



**BONE SAW**

**SO 2400 INOX**

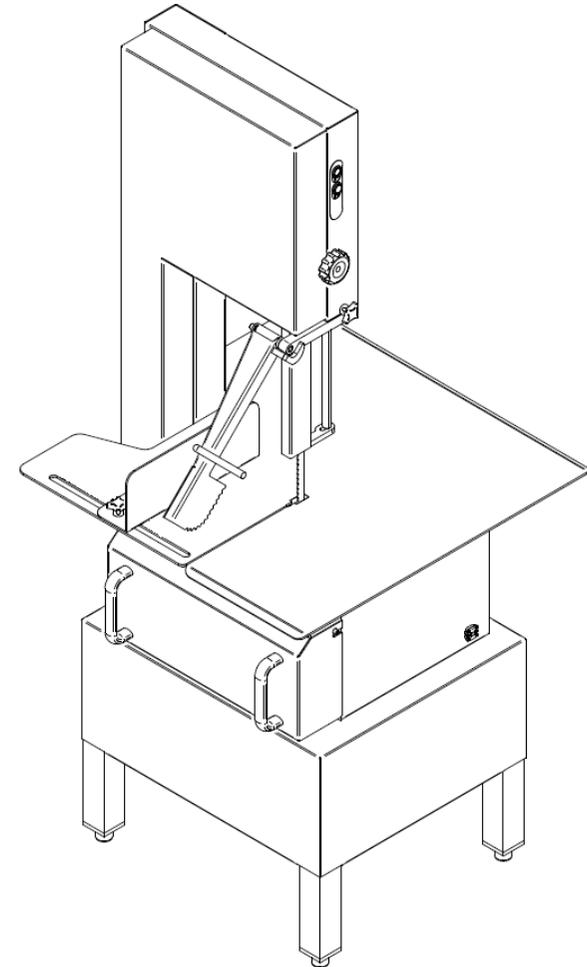


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**AUTHORISED DEALER**



SO\_2400\_INOX\_007 Ed. 12.2018

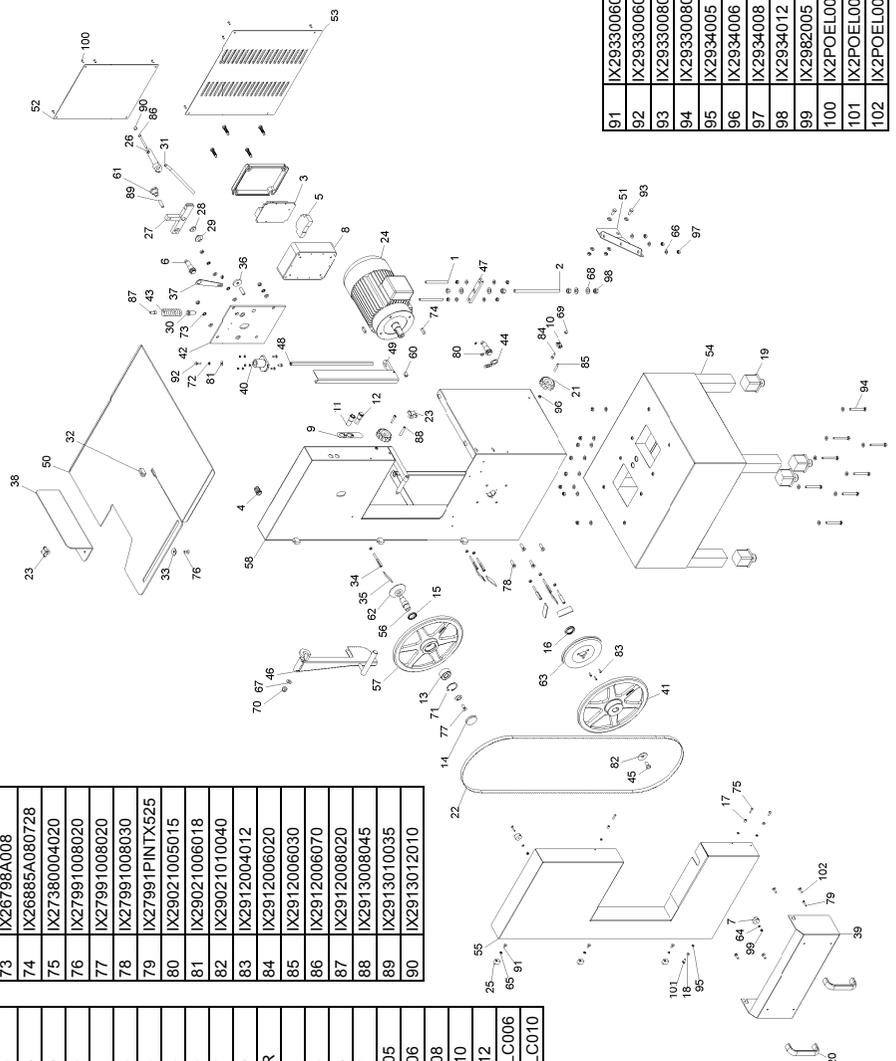
**OPERATING AND MAINTENANCE MANUAL**

# 9 Spare parts

3	1010034
4	1010063
5	1010080
6	1010090
7	1010094
8	1010704
9	1013032
10	1030522050
11	1041010
12	1041018
13	1107001
14	1207001
15	1210001
16	1210801
17	1400416004
18	1400416007
19	1410702
20	1510010
21	1510704
22	152400016
23	1537002
24	1807011
25	2001004B
26	2001005
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38	2007001
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60	2009052
61	2010078
62	2010085
63	2010517
64	IX2125005
65	IX2125006
66	IX2125008
67	IX2125010
68	IX2125012
69	IX21587LC006
70	IX21887LC010

71	IX2472042
72	IX26798A006
73	IX26798A008
74	IX26885A080728
75	IX27380004020
76	IX27991008020
77	IX27991008020
78	IX27991008030
79	IX27991PINTX525
80	IX29021005015
81	IX29021006018
82	IX29021010040
83	IX2912004012
84	IX2912006020
85	IX2912006030
86	IX2912006070
87	IX2912008020
88	IX2913008045
89	IX2913010035
90	IX2913012010



91	IX2933006012
92	IX2933006020
93	IX2933008016
94	IX2933008070
95	IX2934005
96	IX2934006
97	IX2934008
98	IX2934012
99	IX2982005
100	IX2POE1004012
101	IX2POE1005016
102	IX2POE1006015

## 7.9 - WEEE Waste of Electric and Electronic Equipment

**Directive 2002/95/EC, 2002/96/EC and 2003/108/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment, and waste electrical and electronic equipment**



This symbol, crossed out wheeled bin, on the product or on its packaging indicates that this product must not be disposed of with your other household waste.

Separate waste collection of this appliance is organised and managed by the manufacturer. It is the user's responsibility to contact the manufacturer and follow the waste treatment system the manufacturer has adopted for separate waste collection.

The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

## 7.10 - Spare parts

In case of necessity of spare parts, contact the manufacturer that will provide to send you the catalogue. Do not use original spare parts. Assemble must be carry out from specialised personnel only.

