

I vs. partners nel taglio di aste sia in legno che alluminio e nell'assemblaggio di cornici e telai in legno  
Your partners in cutting wood and alu profiles and in joining wooden parts and frames

# INSTRUCTION MANUAL AND MAINTENANCE

## TRANSLATION FROM ORIGINAL LANGUAGE VERSION

# MOD. JAGUAR



# INDICE

1 – GENERAL INFORMATION.....	4
1.1 – Manufacturer.....	4
1.2 – Warranty.....	4
1.3 – About this handbook.....	4
1.3.1 – Objects and contents.....	4
1.3.2 – Users.....	5
1.3.3 – Preservation.....	5
1.4 – Key to graphic symbols.....	5
2 – INTRODUCTION.....	6
2.1 – Machine description.....	6
2.2 – Main components.....	6
2.3 – Dimensions.....	6
2.4 – Environment.....	6
2.5 – Lighting.....	6
2.6 – Vibrations.....	6
2.7 – Sound level.....	6
2.8 – Saw dust emission.....	7
2.9 – Electromagnetic environment.....	7
2.10 – Standard Equipment.....	7
2.11 – Technical specifications (see Annex B).....	8
2.12 – Workable cutting dimensions.....	8
2.13 – Optionals and modifications.....	9
3 – SAFETY RULES.....	10
3.1 – General warnings.....	10
3.2 – Scheduled use.....	10
3.3 – Not permitted uses.....	11
3.4 – Dangerous area.....	11
3.5 – Specific warnings.....	11
3.6 – Terminology used.....	11
3.7 – Safe working procedures.....	12
3.8 – Safety devices.....	12
3.8.1 – Mechanical safety devices.....	12
3.8.2 – Electrical safety devices.....	13
3.8.3 – Pneumatic safety devices.....	15
3.9 – Residual risks.....	15
3.9.1 – Other residual risks.....	16
3.10 – Markings (see Annex D).....	17
4 – INSTALLATION.....	17
4.1 – Transport.....	17
4.2 – Unpacking.....	17
4.3 – Handling.....	18
4.4 – Storage.....	19
4.5 – Working space.....	19
4.6 – Service life of the machine.....	19
4.7 – Assembly.....	19
4.8 – Connections.....	20
4.8.1 – Air pressure connection.....	20
4.8.2 – Electrical connection.....	21
4.8.3 – Connecting to the dust extraction system.....	22

5 – PRELIMINARY CHECKS.....	22
6 – BLADES INSTALLATION AND REPLACEMENT.....	23
7 – MECHANICAL ADJUSTMENTS.....	25
7.1 – Vertical blade adjustment.....	25
7.2 – Cutting angle adjustment.....	25
7.3 – Blades position adjustment.....	27
7.4 – Adjustable guards (fingers) adjustment.....	27
7.5 – Vertical clamp cylinders position adjustment.....	27
7.6 – Waste support adjustment.....	28
8 – FUNCTIONING.....	29
8.1 – Operators.....	29
8.2 – Functioning.....	30
8.3 – Putting the machine out of service.....	32
9 – MEASURING SYSTEM.....	32
10 – MAINTENANCE.....	33
10.1 – Machine’s isolation.....	33
10.2 – Safe maintenance procedures.....	33
10.3 – Routine maintenance.....	34
10.4 – Special maintenance.....	34
10.5 – Daily checks.....	34
10.6 –Weekly checks.....	35
10.7 – Monthly checks.....	35
10.8 – Yearly checks.....	35
11 – SPARE PARTS.....	35
12 – DISMANTLING.....	36
13 – CONCLUSION.....	36
ANNEX A - B - C - D - E	

Congratulations upon your purchase of this product, designed to fit your needs for finishing and productivity. We have developed this operations manual so that you can use this machine correctly and safely, obtaining, at the same time, the maximum benefit of economy and output.

It is the most important that this instruction booklet must be kept close to the machine for future reference. Should the machine be sold or transferred to another owner always ensure that the booklet is supplied with the machine in order that the new owner can be acquainted with the functioning of the machine and the relevant warnings.

# 1 – GENERAL INFORMATION

## 1.1 – Manufacturer

Brevetti Motta has matured a forty-years experience in the construction of double V-cutting machine and it is considered, by costumers and competitors, the leader in the sector both for quality and reliability. Please do not hesitate to contact us directly, to the numbers and addresses here under indicated.

Tel. +39 0434/621169

Fax +39 0434/610091

[www.brevettimotta.com](http://www.brevettimotta.com)

e-mail: [info@brevettimotta.com](mailto:info@brevettimotta.com)



In case of doubts or questions about this machine remember to specify, with your requests, both model name and its relevant serial number that it is possible to find on the metal plate situated on the right side of the machine body under the electric box equipment where the following data are stamped:

1. Address of the manufacturer and CE mark (where necessary)
2. Machine model
3. Year of manufacture
4. Serial number
5. Weight
6. Saw blades R.P.M.
7. Voltage/cycles
8. Kw/phases

## 1.2 – Warranty

The warranty on the machine covers a period of 12 months (based on a Max working time of 40 hours x week) starting from the date of the purchase invoice. It consists of a free of charge replacement of all mechanical and electric components showing material or manufacturing defects. The warranty covers only the defective parts excluding the labour costs. The warranty does not cover breakages or defects arising out of external factors, maintenance mistakes or other causes, improper use of the machine, use of the machine overloaded, normal wear, assembly mistakes which we may not be held responsible for. Replacements are shipped ex our factory. Delivery of spare parts is ex our works. In case it will be necessary to return the whole machine for reparation, all transportation cost will be at customer expenses, even when covered by the warranty. Mechanical, pneumatic, electrical, electronic components must be replaced exclusively with parts ordered from the manufacturer. If this requirement is not observed the manufacturer will accept no responsibility for consequences:

1. Personal injury
2. Damage to the machine
3. The warranty invalidation

## 1.3 – About this handbook

Read all information described very closely. Only a proper arrangement, installation and use of this machine can guarantee to work safely.

### 1.3.1 – Objects and contents

The goal of this handbook is to provide the customer with all the information necessary to ensure a proper use of the machine in complete autonomy and as safely as possible. The handbook contains information concerning safety, technical aspects, machine working operations, standstill, maintenance and spare parts.

Before making any operation on the machine, the qualified technicians and operators must carefully read this handbook.

If you are unsure about the correct interpretation of these instructions, contact Brevetti Motta or your local distributor to have the necessary explanations.

### 1.3.2 – Users

This handbook is addressed to both operators and technicians enabled to run and maintain the machine.

The operators must **not** perform operations reserved to the qualified technicians.

The Manufacturer is not liable for damages resulting from not-observing this prohibition.










### 1.3.3 – Preservation

The handbook is an integral part of the machine, and must be provided with this mitre saw. The handbook must be kept close to the machine, in a safe place, and known to the operators. It is the duty of the operators to keep it in a good condition. If lost, a new handbook has to be ordered immediately. Some pictures displayed in this handbook have been drawn without showing the panels and with the safety protections open. This was done to show the details of the machine in the clearest way possible, so, it is absolutely forbidden to use this mitre saw without guards in place or with safety protections open.



It is the buyer's responsibility to assure this manual is read and understood by all personnel assigned to use the machine. Keep this handbook available for future reference.

## 1.4 – Key to graphic symbols

	SAFETY GLASSES MUST BE WORN
	PROTECTIVE GLOVES MUST BE WORN
	EAR DEFENDERS MUST BE WORN
	RESPIRATORY PROTECTIONS MUST BE WORN
	DANGER OF ELECTRICAL DISCHARGE AND/OR PRESENCE OF LIVE PARTS
	PAY ATTENTION TO THE ELECTRICAL CONNECTION
	INFORMATION
	DANGER
	WARNING/CAUTION

## 2 – INTRODUCTION

### 2.1 – Machine description

This machine is an electro-pneumatic double mitre saw for V-cutting with fixed fence for 45° degrees cuts, at both ends, for wooden mouldings and/or PVC-PS profiles of any shape and kind by means of 2 circular carbide saw blades of min. diameter of 275mm (size bore 32mm. 1 1/4").

### 2.2 – Main components

The main components forming the machine are:

- Floor stand and working table
- saw unit moving vertically up and down
- pneumatic system
- Electrical system
- control panel
- Extension tables

### 2.3 – Dimensions

The overall dimensions are shown on the drawing of pict. 2.11.

### 2.4 – Environment

It is sufficient that the machine is installed inside an industrial building well lighted and aired with a solid and flat floor. The working temperature should be between 15 and 40° Celsius (50 to 100 Fahrenheit) with humidity less than 50% at 40° (100 Fahrenheit) or less than 90° at 20° (65 Fahrenheit).

### 2.5 – Lighting

The light inside the building must ensure good visibility at each point of the machine and not create dangerous shadows especially in the area where the saw blades operate. Control panel, emergency button and identification plate must always be well lighted.

### 2.6 – Vibrations

When the working conditions meets the guidelines of the proper use the vibrations do not create risks to the operator. The average quadratic weighed level, according to the acceleration frequency to which arms are exposed does not exceed 2,5 m/s<sup>2</sup>.

### 2.7 – Sound level



The machine has been designed and built so to reduce the noise emission level at the source.

For compliance to Machine Directive 2006/42-clause 1.7.4.2. (letter u) annex 1 the following information may be provided:

Noise level in working station: from **78 to 85 dB (A)** depending on material to be processed.

Maximum noise level at working station **85 dB (A)** depending on material to be processed.

Sound power level from **93 to 99 dB (A)** depending on material to be processed.

Maximum value sound pressure C weighted is less than **63 Pa (130 dB)**.

Values are determined on a typical machine which represents a standard machine.

The machine was installed in standard configuration. The tests were conducted using Bruel&kKjaer 2250 instrument cutting woods and MDF materials of various sizes. The measurement were made during a sequence of normal working cycles using brand new tools. As this is a semi automatic machine, a series of repetitive cuts was performed at approximately 30 second intervals, assuming this to be a typical working cycle. An envelope surface of the machine corresponding to a rectangular parallelepiped was identified, containing the largest surface of the machine. The microphone was placed on this surface at the Operator position at a height of 1,5 mt.

The values given are noise emission levels and do not necessarily correspond to safe operating levels. Although noise emission levels and exposure levels are related, it is not possible to determine from the above values alone whether further safety measures are required. The true level of operator exposure can only be calculated by taking into account:

- the duration of exposure

- the acoustic characteristics of the work place
- the number of machines and the other types of processing operations performed in the immediate vicinity.

Moreover, permissible noise exposure levels vary from country to country. Nevertheless, this information may help the user to evaluate the noise exposure risks and hazards associated with the use of this machine.



The indicated noise levels are emission ones measured in standard conditions of use. In case of any machine modification, the above mentioned levels could be changed and should be tested on the same machine.



From the values measured during the cutting cycle, the machine has a high level of noise. Because of this, during the use of the machine, it is mandatory for the operator to wear hearing protection; like headphones or ear plugs, so as to avoid any kind of long term damage.



Worn saw blades increase the emitted noise of the machine.



Noise emissions can be reduced paying attention to the following points:

- a) Use of silenced body blades
- b) Correct and constant sharpening of the blades teeth
- c) The accurate closing of all panels and the proper adjustment of the safety frontal adjustable guards (fingers)



Do not position the machine in a place where the sound level can be increased.

## 2.8 – Saw dust emission



During the cutting operations, the saw dust emission at the operator position is of about 30mg/m<sup>3</sup>. The saw dust is a mixture of wooden (in case of wooden mouldings cuts) and/or plastic/paper/paint (in case of wrapping/covering of mouldings) particles. In order to avoid to inhale the above materials it is mandatory:

1. The use of a suitable dust extraction system (see also point 4.8.3)
2. The use of a dust mask or respirator (see also point 3.9)

## 2.9 – Electromagnetic environment

This machine has been designed to operate in an electromagnetic environment of industrial type. It complies with the emissions limits of the European standards in this area.

## 2.10 – Standard Equipment



The equipment below listed is referred to standard machines. Special or different equipments may be added for customized models.

- 2 saw blades HM 275mm (10"13/16), size bore 32mm ( 1 ¼ " )
  - 2 work piece extension tables l=1000mm (39 3/8") (1 left and 1 right)
  - Adhesive measuring system l=1000mm (39 3/8")
  - 2 sliding stops
  - Vertical pneumatic clamps
  - 1 Caliper and tools for the main adjustments
  - 2 electric motors of 1,1 kw (1,5HP) 1 phase each
- Allen keys 3-4-5-6-8 mm
  - Spanner of 36 mm

- 1 Calibre
- 4 plastic adjustable feet



Standard equipment may be different in case of special versions

## 2.11 – Technical specifications (see *Annex B*)

OVERALL DIMENSIONS AND WEIGHT (with standard extension tables)

Width	790 mm (31 7/64")
Length	1130mm (44 1/2")
Height	1380 mm (52 1/2")
Weight	240 kg ( 529 LBS)

ELECTRICAL SPECIFICATIONS

Supply voltage	Standard 240 volts – 50 Hz 3 Ph*
Total installed power	1,1 Kw

\*other voltages on request

DUST EXTRACTION SYSTEM

Extraction connections	2 of size 100 mm (4") diameter
Velocity in extraction duct	21 m/s
Waste extraction capacity	400 m3/h
Intake nozzle pressure drop	180 mm H2O

TOOLS: BLADE

Diameter	275 mm (10 7/8")
Thickness	Min 2,50 mm - Max 4,00 mm
Size bore	32 mm (1 1/4")
Nr. of teeth	From 64 to 100
Blade rotation speed	2850 rpm

## 2.12 – Workable cutting dimensions

MAX CUTTING SIZES

Standard	width	70 mm (2 3/4 ")
	height	80 mm (3 1/4 ")
With optional M097 see also cutting diagram	width	100 mm (3 15/16")
	height	40 mm (1 9/16" ")



## MIN CUTTING SIZES

Standard	width	08 mm (5/16")
	height	10 mm (3/4")
	Length	120 mm (4 3/4")
With optional M097	width	08 mm (5/16")
	height	10 mm (3/4")
	Length	100 mm (3 15/16")

## 2.13 – Optionals and modifications

OPT002d		Extension table L=1000mm (39 3/8") with leg
OPT005f		Sliding measuring stop (additional)
OPT009d		Extension table (L=1000mm 39 3/8") with leg and adhesive measuring system
M002a		Special voltage 50 or 60 Hz
M003		Onephase motors (1,1KW 50HZ each)
M005		Three phase motors ( 1,5 KW 50Hz each )
M036		Pneumatic horizontal clamps Kit
M098		Pneumatic vertical clamps Kit

## 3 – SAFETY RULES

### 3.1 – General warnings



It is very dangerous if the JAGUAR mitre saw is run by operators not appropriately instructed. Do not attempt to operate the machine until you have acquired a thorough knowledge of the procedures for operating, setting, adjusting and maintaining this machine as described in this Instruction manual.

The electrical, pneumatic and dust extraction system connections must be carried out by specialized personnel, who must also be sure that there is an efficient earthing circuit at the site where the machine will be installed.

