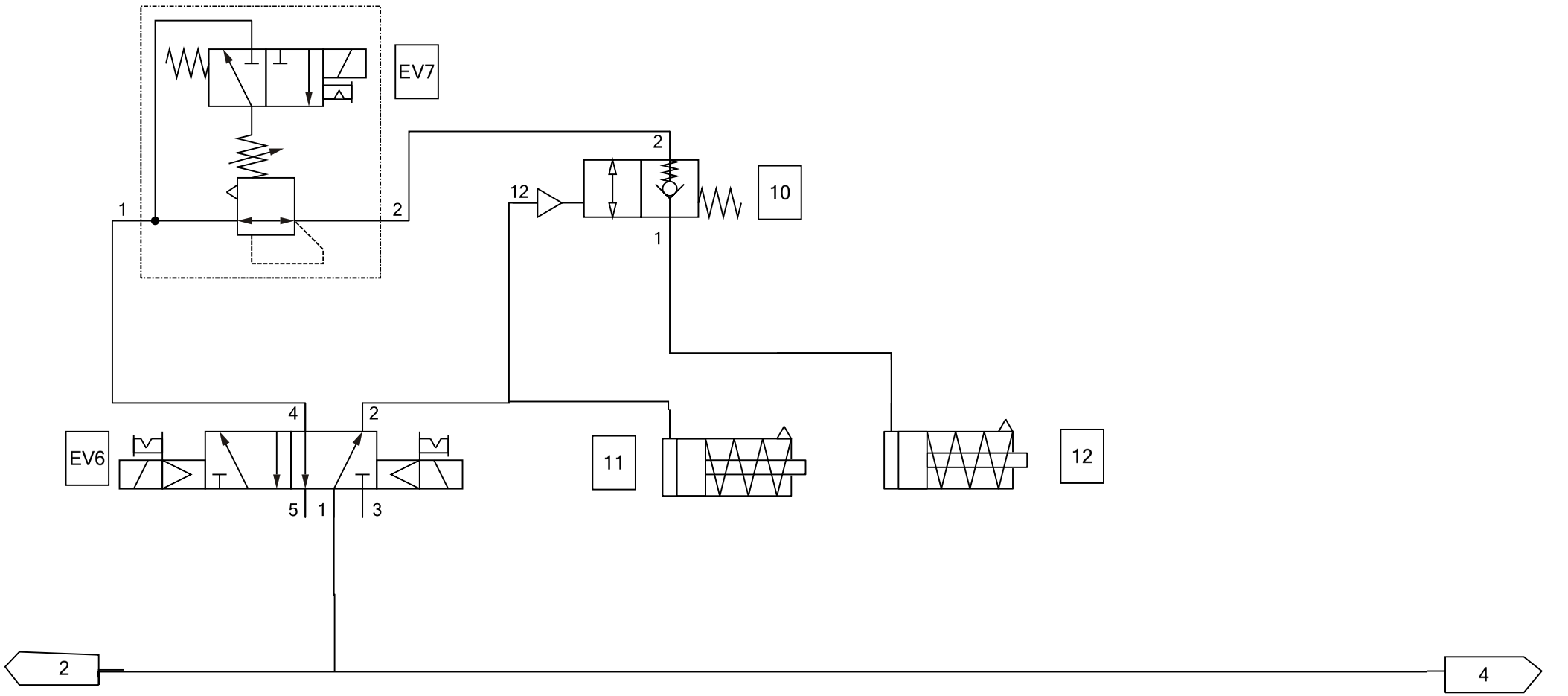
COD. CAD

SCALA

I.M.

DENOMINAZIONE
IMPIANTO PNEUMATICO FLY500 GE - PNEUMATIC SCHEMATIC FLY500 GE

N. DISEGNO
2



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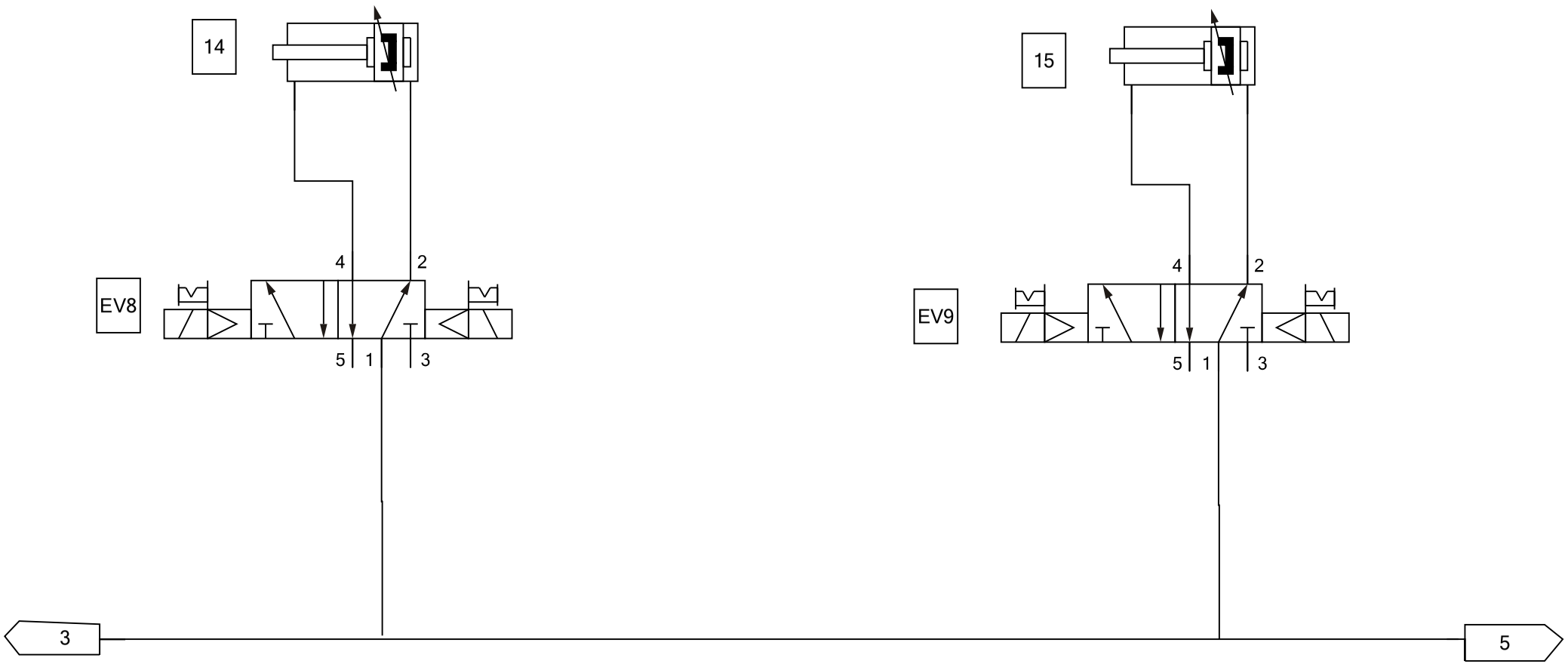
I.M.	DESCRIZIONE MODIFICA	FIRMA	DATA	CONTROL.	DATA			

GRUPPO MEPAL ITALIA S.R.L.	COD. CAD		I.M.
	SCALA		
DENOMINAZIONE IMPIANTO PNEUMATICO FLY500 GE - PNEUMATIC SCHEMATIC FLY500 GE	N. DISEGNO 3		



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I.M.	DESCRIZIONE MODIFICA	FIRMA	DATA	CONTROL.	DATA			

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MEPAL ITALIA S.R.L.

COD. CAD

SCALA

I.M.