## 8 Troubles and remedies

### 8.1 - Troubles, causes and remedies

MALFUNCTIONS	CAUSES	REMEDIES
- The machine does not start	- The general power switch is in position "0".	- Switch the general power switch to position "I"
	- Pulley casing is not closed properly	- Close pulley casing correctly
	- One or all the microswitches are faulty	- Inspect for cause and if necessary replace microswitch
	- The emergency stop hit button (optional) is engaged	- Release the emergency stop hit button
- Cutting is not linear	- Electric motor or electronic circuit board are faulty	- Contact the service centre for assistance
	- The blade is too slack	- Tension blade
	- The blade is blunt .	- Replace blade
- The blade falls off the pulley	- The top pulley is misaligned	- This must be performed by specialised and authorised personnel
	- The blade is not perfectly welded	- Replace blade even if new.
	- Incorrect blade tension	- Tension blade leaving gaps between the spring coils
	- Incorrect blade setting	- Contact the service centre for assistance.
- The blade overheats	- Waste or off-cuts are trapped near the blade guide	- Remove waste or off-cuts trapped near the blade guide
	- bearing on top pulley are trapped	- Replace bearings
	- The blade is blunt	- Replace blade



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Registro Imprese di Rimini n. 00 549 540 409

## ATTESTATO DI ESAME CE DEL TIPO EC TYPE-EXAMINATION CERTIFICATE

Numero di attestato CE <i>Number of EC certificate</i>	IG-355-2011 rev. 3
Codice di identificazione interno <i>Internal identification code</i>	0407-11-11-027

Il presente documento certifica che il "Tipo" è stato valutato secondo la procedura stabilita nell'Allegato IX della Direttiva Macchine 2006/42/CE e che soddisfa i requisiti essenziali della Direttiva Europea 2006/42/CE.

*This document certifies that the "Type" has been assessed according to the procedure foreseen by Annex IX of Machinery Directive 2006/42/EC and complies with the essential requirements of European Directive 2006/42/EC.*

Organismo Notificato  
*Notified Body*



Numero: 0407  
Number: 0407

Descrizione/Description:

SEGAOSSA

Modelli/Models:

SO 1550 F3, SO 1650 F3, SO 1840 F3, SO 1650 INOX START, SO 1840 INOX START,  
SO 1650 BREMEN, SO 1650 INOX, SO 2020 INOX, SO 2400 INOX, SO 2020 INOX START, SO 3100 INOX

Norma di riferimento/Reference standard

EN 12268:2014

Richiedente/Applicant:

SIRMAN S.p.A.

Indirizzo/Address:

Viale dell'Industria, 9/11 - 35010 PIEVE DI CURTAROLO (PD) - Italia

Sulla base di questo certificato e in accordo alle procedure stabilite dalla Direttiva Europea 2006/42/CE, il richiedente deve procedere alla marcatura CE dei prodotti citati, come da Allegato III, ed alla firma della dichiarazione CE di conformità, come da Allegato II.1.A.

*On the basis of this certificate and according to the procedures established by European Directive 2006/42/EC (MD), the Applicant shall proceed with the CE marking of the above mentioned products, according to Annex III, and with the signature of the EC declaration of conformity, according to Annex II.1.A.*

Luogo e data di emissione/Place and date of issue: Bellaria-Igea Marina - Italia, 27/05/2016

Data di prima emissione/Date of first issue: 30/11/2011 Data di scadenza/Expiration date: 26/05/2011



Il Direttore Tecnico della Sezione Macchine  
The Technical Director of the Machinery Division  
(Dott. Ing. Giuseppe Persano Adorno)

*Giuseppe Persano Adorno*

L'Amministratore Delegato  
The Chief Executive Officer  
(Dott. Arch. Sara Lorenza Giordano)

*Sara Lorenza Giordano*

Firmato digitalmente da GIORDANO SARA LORENZA

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The original of this document consists of an electronic document with a digital signature issued pursuant to DPR (Presidential Decree) 513/97.

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Revis. CSM		1 / 1

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**DOCUMENTAZIONE TECNICA/TECHNICAL DOCUMENTATION**

<b>Documenti tecnici di riferimento dei modelli/Reference technical documentation of models: SO 2020 INOX, SO 2400 INOX, SO 2020 INOX START</b>
Attestato di Esame CE del Tipo di riferimento/Reference EC Type-Examination Certificate: IG-346-2011 rev. 2 del/of 16/05/2016
Fascicolo Tecnico/Technical File: "FT-SO2020-2400-2016" rev. 1 del/of 16/05/2016 "FT-SIRMAN-2016" rev. 0 del/of 23/02/2016

Modelli/Models	SO 2020 INOX		SO 2400 INOX		SO 2020 INOX START	
Descrizione	Sega a nastro con piano di lavoro e guida di protezione					
	piano di lavoro fisso	piano di lavoro scorrevole	piano di lavoro fisso	piano di lavoro scorrevole	piano di lavoro fisso	piano di lavoro scorrevole
	con o senza cavalletto				- cassetto e sportello non estraibili - con o senza cavalletto	
Tipo secondo EN 12268:2014	B	C	B	C	B	C
Lunghezza nastro [mm]	2020		2400		2020	
Motore	1,5 HP - 1400 giri		2,5 HP - 900 giri		1,5 HP - 1400 giri	
Diametro puleggia [mm]	250		300		250	
Superficie di lavoro [mm]	480 x 600		510 x 710		480 x 600	
Posizione comandi	in alto		in alto		in alto	

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This document refers only to the above mentioned Directive. The products can bear CE marking only if all applicable European Directives which require it are complied with. The validity of this certificate is subject to the fulfillment of Istituto Giordano S.p.A. "REG-MAC" regulation, the general conditions of contract for certification of Istituto Giordano S.p.A. and the relevant requirements of Directive 2006/42/EC.

**7.7 - Cleaning**

**7.7.1 - General guidelines**

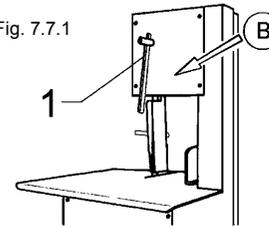
- The machine must be cleaned at least once a day and if necessary more frequently.
- Always accurately and thoroughly clean all the parts of the bone saw which come into direct or indirect contact with the food product.
- Never clean the machine with powered water cleaners or water jets, only use neutral detergents (pH 7). **It is strictly forbidden to use any other types of detergent.** Do not use cleaning utensils, brushes or any other the tool which could damage the surface of the machine. Before cleaning the machine unplug the plug from the power socket isolating the machine from the power supply;

**CAUTION: When cleaning pay attention to cutting hazards created by sharp and pointed surfaces or parts.**

**7.7.2 - When cleaning the machine**

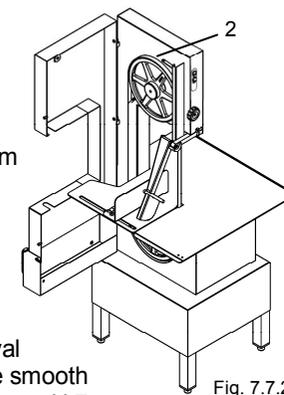
- Always wear suitable safety gloves for handling sharp objects

Fig. 7.7.1

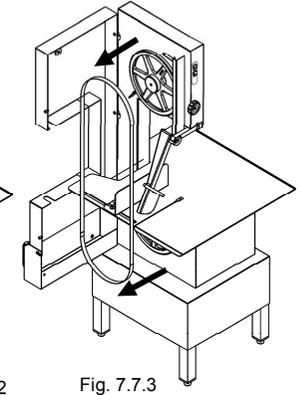


- Slacken tension in the blade by turning knob "1" anticlockwise completely and remove knob.

- Grip blade "2" and remove from pulley as illustrated in fig. 7.7.2 and 7.7.3

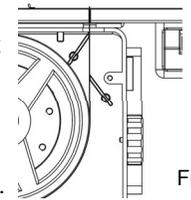


- Remove all scrapers "9" and wash utilising a pH 7 neutral detergent.



- Having removed all the removal parts it is possible to clean the smooth surface of the machine utilising a pH 7 neutral detergent

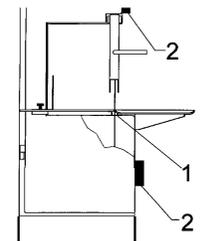
- Rinse all components to eliminate any residual detergent and replace all parts removed. To replace proceed by inverting this procedure.

