

GB *Operating, maintenance, spare parts manual*

COMBINED BENDING- CUTTING MACHINE

PTC 32/30



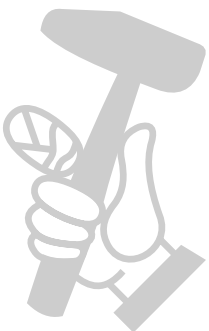
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	TABLE OF CONTENTS	Page
1	INTRODUCTION	24
2	MARKING	25
2	ABBREVIATION LIST	25
3	GENERAL PRECAUTIONS	26
4	CHARACTERISTICS	27
4.1	Description of the machine	27
4.1.1	Direction as to how to use	27
4.1.2	Safety devices	27
4.2	Technical characteristics and dimensions	27
4.3	Safety prescriptions	28
4.4	Noise	28
4.5	Conformity with safety regulations	29
5	INSTALLATION/NEW BUILDING YARD	29
5.1	Transport	29
5.2	Placing and earthing	29
5.3	Areas of respect and dimensions	30
5.4	Pre-operation checklist	30
5.5	Safety first	31
5.6	Putting into operation	31
5.7	Electric installation	31
5.8	Diagrams	32
5.8.1	Oil-pressure diagram	32
5.8.2	Wiring diagram	32
5.9	Training	32
6	ADJUSTMENTS	32
6.1	Adjusting the machine	32

	TABLE OF CONTENTS	Page
7	OPERATION	33
7.1	Control instruments	33
7.2	Machine operation and controls	33
7.2.1	Turntable speed	33
7.2.2	Positioning of working benches	33
7.2.3	Push-button controls	33
7.2.4	Foot-switch	33
7.2.5	Device for pre-setting of bending angle	33
7.3	Operation of the machine	34
7.3.1	Bending of stirrups and polygonal spirals	34
7.3.2	Bending of round spirals	35
7.3.3	Direction of rotation	36
7.3.4	During operation	36
7.3.5	Warning signs	36
8	MAINTENANCE	37
8.1	Recommended lubricants	37
8.2	Ordinary maintenance	37
8.3	Extraordinary maintenance	38
8.4	Bolt torque	38
8.5	Troubleshooting	38
8.6	Ordering spare parts	39
9	DISMANTLING	39
9.1	Disassembling and dismantling	39
9.2	Demolition	37
10	DECLARATION OF CONFORMITY	41
11	WARRANTY REGISTRATION FORM	43
12	SPARE PARTS MANUAL	From 45

1. INTRODUCTION

This manual is directed at the user and operator who will be responsible for the safe, efficient and trouble free operation of the machine. Read and understand this manual and always follow the safety precautions outlined in the Instruction and Safety Manual. Keep this manual handy for frequent reference and to pass on to new operators or owners.

The machine is equipped with tested special safety devices and safety systems. SILLA cannot be held responsible for unauthorized modifications or procedures, replacements and/or all other modifications changing the use the machine has been designed and manufactured for.

The instruction manual for use and maintenance is an integral part of the machine and must be kept for future reference until final decommissioning of the machine.

This manual must be kept in a protected place. Should the manual be lost or irreparably damaged, a new copy may be requested at the local sales representative or at the Manufacturer, by specifying type, part number and year of construction of the combined bending-cutting machine.

Warranty:

The mechanical and electrical products of the machine, which are not normal service items, have a one-year warranty starting from the date of the sale. The warranty does not cover the normal service items like tools, driving belts, liquids and oils.

The defective or not properly working product will be replaced by the Technical Personnel of the Manufacturer of the machine, after the defective product has been proven to be defective. The warranty does not cover the products in case of modification, abuse, misuse, improper use, negligence or improper maintenance (routine and extraordinary maintenance) as shown by this I.M. This warranty is valid in the territory of the European Community. The consumer is the right holder according to the applicable national laws governing the sale of consumables and this warranty makes those rights unprejudiced.

2. MARKING

A label with the following machine identification data is located on the machine:

- EC mark according to EC directive 98/37, Enclosure II, Part A;
- Name and address of the manufacturer and/or legal representative in Europe;
- Machine type;
- Serial or part number;
- Year of construction;

For assistance and information or spare parts, refer to:

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In case this Instruction Manual should get lost or destroyed ask the Company SILLA for a complete copy.

LIST OF ABBREVIATIONS AND DEFINITIONS USED IN THIS MANUAL

Chap.	Chapter
Par.	Paragraph
Enc.	Enclosure
Mod.	Model
Ref.	Reference
M.D.	Machine Directive
Machine	An assembly of linked parts or components, at least one of which moves, with the appropriate actuators, control and power circuits, etc., joined together for a specific application, in particular for the processing, treatment, moving or packaging of a material. (EEC M.D. 98/37 - 98/79)
Dangerous area	Area inside and/or next to a machine where the presence of an exposed person is a risk for the safety and the health of said person. (EEC M.D. 98/37 - 98/79)
Exposed person	A person, in whole or in part, inside a dangerous area. (EEC M.D. 98/37 - 98/79)
Operator	Person or persons having the task of install, making it work, regulating it, carrying out maintenance procedures, cleaning, repairing and transporting a machine. (EEC M.D. 98/37 - 98/79)
Safety	State in which the hazard of injury to persons or damage to things is restricted to an acceptable level (EN 8402 ed 94)
Hazard	Combination of probabilities and seriousness of probable injuries to the health in a dangerous situation. (EN 292/1)
Danger	Source of probable injuries to the health (EN 292/1)
Evaluation of hazard	Global evaluation of the probability and the seriousness of probable injuries to the health in a dangerous situation in order to adopt adequate safety precautions (EN 292/1).
Fixed protection	Fixed shield, fixed in a permanent way or by means of fastenings (EN 292/1)
Harmonised standards	European standards assigned by the EC and cited by Directives.
Preventive (routine) maintenance	Maintenance action, which can be planned over the time or according to preset criteria in order to reduce the probability of faults or malfunction of a machine (CEI 56/50 ed. 97).
Corrective (extraordinary) maintenance	Maintenance procedures made necessary to restore normal working conditions of the machine due to faults and/or malfunction. (CEI 56/50 ed. 97).
	Caution: precautions and instructions to be strictly followed.

3. GENERAL PRECAUTIONS



- The operating safety of the machine is only granted for the functions listed in this instruction manual. **SILLA** cannot accept any responsibility, if the machine should be used for different uses than those listed in this manual or uses, which do not comply with the operating instructions.