- Keep always guards in place and in working order.
- Never remove or by pass any safety system.
- Remove adjusting keys and wrenches, from machine before using it.
- Keep work area clean. Cluttered areas and benches invite accidents.
- Don't use in dangerous environment. Like damp, wet locations or rain. Keep work area well lighted.
- Keep children and visitors away.
- Make workshop childproof.
- Don't force tool and use right tool. Don't force tool to do a job for which it was not designed.
- Wear proper apparel. No loose clothing, rings or other jewellery to get caught in moving parts.
- Always hold the work firmly against the mitre gauge or fence never perform any operation "free-hand".
- Don't overreach. Keep proper footing and balance at all times.
- Maintain the machine clean and lubricated.
- Disconnect tools before servicing and when changing accessories. Cracked, unbalanced or welded tools must not be used.
- Use recommended accessories. The use of improper accessories may cause hazards.
- Always use original BREVETTI MOTTA products. The use of not original product may cause hazards or malfunctioning.
- Avoid accidental starting.
- Place machine well levelled to the ground.
- Replace damaged parts. Replace damaged parts.
- Never leave the machine running unattended. Turn power off.
- Do not operate tool. while under the influence of drug alcohol and any medication.
- Never make adjustments on machine with power on.
- Keep hands out from movable parts during working operation.
- Never stand or have your hands in line with the path where tools or parts of machines move.
- It is advisable to keep a first-aid kit containing disinfectant and materials for simple first-aid work near to where the machine is being used.

The operation of moving the work piece towards the machine and collecting and removing waste can create risks which are the responsibility of the customer and the operator.

### 3.2 – Scheduled use

This machine is designed for professional use.

This machine is designed **for manual use only** (under the direct control of one operator only).

The operator has to be qualified to read and understand what is written in this manual.

Furthermore, the operator must use the machines according to the current rules on accident prevention, terms of use and characteristics of the machine itself.

This machine is designed to cut wood, MDF, plastic materials as PVC, PS. (with cutting dimensions as specified at point 2.12).

### 3.3 – Not permitted uses

The machine must not be used:

1. For cutting work pieces with cross-section thinner or larger than those specified in this Manual
2. For cutting ferrous materials such as steel or cast iron
3. For cutting materials containing phenolic resins
4. For operations that differ from those indicated in this manual
5. For outdoors or in an explosive atmosphere
6. Without mouldings supporting arms

Any other use of the machine besides the ones described in this handbook free the manufacturer from any kind of responsibility for damage to persons, animals or things.

### 3.4 – Dangerous area

The area of loading-cutting and discharging the mouldings is defined **working area**. The area all around the machine to the distances indicated in the annex C-E is defined dangerous area.

Only the operator can remain inside this area (see Annex C-E).

The presence of persons, except the operator, in this area, when the machine runs, is prohibited.

### 3.5 – Specific warnings

The buyer, must inform his employees on:

- a) the risks of accidents
- b) the devices provided for the security of the operators
- c) the general rules on the accident prevention standards in force in the country where the machine operates

The safety of the operator is one of Brevetti Motta main concerns.

When designing a new machine, the main goal is to estimate all the possible dangerous situations that may arise, and according to this, adopt all of the correct preventions.

Anyway the improper use of the machine can create a very high possibility of accident.

Distractions and too much confidence when using the machines, are the main cause of accidents, as well as sleepiness and fatigue.

For this reason, it is required to carefully read this handbook and particularly the safety instructions, paying attention to the operations that may be particularly dangerous.

The manufacturer declines all responsibility for not observing the security norms expressed in this manual.

### 3.6 – Terminology used

To complete the description of the various levels of danger, we are now going to described the situations, and specific definitions that can be related directly to the machine and persons.

- **BUYER/CUSTOMER:** Is the person, or the society, that has purchased or leased the machine and that intends to use it for the conceived use.
- **DANGEROUS AREA:** Whatever area inside and close to the machine, in which the presence of a person can be a risk for the security and the health of that person.
- **EXPOSED PERSONS:** Whatever person which is in proximity to or inside of a dangerous area.
- **QUALIFIED PERSONS OR OPERATORS:** The person, or persons, in charge of the cleaning the machine, using the machine, maintaining the machine, and shipping/moving the machine.
- **SPECIALIZED PERSONS:** All persons trained and able to perform the maintenance and/or the repairs that requires a particular knowledge of the machine, its functions, of the safety devices. They are also capable to recognize the dangers arising from the use of the machine and to be able to avoid them.
- **AUTHORIZED ASSISTANCE CENTERS:** The Authorized Assistance Centres are the companies, legally authorized by the Manufacturer, that can provide trained employees, able to supply the proper technical assistance to the customers to solve all of the most particular and complicated problems, having all parts necessary to keep the machine running at peak efficiency.

### 3.7 – Safe working procedures

- It is absolutely prohibited to let people run and operate the machine, who have not read and understood what is described in this handbook, or by unqualified persons, or persons that are not in good psychological or physical condition.
- Before connecting the machine to power and running it, verify that all safeties work properly.
- Before starting to use the machine, get used to using the control devices.
- It is forbidden to remove or change the safety devices.
- The area in which the machine is used, has to be considered as a “dangerous area”, especially for the persons not trained to use it.
- Before starting the machine, verify that there are no unauthorized persons or animals in the working area.
- When a person is inside the dangerous area, the operator has to stop the machine immediately.
- Do not keep hands close to the blades when the machine is running.
- It is forbidden to leave the working area when the machine is running.
- It is forbidden to touch any of the moving parts or keep hands in line with the path where moveable parts run.
- Do not cut pieces of sizes smaller or wider than the ones indicated at point 2.12.
- Do not use fingers to remove short cuts or pieces near the blades. Use a tool, possibly in wood.

### 3.8 – Safety devices



Self, for whatever reason, the safety devices description, hereunder listed, creates doubts, stop the machine, verify the reason for these doubts and in case contact the assistance service.



The efficiency inspections on the safety devices hereunder described must be performed by specialized operators.

#### 3.8.1 – Mechanical safety devices

##### a - Fixed guards

All movable parts of the machine are protected by the machine's enclosure of 2mm thick steel.

- In the back of the machine a metal panel fixed to the machine with not losable screws (pict.3A) prevents the access in the area where the lever systems of the blades unit movement are located.
- The waste parts chute of pict.3B is equipped with anti-intrusion system that prevents contact between arms and saw blades.
- The dust extraction connections are equipped with anti-intrusion system that prevents contact between arms and saw blades.



*Pict. 3A*



*Pict. 3B*

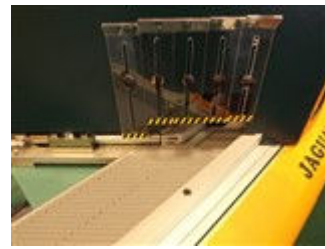
##### b - Moveable guards

###### 1 - Tools guarding

The revolving front guard (pict.3C) is connected to the machine's enclosure by means of a hinge . Its two enclosures,for feeding the work pieces, are restricted by adjustable polycarbonate (pict.3D), 3mm thick, guards (fingers) that reduce also the dust emission. On the left and the right of the front revolving guard two further polycarbonate guards are placed to keep the operator's hands far from the cutting area.



Pict. 3C



Pict. 3D

The opening of the tool guarding is interlocked by an electric switch (see also point 3.8.2)

## 2 - Adjustable guards ( fingers )

These guards made in polycarbonate, 3mm thick,are adjustable in height (pict.3E) so that they can be adjusted following the work piece profile to cut, reducing in this way the access to the saw blades. They also reduce the ejection of small parts (chips) during the cutting operation.

**Attention:** they are made in polycarbonate.



Pict. 3E

This material tends to lose its breaking strength in the time and must be changed **every 5 years**.

## 3.8.2 – Electrical safety devices

### a - Electric switch (FP6R2-F2-L10 + F3)

An electric switch(pict.3F), with separate actuator and manually operated delay, interlocks the opening of the tools guard.

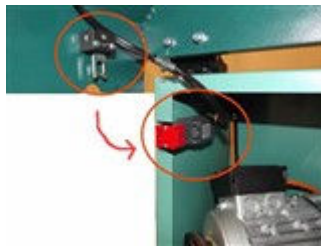
It isolates the electric preventing all machine's movement.

This switch can be disconnected only:

- closing the tools guard
- when the actuator (key of pict.3G) goes inside the switch
- when the knob of pict.3H is turned clockwise all the way



Pict.. 3F



Pict.. 3G



Pict. 3H

Inspect **weekly** the efficiency of this device.

To perform this operation turn the machine on, open the tool guarding verifying that:  
- the guard opening can be possible only when saw blades are completely still

When the guard is open:

- the saw blades can not be started (push the green electric button of the electric system)
- no other machine's operation is possible

#### **b - Electric circuit protection**

The electric system is protected against short circuit by a main switch on/off buttons (pict.3i) and proper relays that obliges the operator to restart manually the machine any time electric power is disconnected. Two thermal relays (pict.3L) protect the two motors from overload currents.



Pict. 3i



Pict. 3L



Pict. 3M

#### **c - Emergency button (020PTAARK+020GE01)**

The red knob placed in the front of the electric box (pict.3M) is the emergency button.

When pushed:

- the electric power is cut off
- the motors stop running

To restart the machine it will be necessary to rotate anticlockwise the red knob and press the green electric button.

Inspect **weekly** the machine performs exactly the here over steps pressing the emergency button when the machine is running.



If even one of the safety devices is not working properly the machine cannot be used. Immediately hang a perfectly visible and readable sign prohibiting the use of the machine on the machine itself. Then contact your supplier or Brevetti Motta directly in order to get the right information on how to repair or replace the faulty devices.

### **3.8.3 – Pneumatic safety devices**

#### **A) Two-hand control device (308MFR)**

The two pneumatic buttons of pict.3N must be pressed simultaneously to activate the down stroke of the saw unit.

In this way the operator is forced to maintain his hands to a safety distance from the path where blades move.

If during the cutting operation one hand releases the button the saw unit will move back to rest position automatically.

Inspect **every day** that the buttons, if pressed one by one, do not initiate the cutting movement.



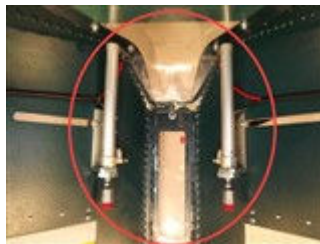
*Pict. 3N*

**B) Vertical pneumatic clamps**

This machine is equipped with two pneumatic vertical clamps (pict.3o) that hold the work pieces during cutting operation, avoiding unexpected shifting of the piece itself. When the pneumatic buttons are pressed, the vertical clamps are activated before the saw unit starts its down movement.

These clamps maintain the work piece blocked until the return stroke of the saw unit is initiated. The clamps are placed inside the tool guarding to avoid accidental contact with fingers. Inspect **monthly** the wear out of the vertical gum clamps.

They ensure a proper clamping of the work piece, so change them if worn out.



*Pict. 3o*

**C) Blocking valve on clamping cylinders (PWBA1493)**

This device, mounted on the clamping cylinders (pict.3P), maintains the profile blocked even if, for any reason, the air power is cut off.

Inspect weekly the efficiency of this valve by disconnecting manually the air power during the down stroke movement of the clamping cylinders, and verifying that their clamps work as described hereover.



*Pict. 3P*

**D) Mode selector (104.52.6.28.P)**

A lockable two-position mode switch is mounted on the control panel (pict.3Q):

- in position 1 (manual working) the machine operates only when both electric and pneumatic powers are present.
- in position 2 (maintenance) the machine works pneumatically even if the electric power is disconnected (to enable the specialized operators only to inspect and adjust the machine).



*Pict. 3Q*

**E) Pneumatic isolator (OFAP274)**

This button valve mounted on the left side of the console (pict.3R) isolates the machine from the pneumatic power once this power has been cut off.

To connect again the air power to the machine the pneumatic isolator must be manually reactivated (pict.3S) pulling the button.

Inspect weekly the efficiency of this device disconnecting manually the air power from the machine and verifying that reconnecting the air power it is necessary to manually pull the button of this valve, to supply air pressure to the machine.



*Pict. 3R*

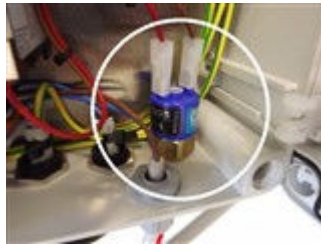


*Pict. 3S*

**F) Pneumo-electric trasducer (pressure switches) (PMN2A)**

This device placed inside the electric box (pict.3T) isolates the machine from the pneumatic power once the pneumatic power is cut off.

Inspect **weekly** the functioning of this component disconnecting the electric power verifying that the machine is also isolated from air power and then disconnecting the air power and verifying that the machine is isolated from the electric power.



*Pict. 3T*



If even one of the safety devices is not working properly the machine cannot be used. Immediately hang a perfectly visible and readable sign prohibiting the use of the machine on the machine itself. Then contact your supplier or Brevetti Motta directly in order to get the right information on how to repair or replace the faulty devices.

### 3.9 – Residual risks

To protect the persons against accidents, all possible security norms has been followed in designing this machine.

In spite of this, the operators are exposed to some **residual risks** that by their nature can not be totally eliminated.

They are shown on the machine by signs. These signs (pictogram) are placed on the machine to show the following situations of risk:



1. Danger for a high level of noise. Always use headphones or ear plugs when working with the machine.
2. It is required to use cut resistant protective gloves while using the machine and while changing the blades.
3. It is required to wear safety glasses against the risk of ejection of small parts while using the machine.
4. It is required to wear a special mask (dust mask or respirator of grade FFP2 or higher) against saw



dust emission while using the machine.



Due to the above residual risks, it is necessary that the operators of the machine are properly trained and assisted by qualified personnel and personally equipped of the over described safety protective equipments (P.P.E).

### 3.9.1 – Other residual risks

Additional residual risks, related these to the semi-automatic work required by this machines, are the following:

- **Crushing** of fingers during the maintenance disconnect the electrical plug from the power.
- **Entrapment** with movable parts of the machine.
  1. Remove all potentially dangerous items of clothing as scarves or ties
  2. Remove rings, watches or any other jewellery
  3. Cuffs must be elasticated or buttoned up
  4. Long hair must be worn under a cap



- **Ejection of parts** of the machine due to:
  1. Saw blades installed with teeth upside down (the blades, instead of cutting the work pieces, will press the work pieces against the machine table risking to brake some machine's components and blades as well)
  2. Wrong rotation sense of the blades due to wrong connection of the electric wires (the blades, instead of cutting the work piece, will eject the work piece against the operator risking to harm him)

Read very closely all information described at point 6 of this handbook.

- **Injuring** trying to remove manually scraps or waste inside the tools guarding.



Never put hands but use a tool, possibly in wood, to reach pieces inside the tool guarding.



- **Injuring of exposed person** due to accidental contact to the saw blades or movable parts of the machine if there are more persons inside the dangerous area as clearly prohibited at point 3.4 of this handbook.
- **Fire** due to wrong connection to the electric source. Saw blades can turn in the wrong sense and activate a combustion process in the work piece.



- **Electric shock** during maintenance operations. Always disconnect electric power when maintaining the machine.

Because of the above listed risks is mandatory:

- The operators are duly informed on these risks
- The operators are equipped with the safety protective equipments (P.P.E)
- The specialized operators perform the assembly and the adjustment operations following the instructions and the safety advices of this handbook very closely

### 3.10 – Markings (see Annex D)



Markings that describe safety advices must not be removed - covered or damaged.

In case metal plates-labels are illegible or have been removed, they must be replaced immediately. Do not use the machine if one or more plates are not present on the machine.



The following metal plate and adhesive markings are installed:

A) Metal plates:

- Technical data of the machine

- blade rotation and blade Max and Min size
- information on the residual risks (pictogram)
- information and risks on the energy sources

B) Adhesive labels:

- General warnings
- information on the functioning of the electric buttons
- generic hazard beyond the tool guarding
- cutting hazard (pictogram)
- electroshock hazard (pictogram)
- information and risks on the energy sources

## 4 – INSTALLATION

The installation must be performed by a **qualified operator** that has to follow all here indicated instructions.

### 4.1 – Transport

The shipment must be effected by **professional qualified personnel**.