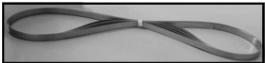
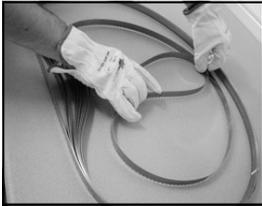


**7.8. - Cleaning the blade-guide plug (Fig. 7.8.1)**

At the end of the work shift, clean the blade-guide plug "1".

- With the machine off, turn the differential circuit breaker to "0" and slip off the power plug.
- With the machine disconnected from the power grid, open the housing and thoroughly clean the blade guide "1", getting rid of any bone chip or food residue.
- Close back the housing and lock it in place with its closures "2".



5	Using both hands grip the blades and open the pack until the blades are stretched out.		
6	With one hand grip the blades ....		
7	With the other hand remove the second tie fixture...		
8	With both hands grip the blades and carefully open the pack on top of the work surface.		
9	Now the blades are completely open grip one of the blades from the centre bend and slide it along the table as illustrated in the photo, now grip both ends and move it towards the centre. At this point lift the blade.		
10	Once you have lifted the blade off the table using both hands stretch open. The blade is now ready to be mounted on the machine. .		The other spare blades must be tied and protected. To do this invert the procedure from point 8. It is recommended not to remove safety gloves before having completed all blade handling operations.

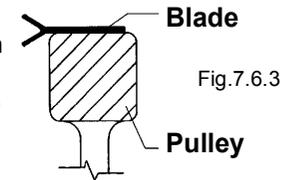
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**7.6.3 - Types of blades**

There are several blades on the market of different tooth pitches, blade thickness, height and steel quality. We recommend for our bone saw tempered steel blades with a 16 mm height and 6 mm tooth pitch. For different kinds of food products such as chicken or frozen meats, specific blades with different tooth pitches exist on the market offering perfect cutting without waste or altering the product.

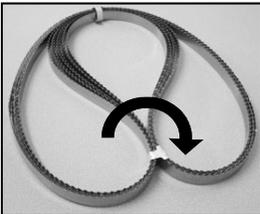
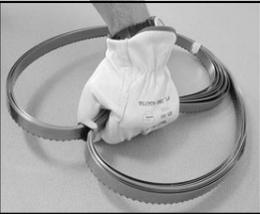


Blade length	mm	2400
Blade width	mm	16
Material	AISI 420	

**7.6.4 - Handling the blade**

**HOW TO HANDLE A BLADE WITHOUT CUTTING YOURSELF**

Proceed following each step in order.

1	Wear a pair of gloves adequate and suitable for handling sharp objects		
2	Remove the pack of blades from the box and position on top of a work surface. Make sure the teeth are facing downwards.		
3	Grip the blades with one hand, always wearing suitable and adequate gloves as illustrated in the photo.....		
4	.. With the other hand, always wearing suitable and adequate gloves, loosen and remove the tie fixture.		

**7.6 - How to perform the required checks**

**7.6.1 - Blade tensioning setting (Fig. 7.6.1)**

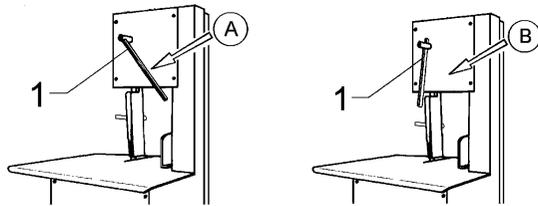


Fig. 7.6.1

Blade tensioning could be settled mechanically moving knob "1". Rotate the knob in position "A" (Fig. 7.6.1) blade is tensioning. To unblock the blade rotate the knob in the position "B".

**ATTENTION!** This operation is very delicate and dangerous, it must be done exclusively by qualified staff, expressly authorized.

**7.6.2 - Replacing the blade (Fig. 7.6.2)**

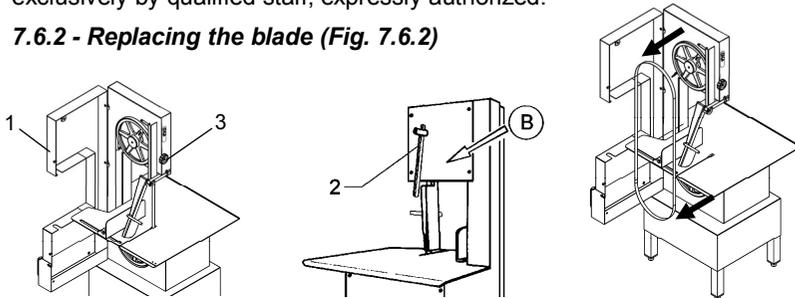


Fig. 7.6.2

- Set the differential switch fitted upstream to "0" and disconnect the mains plug.
- Open the casing "1" rotating knobs "3".
- Release knob "2" as indicated in fig. 7.6.2 arrow "B".
- Take the blade away from the pulleys.
- Before assembling the new blade, clean carefully the pulleys and the blade-guide.
- Assemble the new blade.
- Stretch the blade rotating the knob in position "A" (Fig. 7.6.1).
- Check the positioning of the blade on the pulleys:  
the blade must lean on the pulleys, except for the sharp part that must jut out of the pulley. See picture 7.6.3.
- Rotate by hands the pulleys and check the right positioning of the blade.
- Close casing "1" and lock it by knobs "3".
- Connect the electric plug to its outlet.
- Put the differential switch in "1" position.
- Start and stop the machine to verify that the blade remains in the right position as regards the pulley.

**1 Delivery and guarantee**

**1.1 - Foreword**

This symbol draws the reader's attention to points and operations that can endanger the personal safety of operators or risk damaging the machine. Do not use the machine unless you are certain that you have correctly understood these warnings. For greater clarity, certain illustrations in this manual show the machine or parts of it with panels or casing removed.

Do not use the machine in these conditions; all protections must be correctly fitted and in perfect working order. This manual may not be reproduced, even partially, and its contents cannot be used for purposes other than those permitted by the manufacturer. All breaches of the above are legally punishable.

**1.2 - Keeping and using the manual**

The aim of this manual is to instruct the user, via text and figures, with regard to transport, handling, use and maintenance of the machine; the manual must therefore be carefully read before using the machine. Keep it safely near the machine in an easily and quickly accessible place for future reference. If the manual is mislaid or damaged, ask your dealer or manufacturer for a copy. If the machine is sold, inform the manufacturer of the name and address of the new owner. The manual reflects the state of technology at the time the machine is sold and cannot be considered inadequate if it is subsequently updated on the basis of new knowledge.

In this regard the manufacturer reserves the right to update its products and related manuals without being obliged to update previous products and manuals barring exceptional cases.

If in doubt, consult the nearest servicing centre or the manufacturer.

The manufacturer's aim is continuous product optimisation and it is therefore pleased to receive any comments or proposals for improvement of the machine and/or manual.

The machine is delivered to the user under the guarantee conditions in force at the time of purchase. Contact your supplier for any clarifications required.

**1.3 - Guarantee**

The user is not authorized to tamper with the machine for any reason.

If a fault occurs, contact the manufacturer.

Any attempts at dismantling or in general tampering with any component of the machine by the user or non-authorized personnel will render the guarantee null and void and exempt the manufacturer from all responsibility for any damage either to people or things deriving from the above.

The manufacturer is also exempt from all responsibility in the following cases:

- incorrect installation;
- improper use of the machine by inadequately trained personnel;
- failure to comply with the regulations in force in the country in which the machine is used;

- lack of or insufficient maintenance;
- use of non-original spare parts and spare parts not specifically designed for the model;
- total or partial failure to follow the instructions.

#### 1.4 - Machine description

The saw you have purchased is a safe reliable machine and easy to use. Pulleys are made of aluminium.