- **SILLA** cannot accept any responsibility for safety, liability and performances of the machine, if the precautions and the instructions of this instruction manual, especially referred to use, on building yards, maintenance and dismantling are disregarded.
- The correct use of this combined bending-cutting machine implies good knowledge of these instructions for use and the hazards connected with its possible incorrect use.
- Consequently, the combined bending-cutting machine shall only be used by skilled and authorised personnel. The operator using the cutting machine shall be trained on its correct use, the relevant protection devices and the accessory tools.
- The operating safety of the machine is only guaranteed for the functions and the materials listed in this instruction manual.
- **SILLA** cannot accept any responsibility, if the combined bending-cutting machine is used for other purposes than those outlined in this manual and which do not comply with the operating instructions.
- The machine shall not be used in places with the presence of gas, inflammable liquids or other inflammable materials.
- **SILLA** cannot accept any responsibility for safety, liability and performances of the combined bending-cutting machine, if the precautions and the instructions of this instruction manual, especially referred to: use, ordinary and extraordinary maintenance and repair are disregarded.
- The electric installation of the user shall comply with the CEI 64.8 standards (CENELEC HD 384).
The Manufacturer cannot accept any responsibility, if the combined bending-cutting machine is not properly connected to the unipotential earthing system and if there are no protection devices installed upstream, which are coordinated to ensure automatic cut-off, according to the standards mentioned before.
- For maintenance works needing some components to be replaced, only use original spare parts or spares authorized by the Technical Dept. of Silla.
In particular, ensure the maintenance of the electric installation is carried out by specialised and authorised personnel and by using original components.
- However, for service or repair works always refer to the After-Sales Service recommended by the supplier of the machine.
- The user of the combined bending-cutting machine takes full responsibility for its good and safe operation, if the machine was not repaired or maintained by the specialized or authorised personnel.
- The combined bending-cutting machine is delivered with the protection devices already installed and fixed. Check and maintain these protection devices and the machine per the schedule recommendations.
- Do not wear any jewellery or clothing that can get caught or distract from the operation of the machine.
- Ensure good lighting (natural or artificial) of the combined bending-cutting machine and the control panel to avoid shady areas, dangerous dazzling and stroboscopic effects.
- For extraordinary maintenance and repair use only original spare parts. For all repairs, please refer to the After-Sales Service authorised by the supplier of the machine.
- All the above-mentioned operations shall be carried out in an appropriate place after switching off the machine and disconnecting the electric supply cable, in order to prevent other persons from starting the machine.
- All the operators using the machine shall be trained on its correct use, the safety devices, the behaviour and actions to perform for a correct use of the machine and operators' safety.
- The machine is delivered with the protection devices already installed; however, the operator shall check their good working before starting to use the machine. Check and maintain these protection devices and the machine per the schedule recommendations. The operator shall reflect upon the possible consequences before approaching with his hands, in particular:
 - **NEVER SWITCH ON THE MACHINE WITHOUT THE PROTECTION SHIELDS;**
 - **NEVER REMOVE AND NEVER OPEN THE PROTECTION SHIELDS WHEN THE MACHINE IS RUNNING.**
 - **NEVER SWITCH ON AND NEVER START WORKING WITH THE MACHINE IF THERE ARE BYSTANDERS.**
- The machine has a considerable mass; therefore do not use it in case of storms. Electrocutation hazard!
- Clear the area of unauthorized personnel or obstacles, before starting work.
- The operator shall wear appropriate clothing: work gloves, safety shoes, etc. Do not wear any jewellery or clothing that can get caught on the machine.
- Switch off the machine before opening or cleaning it; ensure no one can turn it on by accident;
- Use the protective equipment (work gloves, safety shoes, etc.) during use, assembly and maintenance of the machine;

- Be cautious in approaching all the moving parts.

Follow the safety instructions shown in chapter **SAFETY PRECAUTIONS**

4. CHARACTERISTICS

4.1 Description of the machine

The combined bending-cutting machine has been designed and built for bending and cutting different diameters of reinforced-concrete rods in various configurations. Different production performances of the combined bending-cutting machine can be achieved, according to several external factors and depending on the type of reinforced-concrete rod being machined.

The bending machine has an electro-welded and reinforced sheet metal structure. The following are the machine units:

- **Turntable unit:**

This unit consists of a turntable, an airtight box containing the worm reduction unit and crown gear (permanent lubrication), vertical output shaft for activating the turntable and horizontal input shaft.

A sheave is splined to this shaft, which is moved by the main electric motor.

- **Device for pre-setting of bending angle:**

This unit consists of a bending sector for pre-setting the bending angle and the relevant mechanisms.

- **Control board:**

Electric box containing the power components. On the door of the control board there are placed the machine controls.

- **Set of bending rollers, pins and stirrup bending accessories:**

Set of bending accessories of the bending machine.

- **Oil-pressure unit**

Unit for the control of the cutting machine.

- **Cutting head**

Cutting head of the cutting machine unit.

4.1.1 Direction as to how to use.

The combined bending-cutting machine is directed to the industrial or handicraft sector, for the machining of products for building yards.

4.1.2 Safety devices.

The combined bending-cutting machine is equipped with safety switches, which are installed on the protections to signal emergency whenever the grid is opened. Furthermore the bending machine is equipped with the following fixed and mobile protection devices:

- 1- Hinged cover protecting the turntable area and the work area. The opening of the cover is controlled by means of a safety limit switch, which stops the machine.
- 2- Screwed door closing the belt drive area between the motor and the reduction unit. This door is fixed by means of screws, which need a wrench to be unscrewed and removed; it is equipped with a safety switch stopping the machine in case of opening.



However, we state in advance that all the movements of the combined bending-cutting machine are carried out with high forces and must withstand considerable strengths and loads. Therefore, all the drives DO NOT STOP whatever may be interposed. Keep in mind all this and reflect upon the consequences of every single intervention you are going to carry out.

- Do not alter or bypass any active safety devices installed on the machine.

4.2 Technical characteristics and dimensions

Technical data of Combined Bending-Cutting machines:

DIMENSIONS	LENGTH	WIDTH	HEIGHT	WEIGHT (Kg)	ELECTRIC MOTOR Bending Machine	ELECTRIC MOTOR Cutting Machine
PTC 32/30	1060 mm	900 mm	840 mm	440	4 HP	3 HP

TECHNICAL CHARACTERISTICS					
Mod.	Turntable rpm	Number of pieces for double bending	45 Kg/mm ²	65 Kg/mm ²	85 Kg/mm ²
			Rod Ø in mm.		
PTC 32/30	12	1	32	26	24
		2	22	18	16
		3	18	16	14
PTC 32/30	18	1	26	22	20
		2	18	16	14
		3	16	14	12

Res. Diam.	Ø rod in mm	Square rod section in mm	Rectangular rod section in mm
45 Kg/mm ²	30	26x26	30x15
65 Kg/mm ²	24	20x20	25x15



4.3 SAFETY PRESCRIPTIONS Limits for use, space, endurance

The combined bending-cutting machine has been designed for continuous working 8 hours/day; it can also be used for 16 or 24 hours/day by suffering a proportional loss of endurance.

energy shall be used according to the parameters shown in the "Technical schedule".

The bending machine shall be installed in a closed place with ambient temperature between +5° C and + 40° C and humidity up to 90 % at 20° C.

Lack of appropriate maintenance, as recommended in section 11, will reduce both endurance and reliability of the combined bending-cutting machine.