The whole packing must be moved with care by means of a forklift or a pallet truck (pict.4A - 4B). In order to avoid damages to the machine or to the extension tables, before lifting the pallet, be sure not to tilt or overturn it.



*Pict. 4A*



*Pict. 4B*



Any damage of the machine caused during its shipment is not covered by warranty. Repairs or replacements of damages parts are charged to the customer.

### 4.2 – Unpacking

In case the machine is supplied packed (pict.4C) the packing consists of:



*Pict. 4C*

A pallet where the machine is fixed

- a cardboard box that protects the machine
- an iron string that secures the cardboard box to that machine
- a plastic white film stretched all around the packaging

#### Unpacking:

1. Cut the plastic film that wraps the packaging
2. Cut the iron string that fix the cardboard box to the machine. Use cut resistant protective gloves for this operation
3. Remove the wooden slats that keeps the machine blocked to the pallet and the cardboard
4. Remove extension tables and extension table supports
5. Remove the carton box (pict.4D), inside the machine, that contains:
  - the machine supporting feet
  - machine's tools
  - the sliding stop
  - the instruction handbook
6. Unscrew the bolts that fix the machine to the pallet (pict.4E)
7. Lift the machine by using a forklift or a pallet truck
8. Fix the supporting feet at the machine's base (pict.4F)

Place the supporting feet as close as possible to the ground in order to reduce vibration and for a better operating of the blade movement mechanic pedal



Pict. 4D



Pict. 4E



Pict. 4F

### 4.3 – Handling

The machine, must be moved with care, by means of a forklift or a pallet truck.

The separate parts (extension tables and extension table supports ) have an insignificant weight and can be transported by hand

During transportation, take care of delicate parts as electric box.



Before lifting the machine, make sure that all the moving parts are locked down  
Shipping can be very dangerous if not made with the maximum attention to safety.

- Move the non official operators to a safe location.
- Evacuate the operating/shipping area
- Verify the integrity of the lifting means
- Do not touch the raised load and keep the maximum safe distance, during the moving
- The loads must be kept at a Max distance of 20cm (8") from floor.

Make sure that the operator is able to evacuate the area immediately in case the load falls.



Any damage of the machine caused during its handling is not covered under warranty.  
Repairs or replacements of damages parts are charged to the customer.

- Place the machine in the area
- Adjust the supporting feet so that the machine remains stable on the floor and with the working table parallel to the floor itself

- The floor area around the machine must be flat, well maintained and free from loose materials, dust and off cuts

It is not necessary to secure the machine to the floor.

Anyhow this operation can be easily performed boring the feet, before fixing them at the machine base and, then fastening the feet, once assembled to the machine, to the floor by means of proper dowels.

## 4.4 – Storage

If the machine is supposed not to be used for a long time follow hereunder instructions:

- Store it in a closed place
- Grease bearings and parts without paints
- Pack and cover the machine in order to protect it from collisions - humidity and wide changes of temperature
- Avoid that the machine gets in touch with corrosive materials

## 4.5 – Working space

The machine must be installed in a sufficiently large and luminous area of industrial type with following characteristics:

- Electric source according laws and technical norms in force in the Country at the moment of installation, and machine's data described at point 2.11 and 4.8.1
- Pneumatic source with compressed air according machine's data described at point 2.11 and 4.8.1 .

The area where to place the machine must consider:

- the dimensions of the machine itself
- the length of the mouldings to cut
- the space necessary to the operator to move the working materials without obstacles (see annex E)

## 4.6 – Service life of the machine

The estimated service life of the machine in normal operating conditions and undergoing routines maintenance is at least 10 years.



In order to avoid that, throughout the whole lifetime of the machine, during transport-assembly-dismantling and storage, components or parts may move, overturn or fall, check all bolts and screws of the machine remain well tightened.

## 4.7 – Assembly

1. Fix the extension table supports to the right and left sides of the machine (pict.4G).
2. Fix the extension tables to the left and the right side of the machine by means of their proper bolts (pict.4H-i-L).
3. Insert the plate of pict.4M in the T shaped slot of the extension tables.
4. Slide this plate along the slot and fix it to the extension table in the position where the table remains at the same level of the machine working table (pict.4N).  
The second left extension table as well as other extra extension tables (optional) must be fixed to the first extension table by means of their proper bolts (supplied in the optional kit).  
The relevant table supports must be adjusted so that the extension tables can reach the same level of the machine's working table (pict.4o).
5. Insert on the right arm the sliding stop (pict.4P).



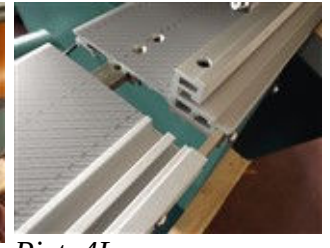
Pict. 4G



Pict. 4H



Pict. 4i



Pict. 4L



Pict. 4M



Pict. 4N



Pict. 4o



Pict. 4P

## 4.8 – Connections

All connections here under described must be supplied and performed by the customer. Follow here under instructions in order to avoid both technical and safety problems when starting to work.

### 4.8.1 – Air pressure connection

The air pressure supplied by the customer must meet the following requirements:

- Type . Industrial
- Pressure : Min 6 bars Max 8 bars
- Flow rate : 20Nm<sup>3</sup>/h
- Temperature : from +5° to +35°
- Quality of the compressed air :
- Dew point -70°
- Residual water : 0,0003 ( g/Nm<sup>3</sup> )
- Particles concentration ( Max ) : 0,1 ( g/Nm<sup>3</sup> )
- Particles dimensions ( Max ) : 0,1 um
- Oil concentration ( Max ) : 0,01 ( g/Nm<sup>3</sup> )



Brevetti Motta can not be held responsible for damages or malfunctioning to the pneumatic system of the machine due to air pressure with inferior characteristics of the ones here over described.

A pneumatic safety lockable device is situated on the right side of the machine.

Connect the air pressure tube to this unit (pict.4Q) by means of its fast connecting fitting.

To give pneumatic strength, turn the red button of pict. 4R placed on the right side of the air filter unit.



Pict. 4Q



Pict. 4R

The main air pressure features of the machine are the following:

- Working pressure 6 bar
- Max working pressure 8 bar
- Min working pressure 5 bar
- Consumption per cycle 11NI/cycle



The air pressure tube to connect the machine must have an internal size of at least 10mm of diameter if the compressor is located to a distance more than 10 meters from the machine, the internal section of the tube must be increased.



#### 4.8.2 – Electrical connection

The electrical connections must be carried out by **authorized and specialised personell**

The electric system supplied by the customer must meet the following requirements:

Three-phase version:

- Nominal Voltage: 400 Volts (or according the data stamped on the metal plate of the machine) +/- 10%
- Phase: 3 F + N
- Nominal frequency: 50 HZ (or according the data stamped on the metal plate of the machine) +/- 2%
- Type of earthing: TT

Single-phase version:

- Nominal Voltage: 230 Volts (or according the data stamped on the metal plate of the machine) +/- 10%
- Phase: 2 F + N
- Nominal frequency: 50 HZ (or according the data stamped on the metal plate of the machine) +/- 2%
- Type of earthing: TT

A **professional electrician** must perform all the electric connections.



Brevetti Motta is not responsible for any damages due to wrong electrical connections:

- Check that voltage of the machine (see characteristic on the machine plate) and electric line are the same.
- Connect the machine to the electric source by means of a proper plug.
- Blue, brown and black are the phase cables, green-yellow cable is the ground cable (Three-phase)
- Blue and black are the phase cables, green-yellow cable is the ground cable (Single phase)



The electric circuit of the machine is equipped with a yellow/green ground wire that prevents electric shocks due to wrong contact of live wires to the machine body.

Before connecting the machine to the main source of the building, make sure the power supply line is appropriately earthed. The point of connection to the source of electric energy must be equipped with all the electrical protections as provided for by the regulations in force in the country where the machine is installed (residual - current circuit breaker included).

Before servicing the electrical system, verify the electrical drawing connections (see the electric system enclosed to this handbook).

If the use of extension electrical cords it is necessary make sure their cross-section is sufficient to withstand the power draw of the machine, use as short an extension cord as possible.



Do not work on the electrical devices when connected to a power source.



Do not leave the machine unattended with the electric plug connected to the main source.

### 4.8.3 – Connecting to the dust extraction system

The machine has two connections of 100mm diameter each for the extraction of waste materials, mainly shaving and dust.

It is absolutely forbidden to operate the machine with out dust extractor or with extractor switched off.

1. The the dust extractor system must be sized so that a speed of about 25/30 m/s is obtained at the intake nozzle with a suction power of about 700 m<sup>3</sup>/h x nozzle.
2. It is advisable to work with the various openings of the machine positioned as closed as possible in order to obtain the maximum suction effect.

## 5 – PRELIMINARY CHECKS



The machine must never be run by unqualified personnel. It is very dangerous. Do not attempt to operate the machine until a thorough knowledge of the operating setting, adjustment and maintenance procedures described in this manual are acquired.

Suitable fire-fighting equipment must be kept close to where the machine is being used.

If there are signs of fire (smoke or smell burning), immediately stop the dust extraction system and switch off the machine in order to suffocate the fire as quickly as possible.

- Check that voltage of the machine (see characteristic on the machine plate) and electric line voltage are the same.
- Check on the gauge that air pressure remains stable at about 6 bars during all working cycle (pict.5A).
- Turn selector of pict.5B in position 1 (normal work).
- Push the two hand control device at the same time, vertical clamps and saw blades will move downwards.
- Adjust the speed of saw blades down movement turning air flow regulators mounted on the control panel (pict.5C left blade – pict. 5D right blade).
- Verify that the size dimensions (both Max and Min) of the moulding to cut are inside the cutting capacity of the machine (for this see point 3).



Pict. 5A



Pict. 5B



Pict. 5C



Pict. 5D

- Before mounting the saw blades be sure that the rotation sense of each motor is correct ( left motor clockwise and right motor anticlockwise t as indicated on the metal plate fixed on the front of the tool guarding). To check the motors' rotation:
  1. Turn the main switch (pict.5E) on
  2. Push the white button (pict.5F) to start the motors and understand if the rotation sense is correct
  3. Stop (pict.5G) the machine running by pushing the black button



Pict. 5E



Pict. 5F



Pict. 5G



This operation must be performed rapidly to prevent the blades locking nuts from slackening if the motors rotation is incorrect.

If motors run in the opposite sense, turn power off and call a professional electrician who will modify the electrical connection to change the motors rotation sense.

Verify that the cutting dimensions of the moulding to cut are inside the sizes as indicated at point 2.12

## 6 – BLADES INSTALLATION AND REPLACEMENT

To get a good cutting quality it is necessary to use well sharpened saw blades. Change them regularly.



Protective gloves must be worn to avoid injuries due to teeth of the saw blade, in case carry and keep the blades in a proper tool case.

Do not use improper tools (as hammers) to install or remove saw blades.

Follow the saw blade manufacturer's instructions either for using, adjusting or repairing the blades.

The general characteristics of the blades to be used on this machine must be:

- Steel blades with hard metal teeth (the teeth must be sharpened to cut woods or plastic materials like PVC or PS)
- Rotation speed that exceeds the speed of rotation of the saw spindle (3400 rpm)
- Body thickness more than 2,5mm and less than 4,0 mm
- Size bore 32mm
- External size 275mm ( 10 7/8" )

Inspect also the technical data on the blades body.



Use only saw blades in accordance with EN 847-1 2005 + A1:2007

Follow the saw blade manufacturer's instructions for use, adjustment and repair of saw blades



It is prohibited the use of saw blades which have inferior characteristics or are cracked unbalanced or welded.

HSS (high speed steel) saw blades must not be used in this machine.

In the machine use only blades of the same size together.

The use of blades of different sizes is forbidden.

Cutting capacity and speed differs in blades not of the same dimensions. This is dangerous for the operator.

To install or change saw blades follow the hereunder procedure:

1. Switch electric power off (pict.6A)
2. Raise the tool guarding (pict.6B) after having disconnected its electric safety switch (par.3.8.2a)
3. Wear protective anti cutting gloves
4. Insert an 8 mm Allen key in the blocking flange nut situated in the centre of left saw blade shaft, insert another 8mm Allen key in the internal hole of the same saw blade shaft, turn the bolt of



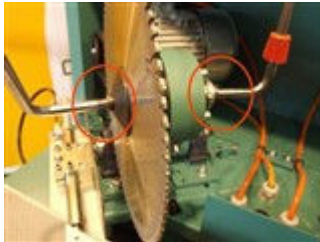
- pict.6C in the rotation sense of the blade.
5. Remove the external flange (pict.6D), remove the old blade if present (pict.6E).



Pict. 6A



Pict. 6B



Pict. 6C



Pict. 6D



Pict. 6E

Use only original flanges (both internal and external) as they are produced in dimensions and quality according to the safety standards. Never use not original flanges.

6. Install a new saw blade



Reduction rings to insert on the machine spindle in order to use saw blades with size bore different from the original spindle diameter are forbidden.

7. Repeat same operation with the right saw blade.



Make sure that the saw blade is properly fitted in the machine spindle and that it turns in the right direction, as shown on the plate fixed on the tool guarding of the machine.

Make sure that spindle and outer flange are free from grease and/or oil.



Make sure that no tools are left inside the tool guarding.  
The saw blades must be replaced when their cutting quality is poor.

There are three main factors which impair cutting performance:

1. Surface encrustations  
Surface encrustation is caused by the presence of resin in the wood which, when heated by the action of the blade, sticks between teeth preventing the saw dust to be properly exhausted from the blade, it is necessary to check saw blades daily and in case remove the encrustation.
2. Alteration of the shape or structure of the cutting edges of the teeth  
Alterations to the shape or structure of the cutting edges of each teeth are mainly due to local fractures, small cracks or local deformation. Saws with any such defects must not be used.
3. Normal wear of the teeth  
The normal wear of the cutting edge is caused by rounding through the use. Worn saws must be removed and resharpened properly (it is advisable to have always a spare set of blades

ready to interchange).

The miter saw is equipped with saw blades d. 275mm as standard size (other diameters of blades are available on request).

To check which size of blades the machine can accept see also point 2.10 and 2.11



Worn saws increase also the emitted noise of the machine.

## 7 – MECHANICAL ADJUSTMENTS

Here under described adjustments must be done by a **qualified operator**.

### 7.1 – Vertical blade adjustment

The vertical angle of the down stroke is set in our factory.



This is a very delicate operation. Do not perform this adjustment if not really necessary.

### 7.2 – Cutting angle adjustment

This adjustment is very important as an incorrect cutting angle setting prevents a good result in producing a complete frame.

Brevetti Motta submits all machines to an angle adjustment test using mouldings of medium - hard wood of about 60 mm (2 3/2") width. In case the machine will be used to cut constantly hard woods or wider width it may be necessary to adjust a little bit the cutting angle.

Furthermore the normal wear of the blade's teeth can determine a slight modification of the right cutting angle so that also in this case an adjustment may be required.