DENOMINAZIONE
IMPIANTO PNEUMATICO FLY500 GE - PNEUMATIC SCHEMATIC FLY500 GE

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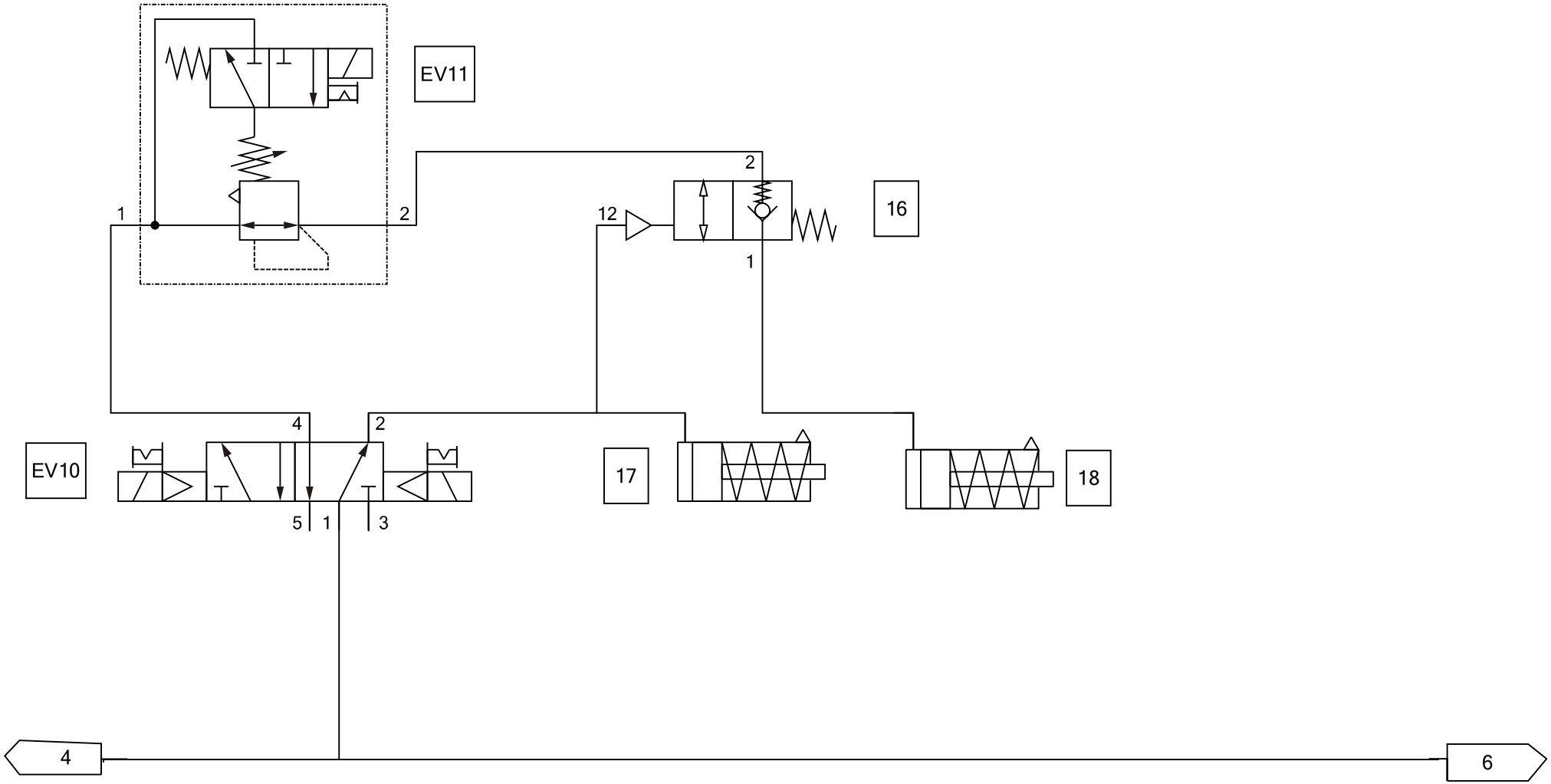

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I.M.	DESCRIZIONE MODIFICA	FIRMA	DATA	CONTROL.	DATA			

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COD. CAD

SCALA

I.M.

DENOMINAZIONE
IMPIANTO PNEUMATICO FLY500 GE - PNEUMATIC SCHEMATIC FLY500 GE

N. DISEGNO
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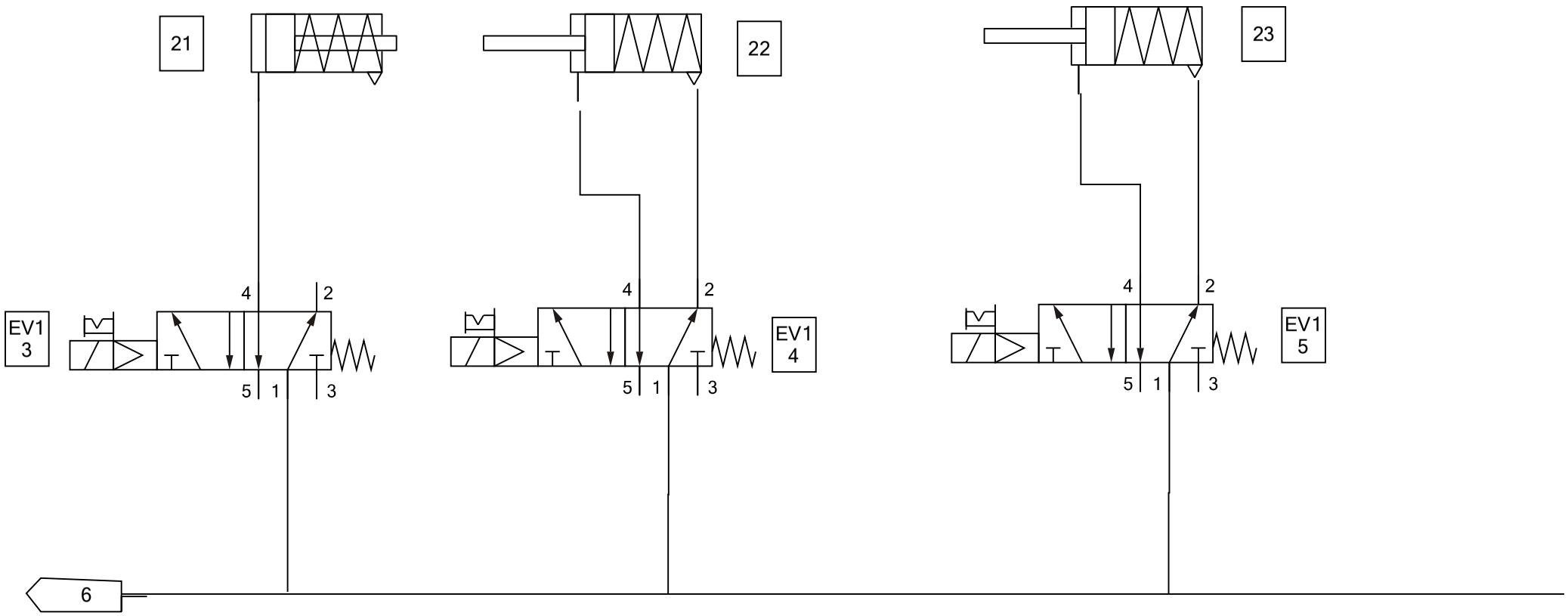

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GRUPPO
MEPAL ITALIA S.R.L.

COD. CAD

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DENOMINAZIONE
IMPIANTO PNEUMATICO FLY500 GE - PNEUMATIC SCHEMATIC FLY500 GE