Do not use the machine in places at risk for explosions or fires (gas/powders) (no Ex protection).

The combined bending-cutting machine performances may be different, according to several external factors and to the type of product being processed.

In view of its specificness it is not possible to use the cutting machine for purposes other than those outlined in this instruction manual. Furthermore, the manufacturer cannot foresee other ways of using the machine, according to para. 1.1.2 letter C of EEC directive 89/392.

Ensure the areas of respect of the machine, according to its range of action and the relevant work area, also in view of the dimensions of the materials to be bended.

Do not exceed machine limits. Do not modify the machine to improve its performances.

Leaving the machine unattended in public places is dangerous. Therefore, provide appropriate barriers around the work area to prevent unauthorized persons from approaching it.

Do not make attempts to repair the machine, always call authorized repair shops.

Before connecting or disconnecting any electric component, you must know very well the electric system. A wrong connection may cause injuries and damages.

The electric installation of the user shall comply with CEI 64/8 standards and Law 46/90; it shall be equipped with automatic protection devices, which are coordinated with the earthing system. Ensure good lighting in the work area and around the machine, in order to avoid shady areas, dangerous dazzling and stroboscopic effects. The Manufacturer cannot accept any responsibility, if the cutting machine is not properly connected to the unipotential earthing system and if there are no protection devices installed upstream, which are coordinated to ensure automatic cut-off, according to the standards mentioned before.

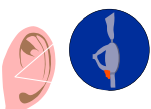
The scrap materials, which are produced during the machining, must be collected and sent to specialized companies for disposal, according to the laws in force, in order to protect the environment.



CAUTION!!!!!!

EVERY USE OF THE MACHINE DIFFERENT THAN THOSE OUTLINED BY THE MANUFACTURER IN THIS INSTRUCTION MANUAL IS AN IMPROPER USE. THEREFORE, THE COMPANY SILLA CANNOT ACCEPT ANY RESPONSIBILITY, IF THE MACHINE SHOULD BE USED BY THE OPERATOR FOR DIFFERENT USES THAN THOSE LISTED IN THIS INSTRUCTION MANUAL OR THOSE NOT COMPLYING WITH THE OPERATING INSTRUCTIONS.

4.4 Noise



The En la tabla siguiente se indican:

- the noise emission level of the Bending Machine measured at the operator's ear does not exceed the maximum value of 63 Pa, according to UNI 11200 standard.

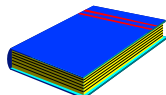
- the noise emission level in the environment (power LwA), measured according to EN ISO 3744 (2000/14/EC)

In order to not increase the noise level strictly follow these rules:

- Clean and grease the machine elements per the schedule recommendations;
- Ensure no machine parts are obstructed or damaged.

With this noise emission level the use of protective equipment like earmuffs, earplugs, etc. **is not mandatory** but recommended.

These noise values are emission levels, which are not necessarily safe work levels. While there is a correlation between the emission levels and the exposition levels, it cannot be used in a reliable way to evaluate whether there is or nor the need for additional precautions. The factors affecting the worker's real exposition level include the duration of the exposition, the environmental characteristics, other emission sources like for example the number of adjacent machines and types of machining. The single exposition levels may also differ from country to country. However, thanks to this information the user of the machine can better evaluate hazards and risks.



4.5 Conformity with safety regulations

The combined bending-cutting machine has been designed and built in accordance with the following standards:

"Machinery Safety Directive" 2006/42/CE published in O.G.E.U. on June 9, 2006.

EEC 91/368 – EEC 93/44 --

"Electromagnetic Compatibility Directive " EEC 89/336, EEC 92/31, EEC 93/97 acknowledged with Law by decree November 12, 1996, n. 615.

" Low Voltage Directive " EEC Directive 73/23, EEC 93/68 acknowledged with Law n. 791 of 1991, Law by decree n. 626 of 1996.

"Acoustic Emission Directive" EEC Directive 2000/14. CEI EN 60204/1.

- UNI EN 292 part 1 (1992) Safety of machinery, basic concepts, general principles of design. Terminology, basic methodology.
- UNI EN 292 part 2 (1992) Safety of machinery, basic concepts, general principles of design, specifications and technical principles.
- UNI EN 292 part 2/A1 (1995) Safety of machinery, basic concepts, general principles of design, specifications and technical principles
- UNI EN 294 (1993) Safety of machinery, safety distances to prevent the upper limbs from attaining dangerous areas.
- UNI EN 349, EN 418.

5. INSTALLATION /NEW BUILDING YARD

5.1 Transport

The combined bending-cutting machine is delivered to the Customer fully assembled and tested.

After the machine has been unloaded with suitable means, place it onto its wheels on a level soil capable of supporting its weight.

The weight of the machines is outlined on the EC plate and in section 4.2 of this manual; due to their considerable weight you must provide accurate loading/unloading means.



Ensure your hoisting equipment has adequate dimensions and capacity.

Be careful during hoisting and handling the machine to prevent injury to persons and damage to the machine. The hoisting equipment shall be dimensioned according to the weight to be hoisted.

The combined bending-cutting machine is delivered together with the following accessories, which are stored inside a special toolbox inside the motor compartment of the machine:

- 4 Allen wrenches sizes 3,5,6,14
- 1 flat setscrew wrench sizes 19-22
- 1 16 A three-phase tap
- 1 Foot-switch



Never hoist the machine by hand, it is too dangerous.

Follow the safety instructions shown in chapter SAFETY PRECAUTIONS



5.2 Placing and earthing

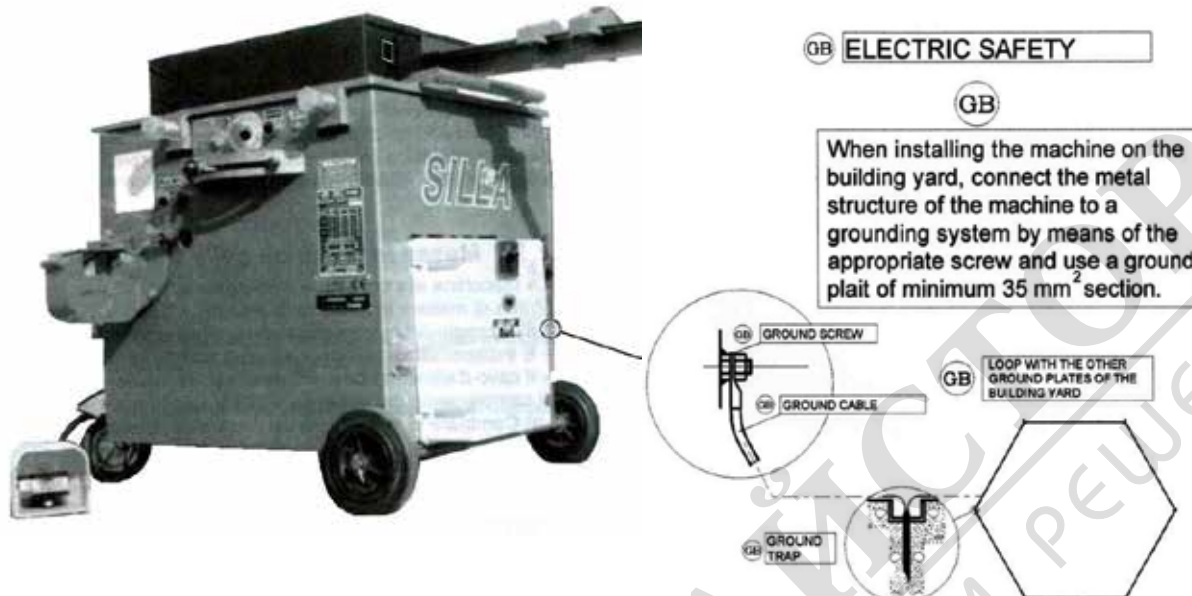
Place the machine on a steady and level soil . Check the flatness of the soil before installation by means of a water level (longitudinally and crosswise).