#### Adjustment:

- A) Cut 4 pieces from the same mouldings paying attention that all of them are of the same identical length (pict.7A)
- B) By means of a rubber band (pict. 7B) keep these 4 pieces together to check the quality of the frame obtained. Now 1 of the 4 situations will happen:

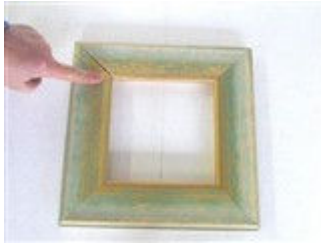


Pict. 7A



Pict. 7B

- a) The frame is perfect. Do not perform any adjustment and the machine is ready to work
- b) The frame has the back part open (pict.7C) it means that 1 or both saw blades has the cutting angle more than 45°
- c) The frame has the front points open (pict.7D). It means that 1 or both saw blades has the cutting angle less than 45°
- d) The frame corners are good but the pieces has the cut sides of different lengths (pict. 7E) (2 longer and 2 shorter). The frame will result slightly rhomboidal it means that one blade has the cutting angle less than 45° and the other more than 45°



Pict. 7C



Pict. 7D



Pict. 7E

With the 2nd, 3rd and 4th situations it will be necessary to adjust the cutting angle.  
To perform this operation:

- 1 - Turn electric power OFF;
  - 2 - Raise the front cover after having disconnected its electric safety switch (par.3.8.2a)
  - 3 - Press the 2 hand control device at the same time so that saw blades go down
  - 4 - To check a perfect alignment of the blade with the 45° angle, place one side of the caliber (equipped with the machine) against the fence and the diagonal side next to the blade body (not to the blade teeth)(pict.7F) Now it is possible to understand if the cutting position of the blade is set more or less 45°. In fact in case of wrong setting there will be a space between the diagonal caliber side and the blade (once the other caliber side is right against the fence.)
  - 5 - To adjust now the cutting angle accordingly the caliber response it is necessary to go to the back of the machine in order to rotate the angle adjustment screw mounted on the relevant column support.
- Adjustment of the left (looking from the operator working position)blade.**
- 6 - Loose only the 2 external bolts of pict.7G so that the blade unit is free to move
  - 7a - Turn the screw of pict.7H by means of the proper wrench.



Pict. 7F



Pict. 7G



Pict. 7H

**COUNTERCLOCKWISE:** To modify the cutting angle to obtain a shorter cut (more than 45°).

**CLOCKWISE:** To modify the cutting angle to obtain a longer cut (less than 45°)

8 - Check that the cutting angle of the saw blade has been adjusted in the correct sense. The blade is in perfect square when there is no space between one caliber side and the fence nor between the diagonal caliber side and the blade. (pict.7F)

9 - Once the adjustment is obtained tighten the two external bolts (formerly loosed) that fix the blade unit in position (pict.7G)

If it is necessary, to, adjust **the right saw blade**. First repeating the points 4 - 5 and 6 here over described and then follow hereunder instructions:

7 b - Turn the screw of pict. by mean of the proper wrench.

**CLOCKWISE:** To modify the cutting angle to obtain a shorter cut (more than of 45°)

**COUNTERCLOCKWISE:** To modify the cutting angle to obtain a longer cut (less than 45°).

To check if the blade angle adjustment has been done properly see point 8. After adjusting follow the instructions on page 12 points A and B to verify if this paragraph in order to verify if the proper adjustment has been reached otherwise repeat again the angle adjustment instructions to modify again the blade angle.



If the result of the frame obtained, after the first adjustments, is worst than the first attempt. Probably the angle adjustment has been done in the wrong sense. So it will be necessary to act in the opposite way. In any case it is always advisable to turn the screw of max. half a turn for each attempt in order not to move away too much from the original position.

When the cutting angle adjustment has been successfully performed, rotate manually the saw blades in order to check that they do not touch neither the Aluminium edges nor the waste support. If the cutting angle is perfect for your job and at the same time the blades touch slightly against the ALU edges or the waste support it is possible to cut them by means of the same saw blades performing a cutting operation slowing the downward cutting movement of saw blades consistently. (see also point 8.2 of pneumatic adjustments).

### 7.3 – Blades position adjustment

To have a good cut quality it is necessary to keep saw blades as close as possible to the aluminium edges. By means of the pivot of pict.7i it is possible to modify the position of saw blades respect to the aluminium edges.

In order to perform this operation:

- 1 - Turn electric power OFF;
- 2 - Raise the front cover after having disconnected its electric safety switch
- 3 - Loose the 4 bolts of pict.7i that fix the left blade unit in position
- 4 - Press the 2 hand control device at the same time so that saw blades go down so that the blades reaches the cutting area
- 5- By means of a 10mm spanner Turn clockwise or anticlockwise the bolt of pict.7L in order to move the left blade more or less closer to the working table edge.
- 6 - Repeat, if necessary the same operation to adjust the position of the right blade following hereover points 3-4 and 5
- 7- Follow point 7.2 to adjust properly the cutting angle.



*Pict. 7i*



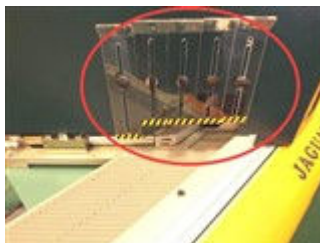
*Pict. 7L*

### 7.4 – Adjustable guards (fingers) adjustment

Before starting to cut the adjustable guards (fingers) must be adjusted in height following the profile of the moulding.

These fingers, made in polycarbonate (pict.7M) with thickness of 3mm, can be adjusted vertically by means of their proper "butterfly" screws.

A proper adjustments, few millimetres over the mouldings profile, reduce the risk of contacts with saw blade, dust emission, and noise level.



*Pict. 7M*

### 7.5 – Vertical clamp cylinders position adjustment

Two vertical clamps are situated inside the tool guarding (pict.7N).

They can be moved manually along the cutting edge to find the best position where to clamp the moulding during cutting operation.



*Pict. 7N*



Perform this adjustment only when saw blades are not running.

To check the right positions of the clamps:

1. Place a profile to cut against the fixed fence and slide it under the tool guarding from left to right
2. Press the pedal
3. Verify that the left clamp blocks the moulding properly as shown in pict.7o otherwise
4. Release the pedal
5. Means of the proper knob (pict.7P) loose the left clamp cylinder blocking bolt, move it to the proper position and tighten it again
6. Repeat same over described operation with the right clamp
7. Once both clamps have been adjusted, it is possible to start working



*Pict. 7o*



*Pict. 7P*

## 7.6 – Waste support adjustment

This component prevents the waste part of the moulding from falling away before cutting operation is over (pict.7Q).

It is important that the aluminium element of this support is exactly at the same height of the working table.

The position of this support can be adjusted easily by means of the grain situated on the waste support pivot just underneath the waste support (pict.7R).

To reach it, it is necessary to turn air and electric power off and raise the tool guarding (pict.7S)



*Pict. 7Q*



*Pict. 7R*



*Pict. 7S*

## 7.7 - Motor belts tension adjustment

To modify the belts tension follow hereunder procedure:

1. Turn electric power off
2. Raise the front cover after having disconnected its electric safety switch (par.3.8.2a)
3. Remove the saw blade ( see also par 6 )
4. Loose the 4 bolts (pict.7T) that keep the motor support in position
5. Turn anticlockwise the bolt of pict.7U that push back the motor support plate till the right tension is achieved.
6. Thighten all 4 bolts of above point 4



Pict. 7T



Pict. 7U

## 8 – FUNCTIONING

### 8.1 – Operators

The machine is designed to be used by **one operator only**, who must stand in front of the machine (pict.8A).



Pict. 8A



The machine and the area where the machine is installed are dangerous. They must be under strict control of the operator to avoid that not authorized persons enter in dangerous area.

This area has to be kept constantly cleaned and no obstacle has to be present nearby. With the machine running the operator **MUST** be facing the machine as only in this position it is possible to operate properly and safely.

Turn the machine on and Start using it only After having performed all the adjustments and inspected the correct position of the safety guards.

The operator of the machine must read and understand all safety information discussed in this manual. He must also have matured a certain experience on:

1. The main safety rules and the prevention of industrial accidents
2. Specific experience on the cutting operations
3. How to act in case of Emergency
4. How to use the individual protections systems (dust mask, ear defenders, etc.)



The personnel responsible for the adjustments and the maintenance of this machine must have a proper technical experience and capability.

## 8.2 – Functioning



Before working with the machine verify the efficiency of the machine, the perfect functioning of the safety devices and the movement of the blades, which should not be stopped by anything. Check there is no broken parts and all components are properly fixed and works well. Malfunctioning safety devices or broken parts must be replaced or repaired by specialized personnel or send to an authorized assistance centre.

Before switching electric power on be sure that:

1. Tool guarding is well fixed (see par. 3.8.2 a)

Do not try using the machine unless all of the guards and all the safety devices are in good working order.

2. Main electric cut out switch is in “I” position and white light lights up
3. Gauge of pict.8B is around 6 bars
4. The emergency button is not activated



Pict. 8B



Pict. 8C

5. Push the white electric button so that both saw blades start running (pict.8C)



If, for whatever reason, the operator should have some doubt on the function of the machine, it is necessary to stop the machine, verify the reason for these doubts and in case to contact the Brevetti Motta assistance services.

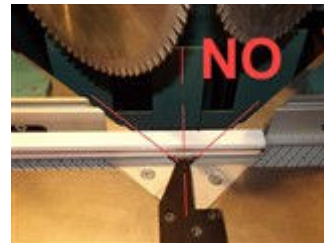
6. Introduce the moulding to cut into the working table from left toward right



When performing the first cut (left mitring) on the moulding introduce the moulding between the saw blades so that only the left blade can cut the profile (see pict. 8D-8E). This method avoid the risk of ejection of small parts from the right side of the working area and also the potential risk to break or cut the waste support.



Pict. 8D



Pict. 8E

7. Adjust the position of both vertical clamping cylinders as indicated at par. 7.5 in order to get a proper clamping of the moulding
8. Refer to the par.9 for the adjustment of mouldings sliding stop

9. Press the pneumatic pedal (pict.8F) to make a clamping test (in case it is necessary to modify the position of the vertical clamps see point 7.5)
10. Press simultaneously the two hand control device and keep them pressed to activate the complete descent of the blades (pict.8G)
11. Release the two hand control device only after that the blades have performed the cutting operation
12. Remove from the right side of the working table the cut piece.



*Pict. 8F*



*Pict. 8G*

13. Slide the moulding from left toward right to reach the sliding stop and repeat the above steps from 6 to 12.



The foot pedal equipped with the machine activates only the vertical clamps movement.



Always stop the machine from running whilst unattended.



Before starting work always switch on a dust extractor system connected to the machine.

It is compulsory to:

- Use a respiratory protection to reduce the risk of inhalation of harmful dust
- Wear ear protections to prevent hearing loss

Furthermore it is also advisable to:

- Use protection glasses to prevent that dust or chips can hit operator's eyes

## **NORMAL STOP**

Operate as follow for causing a voluntary stop:

- Push the black stop button (pict 8H)
- Turn the general main electric cut out switch of the machine to the "0" position (pict.8i)
- Disconnect the air pressure turning the switch of the filter unit on the right side of the machine.



*Pict. 8H*



*Pict. 8i*



## EMERGENCY STOP

If for whatever reason it should be necessary to stop the machine immediately, press the emergency button (pict.8L).

This action causes the immediate stop of all movable parts and the blades come back in rest position. To restore power to the machine turn the emergency stop button anticlockwise (pict.8M) and press again the START button (pict.8N)



Pict. 8L



Pict. 8M



Pict. 8N

## AFTER USE:

After using the machine, be sure to always dissipate the residual energy that may be present in the machine disconnecting:

- the power supply by switching the residual current circuit breakers (with over current protection) OFF
- the air pressure power by disconnecting the fast connecting fitting situated on the pneumatic cut out switch

When finished using the machine it is necessary to clean it out thoroughly to remove any residual working material left (dust, etc.). Keeping the machine as clean as possible will help in getting the best results.

The cutting operations produce waste parts that may cause machine break down if not daily removed (see also point 10.5).

If during functioning may arise blockage motors mechanical stopping or components breakage (blades teeth-waste part supports-transmission belts etc.), push immediately the emergency stop and then follow the instructions described at point 10.1 so to safely unblock the functioning of the machine.



The waste parts must be collected recycled or discharged according to the law of the country where the machine is used.

## 8.3 – Putting the machine out of service

When it is forecast not to use the machine for a certain period of time disconnect the machine from the electric source.

## 9 – MEASURING SYSTEM

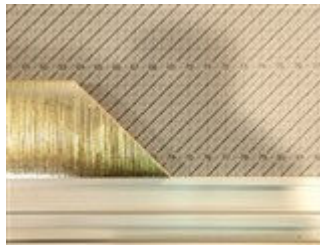
The machine is equipped with a graduated scale, stuck on the working tables (pict.9A), that makes easy to measure the length of the piece to cut.

In fact the measuring lines of this graduated scale are parallel to the right blade and their intersections with the right edge of the moulding permit to read the lengths of the cut piece in any point along its mitred part. (pict.9B).

Furthermore a sliding stops (pict.9C) also equipped with the machine can be fixed along the fence allowing the operator to cut pieces of the same length consistently.



*Pict. 9A*



*Pict. 9B*



*Pict. 9C*

These components can also be rotated to perform the cut of two different lengths from the same moulding (see pict.9D).



*Pict. 9D*

## 10 – MAINTENANCE

All technical services must be done by **qualified personnel** properly instructed and the necessary precautions against unexpected starts of the machine must be taken.

### 10.1 – Machine's isolation

To avoid unexpected start-up when maintaining the machine, always:

1. Disconnect the electrical plug from the power source
2. The pneumatic hose from the machine
3. Lock the electric cut out switch
4. Lock the pneumatic cut out switch



During maintenance wear gloves to avoid the risks of cuts  
Use the proper tools for mounting and dismantling.  
Report faults in the machines as soon as they are discovered.

Once the operations are finished and before reconnecting the pneumatic and electric power restore and properly replace the protections and the guards removed or opened.

### 10.2 – Safe maintenance procedures

- Before starting any operation expose a sign board "Plant in maintenance" in a well visible spot.
- Before starting any kind of maintenance on the machine, disconnect the power, then disconnect the pneumatic system and wait until every moving part is completely stopped.
- Verify periodically the integrity of the machine and it's security devices.
- During the maintenance and repair operations, it is required to use protective clothes such as: cut resistant gloves and safety shoes which have a slip resistant sole and crush resister stop.
- Do not use solvent or flammable materials.
- Only use original spare parts.
- Do not start any maintenance or cleaning operations, if the machine has not been disconnected

- from the power supplies.
- To maintain the machine, strictly follow the descriptions in this handbook.
- The parts must be replaced only by specialized personnel.
- Do not step on the machine as it has not been projected to sustain the weight of persons.
- At the end of operations, restore and fasten properly all the protections and guards removed or opened.
- In this machine no fixed guards need to be removed to perform maintenance operations.

### 10.3 – Routine maintenance

The interventions here under described must be performed according to the indicated periods of time. If these instructions are not observed the manufacturer will accept no responsibility on the invalidation of the warranty.

Even if the operations hereunder described are quite easy it is advisable that only **qualified personnel** performs them.

The routine and programmed maintenance includes inspections and interventions to the machine to check periodically:

- Machine cleaning
- Lubrication conditions
- Wear conditions on the movable parts
- Blades changing
- The functioning of all electric and pneumatic parts (in particular the safety devices)

In case of malfunctioning of these parts refer this situation to the technical personnel (specialized persons), in the meantime do not use the machine.

### 10.4 – Special maintenance

The special maintenance is referred to interventions in case of:

- Breakdowns
- Overhauling

Here under the list of the operations that requires **qualified technical personnel**:

- A) Motor belts replacement
- B) Cutting angle adjustments
- C) Electric components changing
- D) Pneumatic components changing

### 10.5 – Daily checks

- Switch electric and air pressure power off.
- Clean the machine from saw dust and chips produced during working operations.
- Clean working area.
- Extract the waste pieces from the inside of the machine.
- Remove the waste parts conveyed outside the machine through the metal slope situated on the left side of the machine. It is advisable to lay a carton box at the slope base to collect easily the waste mouldings.