Machine body and accessories are made of stainless steel AISI 304. It is provided with mechanical guards (casings, doors, etc...) and electrical safety devices (micro switch, emergency stop button etc.) in order to reduce operator risks to a minimum. The pulley angle can be adjusted both horizontally and vertically in order to ensure maximum blade contact.

The motor is self-cooling, water-protected, self-braking and operates intermittently. The push-button panel is located in an easily accessible position with the controls powered at 24 volts.

The machine has been designed to facilitate cleaning operations, in particular due to the following technical features:

- easy removal of the blade without using tools;
- all the electrical parts are protected to **IP 56** (minimum).

#### 1.5 - Use

The saw has been designed and produced to cut bones, meat and fish.

It must only be used on a work table or on the stand supplied by manufacturer.

As it is designed for food, the material used for the blade and all other components that can come into contact with the product being cut have been carefully selected.

The machine is designed for professional use and should therefore be used by a skilled operator who must carefully read this manual before using the machine.

This machine has been manufactured in compliance with the **EEC directive 2006/42**. The saw is also suitable for cutting frozen fish and does not require any particular environmental conditions. You are nevertheless advised to keep it in a closed environment, protected from bad weather and sudden changes in temperature.

#### 1.6 - Uses not permitted

The saw must be used for the purposes expressly intended by the manufacturer only. In particular:

- **Do not** use the machine unless it has been correctly installed with all the guards in perfect condition and correctly fitted to avoid the risk of severe injury.
- **Do not** use the machine if the blade is not in perfect condition and correctly sharpened as the blade can break.
- **Do not** stand on machine, even if not working. Apart from the danger of falling, the machine may also be damaged
- **Do not** access the electrical components without previously disconnecting the machine: **risk of electrocution.**
- **Do not** use the machine for cutting items other than meat, bones, fish and similar.
- **Do not** stop the blade with your hands; wait until it stops to avoid the risk of serious injury.
- **Do not** wear rings, watches, jewellery, loose or hanging garments such as scarves, ties, torn clothes, unbuttoned jackets or smocks with open zip which can

- Check on tensioning of the cutting blade.
- Check to ensure that the machine complies with the current regulations and the previous of this manual.

#### With the machine operating:

- Check on the efficiency of the guards and safety devices; opening door or rest tray of 8 mm at least the machine have to stop.
- Check on correct alignment of the blade drive pulleys.
- general operating check.
- Repeated cutting tests to check correct machine set-up according to the type of work required.
- Check that the blade stop within 4 sec, if not contact the maintenance.

#### 7.4 - Check to be carried out at installation

To ensure that the machine has not been damaged during transport or installation, the following checks should be carefully performed:

##### Before start-up:

- Check that the power supply voltage corresponds to the value given on the machine rating plate.
- Check that the warning and danger signs are fitted and in perfect condition.
- Check correct tensioning of the blade.

##### Check with the machine operating:

- Check the efficiency of the guards and safety devices. Transport could have damaged or altered the setting.
- Check that the cutting blade is correctly aligned.
- Perform some cutting tests with pieces the same size as those to be cut by the user.

#### 7.5 - Periodical checks

To ensure long-lasting reliability of your machine, in addition to the above, constant checks and controls must be performed as follows.

##### Before beginning each shift:

- check operation of the safety devices.
- Check the condition of the blade. If not sharpened or not in perfect condition, replace.
- Check that blade stop within 4 seconds
- Check tensioning of the blade.
- Check alignment of the blade respect to the pulleys.

#### ATTENTION!

If the blade don't stop within 4 sec. or for any other failures, contact the maintenance

##### After each shift:

- Thoroughly clean, eliminating all remains.
- Slide out, clean and refit the blade guide.

Chopping off sirloin steak tips Adjust the blade guard, leaving only the segment that you need to cut the piece exposed. Turn the machine on and push the sirloin steak against the blade, keeping your hands at a safe distance from the blade.



SIRLOIN STEAK

Cutting the front or back in two Adjust the blade guard, leaving only the segment that you need to cut the piece exposed. Turn the machine on and push the piece against the blade, keeping your hands at a safe distance from the blade.



LAMB

## 7 Maintenance

### 7.1 - Important warnings

All maintenance and cleaning operations on the saw must be carried out with the machine at a standstill and disconnected from the mains. The area where the maintenance operations are carried out must always be kept clean and dry.. Do not allow non-authorized personnel to work on the machine. Do not touch the openings without adequate protections (gloves, goggles, etc...). Do not use petrol, solvents or other inflammable liquid as detergents; use the authorized non-toxic and non-flammable solvents on sale. Do not use compressed air to clean the machine. If really necessary, use goggles with side protections and limit the pressure to a maximum of 2 atm. (1,9 bar). Do not use naked flames as a means of lighting when carrying out checking and maintenance operations. Do not lubricated the machine when operating.

### 7.2 - Foreword

Good maintenance and correct use are fundamental to ensure good saw performance and safety. To guarantee regular and constant operation of the machine and to avoid lapse of the guarantee, only original spare parts must be used when replacing components.

### 7.3 - Checks carried out at our factory

Your machine has undergone extensive testing by the manufacturer in order to ensure correct start-up and settings. In particular, the manufacturer has carried out the following checks:

#### Before starting up:

- Check on the machine operating voltage: it must correspond to the purchaser requirements.
- Check to ensure that all the warning and danger signs and rating plate with technical specifications and serial number are fitted.
- Check on tightening of all the bolts.

- get tangled in the moving parts. Use approved safety clothing: non-slip shoes, safety goggles, work gloves, ear defenders and safety mask. Consult your employer re. current safety regulations and safety devices required.
- Do not start the machine if it is not working correctly. Before using the machine, ensure that any dangerous condition has been appropriately eliminated. If a fault occurs, stop the machine and notify the maintenance personnel.
- Do not allow non - authorised personnel to carry out work on the machine. In the event of an electrical accident, firstly remove the victim from the conductor (as he will usually be unconscious). This operation is dangerous as the victim is a conductor in this case and touching him can cause electrocution. You should therefore disconnect the contact directly from the line power supply valve or, if this is not possible, distance the victim using insulating material (wooden or PVC sticks, fabric, leather etc.). A doctor should be promptly called and the patient taken to hospital.
- Do not make any intervention without authorisation.
- Follow the procedures given for maintenance and technical assistance

### 1.7 - Identification

specification of the "Model", "Serial number" and "Year of manufacture" will enable our servicing department to provide a rapid efficient response. Whenever you contact the servicing department or request spare parts, always quote the above information. As a memorandum, you are advised to fill in the box shown in fig. 1.7.1 with specifications of your machine.

**!! ATTENTION !!** Do not, for any reason, alter the data given on the rating plate.

Bone saw model.....
Serial number.....
Year of manufacture.....
Type .....

A = machine model	MOD: <u>  A  </u>	WATT: <u>  C  </u>
B = power supply	VOLT: <u>  B  </u>	KG: <u>  E  </u>
C = motor power	HZ: <u>  D  </u>	ANNO: <u>  G  </u>
D = motor frequency (Hz)	AMPS: <u>  F  </u>	SERIAL NO: <u>  H  </u>
E = weight	<u>      </u> <u>  I  </u>	
F = Ampere		<u>  L  </u>
G = Year of manufacture	Pic. 1.7.1	
H = Serial number		
I = Manufacturer		
L = Bar code		

**1.8 - Safety devices**

Before using the machine, ensure that the safety devices are correctly positioned and in perfect condition.

At the beginning of each working shift, check that they are fitted and working efficiently; if not, notify the head of maintenance.

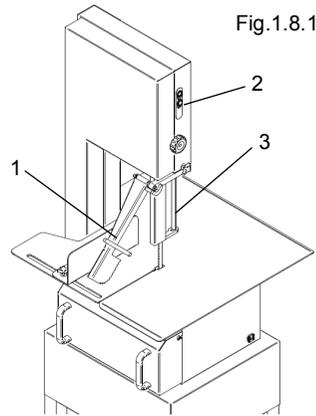
1 Blade working area mobile guard.