Make sure the soil is correctly dimensioned to support the weight of the machine. It must be self-extinguishing and not combustible.

The installation place shall be protected against atmospheric agents. Next to the machine there must be a plug for the connection with the electric installation and the harness for earthing (see figure 2). Make sure there is an area of respect of at least 2000 mm around the machine. During machining the machine produces scrap and dust, which must be disposed of by specialized companies.

Next to the machine there must be:

- Connection to the electric supply mains;
- areas for the hoisting and handling of work products;
- areas for the collection and discharge of residual products.



Never use the machine near inflammable or explosive materials and/or in places with the presence of gas. Follow the safety instructions shown in chapter SAFETY PRECAUTIONS. Unauthorised persons shall never use the machine.



5.3 Areas of respect and dimensions

The area of respect around the machine shall be at least 2 meters to ensure good working and correct maintenance of the machine. The personnel shall move within this area with the utmost care.



Inside the area of respect the operators shall move with the utmost care and eliminate all kinds of obstacles hindering the passage. The work surface may become slippery because of work residuals. Use the personal protective equipment (safety shoes) and frequently clean the floor.

Caution! The use of additives or special products for cleaning the machine may injure the health of the person. Carefully read the prescriptions of the relevant products. These products may also modify the quality of the paint of the bending machine and damage its electric parts.



5.4 Pre- operation checklist

Use work gloves during set-up and setting at work of the machine.

Before the setting at work of the combined bending-cutting machine, especially at first starting or when it is installed on a new work site, the following technical advices and suggestions concerning the various types of connections shall be respected.



5.5 Safety first

All the machines can be dangerous. When the bending machine is correctly used and properly maintained, it is a very safe machine. On the contrary, if it is badly used, it may become dangerous. Both in this manual and on the machine there are warning signs showing the possible hazards and how to avoid them. In case of doubts ask your retailer or your chief for more explanations. Do not operate with the machine, until you are not able to control it. Do not start any work until you are not sure about your and other people's safety. You can cause serious damage, if you try to carry out some non-familiar operations, without prior testing on free areas, far from people and on level ground.

Follow the safety instructions shown in chapter 4.3 SAFETY PRECAUTIONS



5.6 Putting into operation

On delivery the machine is connected to 380 V. Before starting the machine, ensure the following:

- The motor voltage must correspond to the voltage of the external line.
- Grounding according to I.S.P.E.L.S standards is mandatory.
- Change-over to 220 V voltage has to be carried out as follows:

- a) Change the terminal board from "star" to "delta"
 - b) Place the electric connection of the transformer at input from 380 V to 220 V.
- Check the area of respect and the work areas;
 - Check the protections for good fixing;
 - Check the caution/danger signs on the machine for good visibility.
 - Test all the mechanical and electric machine controls, loadless, to check correctness, efficiency and working.

5.7 Electric installation

The electric installation of the user must be in compliance with CEI 64.8 standards (Italian law n. 46/90).

The machine is fitted with an electric plug.



The plug must be connected to the installation of the user according to the maximum electrical input.

Provide the following: - Unipotential grounding system

Automatic protection devices, to be coordinated with the unipotential system, to ensure automatic cut-off.

The electric connection cable shall comply with the standards UNI EN 60309-1-2.

Voltage drop shall be verified according to the following formula:

$$\Delta V = \frac{\Delta V}{V} = K * L * I < 4 \%$$

ΔV = Voltage coefficient L = Length I = Intensity line current in amperes

K = Coefficient (1,73 for three-phase lines) (2 for single-phase lines)

The grounding connection shall be done by means of a self-extinguishing yellow-green cable, its minimum section shall not be below the one of the supply cable. Ensure grounding of all the metallic parts of the machine. Ensure the protection against lightning and/or electric discharges.

For installations on building yards, connect the grounding system of the building yard to the additional external earthing plug, placed on one machine leg: use a copper cable with a minimum section of 35 square millimetres provided with cable terminal and fix the cable terminal to the clamp on the leg with a screw nut (Fig. 2).

Ensure good lighting of the machine installation place, according to the work area, and avoid shady areas, dangerous dazzling and stroboscopic effects. The Company cannot accept any responsibility in case of wrong connection of the electric system or bad grounding

The motor installed on the machine is protected by a magneto-thermal device. The motor is provided with special devices to avoid accidental machine starts after electric cutoff. After the intervention of the thermal protections, reset the device with the START push-button.

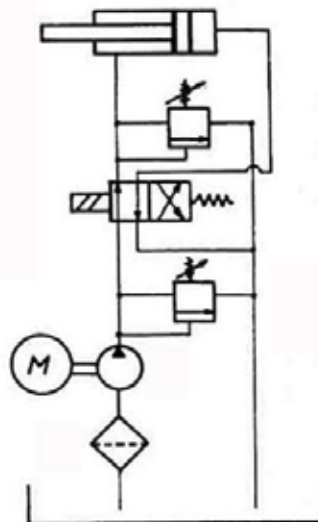
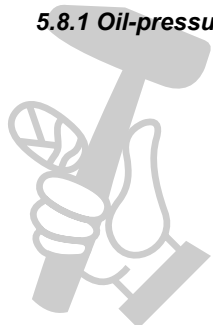
All the electric elements and apparatus are protected according to the place of use, they have a protection grade of minimum IP 54 (protection from dust and liquids).

The control panel is placed so that is it visible by the operator during the use of the machine. It is provided with a STOP push-button for quick machine stop. Another stop/emergency stop push-button is placed on the opposite side, in order to stop the machine from any operator position.