Do not remove or clean saw dust and chips from the machine if the machine is not disconnected from all energy sources.

To avoid the risk of cutting because of accidental contact with blades use a vacuum cleaner or wear cut resistant gloves.

## 10.6 – Weekly checks

Check:

- If saw blades are still sharpened and in good order.
- Compressed air condensation water (to remove it, it is sufficient to turn air pressure off).
- The safety devices as specified at points:
  - 3.8.2.a
  - 3.8.2.b
  - 3.8.2.c



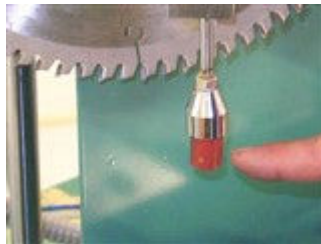
If even only one of the above safety devices does not work properly stop using the machine.

Immediately hang a perfectly visible and readable sign prohibiting the use of the machine on the machine itself. Then contact your supplier or Brevetti Motta directly in order to get the right information on how to repair or replace the faulty devices.

## 10.7 – Monthly checks

Check:

- Tension of the transmission belts.
- The wear out of gum clamps (pict.10A) (see also point 3.8.3.b)
- If all nuts and bolts are well tightened.



*Pict. 10A*

## 10.8 – Yearly checks

Check:

- Electric power supply cables.
- Possible air leaking on the pneumatic components
- The working of the various bearings (Motor-blade shaft-blade forward movement-blade angle movement).

## 11 – SPARE PARTS

The pages of the “Spare parts” section illustrates the main components of the machine. Each component is identified by a proper code. When ordering spare parts from BREVETTI MOTTA, always refer the following information:

1. Machine model
2. Machine's serial number
3. Code(s) of the spare part(s)
4. Quantity



BREVETTI MOTTA shall not be held responsible for deliveries of wrong spare parts if the order does not include the above information.

## **12 – DISMANTLING**

At the moment of the dismantling it is necessary to separate the following parts:

- Plastic and electric parts  
The plastic material and the electric parts must be collected separately and sent to the appropriate collection centres in compliance with current legislation.
- Metal parts  
Regarding the metal parts it is sufficient to divide the parts separately into groups of steel and other metals or alloys, to then be sent to recycling centres.

## **13 – CONCLUSION**

All rights on this manual are reserved by Brevetti Motta.

Brevetti Motta reserves the right to carry out, without prior notice all the modifications which will be considered as necessary or for the purpose of improving the machine.

For any requirement or advice please contact your supplier or Brevetti Motta directly.

## **ANNEXES A - B - C - D - E**

**ANNEX A**

**(fac-simile)**

**CE DECLARATION OF CONFORMITY**

THE MANUFACTURER

**BREVETTI MOTTA SRL**  
**Via S. Antonio, 33 FRAZ. CECCHINI**  
**33087 PASIANO DI PORDENONE (PN)**

DECLARES THAT THE MACHINERY

**TYPE: DOUBLE MITRE SAWING MACHINE FOR V-CUTTING**

**MODEL: JAGUAR**

**SERIAL NO (S):**

**CONSTRUCTION YEAR: 2015**

has been designed in accordance of the harmonised standards type C

EN 1870-16: 2012

that fulfils all the relevant provisions of the directive:

2006/42/CE

the machine complies with all provisions of the Directives

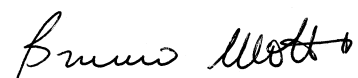
2006/95/CE

2004/108/CE

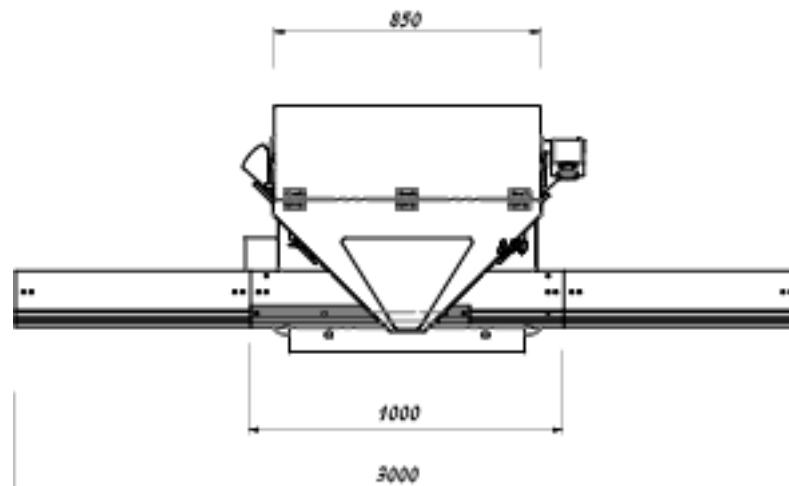
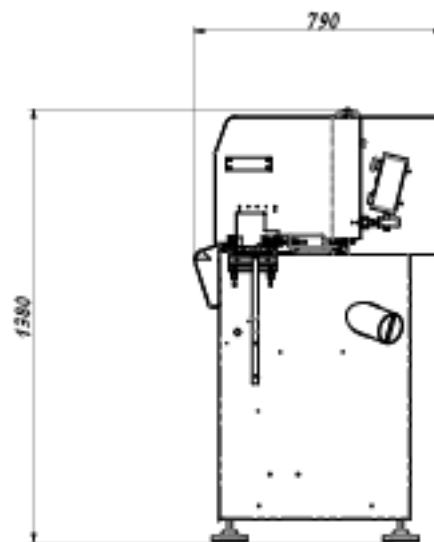
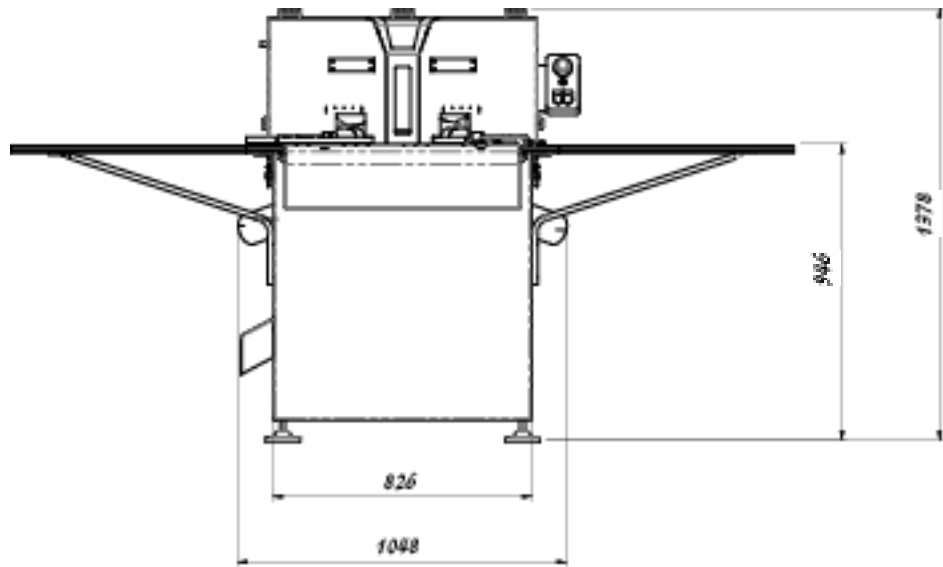
ALSO THE RELEVANT TECHNICAL FILE OF THE ABOVE MACHINERY  
HAS BEEN COMPILED ACCORDINGLY

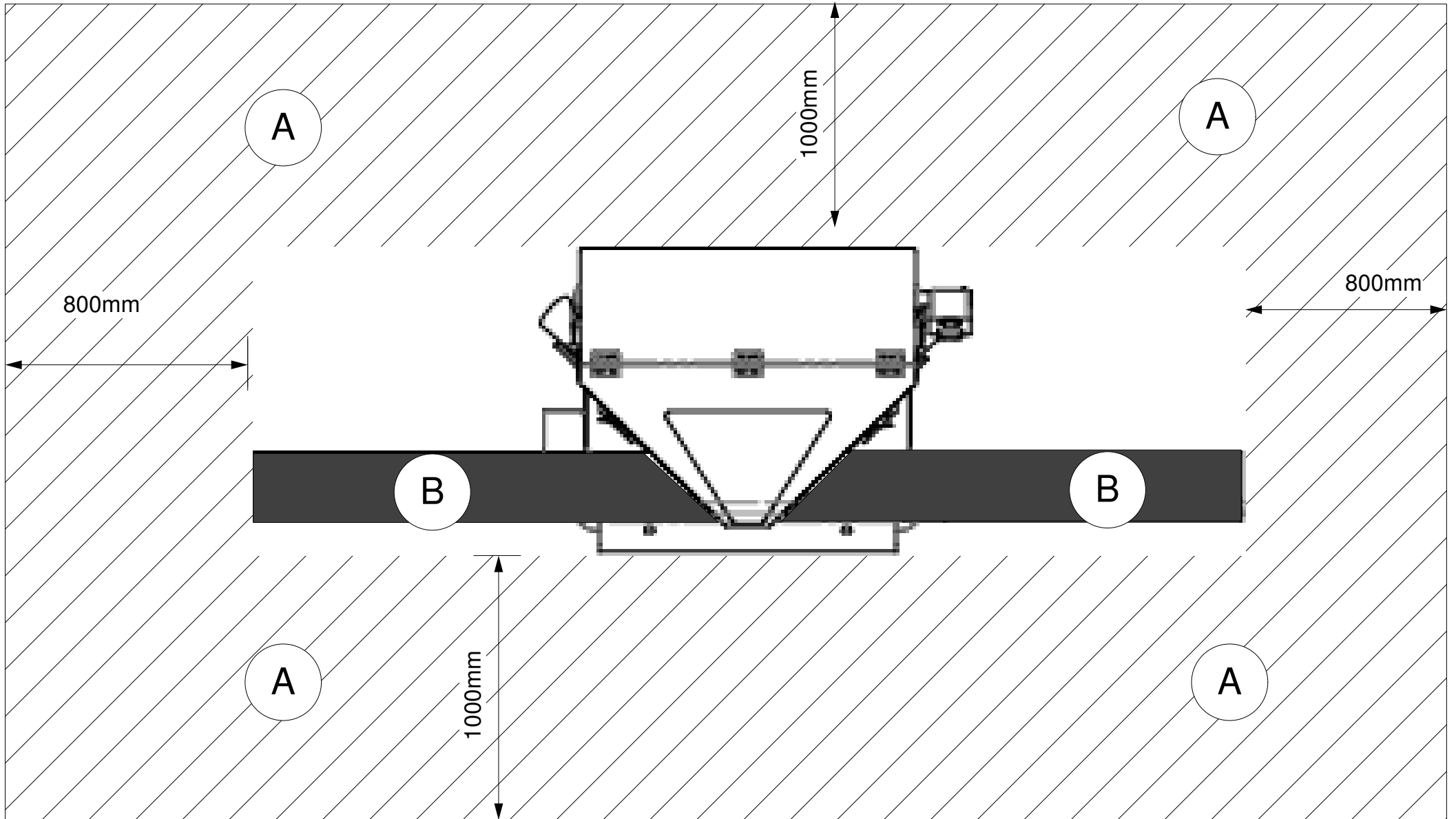
Cecchini di Pasiano, 26/09/2015

MOTTA BRUNO  
(Authorized representative)