N. DISEGNO
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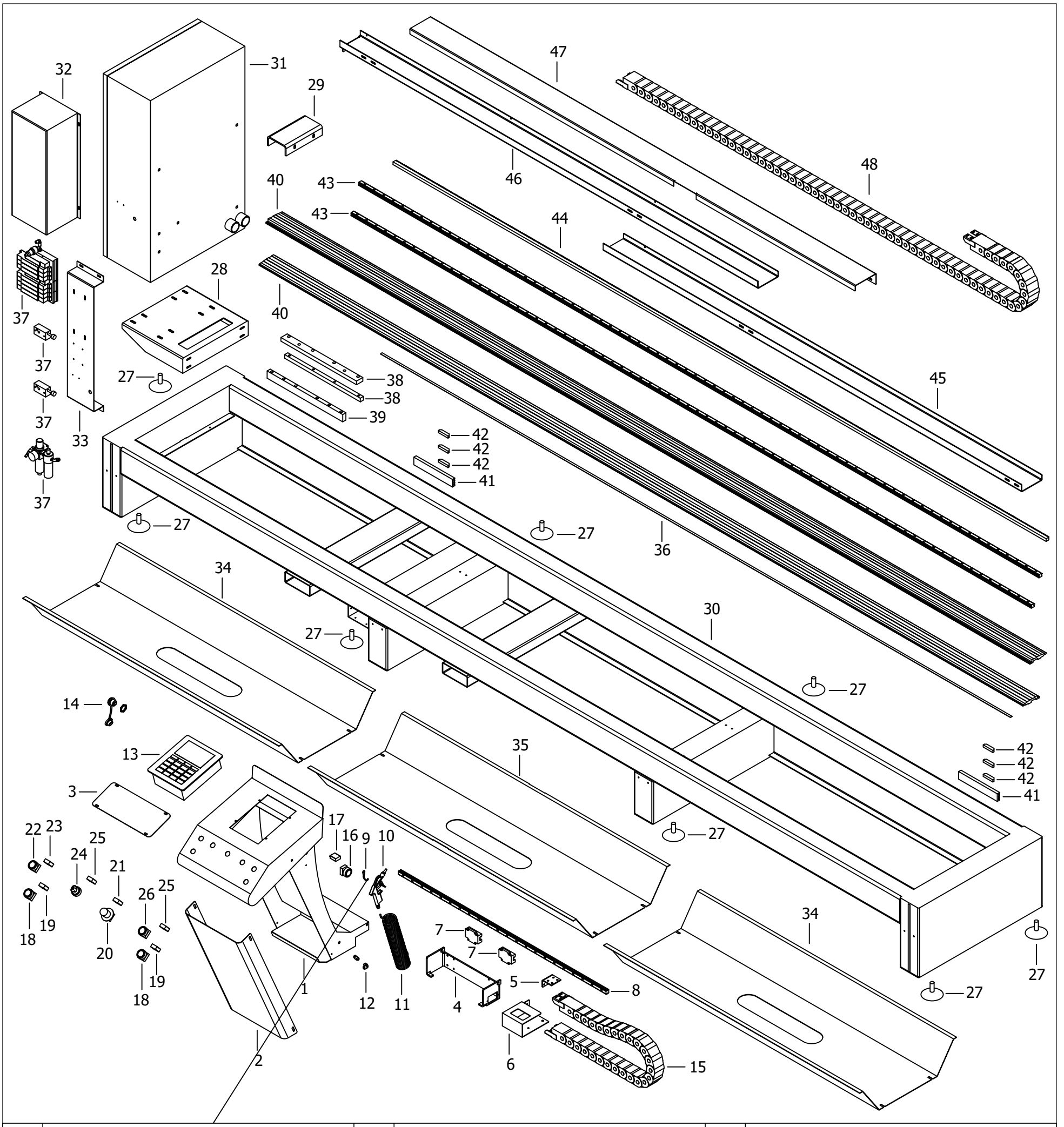
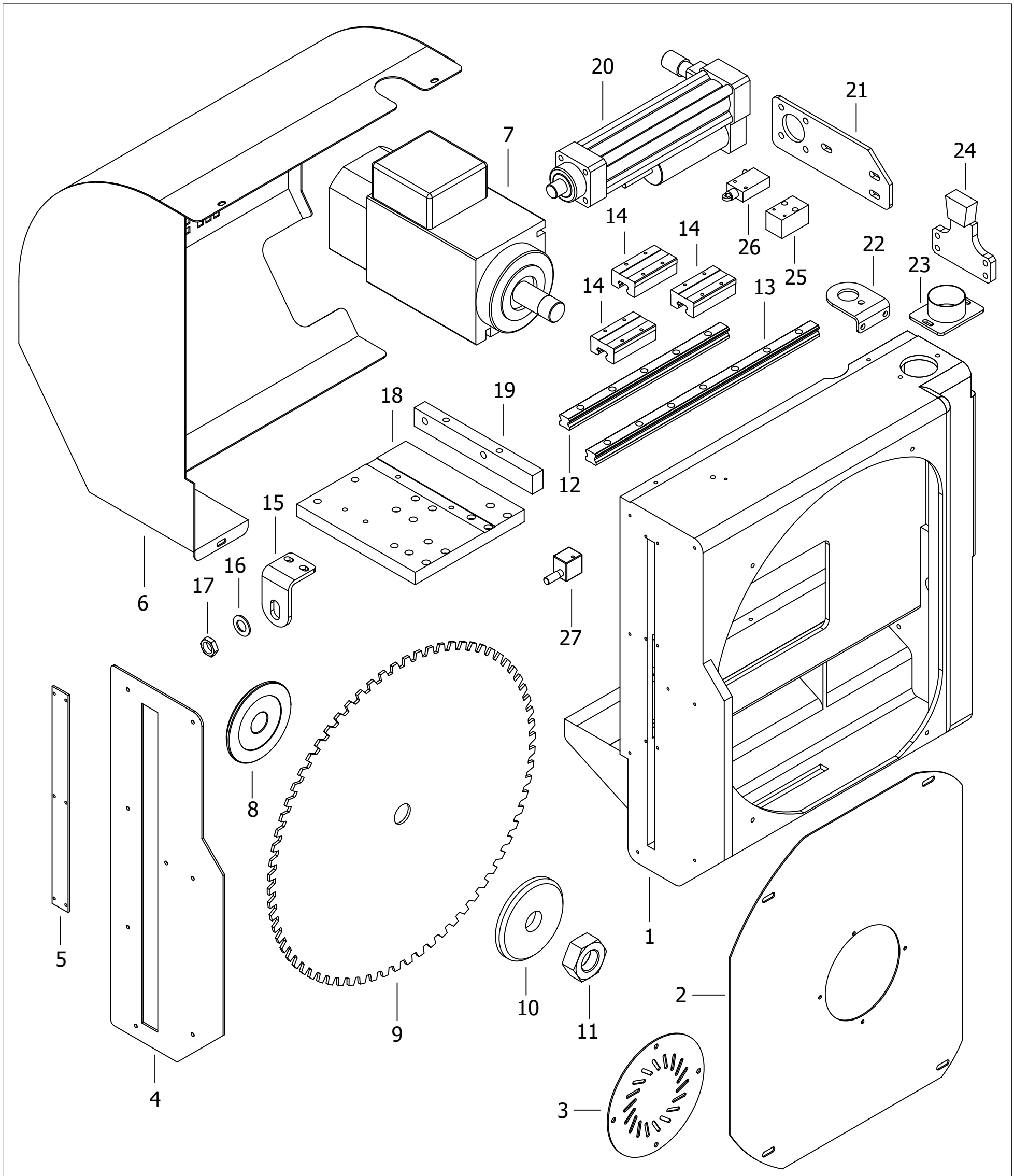
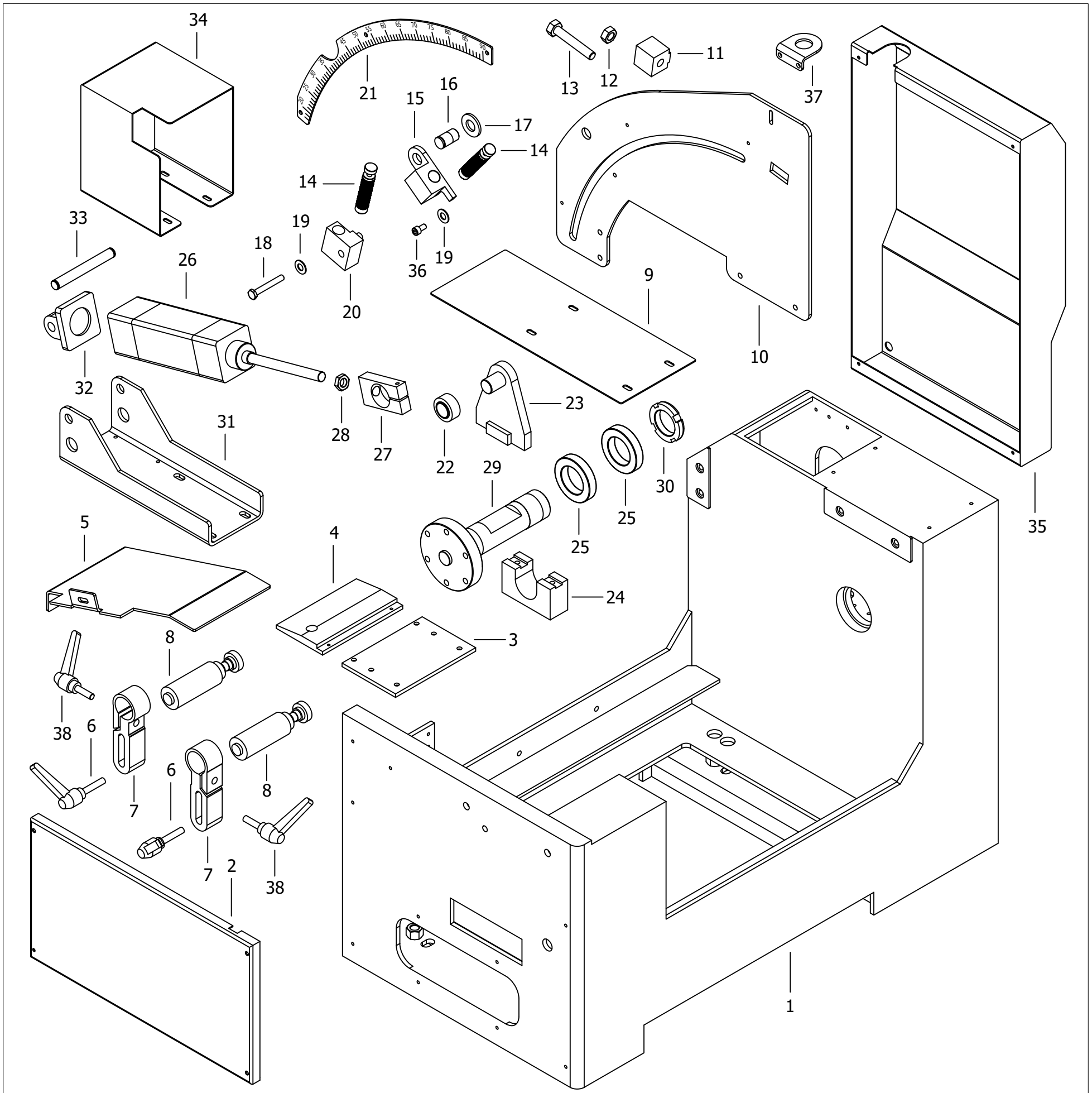