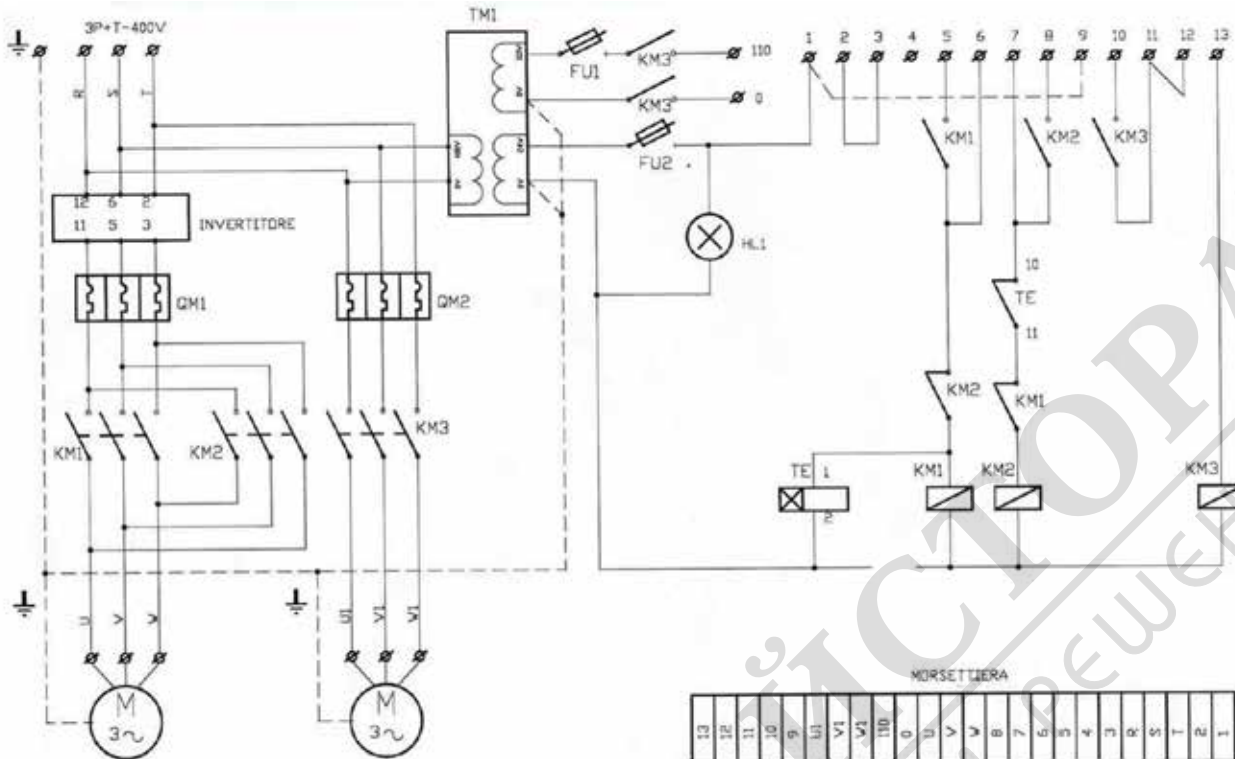
Follow the safety instructions shown in chapter SAFETY PRECAUTIONS.

5.8 Diagrams

5.8.1 Oil-pressure diagram



5.8.2 Wiring diagram



5.9 Training Before starting to use the machine, read this instruction manual and understand

how to use the machine in a safe way.

6. ADJUSTMENTS

6.1 Adjusting the machine At first operation on the building yard, the machine does not need any adjustments. However, we suggest to read the following paragraph: 5.4 Pre-operation checklist.

Never carry out adjustments when the machine is running/working.

Do not alter or bypass any active safety devices installed on the combined bending-cutting machine.

Follow the safety instructions shown in chapter SAFETY PRECAUTIONS.

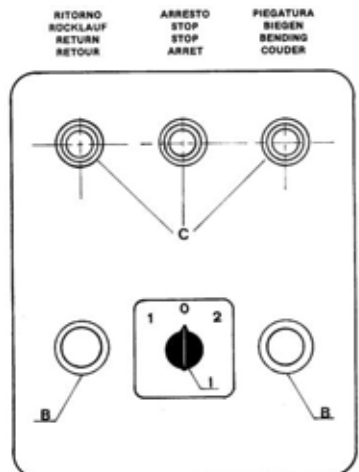
Every single adjustment and/or modification of the safety/work parameters set on the machine, which has not been authorised by the technical personnel of the company Silla or which is not outlined in this instruction manual, may influence the quality of the product and injure the operator's health. The company Silla decline any responsibility for liability, performances and safety of the machine in case of modification/alteration of the machine and of the relevant operation/safety parameters.

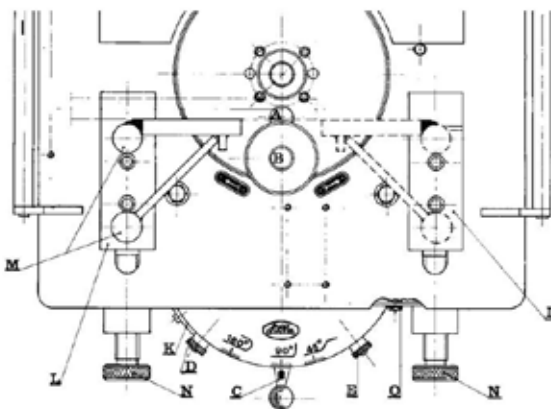


7. OPERATION

7.1 Control instruments

- The Bending, Return and Stop push-buttons "C" are placed on the machine frame, operator side
- On the electric panel there is a 3-position (1-0-2) current inverter "I" corresponding to the desired direction of rotation).
- The positions 1 and 2 of the current inverter have a relevant pilot lamp "B" signalling power on
- Bending can also be carried out by means of the **foot-switch**. The machine has **two bending speeds** (turntable speeds); the bending speeds can be easily changed by displacing the V-belts from one pulley to the other. The belts and pulleys are placed inside the machine fram





- The bending machine is equipped with a special device, which allows pre-setting of two bending angles in the range between 20 and 220 degrees.

Lever "C" allows increasing/decreasing of the bending angle according to the position on the device..

During operation, follow the safety instructions shown in chapter SAFETY PRECAUTIONS.

Fig.1



7.2 Machine operation and controls

- 7.2.1 Turntable speed** The machine is equipped with two turntable speeds. The bending speeds can be easily changed by displacing the V-belts from one pulley to the

higher speed allows the bending of medium-small diameter rods only.

other. The belts and pulleys are placed inside the machine frame. The higher speed allows the bending of medium-small diameter rods only.

If you want to carry out this operation, raise the belt tightening lever; thus the distance between centres will be reduced allowing the displacement of the belts on the pulleys. After belt displacement, retighten the belts by means of the lever. Check belt tightening and adjust, if necessary, by means of the tightening device.

7.2.2 Positioning of working benches We suggest to place the working benches on both machine sides in order to achieve maximum machine performances. Ensure the height of the benches is equal to the height of the machine. Between bench and machine there must be a free space of about 60 cm for operator's passage.

7.2.3 Push-button controls Start the Bending machine by means of inverter "I", which is placed on the electric panel and then use the 3 push-buttons "C" placed above the bending sector for pre-setting of bending angles.