ALLEGATO B - ANNEX B





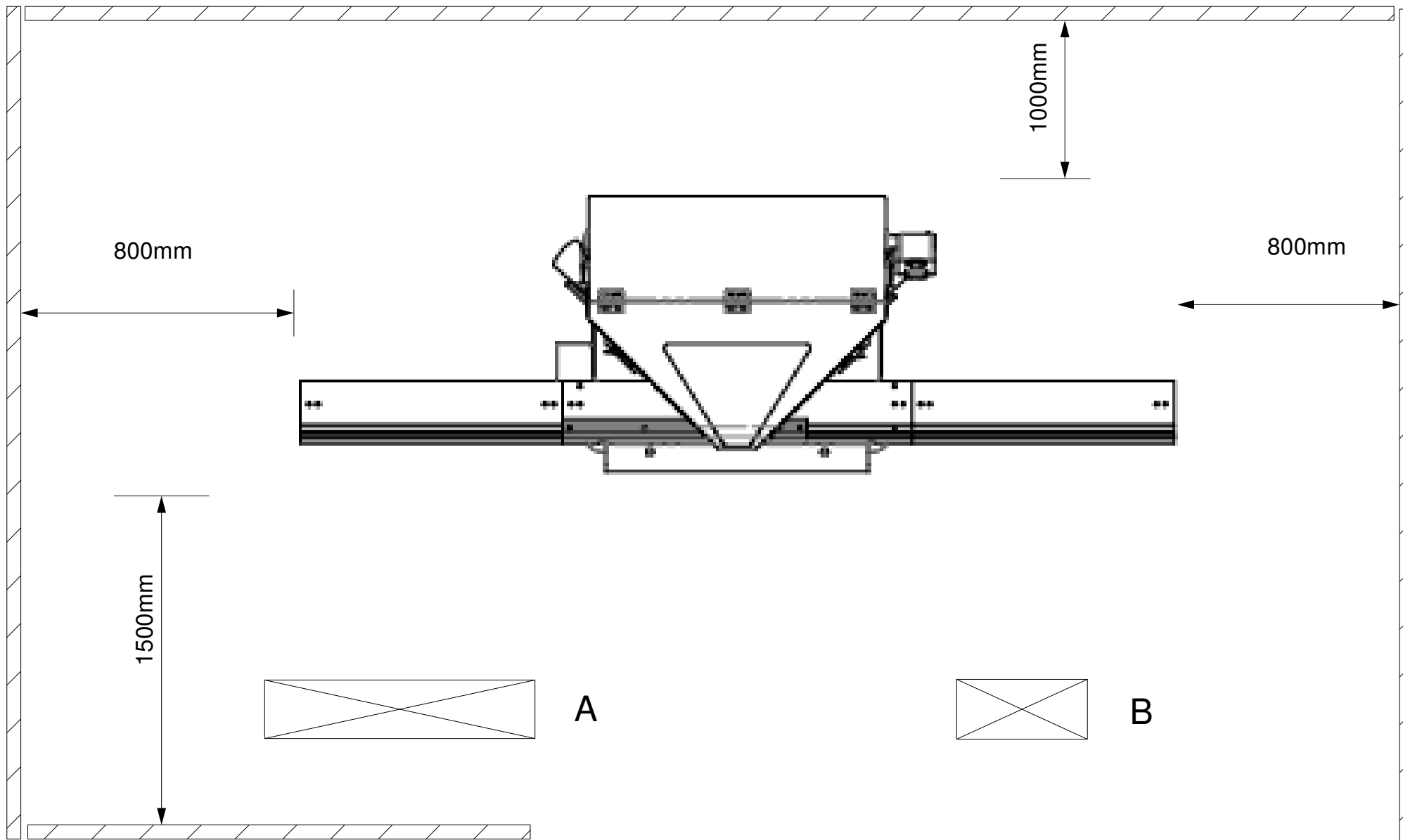
A
/
 AREA DI LAVORO  
 WORKING AREA

B

 ZONA PERICOLOSA  
 DANGEROUS AREA

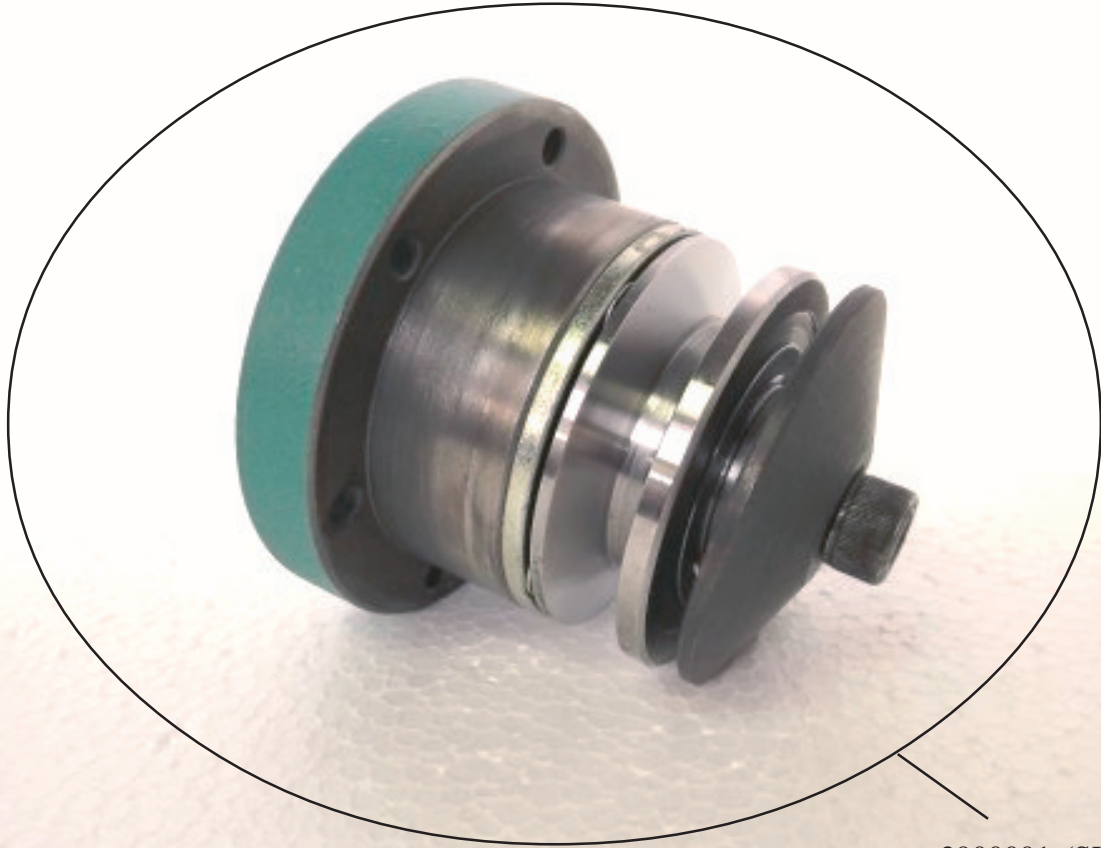




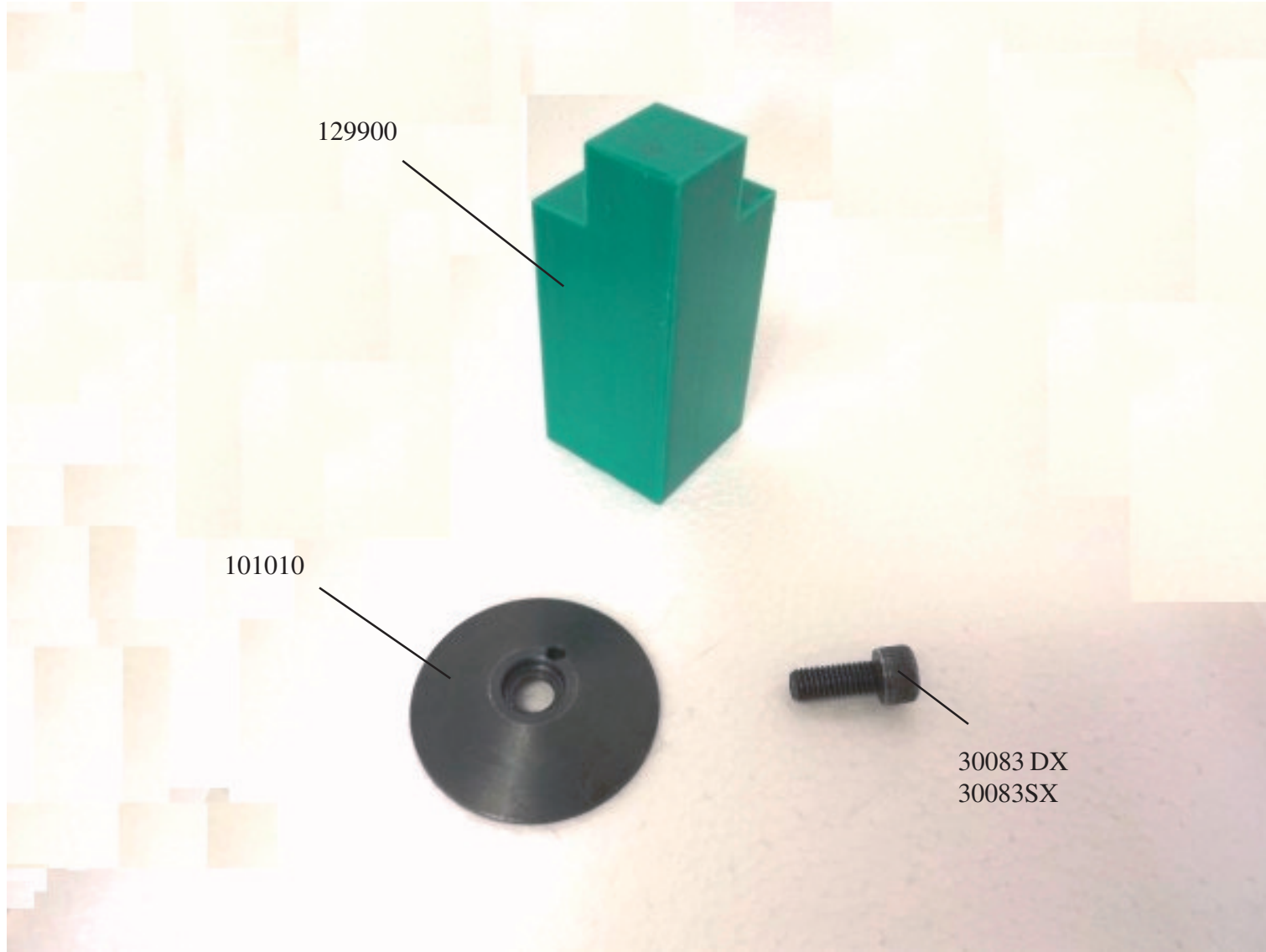


ALLEGATO E - ANNEX E

- A Rastrelliera con aste da tagliare  
 Rack for the mouldings to be cut
- B Contenitore con pezzi già tagliati  
 Container of already cut pieces



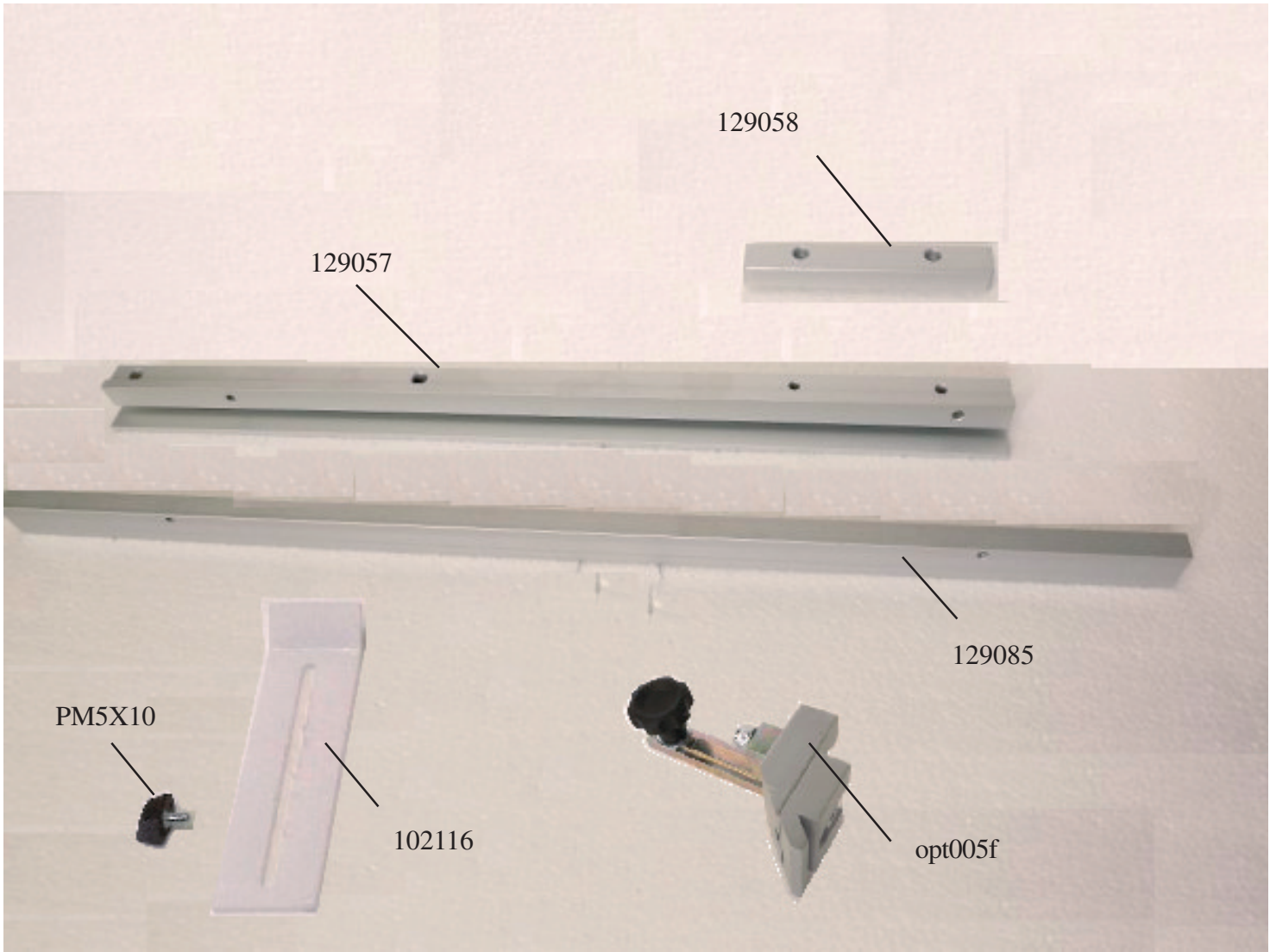
2900001 (SX-LEFT)  
2900002 (DX-RIGHT)