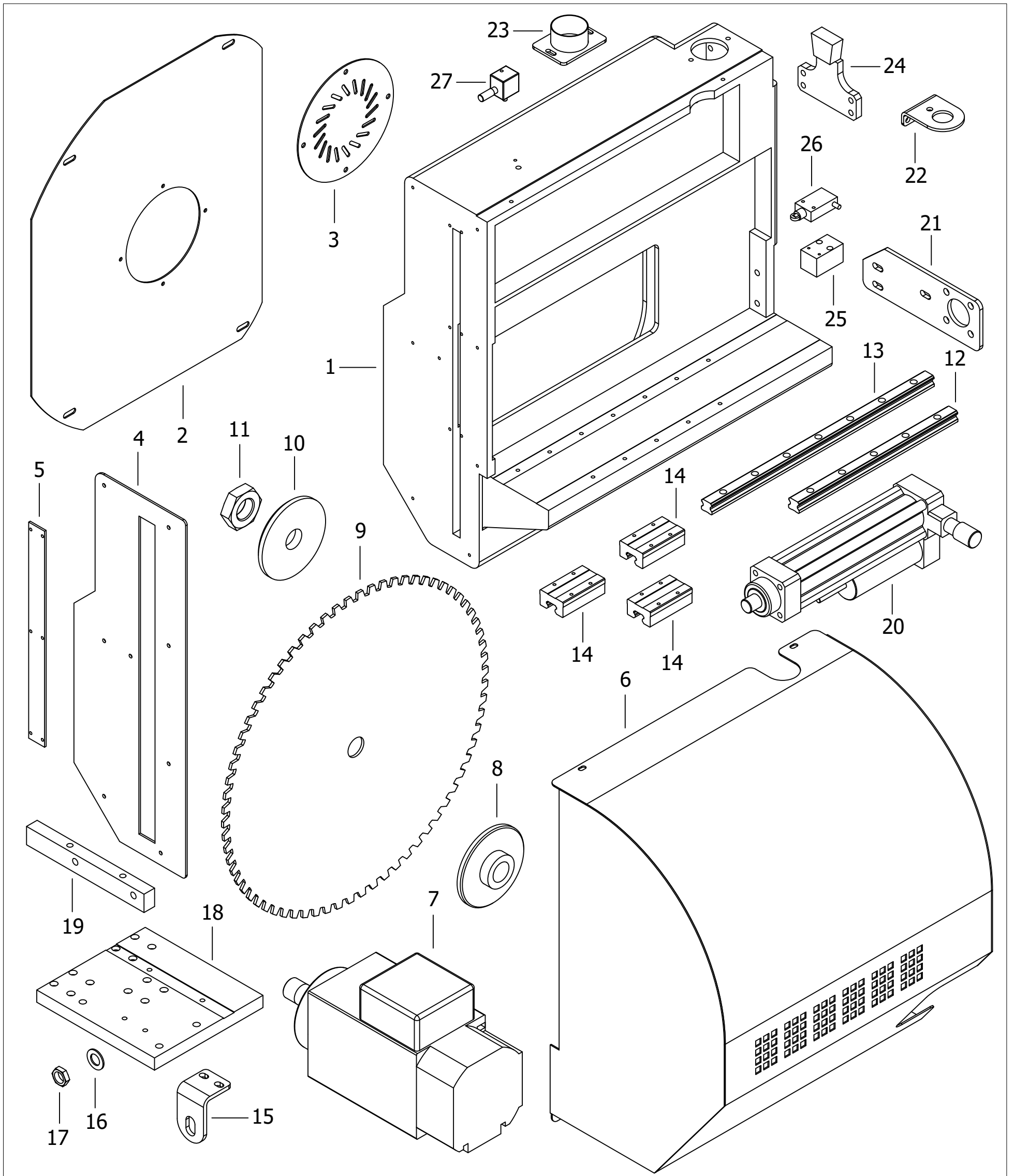
1	Consolle Fly500 _ IR-32389	17	Contatto _ K10	33	Staffa impianto pneumatico _ LE-33219
2	Chiusura consolle Fly500 _ LE-32407	18	Pulsante start	34	Scivolo laterale Fly 4m _ LE-32814
3	Coperchio consolle Fly500 _ LE-32408	19	Contatto _ M22-K10	35	Scivolo centrale Fly 4m _ LE-32815
4	Attacco pattini consolle Fly500 _ LE-32414	20	Fungo di emergenza	36	Asta metrica acciaio adesiva _ KG-70178
5	Staffa catena consolle Fly500 _ LE-32633	21	Contatto _ EK01	37	Kit valvole Fly standard _ CA-20123
6	Attacco catena console Play500 _ IR-32805	22	Pulsante di riarmo	38	Fissaggio posteriore t.f. Fly500 _ LE-34203
7	Pattino flangiato per guida 20x20 _ DD-70551	23	Contatto _ EK10	39	Fissaggio anteriore t.f. Fly500 _ LE-34194
8	Guida console Fly500 _ KL-33411	24	Chiave di sicurezza	40	Estruso basamento doppia testa _ TB-32492
9	Gancio pistola aria _ LE-32251	25	Contatto _ M22-CK10	41	Supporto camme 3 vie L=200 _ AA-70486
10	Pistola aria _ CA-70052	26	Pulsante chiusura morse	42	Camma per fine corsa L=50mm _ AA-71174
11	Spirale Rylsan Ø6 _ AX-70102	27	Piedino M16 L60 _ EC-70000	43	Guida lineare 20x20 L=4300mm _ KL-71406
12	Rac.Ø6⅛ _CA-70065+Rac.Ø4⅛ _CA-70121	28	Supporto scatola impianti Fly500 _ IR-32896	44	Cremagliera Boxer modulo 2 _ EA-30242
13	Controllo elettronico EC609 _ AA-70526	29	Staffa quadro elettrico Nordica _ LE-31271	45	Avanti canalina basamento 2T _ VD-43190
14	USB per controllo EC609 _ AA-70611	30	Basamento Fly 4m _ IR-32662	46	Dietro canalina basamento 2T_ VD-43191
15	Catena cavi SR435PE040075 _ DY-71156	31	Quadro elettrico Fly 4m/H1000 _	47	Sopra canalina basamento 2T_ LE-32890
16	Pulsante sblocco freno	32	Scatola impianto pneumatico 2T _ LE-33805	48	Catena cavi SR435PE050100 _ DY-71024