The right "BENDING" push-button (2) starts the turntable according to the direction of rotation preset by the inverter.

The "STOP" push-button in the centre (3) simply stops bending for whatsoever reason, i.e. wrong bending pre-setting, wrong direction of rotation, etc. The left "RETURN" push-button (4) is only used to rotate the turntable to zero position, after the machine has been stopped with the "STOP" push-button.

The Cutting machine controls are the following:

The "STOP" push-button (5), placed above the cutting head, stops the cutting process at any moment. When pressing this push-button, the mobile cutting device immediately stops. The cutting device returns to the initial position, after the push-button (6) for starting the cutting machine motor has been pressed.

The "CUT" push-button (6), on the right of the Stop push-button, starts the pump motor of the oil-pressure unit; while the Cutting machine must be started by means of the "FOOT-SWITCH" (7). (8) Tap for bending foot-switch.

The cutting safety switch (9) prevents the cutting unit from starting when the protection is open.

(10) Tap for cutting foot-switch. The door safety switch (11) prevents the bending machine from starting when the door is open.

The bending safety switch (12) prevents the turntable of the bending machine from starting when the protection is open.

(13) Emergency stop push-button. (14) Electrical plug 3x16A+T. (15) Power on pilot lamp. (16) Bolt for ground cable.

7.2.4 Foot-switch The Cutting unit is controlled by means of a special foot-switch, which is connected to the machine through a bipolar outlet that is fixed laterally to the machine frame for easy and quick connection. The waterproof foot-switch works at low voltage. The same foot-switch, disconnected from this outlet and connected to the outlet next to the electric board (8), can also be used in place of the "BENDING" push-button, which allows rotation in both directions according to the inverter position. The foot-switch can be placed in any position around the bending machine, without the necessity of turning the rods around, especially useful when bending stirrups. The machine is delivered with one foot-switch only, therefore if you want to use both the cutting unit and the bending unit, you must connect the foot-switch to the cutting unit (factory setting). However, on request an additional foot-switch can be delivered, in order to use both machine functions by means of remote control.

7.2.5 Device for pre-setting of bending angle (patented)

The bending machine is equipped with a special device, which allows pre-setting of two bending angles in the range between 20 and 220 degrees.

Lever "C" allows increasing/decreasing of the bending angle according to the position on the device.

If you want to increase the bending angle, move the lever from the right (20 degrees) to the left.

The mostly used bending angles (45 - 90 - 180 degrees), are marked on the device. The shown position is an approximate position, the exact angle depends on the rod diameter and on the applied bending pins and rollers. Since the mostly executed bending angles are 180 degrees for hooks and 45 degrees for bending,

the device is equipped with two movable stops "E" - "0" with knurled knobs, which limit the lever displacement to two preset bending angles.



Exact pre-setting of the bending angle is carried out experimentally by means of an iron rod to be bended: slowly displace the lever on the device next to the marks of the desired bending until you achieve the exact angle. Then approach the stop to the lever and lock it with the knurled knob; use the Allen wrench supplied for this purpose. After having locked both stops on the two desired bending angle positions, you can quickly alternate the bending angles by simply moving the lever. The locking of the angles is valid for both right and left rotation.

7.2.6 Use of bending rollers and pins

On the turntable there are 3 holes for inserting the pins. The pin marked "C" must be inserted in the central hole. The use of the appropriate pins and rollers depends on the diameter of the rod to be bended. The pins or feeding rollers must be inserted in the holes "A" or "B". Between the rod to be bent and the pin/feeding roller there must be about 5 mm play, otherwise the rod can get stuck between the pins/rollers when the turntable returns to the zero position.

On the right and on the left side of the turntable there is a saddle "L" with holes for the insertion of the rod guide. The knurled knob "N" allows continuous adjustment. Adjust the rod guide "M" in order to keep the rod to be processed always parallel to the bench of the bending machine. If you want to achieve always the same bending angles, both on the right and on the left, you need to adjust the saddles evenly. After the good adjustment, lock the two saddles by means of two hexagonal-head screws. The rod guides are designed for the maximum diameter of every single type of bending machine and can be used accordingly. On request, you can also use thrust rollers with special pins marked "PC", to be inserted on the saddles.

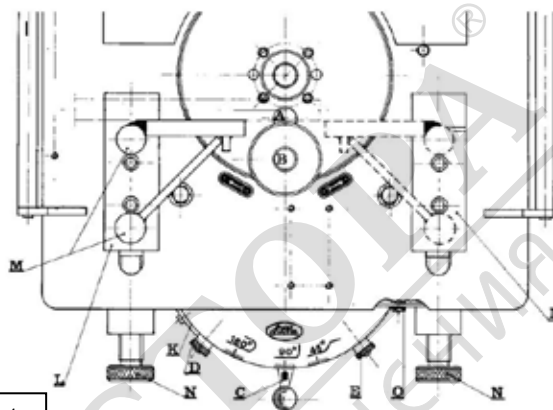


Fig.1

• 7.3 Operation of the machine

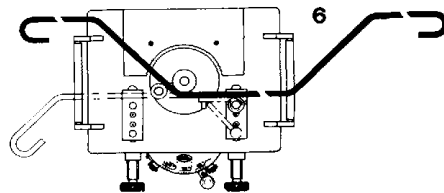
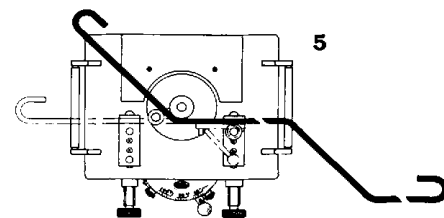
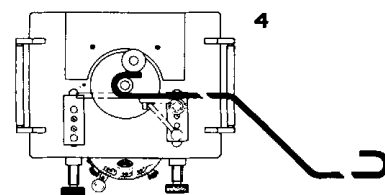
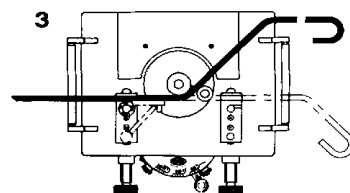
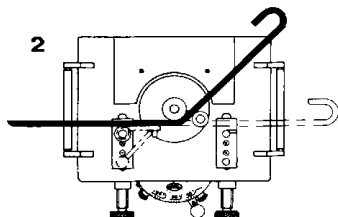
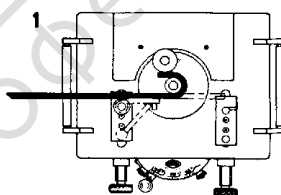
7.3.1 Bending of stirrups and polygonal spirals

To carry out round spirals, rings and large bows a special attachment is supplied, which is equipped with a rule and two adjustable and tilting stops. The rule must be inserted on the right saddle. On the left saddle insert the rod guide. Adjust the rod guide in such a way as to keep the rod to be processed parallel to the bench. Insert in the central hole of the turntable the pin relevant to the rod diameter. Insert in hole "A" or in hole "B" a pin with a feeding roller. Ensure a play of about 5 mm between the brake and the roller. You can also simultaneously bend a certain number of rods in accordance with the diameter. The polygonal spirals are bent like stirrups. To give the spiral the desired inclination, we recommend to follow the rod with the hand. When using rods with a small diameter, we recommend to bend them in such a way as to keep the turns resting one on the other and to stretch them after bending. In such a case the spiral basic dimensions must be slightly increased.