129900

101010

30083 DX  
30083SX



129058

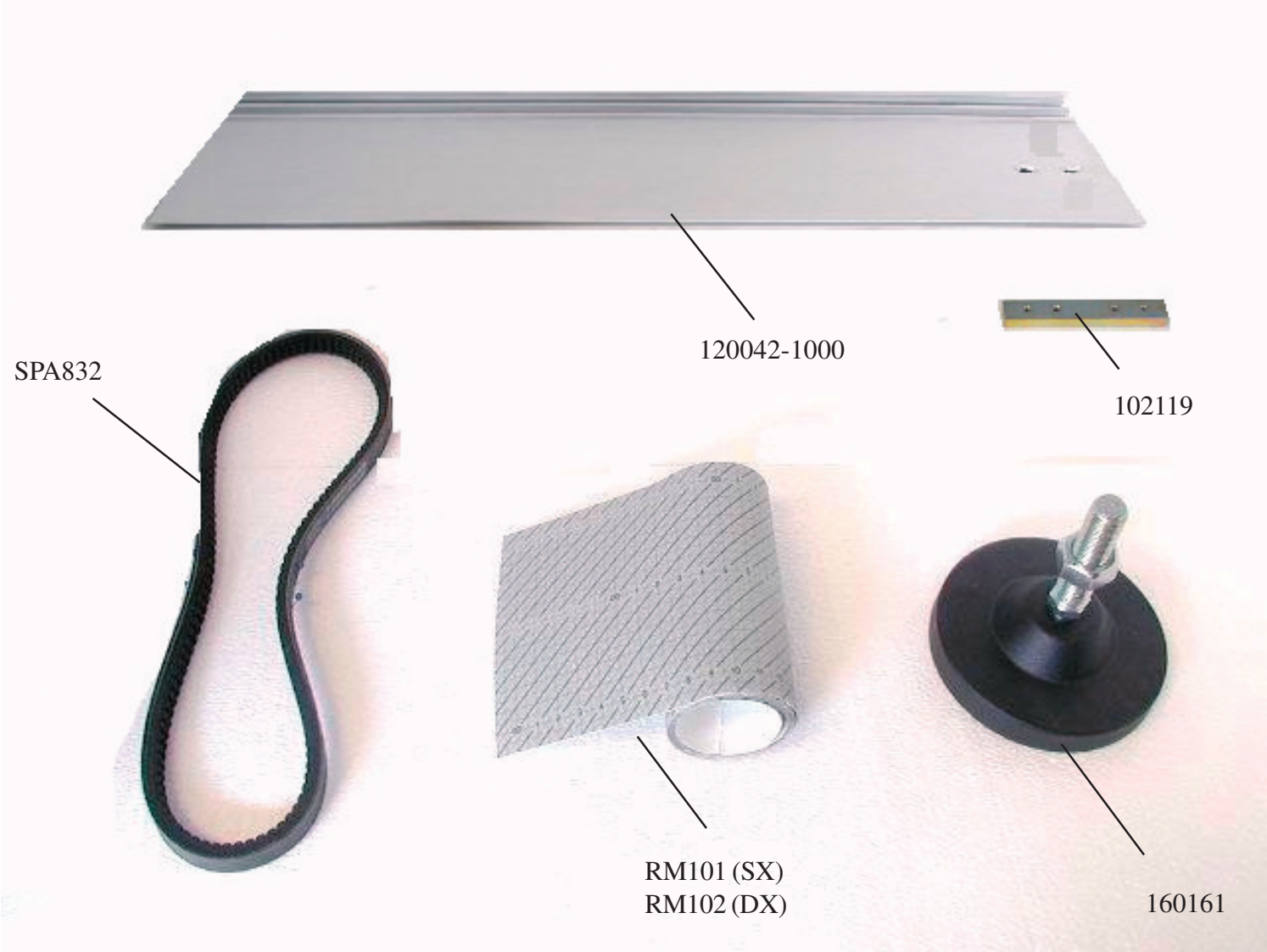
129057

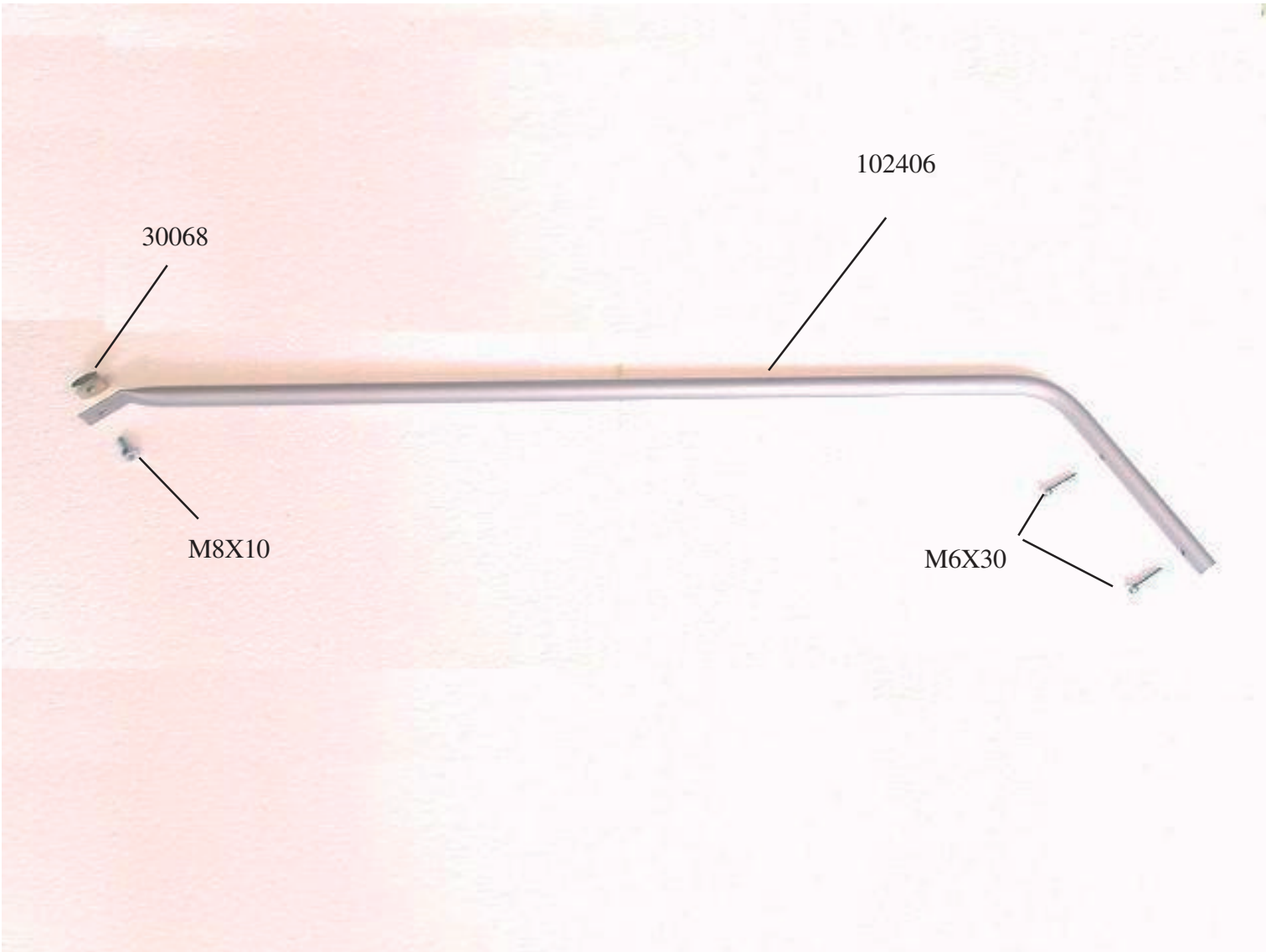
129085

PM5X10

102116

opt005f



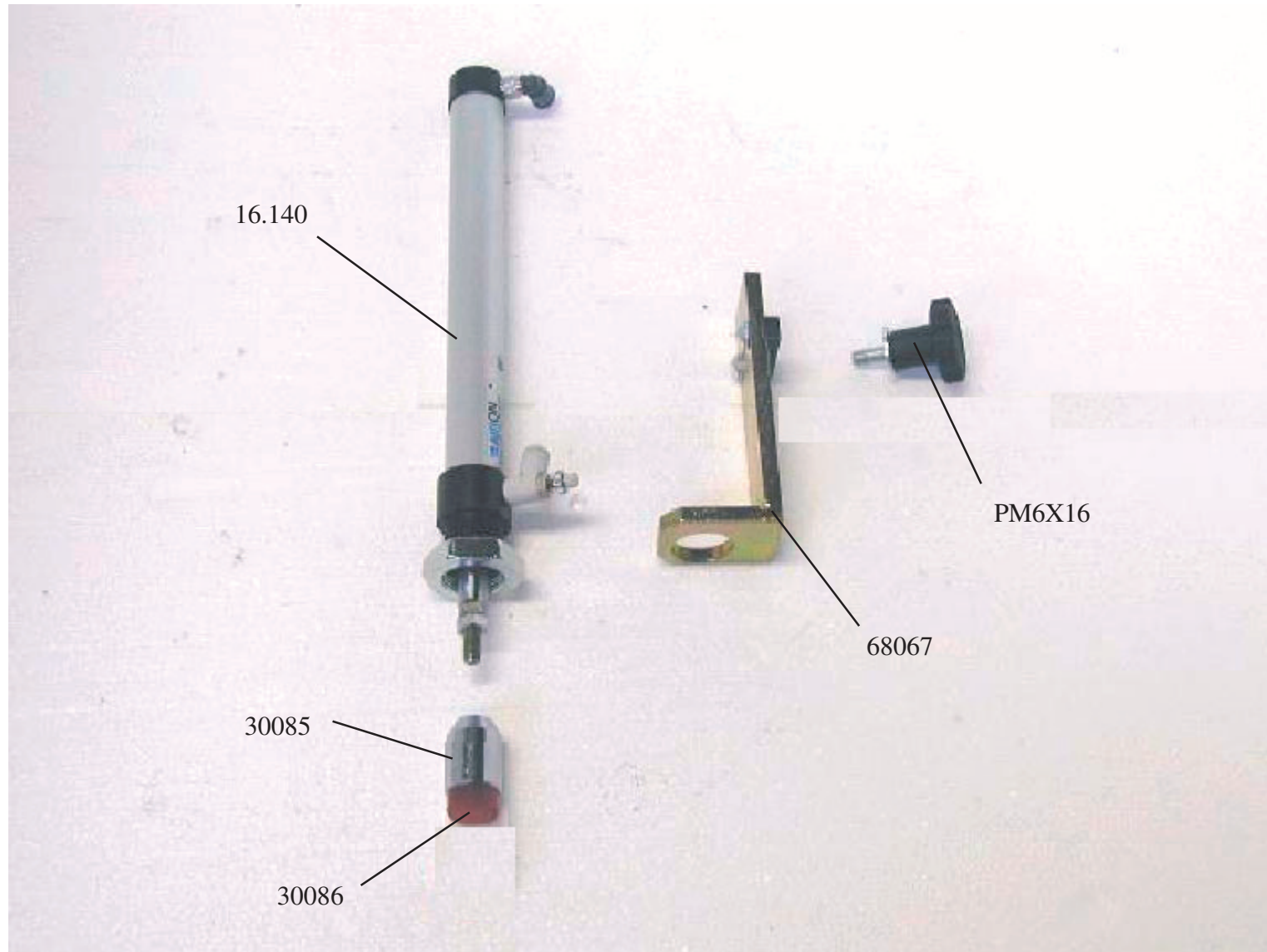


102406

30068

M8X10

M6X30



16.140

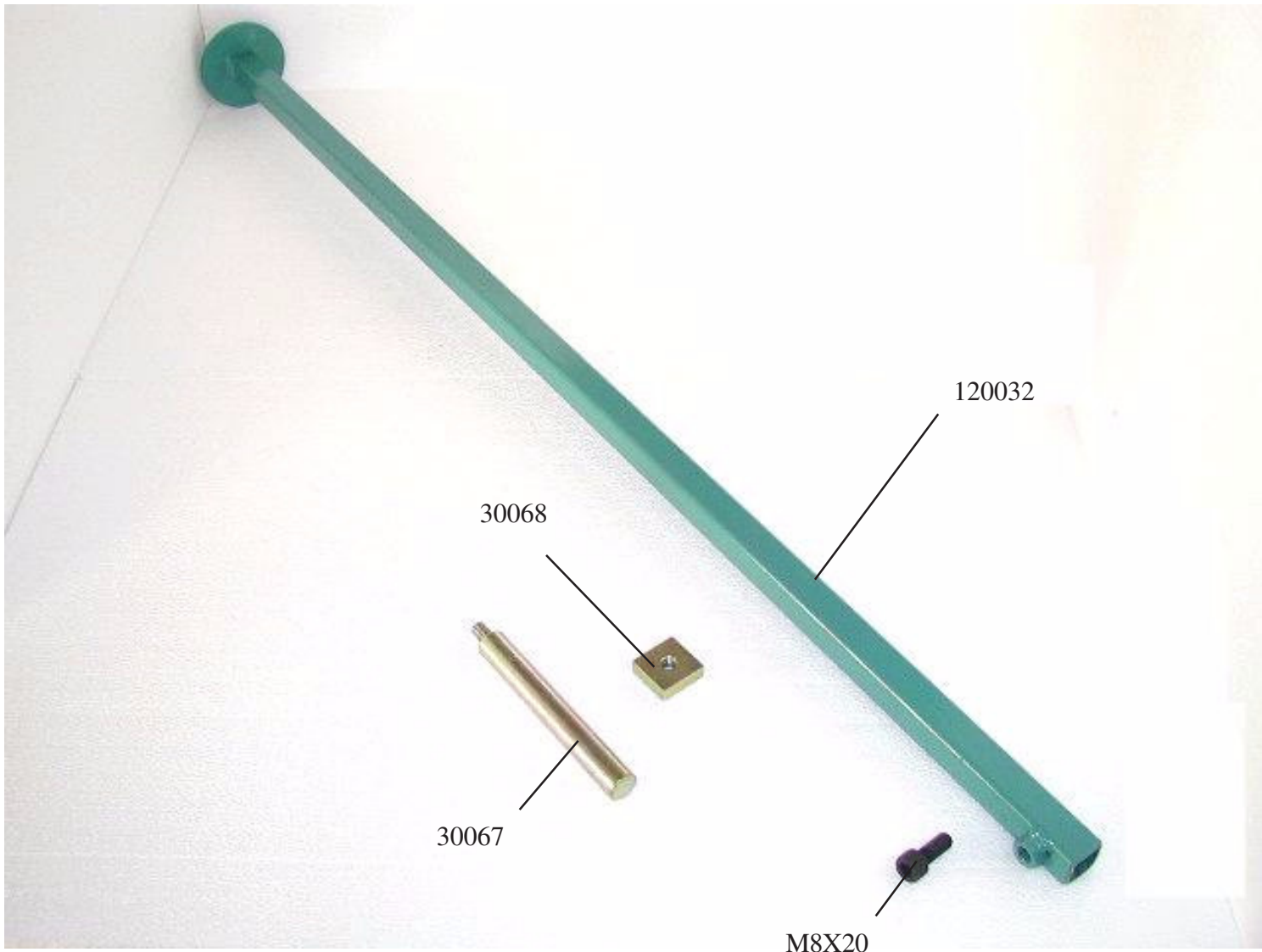
30085

30086

68067

PM6X16



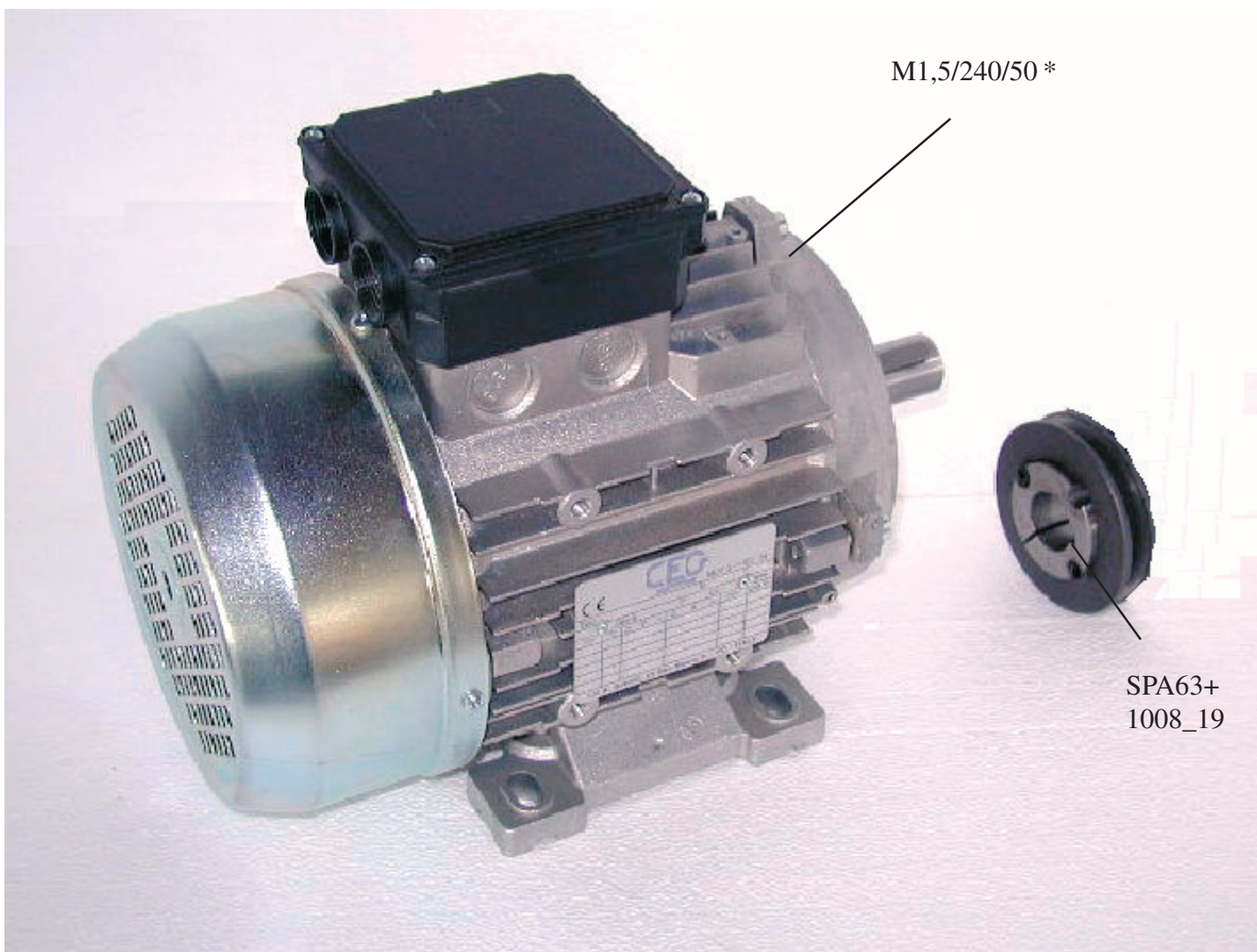


120032

30068

30067

M8X20



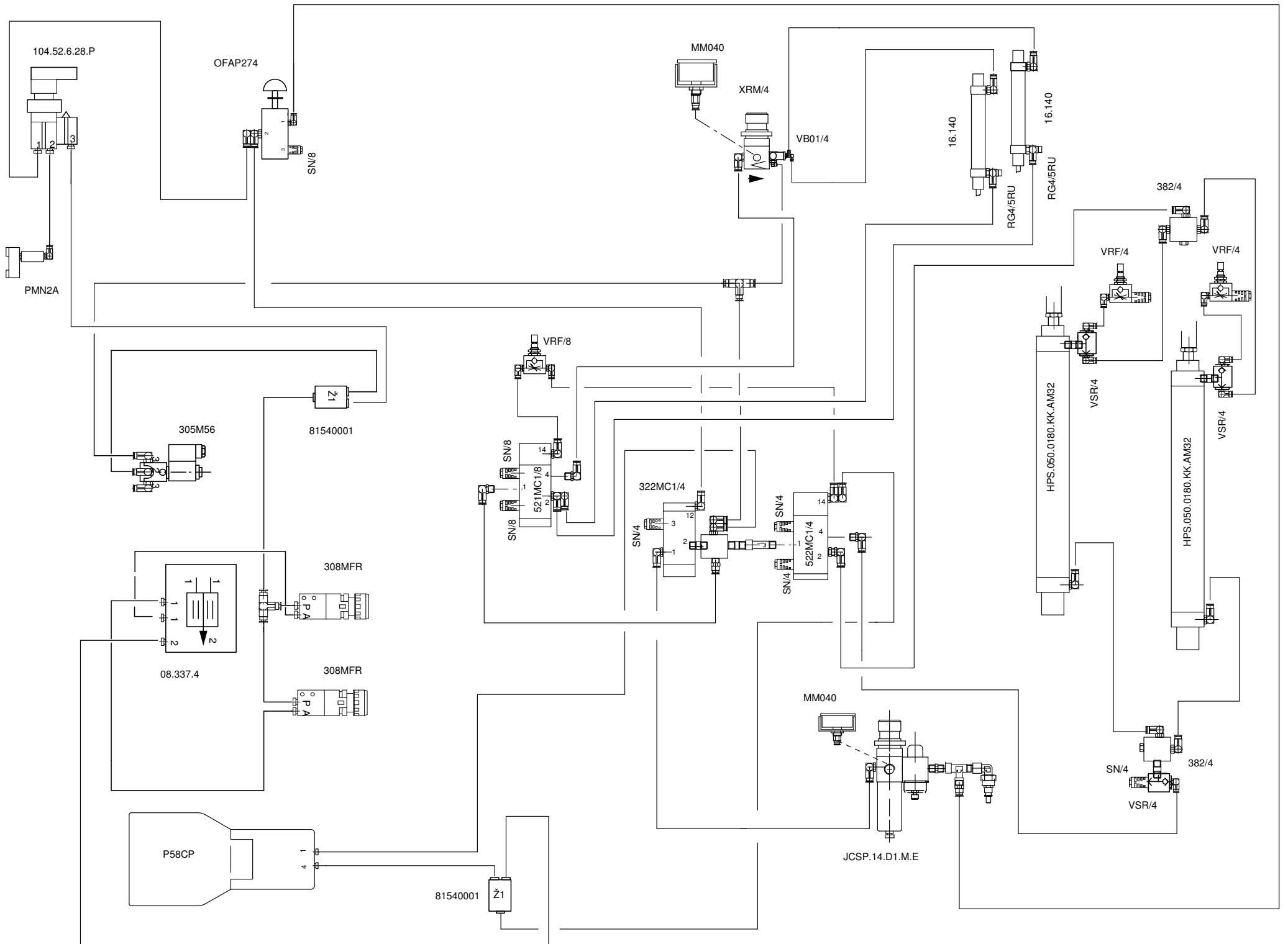
M1,5/240/50 \*

SPA63+  
1008\_19

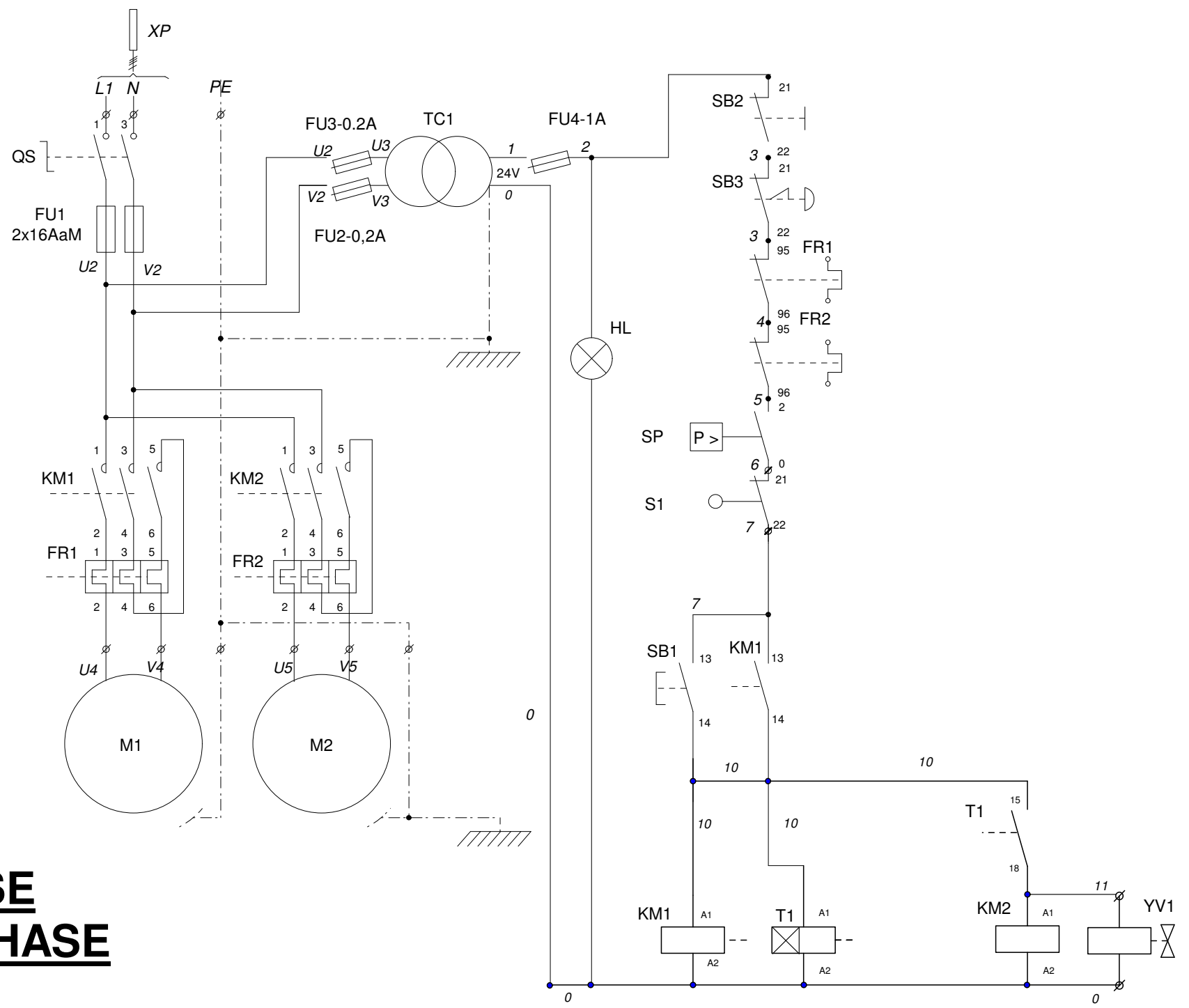
\* SPECIFICARE IL VOLTAGGIO AL MOMENTO DELL'ORDINE  
SPECIFY VOLTAGE WITH ORDER

QE2201ST (240V)

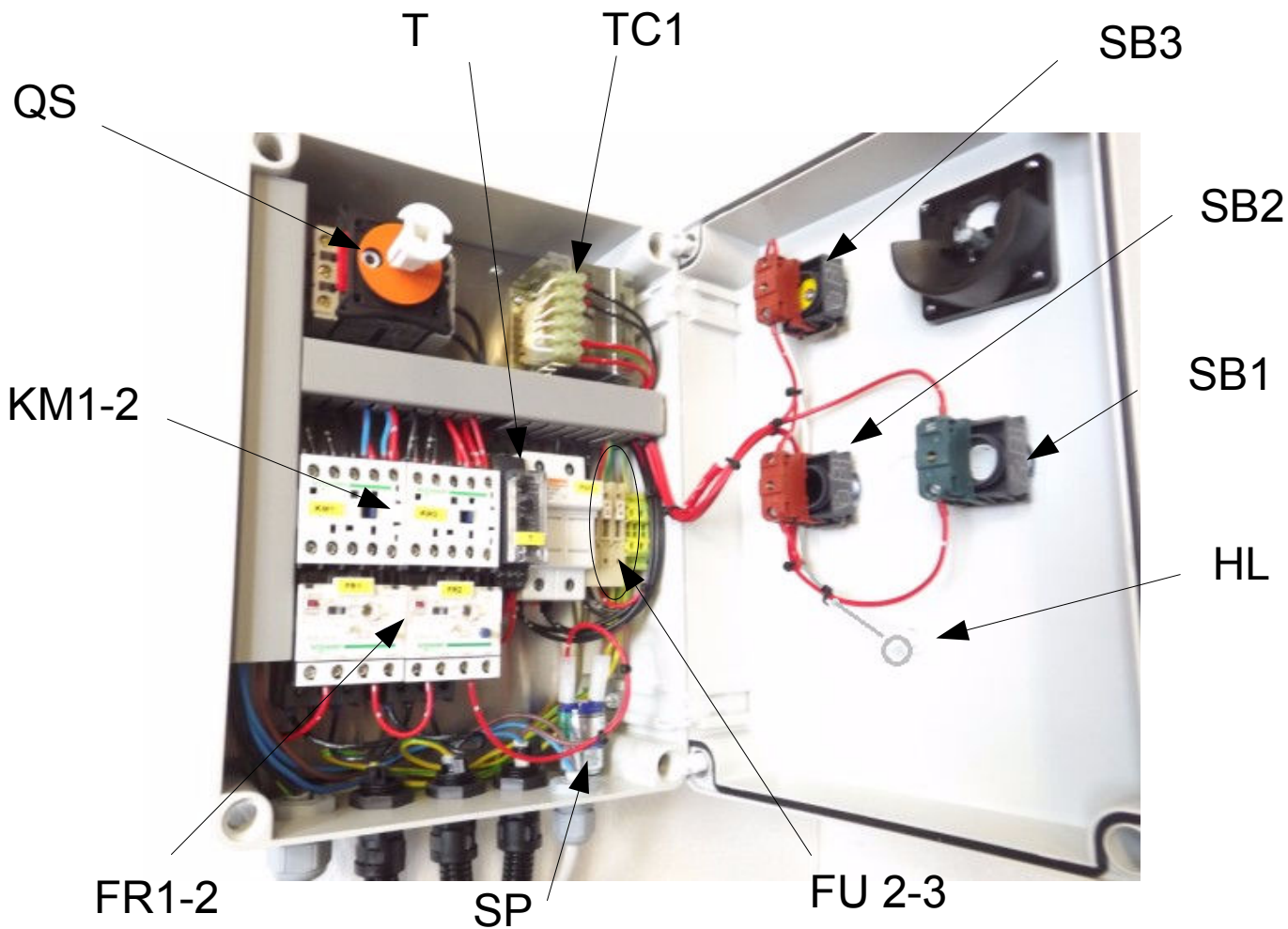




# MONOFASE SINGLE PHASE



	<u>IMPIANTO ELETTTRICO</u> 240 V 1 ph.	<u>ELECTRIC SYSTEM</u> 240 V 1 ph.	<u>COMPOSANTS ELECTRIQUES</u> 240V 1 ph.	<u>ERSATZTEILE ELEKTRIK</u> 240 V 1 ph.	
M1 - M2	Motore asincrono 1 ph - 2850 g/min 1,5 Hp 240V IP55 secondo IEC 34-1-5-6-7 e IEC 72	Electric motor 1 ph 2850 RPM 1,5 Hp 240 V IP55 - IEC 34-1-5-6-7 and IEC 72	Moteur asynchrone 1 ph 2850 RPM 1,5 Hp 240 V IP55 - IEC 34-1-5-6-7 et IEC 72	E-Motor 1 ph 2850 RPM 1,5 Hp 240 V IP55 - IEC 34-1-5-6-7 and IEC 72	M1,5/240/50
QS	interuttore di manovra bipolare	double poles switch with ON-OFF switch	Interrupteur sectionneur	Hauptschalter	VCC-F01
FU1	Fusibile aM 16 A 10x38 (IEC 269-1-2)	Fuse aM 16 A 10x38 (IEC 269-1-2)	Fusible aM 16 A 10x38 (IEC 269-1-2)	Sicherung aM 16 A 10x38 (IEC 269-1-2)	FU016
KM1 - KM2	Contattore lth=20A - bobina 24 Vac (IEC947)	Contacteur lth=20A - coil 24 Vac (IEC947)	Contacteur lth=20A - coil 24 Vac (IEC947)	Schütz lth=20A - coil 24 Vac (IEC947)	LC1K0910B7
FR1 - FR2	Relè di protezione termica 5,5 - 8A (IEC 947)	Thermic relay 5,5 - 8A (IEC 947)	Relais de protection thermique 5,5 - 8A (IEC 947)	Relais 5,5 - 8A (IEC 947)	LR2K0314
FU2 - FU3	Portafusibile modulare 5x20 (EN50022) Fusibile 0,2A (IEC 127/11)	Fuse holder 5x20 (EN50022) Fuse 0,2A (IEC 127/11)	Porte-fusibles 5x20 (EN50022) Fusible 0,2A (IEC 127/11)	Sicherungshalter 5x20 (EN50022) Sicherung 0,2A (IEC 127/11)	104090 FU50