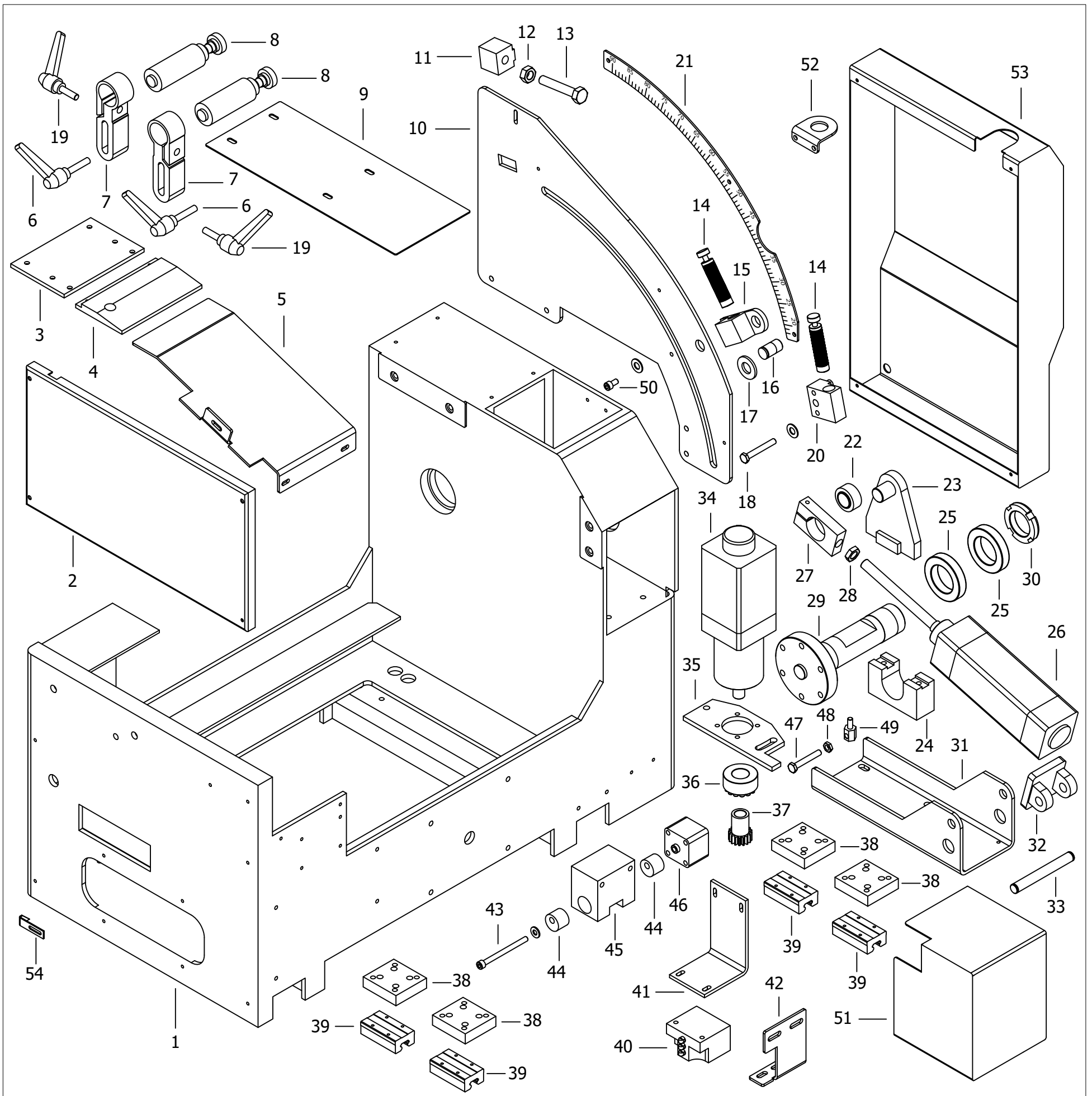
1	Fusione testa fissa Fly500 _ FU-50033	11	Dado M30x1,5 h.24mm dx _ EC-71206	21	Piastra spinta lama Fly500 _ LE-32422
2	Chiusura laterale testa Fly500 _ LE-32432	12	Guida corta uscita lama Fly500 _ KL-33412	22	Staffa pg testa Fly500 _ LE-32419
3	Coperchio tondo testa Fly500 _ LE-32434	13	Guida uscita lama Fly500 _ KL-33410	23	Piastra tubo scarico Play _ LE-32817
4	Piastra verticale Fly500 _ LE-32433	14	Pattino guida 20x20 _ DD-70567	24	Battuta testa Fly500 _ LE-32423
5	Pianetto lama verticale Fly500 _ LE-32517	15	Staffa spinta lama Fly500 _ LE-32420	25	Blocco micro post. lama Fly _ LE-33863
6	Carter motore t.f. Fly500 _ IR-32390	16	Rondella per vite M20	26	Interruttore con rotella FR515-1 _ AA-71018
7	Motore 2,2 Kw 230/400 sx _ BK-71023	17	Dado M20x1	27	Nebulizzatore _ CH-70032
8	Flangia posteriore lama Fly500 _ LE-31976	18	Carrello motore Fly500 _ LE-32427	_	_
9	Lama HM Ø500 F30 Z120 B4 _ GP-70532	19	Riscontro fisso motore lama _ LE-31533	_	_
10	Flangia anteriore lama Fly500 _ LE-30855	20	Cilindro oleopneu. Ø50x195 sx _ CN-70385	_	_



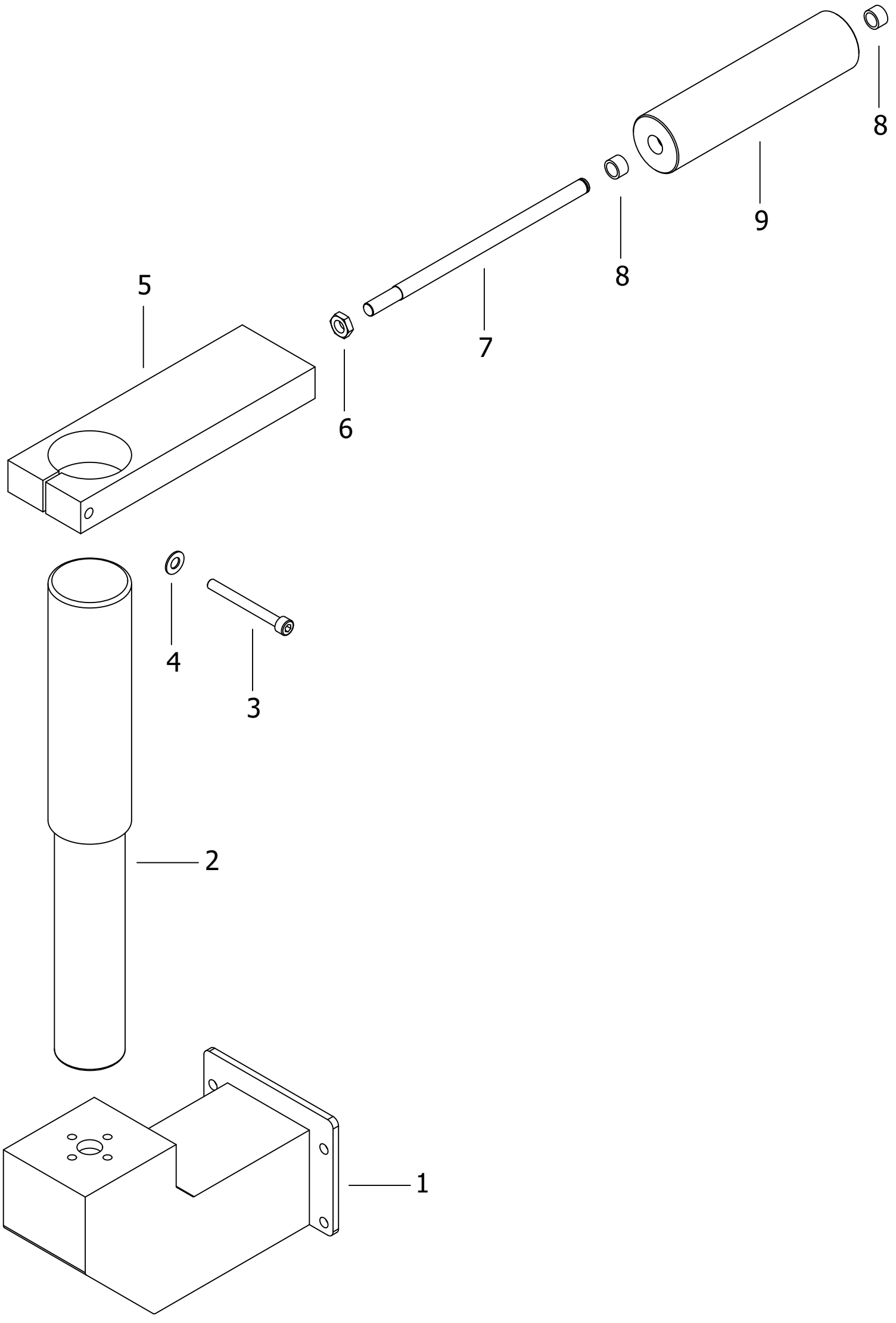
1	Base fissa Fly500 _ IR-32388	19	Rondella per vite M8	37	Staffa pg posteriore Fly _ LE-33321
2	Coperchio anteriore base Fly _ LE-32807	20	Blocco fermo gradi Fly500 _ LE-32510	38	Maniglia a ripresa M12x40 R83_ FS-70111
3	Pianetto orizzontale t.f. Fly500 _ LE-32430	21	Arco gradi b.f. Fly500 _ GG-32501	39	_
4	Pianetto t.f. alluminio Fly500 _ LE-32570	22	Snodo sferico GE25ES _ DD-70006	40	_
5	Scivolo t.f. Fly500_ LE-33029	23	Leva rotazione testa Fly _ LE-31857	41	_
6	Maniglia a ripresa M12x60 R83_ FS-70112	24	Serraggio perno rotazione testa _ LE-31216	42	_
7	Estruso morsa piccola MY07 _ TB-31601	25	Cuscinetto 60102RS _ DD-70199	43	_
8	Cilindro 35/75 con servo valvola _ CN-70235	26	Cil. s.61 Ø63 x c.135 doppio ef. _ CN-71193	44	_
9	Chiusura scatola rotazione Fly _ LE-33322	27	Supporto snodo sferico _ LE-30851	45	_
10	Arco testa Fly500 _ LE-32418	28	Dado M16x1,5	46	_
11	Battente arco Fly _ LE-33086	29	Perno testa Fly500 _ LA-32508	47	_
12	Dado per vite M12	30	Ghiera autobloccante M50x1,5	48	_
13	Vite M12x80 con testa esagonale	31	Staffa cilindro rotazione Fly500 _ LE-32415	49	_
14	Deceleratore M20x1,5 _ ED-70281	32	Cerniera f. post. H 61 D.63 _ CN-71109	50	_
15	Battuta 45° t.f. Fly500 _ LE-32425	33	Perno post. cilindro Fly500 st. _ LA-34193	51	_
16	Perno blocco 45° Fly500 _ LA-32558	34	Scatola pistone t.f. Fly500 _ IR-32401	52	_
17	Spessore perno 45° t.f. Fly500 _ LE-32559	35	Carter posteriore t.f. Fly _ IR-33319	53	_
18	Vite M8x65 con testa esagonale	36	Vite M8x20 con testa a brugola	54	_