If nothing is being cut, it prevents contact with the cutting blade. (Fig. 1.8.1)

2 Casing closed control micro switch.

If the casing opens, the micro switch cuts off the electrical power supply to the machine, stopping it. When the casing is closed, the machine will not restart unless the start button has been pressed. Also in the event of accidental stoppage of the machine, for example due to a power failure, the machine will not restart when is restored unless the star button is pressed. (Fig. 1.8.1).

3 Sliding blade protection, it allows the adjustment of cutting height according to the product thickness

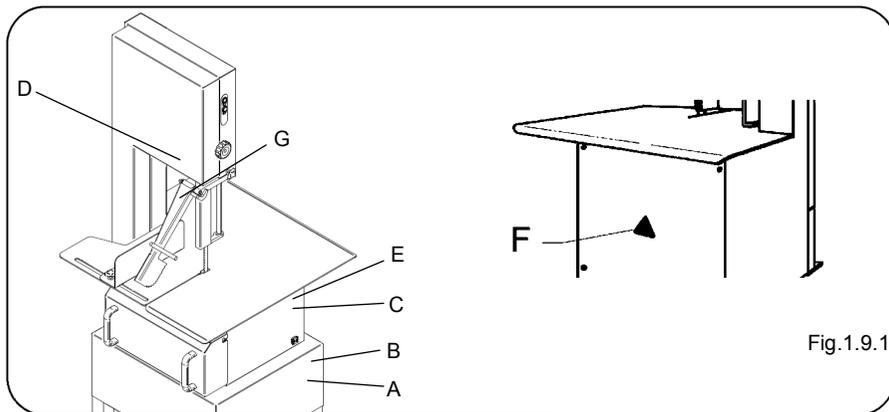


**1.9 - Warning and danger signs**

Do not hold your hands near the blade in particular when moving.

**Risk of serious injury.** Do not carry out work on electrical components with the machine connected. Risk of electrocution. **Observe the precautions given in the signs. Failure to observe them can cause serious injury and even death.**

Ensure that the signs are always fitted and readable. If not, fit or replace them.



**TYPE OF FOOD SAWING**

**SAFETY INSTRUCTIONS**

**CUT PRODUCT**

Cutting the ossobuco in slices

Adjust the blade guard, leaving only the segment that you need to cut the veal shank exposed. Turn the machine on and saw the knee, keeping your hands far from the blade. Proceed then to cut the "big leg" into slices, using the thickness regulator and the bone pusher or the bone pusher alone, being careful to keep the blade at safe distance from the hand you are holding the piece with. When this is not possible, scrap the last piece.



OSSOBUCO (SLICEDVEAL SHANK)

Central division of chops and slicing them into smaller pieces

Adjust the blade guard, leaving only the segment that you need to cut the veal shank exposed. Turn the machine on and push the piece against the blade, keeping your hands away from the tool. Take up the cut pieces and overlap them, then resume cutting the overlapped pieces, being careful to keep your hands at a safe distance from the blade.



ROSTICCIANA (PORK RIB CHOPS)

Cutting hoofs into pieces

To cut this piece, you must use the bone pusher device. Turn on the machine and first clean the ends, then proceed to cut the hoofs, holding the piece with the free hand that you are not using to hold the pusher. When this is not possible, scrap the last piece. Always keep your hand at a safe distance from the blade.



HOOFS

Cutting the boiled in large pieces

Adjust the blade guard, leaving only the segment that you need to cut the piece exposed. Turn the machine on and push the boiled meat against the blade, keeping your hands at a safe distance from the blade.



BOILED MEAT WITH BONE

Cutting the thigh-bone into pieces

To cut this piece, you must use the bone pusher device. Turn the machine on and first cut the heads of the thigh-bone and then the bone down its length. Cut the piece holding it still with the free hand, while the other hand is busy holding the bone pusher. When this is not possible, scrap the piece. Always keep your hands at a safe distance from the blade.



STEER BONE (THIGH)

## 6 Using the saw

### 6.1 - Important warnings

#### ATTENTION!

Only authorized personnel may use the machine. Before beginning work, the operator must ensure that all the guards are in place and that the safety devices are fitted and in efficient working order. If not, switch the machine off and contact the head of maintenance. Perform several empty cutting operations with the assistance of specialist personnel in order to acquire the sensitivity necessary for working in complete safety.

### 6.2 - Preliminary settings (Fig. 6.2.1)

The portioning device "1" must be regulated according to the size of the piece to be cut.

- To regulated the portioning device "1" loosen the knob "2" and set the portioning device to the required distance from the cutting width. Tighten the knob "2".
- adjust the sliding blade protection (3) according to the height of the piece to be cut, so as to leave uncovered only the part of the blade involved in the cutting.

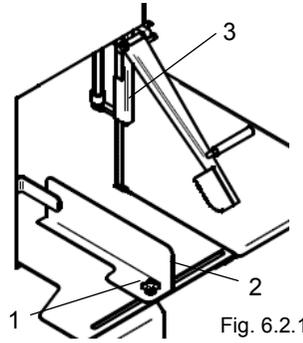


Fig. 6.2.1

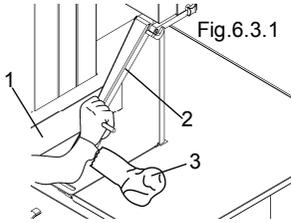


Fig.6.3.1

### 6.3 - Using the saw (Fig. 6.3.1)

Having performed the settings described in par. 6.2, the machine is ready for use.

- Rest the piece to be cut "3" on the work top against the portioning device "1".
- Start the machine.
- Move the piece up to the blade, remove your hands from the area and grip lever "2" of the pusher.

**IT IS STRICTLY FORBIDDEN FOR SAFETY REASONS TO CUT FOOD PRODUCTS SMALLER THAN 50 mm**

### 6.4 - Use of the sliding table for cutting meat (optional)

On request the manufacturer can also supply an extra part called "Sliding table" 2 in stainless steel AISI 304 on the working table, ideal for cutting meat.

By putting the piece of meat on the sliding table and pushing it toward the blade by the the board 1: the adherence of the meat to the working table will reduce very significantly. This helps the meat cutting operations and ensures the safety of the operator. In case you don't need to use it, you have only to tip-up it under the working table

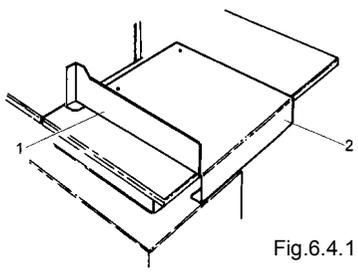


Fig.6.4.1

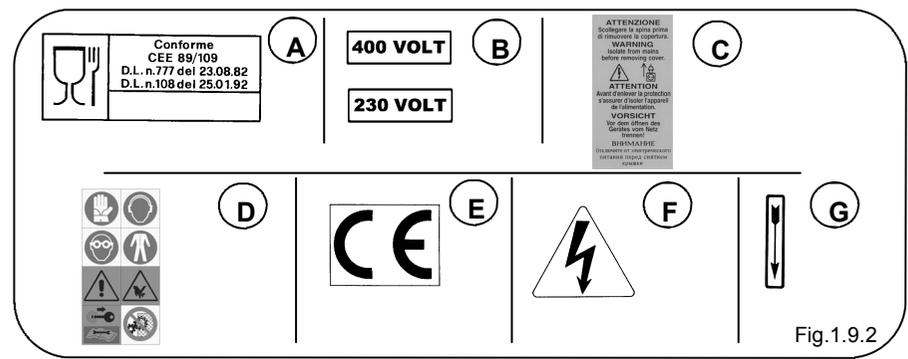


Fig.1.9.2

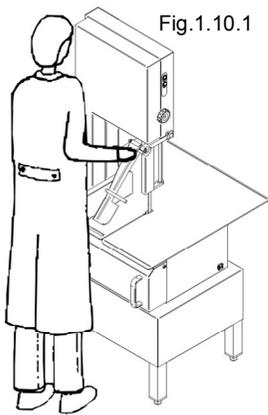


Fig.1.10.1

### 1.10 - Working position

The correct operator working position is shown in fig. Fig. 1.10.1.