FU4	Portafusibile modulare 5x20 (EN50022) Fusibile 1A (IEC 127/11)	Fuse holder 5x20 (EN50022) Fuse 1A (IEC 127/11)	Porte-fusibles 5x20 (EN50022) Fusible 1A (IEC 127/11)	Sicherungshalter 5x20 (EN50022) Sicherung 1A (IEC 127/11)	104090 FU1A
TC1	Trasformatore 20VA - 230-380-440/24V (EN60742)	Transformer 20VA - 230-380-440/24V (EN60742)	Transformateur 20VA - 230-380-440/24V (EN60742)	Transformator 20VA - 230-380-440/24V (EN60742)	VTN1F
SB1	Pulsante di marcia bianco Ø 22 Elemento di contatto 10A "F" (IEC947)	White start button Ø 22 Electric switch 10A "F" (IEC947)	Bouton de mise en marche Ø 22 Interrupteur 10A "F" (IEC947)	Starttaster Ø 22 Schalter 10A "F" (IEC947)	020PTAIBK 020GE10
SB3	Pulsante di arresto a fungo rosso con autoritenuta Ø 22 Elemento di contatto 10A "O" (IEC947)	Red stop button Ø 22 Electric switch 10A "O" (IEC947)	Bouton d'arrêt à accrochage Ø 22 Interrupteur 10A "O" (IEC947)	Stoptaster Ø 22 Schalter 10A "O" (IEC947)	020PTAARK 020GE01
SB2	Pulsante di arresto nero Elemento di contatto 10A "O" (IEC947)	Black stop button Ø 22 Electric switch 10A "F" (IEC947)	Bouton d'arrêt à accrochage Ø 22 Interrupteur 10A "F" (IEC947)	Stoptaster Ø 22 Schalter 10A "F" (IEC947)	020PTAINK 020GE01
HL	Luce spia 24V	Light 24V	Voyant 24V	Kontrollleuchte 24V	SL24
T1	Relè di temporizzazione multifunzione	Multifunction Timer relay	Relais de temporisateur multifonction	Multifunktions-Zeitrelais	RE17RMMU
SP	Pressostato 2 bar - 10A - 230V AC1	Pneumatic transducer 2 bar - 10A - 230V AC1	Pressostat 2 bar - 10A - 230V AC1	Elektro/pneum. wandler 2 bar - 10A - 230V AC1	PMN2A
S1	Microinteruttore - 230V 6A (IEC947-5-1)	Microswitch - 230V 6A (IEC947-5-1)	Micro interrupteur - 230V 6A (IEC947-5-1)	Mikroschalter - 230V 6A (IEC947-5-1)	FP6R2-F2-L20 + F3
YV1	Microelettrovalvola con bobina 24V 50-60Hz	Microswitch - 24V (IEC947-5-1)	Micro interrupteur 24 V (IEC947-5-1)	Mikroschalter 24V (IEC947-5-1)	305.M56
	Quadro elettrico completo	Complete electric box	Coffret électrique	Schaltkasten cpl. montiert	QE220SA1ST



**MONOFASE**  
**SINGLE PHASE**