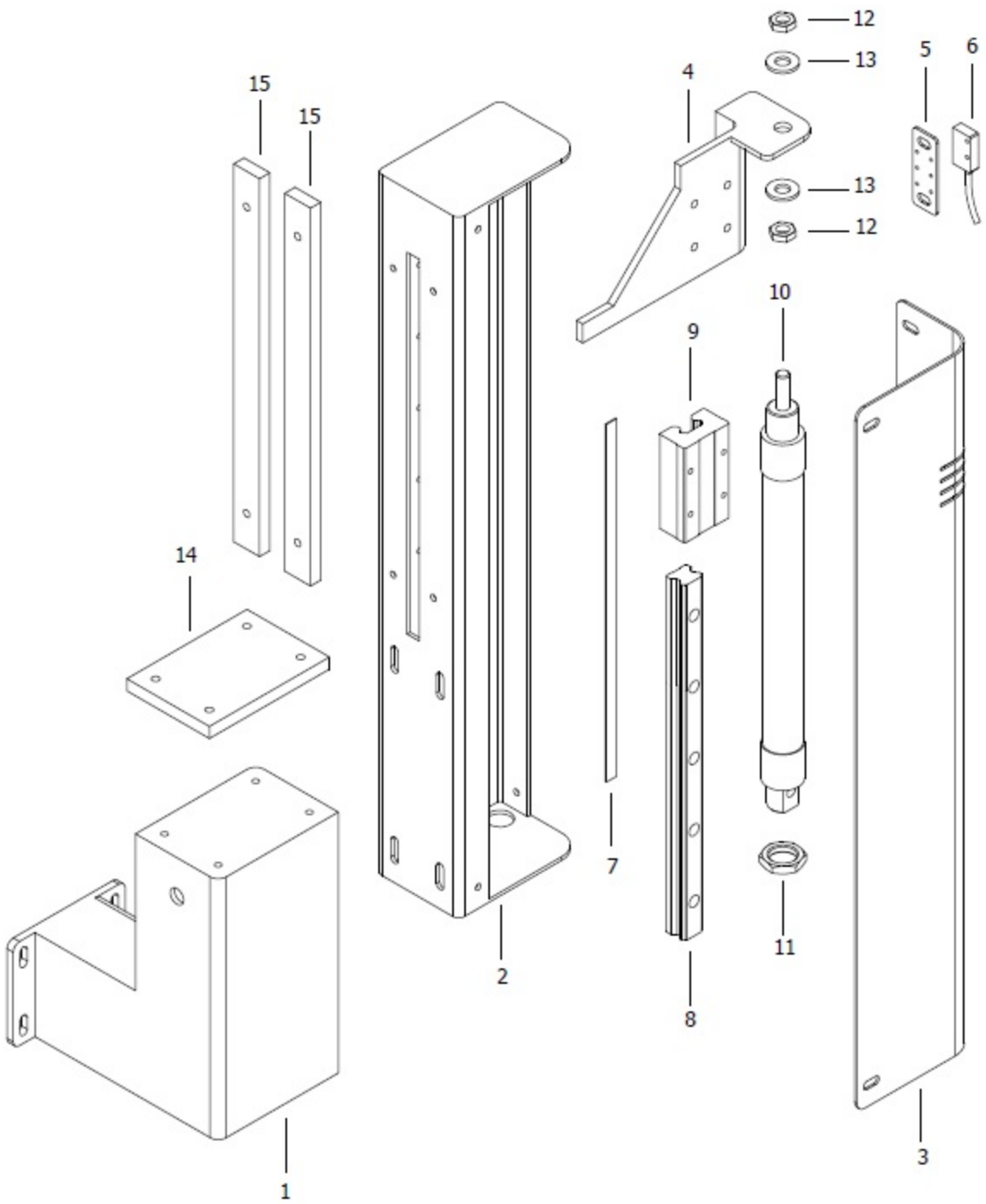
1	Fusione testa fissa Fly500 _ FU-50033	11	Dado M30x1,5 h.24mm sx _ EC-71086	21	Piastra spinta lama Fly500 _ LE-32422
2	Chiusura laterale testa Fly500 _ LE-32432	12	Guida corta uscita lama Fly500 _ KL-33412	22	Staffa pg testa Fly500 _ LE-32419
3	Coperchio tondo testa Fly500 _ LE-32434	13	Guida uscita lama Fly500 _ KL-33410	23	Piastra tubo scarico Play _ LE-32817
4	Piastra verticale Fly500 _ LE-32433	14	Pattino guida 20x20 _ DD-70567	24	Battuta testa Fly500 _ LE-32423
5	Pianetto lama verticale Fly500 _ LE-32517	15	Staffa spinta lama Fly500 _ LE-32420	25	Blocco micro post. lama Fly _ LE-33863
6	Carter motore t.f. Fly500 _ IR-32390	16	Rondella per vite M20	26	Interruttore con rotella FR515-1 _ AA-71018
7	Motore 2,2 Kw 230/400 dx _ BK-71022	17	Dado M20x1	27	Nebulizzatore _ CH-70032
8	Flangia posteriore lama Fly500 _ LE-31976	18	Carrello motore Fly500 _ LE-32427	_	_
9	Lama HM Ø500 F30 Z120 B4 _ GP-70532	19	Riscontro fisso motore lama _ LE-31533	_	_
10	Flangia anteriore lama Fly500 _ LE-30855	20	Cilindro oleopneu. Ø50x195 dx _ CN-71148	_	_