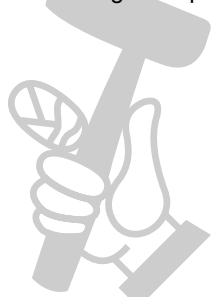
7.3.2 Bending of round spirals

Install the special attachment on the bed of the bending machine (for installation, set-up, use and maintenance, see instructions supplied with the attachment). Remove the screw on the extreme left side of the bending sector, remove the small plate "K" (Fig. 1) and move stop "D" (Fig. 1) and lever "C" (Fig. 1) completely to the left. In this position the limit switch is excluded from the circuit. Then turn the inverter "I" to position "2" to allow anticlockwise rotation. To carry out bending, press the "BENDING" push-button (or the foot-switch): the turntable will continuously turn in the fixed direction to carry out the spiral. If you want to stop bending, press the "STOP" push-button. If you want to restore the normal bending conditions (45 – 180 degrees), do as follows:

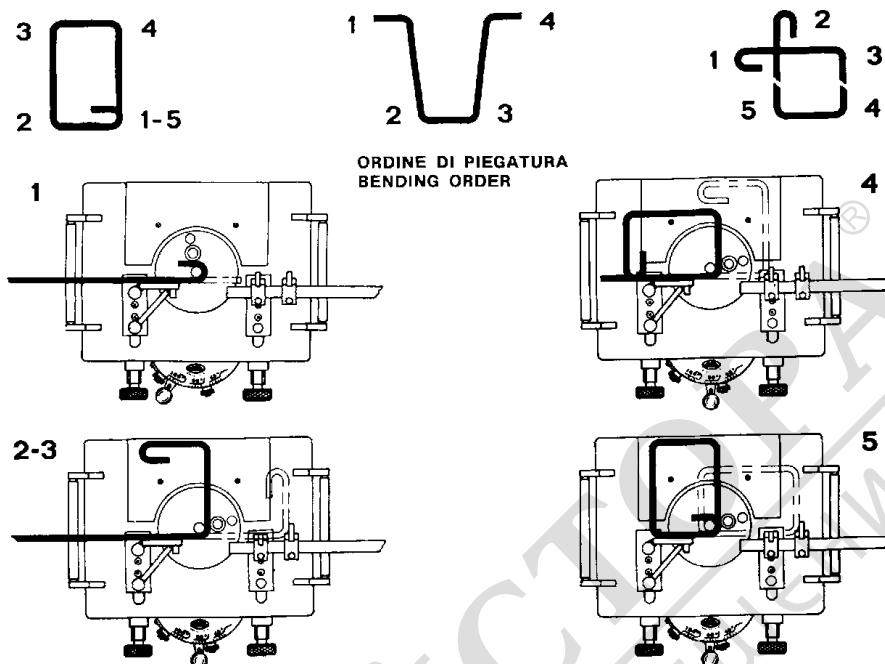
- 1) – Disassemble the spiral attachment.
- 2) – Move lever "C" (Fig.1) completely to the right for automatic return to zero position of the electric system. This movement makes the turntable rotate from a minimum of one turn to a maximum of five turns to bring it to zero position.



Bending examples:



Simple bendings

Bending of stirrups and round spirals

7.3.3 Direction of rotation

Move the lever of the current inverter "1" (fig.3) to the position corresponding to the desired direction of rotation; the relevant pilot lamp comes on and the turntable is ready to turn in the desired direction.

For clockwise bending move the lever of the current inverter to position "1"; the relevant pilot lamp "B" (fig.3) comes on. Then start bending with the bending push-button "C" (fig.3) or by using the foot-switch. If in such a case the turntable should turn in the opposite direction, you must interchange two wires of the current tap. The same operation must be carried out when the cutting unit does not start, even if the current inverter is switched on.



The connection to the electric power mains and generally all the electric operations shall be carried out by specialized personnel (electricians).

Keep the bending machine always switched off when you do not use it.

The operator shall always be careful and concentrate on what he is going to do and on the possible consequences.

7.3.4 During operation

- **Use the prescribed personal protective equipment.**
- Never approach the moving and operating elements with your hands, arms or other parts of your body. Remove rubble with an appropriate device and always when the machine is stopped: **never use your hands!**
- In case of machine trouble or inspections, never work when the machine is running; stop the machine and immediately disconnect it from the electric installation.
- During the operation of the machine, of its elements or of its accessories, it is strictly forbidden to remove any protection, like limit switches, carters, barriers or other protection and safety elements. Never modify switches or other safety and/or operating cycle control devices, because such an intervention could seriously damage the mechanical elements of the machine and injure the health of the operator.
- Pay attention to the operating and the moving parts.
- Do not climb or position yourself on or inside the machine, even if it is switched off.
- In case of machine trouble, stop the machine with the emergency stop push-button and cut off the electric energy supply until the trouble has been eliminated.

The operator is the person entitled to operate with the machine and consequently he is the only responsible for it.

To cut iron bars, insert them always on the suggested side (left)
The length of the bar or crop end must not be less than 200mm.



Don't insert the bar on this side.

7.3.5 Warning signs





8. MAINTENANCE The combined bending-cutting machine does not require any particular maintenance work. The technical solutions and the components installed on the machine reduce maintenance at the minimum. However, we recommend to carry out a series of operations, which aim at ensuring safety, liability, efficiency and long life of the machine.



During maintenance

- **Before performing any maintenance work on the machine, carry out the isolation procedure describe at the beginning of this chapter.** In case of mechanical or electric trouble, call the authorized personnel. If the machine is out of service because of trouble, maintenance or repair, place a special sign highlighting this status and padlock the main switch.
- Always use the personal protective equipment during repair and replacement of the machine elements.
- Repairs of the electric installation shall be done by authorized and specialized personnel only.
- Do not approach hands, arms or other parts of your body to the movement and transmission area. Use appropriate means (brush, wooden piece, etc.) to remove possible rubble: **never use your hands!**
- To ensure long life, prevent damage and ensure the full functioning of the mechanical and electric machine elements the maintenance must be performed regularly. Periodically check the earthing system, according to the laws in force.
- Before starting the machine, ensure there are no tools or foreign matters left inside or on the machine.