### 1.11 - Working condition

The machine is created to work with the following conditions:

- minimum room temperature: -5 °C;
- maximum room temperature: +40 °C;
- relative humidity: 50% a 40 °C.

### 1.12 - Lighting

Suitable lighting must be provided around the machine to ensure correct operator visibility. Lighting must be disposed in accordance with the low in force in the destination county and should not create reflections. Lighting must allow a good reading of control pannel and safety button.

### 1.13 - Vibration

The vibrations that machine transmit to band are not significant.

## 2 Technical specification

### 2.1 - Main parts

To facilitate understanding of the manual, the main machine components are listed below and shown in fig. 2.1.1

- 1 - Pulleys protection casing in stainless steel AISI 304
- 2 - Control panel.
- 3 - Portioning device in stainless steel AISI 304
- 4 - Pusher in stainless steel AISI 304
- 5 - Work top in stainless steel AISI 304
- 6 - Electrical motor.
- 7 - Upper driven pulley in polished aluminium G-ALMg3
- 8 - Telescopic blade protection are made of stainless steel AISI 304
- 9 - Dirt and rest collection tray are made of stainless steel AISI 304
- 10 - Lower drive pulley polished aluminium G-ALMg3
- 11 - Electrical system.
- 12 - Body machine are made of stainless steel AISI 304
- 13 - Lever for the assembly blade.
- 14 - Alimentary plastic blade scraper
- 15 - Blade guide insert in hardened steel
- 16 - Band cutting blade in carbon steel C95

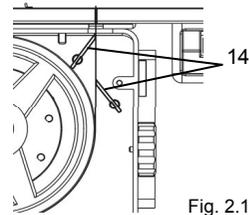


Fig. 2.1.2

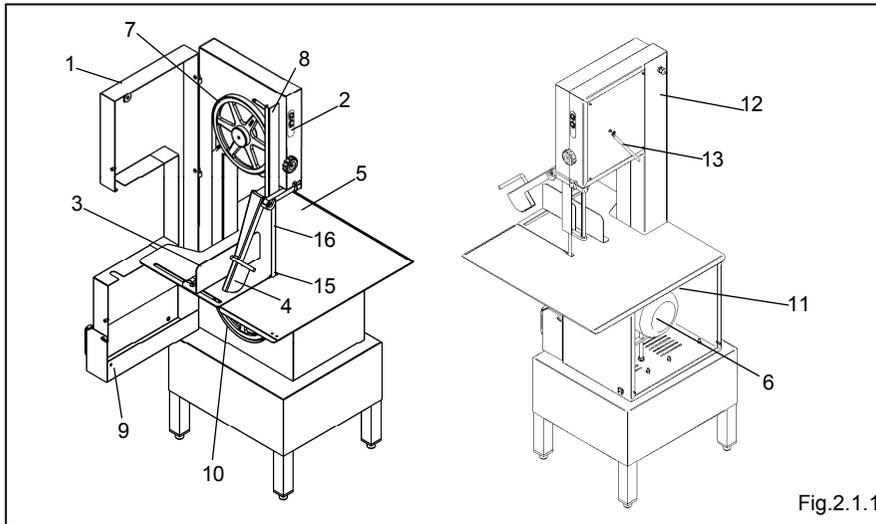


Fig.2.1.1

### 2.2 - Technical specifications

Power	Speed	Pulleys diameter	Blade length	Working surface
kW	R.p.m./min	mm	mm	mm
2,5 - 1,875	900	300	2400	575 x 705

### A - Checking the efficiency of the micro switch “4” (Fig. 5.2.1)

With the machine connected to the mains and blade working, open the snap lock “2” thus releasing the casing “1”. Slightly open the casing until the micro switch “4” cuts in. This operation should stop the machine to prevent object or hands coming into contact with pulleys and moving blades. Reclose the casing “1” and lock it with the snap locks “2”. The machine should not restart when the casing is closed - the start button must be pressed to enable restarting. In the case of faulty operation, switch the machine off and call the servicing department [MTTFd of the machine 75 years cat.1]

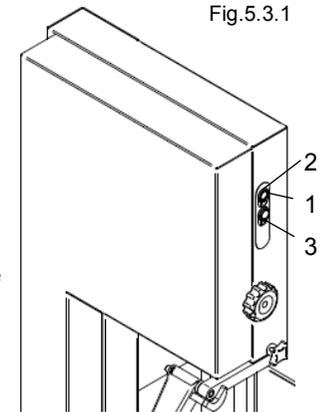
### B - Blade mobile guard in the work area (pusher) “3” (Fig. 5.2.1)

Check that the pusher “3”, which prevents operator contact with the blade, is fitted, in perfect condition and correctly positioned.

### 5.3 - Starting the saw (Fig. 5.3.1)

Move the machine power supply differential switch from position “0” to position “I”. The illuminated indicator “2”, indicating that the machine is powered, must be illuminated. Press the start push-button “1”, thus activating rotation of the blade.

Fig.5.3.1

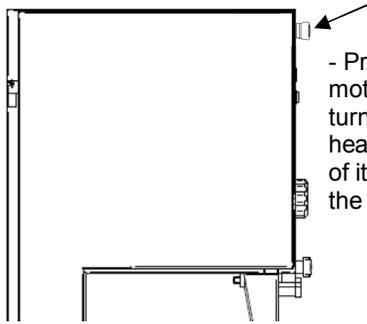


### 5.4 - Stopping the saw (Fig. 5.3.1)

To stop quickly, for example in emergencies, press the emergency stop button “1”. The illuminated indicator “2” remains on and indicates that the electrical panel is still powered. Set the differential switch fitted upstream to “0”, thus disconnecting the machine.

**Note:** Whenever a work shift is finished and the machine is left to rest, the differential switch must be set to “0”.

**4.2 - Emergency mushroom push-button (optional)**



- Press this button to stop the motor that controls motion of the cutting blade. To restart the machine, turn the button head counter-clockwise until you hear a clicking sound. Engaging the button does not of itself allow the operator to restart the machine; the start button must be pressed (ref. 1 fig. 4.1.1).

**5 Starting and stopping**

**5.1 - Checking the correct electrical connection**

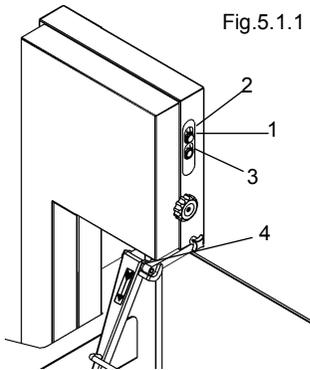


Fig.5.1.1 Set the differential switch fitted upstream to position "I". The illuminated indicator "2" indicating that the machine is powered must be illuminated. Press the start button "1" and, immediately afterwards, the stop button "3", checking the blade rotation direction. The blade must rotate in the direction indicated by the arrow "4" fig. 5.1.1, i.e. towards the work top. If the rotation direction is incorrect, disconnect the differential switch, setting it to "0". In this way the electrical power supply is disconnected. Invert one current wire in the plug and repeat the procedure for checking the correct electrical connection (see 5.1)

**Note:** In the machines connected to a single-phase line and designed for single-phase power supply, the correct rotation direction is defined directly by the manufacturer.