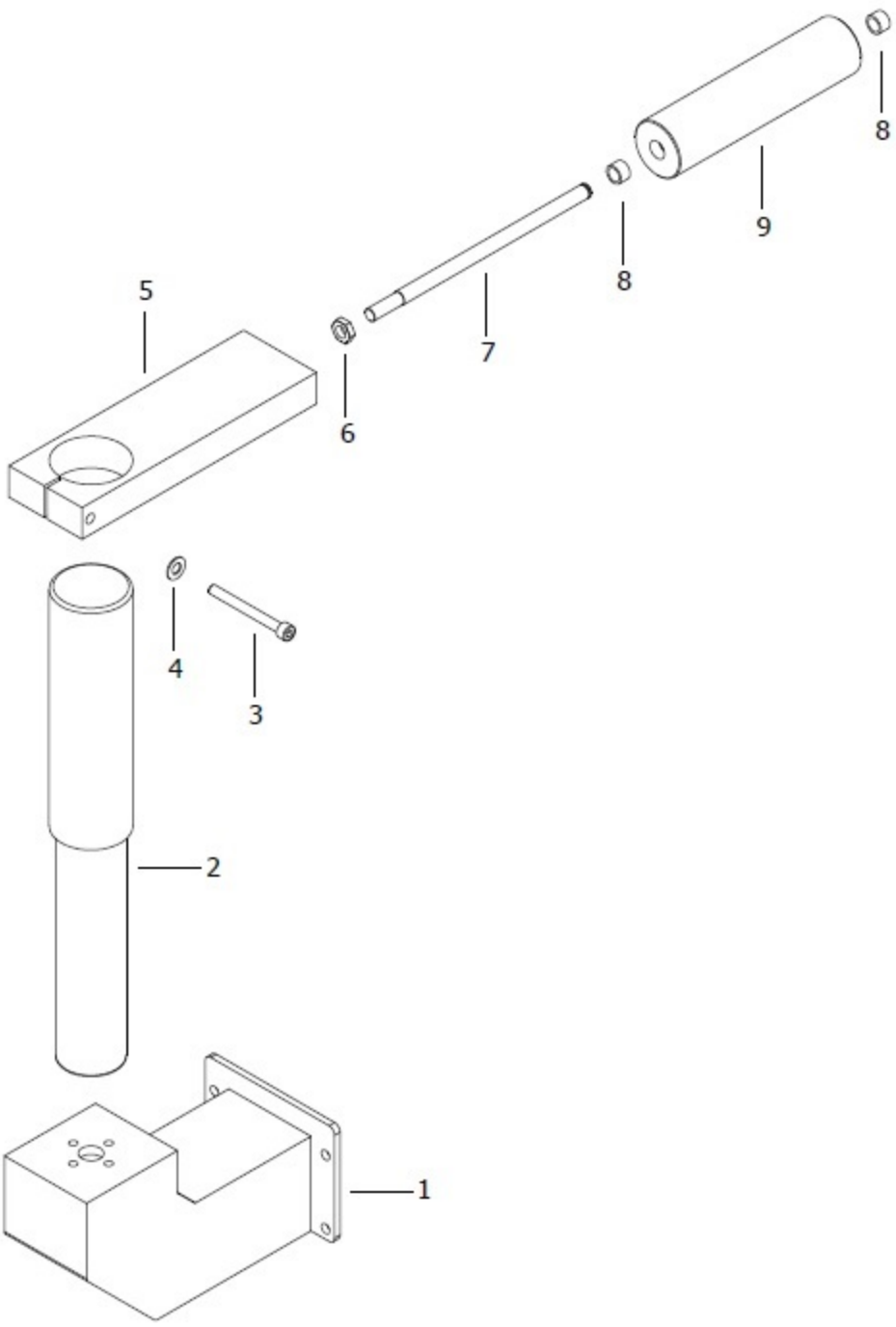
1	Base mobile Fly500 _ IR-32387	19	Maniglia a ripresa M12x40 R83_ FS-70111	37	Pignone motore t.m. Fly _ EA-30243
2	Coperchio anteriore base Fly _ LE-32807	20	Blocco fermo gradi Fly500 _ LE-32510	38	Spessore pattini carro m. Fly _ LE-33107
3	Pianetto orizzontale t.m. Fly500 _ LE-32430	21	Arco gradi b.m. Fly500 _ GG-32502	39	Pattino guida 20x20 _ DD-70567
4	Pianetto t.m. alluminio Fly500 _ LE-32570	22	Snodo sferico GE25ES _ DD-70006	40	Micro finecorsa a 3 piste _ AA-70483
5	Scivolo t.m. Fly _ LE-33030	23	Leva rotazione testa Fly _ LE-31857	41	Staffa micro multipista _ LE-30761
6	Maniglia a ripresa M12x60 R83_ FS-70112	24	Serraggio perno rotazione testa _ LE-31216	42	Piastra catena Fly _ LE-31572
7	Estruso morsa piccola MY07 _ TB-31601	25	Cuscinetto 60102RS _ DD-70199	43	Vite M8x100 con testa a brugola
8	Cilindro 35/75 con servo valvola _ CN-70235	26	Cil. s.61 Ø63 x c.135 doppio ef. _ CN-71193	44	Tampone freno t.m. Fly _ LA-32853
9	Chiusura scatola rotazione Fly _ LE-33322	27	Supporto snodo sferico _ LE-30851	45	Freno t.m. Fly _ LE-32852
10	Arco testa Fly500 _ LE-32418	28	Dado M16x1,5	46	Cil. compatto Ø40xc.5 _ CN-71278
11	Battente arco Fly _ LE-33086	29	Perno testa Fly500 _ LA-32508	47	Vite M8x60 con testa esagonale
12	Dado per vite M12	30	Ghiera autobloccante M50x1,5	48	Dado per vite M8
13	Vite M12x80 con testa esagonale	31	Staffa cilindro rotazione Fly500 _ LE-32415	49	Tirante da 17 a filetto passante _ LA-32737
14	Deceleratore M20x1,5 _ ED-70281	32	Cerniera f. post. H 61 D.63 _ CN-71109	50	Vite M8x20 con testa a brugola
15	Battuta 45° t.m. Fly500 _ LE-32425	33	Perno post. cilindro Fly500 st. _ LA-34193	51	Scatola pistone t.m. Fly500 _ IR-32400
16	Perno blocco 45° Fly500 _ LA-32558	34	MB082GA660+Rid. GL80 16/1 _ AA-70652	52	Staffa pg posteriore Fly _ LE-33321
17	Spessore perno 45° Fly500 _ LE-32559	35	Fissaggio motore t.m. Fly500 _ LE-32412	53	Carter posteriore t.m. Fly _ IR-33320
18	Vite M8x65 con testa esagonale	36	Calettatore RCK40 30x55 _ DR-70542	54	Indice metrico _ LE-31085



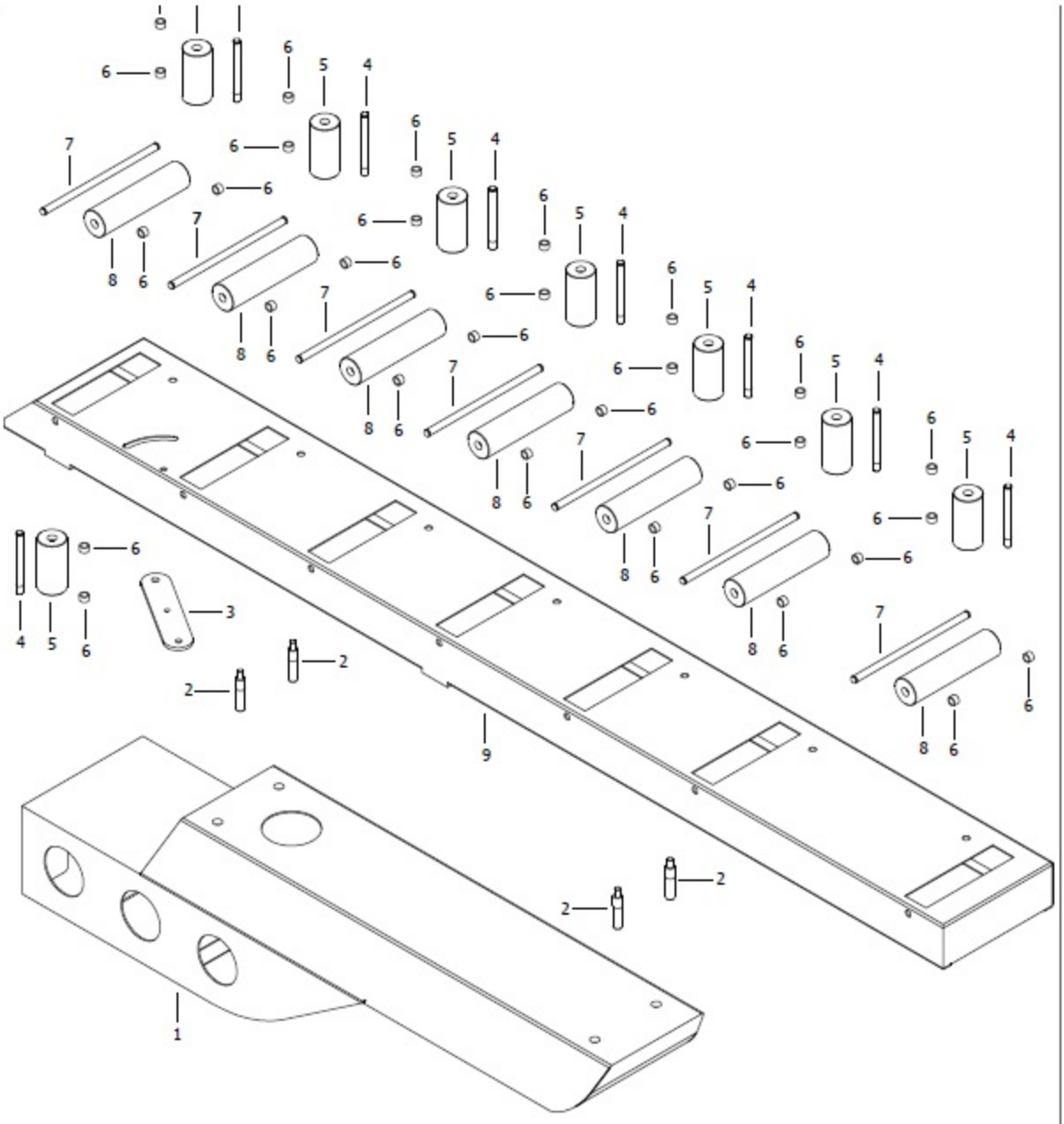
1	Supporto rullo intermedio Fly500 _ IR-33127	6	Dado M12	11	_
2	Cilindro rotante Ø50 x c.140 SE _ CN-71342	7	Perno rullo intermedio Fly500 _ LA-34175	12	_
3	Vite M8x80 con testa a brugola	8	Bronzina rullo _ DD-70933	13	_
4	Rondella per vite M8	9	Rullo orizzontale _ LE-31612	14	_
5	Trafilato rullo intermedio Fly _ LE-33131	10	_	15	_



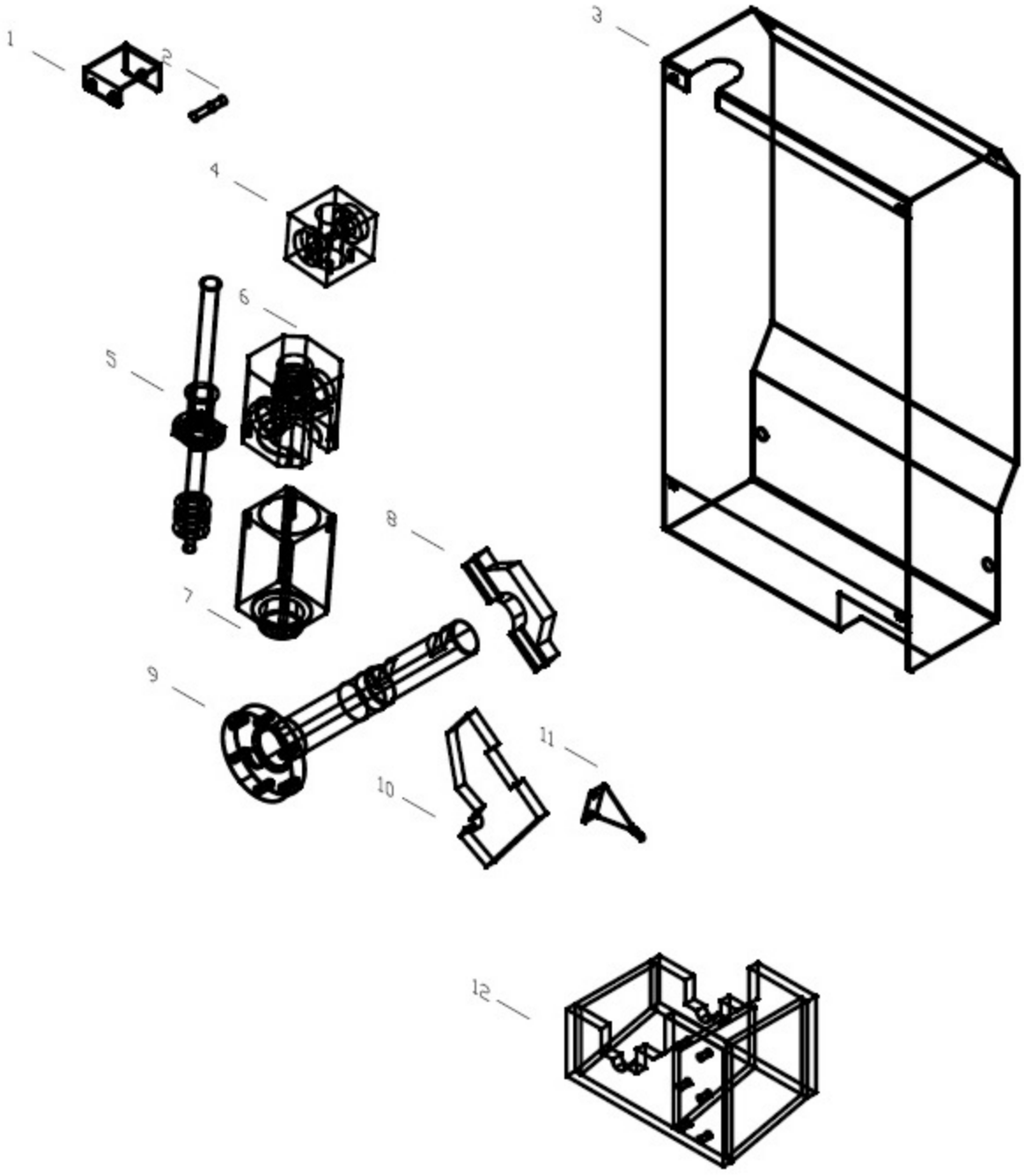
1	Attacco calibro Fly500 _ IR-32392	6	Sensore di misurazione	11	Ghiera mod.V M22x1,5
2	Calibro Fly500 _ IR-32393	7	Banda di lettura per sensore	12	Dado per stelo mod.U M8x1,25
3	Chiusura calibro Fly500 _ LE-32431	8	Guida corta Fly500 _ KL-33412	13	Rondella per stelo M8
4	Staffa calibro Fly500 _ IR-32394	9	Pattino guida 20x20 _ DD-70567	14	Piano orizzontale calibro Fly500 _ LE-34228
5	Piastra sensore calibro Fly500 _ LE-32819	10	Cilindro s. 25 Ø20 x c.220 _ CN-71668	15	Piano verticale calibro Fly500 _ LE-34229



1	Supporto rullo intermedio Fly500 _ IR-33127	6	Dado M12	11	_
2	Cilindro rotante Ø50 x c.140 SE _ CN-71342	7	Perno rullo intermedio Fly500 _ LA-34175	12	_
3	Vite M8x80 con testa a brugola	8	Bronzina rullo _ DD-70933	13	_
4	Rondella per vite M8	9	Rullo orizzontale _ LE-31612	14	_
5	Trafilato rullo intermedio Fly _ LE-33131	10	_	15	_



1	Supporto rulliera Fly500 _ IR-32404	_	_	_	_
2	Perno rulliera Fly500 _ LA-32442	_	_	_	_
3	Piastra rulliera _ VD-40187	_	_	_	_
4	Perno rullo verticale _ LA-30726	_	_	_	_
5	Rullo verticale _ LE-31613	_	_	_	_
6	Bronzina rullo _ DD-70933	_	_	_	_
7	Perno rullo orizzontale _ LA-30723	_	_	_	_
8	Rullo orizzontale _ LE-31612	_	_	_	_
9	Rulliera Fly500 _ IR-31968	_	_	_	_
_	_	_	_	_	_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