**5.2 - Checking the presence and efficiency of the guards and safety devices**

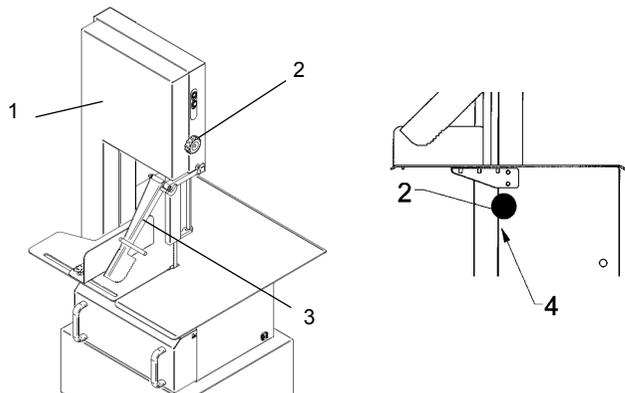


Fig.5.2.1

**2.3 - Maximum dimensions of the product to be cut (Fig. 2.3.1)**

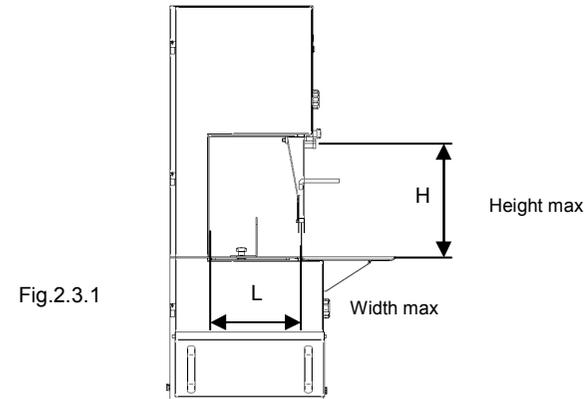
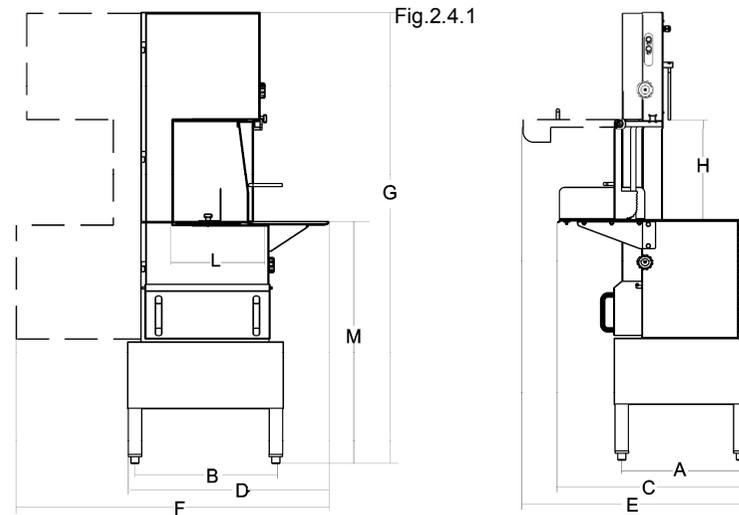


Fig.2.3.1

**2.4 - Machine dimensions and weight**



	A	B	C	D	E	F	G	H	L	M	Net weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
<b>SO 2400 IX</b>	444	524	712	749	841	1164	1670	350	288	900	125

**2.5 - Wiring diagrams**

**2.5.1 - Three-phases wiring diagram at 400V (Fig. 2.6.1)**

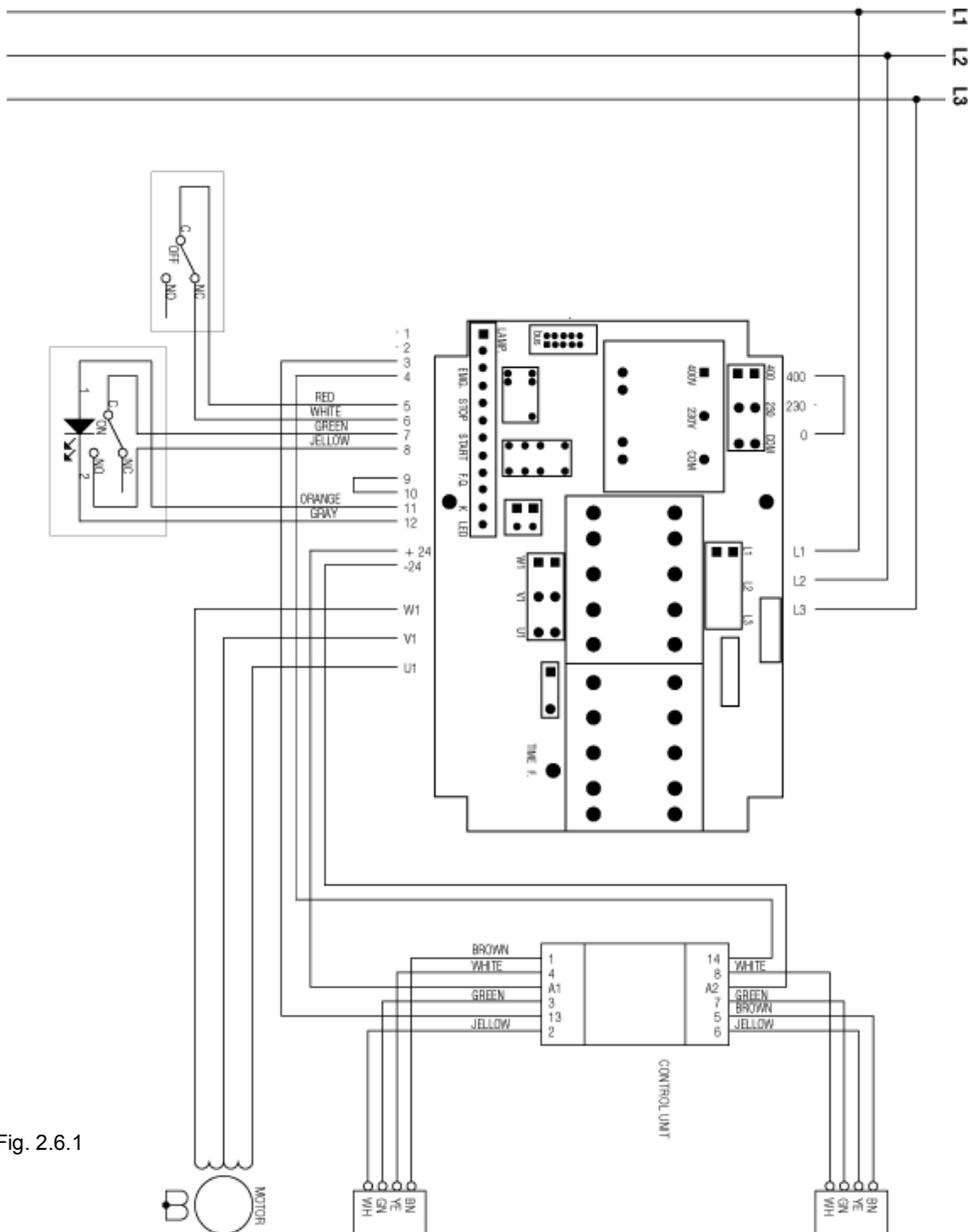
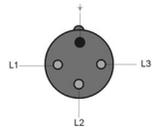


Fig. 2.6.1

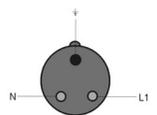
**3.4.1 - 400 volt 50/60 Hz three-phase machine and 230 volt 50/60 Hz three-phase machine**

In these versions, the saw is provided with a power supply cable with section of 4x1 mm. Connect the cable to the three-phase power mains, fitting a 16 A magneto thermal differential switch in between.



**3.4.2 - 230 volt 50/60 Hz single-phase machine**

In this version, the saw is provided with a power supply cable with section of 3x1.5 mm. Connect the cable to the 220V-50/60 Hz single-phase power mains, fitting a 16 Ampere magneto thermal differential switch in between. For versions with voltages different from the above, consult the manufacturer. If you need to lengthen the power supply cable, use a cable with the same section as the one fitted. To check the correct electrical connection see 5.1.



N: solitamente o è di colore BLU oppure è indicato con il N° 4

**3.5 - Adjusting machine stability**

The machine footpegs can be adjusted in order to stabilize the machine, by either tightening or loosening them.

**4 Control panel and indicators**

**4.1 - Comands and indicators list**

**1 - Start button**

- Push to start the cutting blade.

**2 - Light indicator connection to the mains**

- Indicates connection with network.  
Is always lighted when the machine is connected to mains

**3 - Stop button**

- Push to stop motor

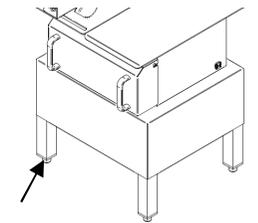
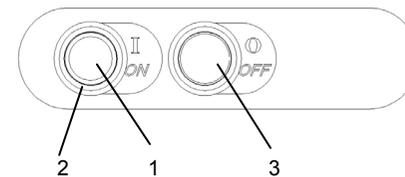
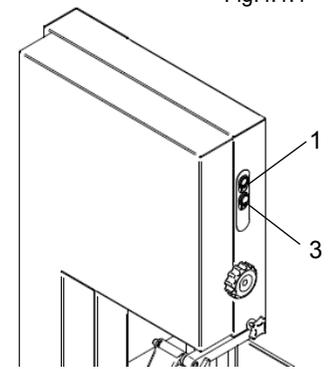


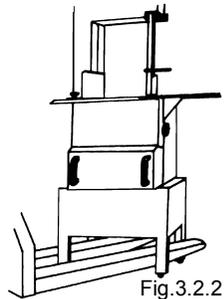
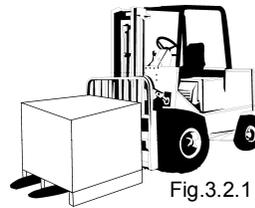
Fig.4.1.1



Plenty of space must be left around the machine - see Fig. 2.4.1. This permit greater manoeuvrability in the work phases and provides access for subsequent maintenance operation. Suitable lighting must be provided around the machine to ensure correct operator visibility.

**Move the packing with a forklift truck or similar as the machine is packed on a pallet and protected in a cardboard (Fig. 3.2.1).**

- Remove the two bands that fix cardboard to pallet.
  - Unscrew the saw form pallet.
  - Remove cellophane machine wrapping and all other packing inside.
  - Use a fork-lift or similar machine suitable for moving the bone saw.
- Never move it manually.**



**3.3.1 - Disposal of the packing**

The packing components - cardboard, nylon, wood - can be considered solid urban refuse and can therefore be disposed of normally. If the machine is delivered to countries with special regulations, the packing must be disposed of in accordance with the laws in force.

**3.3.2 - Handling the machine**

Lift the machine with a forklift truck of suitable capacity. Check the stability and positioning of the load on the forks, in particular on rough, slippery or sloping surfaces. When the machine is being moved, keep the load as low as possible in order to ensure greater stability and visibility. Widen the forks to obtain maximum stability.

**3.4 - Connection to the electrical system**

- Connect a 16 Amp plug, provided by manufacturer, to the electrical supply cable. Check that the electrical power supply line corresponds to the value on the machine identification plate. All work must be carried out by specialist personnel only, specifically authorised by the person in charge. Connect up to a mains with efficient earth socket.

**2.5.2 - Single-phase wiring diagram at 230V (Fig. 2.6.2)**

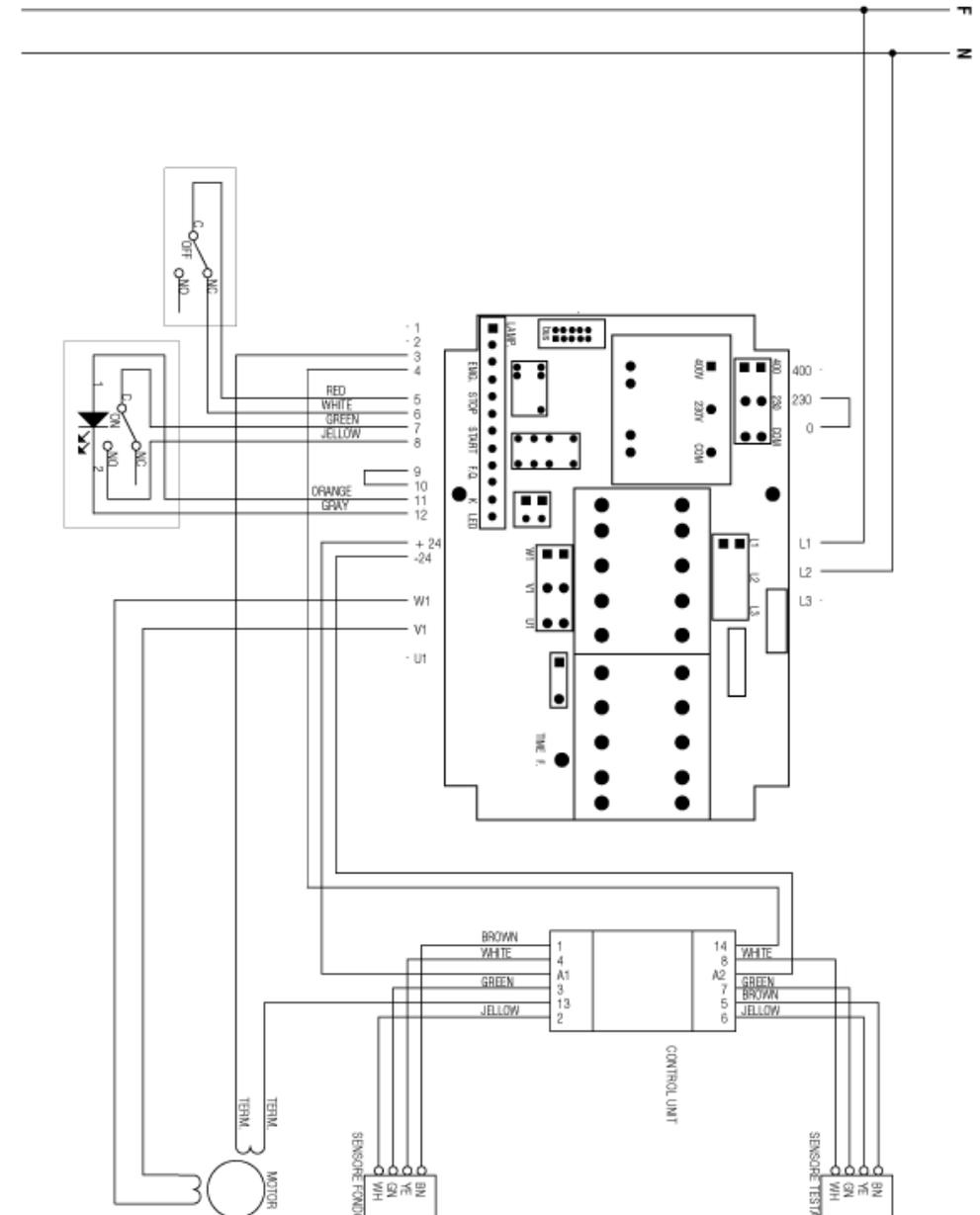


Fig.2.6.2