8.1 Recommended lubricants

MINERAL OIL						
		23°E at 50°C - 320 cSt at 40°C	32°E at 50°C - 460cSt at 40°C			
WORM REDUCTION UNITS		MELLANA OIL 320	MELLANA OIL 460	IP		
		SPARTAN EP 320	SPARTAN EP 460	ESSO		
		BLASIA 320	BLASIA 460	AGIP		
		MOBILGEAR 632	MOBILGEAR 634	MOBIL		
		OMALA 320	OMALA 460	SHELL		
	ENERGOL GR-XP 320	ENERGOL GR-XP 460	BP			
SYNTHETIC GREASE						
REDUCTION GEARS AND WORM RED. UNITS		TELESIA COMPOUND B		IP		
		STRUCTOVIS P LIQUID		KLUBER		
		TIVELA COMPOUND A		SHELL		
SYNTHETIC OIL						
REDUCTION GEARS AND WORM RED. UNITS		TIVELA OIL WB		SHELL		
		SYNTHESO D 220 EP		KLUBER		
		BLASIA S 220		AGIP		
GREASE						
	MAKE	TYPE	PENETR.	DRIP	1 st LUBRIC.	FOLL.LUBR.
LUBRIC. AND VARIOUS GEARS	ESSO	BEACON EP2	265/295	182	100	300

8.2 Ordinary maintenance

To be carried out every day at the end of the work.

To be carried out every week at the end of the work.

A) DAILY CLEANING AND MAINTENANCE

Stop the bending machine and cut off the electric energy supply, then remove material residuals and deposits from:

- turntable
- bending rollers and pins – work table
- cutting head of cutting unit:



CAUTION!! Do not wash the electric parts with high-pressure water jets.

B) WEEKLY CLEANING AND MAINTENANCE

At the end of the week, after the cleaning of the bending machine as explained above, provide for:

- Check tightening of clamping screws of main machine elements.
- Check the lubricant level inside the reduction gear case through the transparent plug placed on the case; the oil must be visible through this plug after at least ten minutes from machine stop. In case of low lubricant level, add the necessary quantity of the recommended oil type (see recommended lubricant schedule) through the filling cap.
- Grease by means of the grease nipple, placed on the right of the special device for pre-setting the bending angle, the sliding block (item16 tab.3).
- Check the lubrication schedule for programmed oil change of reduction gear, and carry out oil change, if necessary.

- Check tightening and integrity of all the V-belts of the bending machine.
- Lubricate all the parts, which are not protected by means of painting.
- Adjust and replace wherever necessary.
- Check the oil level inside the tank of the oil-pressure unit.

Oil is a special waste and must be disposed of according to the laws in force.



IMPORTANTE :

Daily and weekly checks are very important to prevent machine troubles. In facts whenever during these checks you will find some worn or damaged components, immediately order the relevant spare parts to be kept on stock, before the component has definitively broken with consequent production stop.

8.3 Extraordinary maintenance

- Check the safety of the electric system: isolation of cables, working of differential protection device, continuity of protection wire, working of safety limit switch on guards/protections.
- Check interlocks of mechanical components.
- Change the lubricants according to the lubrication schedule intervals.

Note *

- The V-belts must be immediately replaced whenever a defect is detected.
- The bushings, the electric motors and all other consumables must be immediately replaced whenever a running defect occurs.
- As far as the electric self-braking motor is concerned, refer to the instructions of the manufacturer, enclosed to this manual.

8.4 Bolt torque.

Tightening is executed by means of dynamometric wrenches, according to the torques shown in the following pages and in the tables shown below:

LARGE PITCH			SMALL PITCH		
Diameter screw x pitch	Nut torque Kgm	Screw torque Kgm	Diameter screw x pitch	Nut torque Kgm	Screw torque Kgm
6 x 1	1,1	1,2	8 x 1	2,7	1,2
8 x 1,25	2,6	2,8	10 x 1,25	5,5	2,8
10 x 1,5	5,1	5,6	12 x 1,25	9,7	5,6
12 x 1,75	8,9	9,7	14 x 1,50	15,3	9,7
14 x 2	14,1	15,5	16 x 1,50	23	15,5
16 x 2	21,5	23,6	18 x 1,50	33	23,6
18 x 2,5	29,5	32	20 x 1,50	46	32
20 x 2,5	42	46	22 x 1,50	62	46
22 x 2,5	57	62,5	24 x 2	79	62,5
24 x 3	72,5	79,5	27 x 2	115	79,5
27 x 3	107	117	30 x 2	160	117
30 x 3,5	145	159			

8.5 Troubleshooting

PROBLEM	CAUSE	SOLUTION
The machine does not run	No or low power in the supply line.	Check supply line and voltage.
	The electric plug and socket are not properly connected.	Make a proper connection.
	The cable from the plug to the electric panel is broken.	Replace the cable.
	A wire has become disconnected inside the panel.	Remake the connection.
	A wire has become disconnected on the terminal board.	Remake the connection.
	The switch is faulty.	Replace the switch.
	Intervention of a thermal protection.	Wait some minutes and try again.
	Tripped fuse.	Change fuse.



For all other kinds of troubles, please refer to the After-Sales Dept. of the Company SILLA.
CAUTION!!!! SILLA DECLINE ANY RESPONSIBILITY IN CASE THE MACHINE DOES NOT UNDERGO MAINTENANCE AS PRESCRIBED IN THIS INSTRUCTION MANUAL AND IN CASE OF USE OF SPARE PARTS AND ACCESSORIES OTHER THAN ORIGINAL AND NOT APPROPRIATE.

8.6 Ordering spare parts

When ordering spare parts, order the component from the supplier and/or manufacturer of the machine. Always mention the machine model, part number, type of machine, description of the desired component, quantity and the main features.

9. DISMANTLING

Before long-term storage (e.g. holidays), follow the instructions below:

- 1- Carefully clean the whole machine, remove dust, deposits and dirt.
- 2- Oil all the parts exposed to seizure and the mechanical components exposed to oxidation.
- 3- Store the machine in a dry and ventilated place.
- 4- Remove the patch cords and whatsoever to prevent unauthorized persons from using the machine.

9.1 Disassembling/dismantling

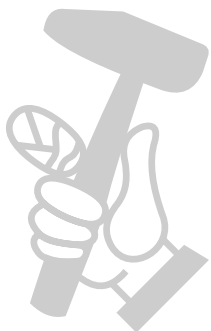
The bending machine can be dismantled and scrapped without the need to follow special prescriptions. However, it is necessary to remove the oil from the reduction gear, the plastic and rubber parts (cables, covers, etc.) and dispose of through specialised companies.

9.2 Disposal

The following are the materials the machine is made of:

- Painted steel, aluminium and other metallic components.
- Plastic materials.
- Oil-hydraulic materials
- Electric cables, electric components, electric motor.
- Oil

These materials must be disposed of through specialised companies in accordance with current laws in the country of use.



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DECLARATION OF CONFORMITY

SILLA Macchine Edili e Stradali Srl

Via S.Gimignano , 96 - 53036 – POGGIBONSI (SI) – ITALY

 In the person of Mr. Neri Angiolo as Legal Representative
 declare

under their sole responsibility that the machine:

GENERIC NAME	BENDING MACHINE
FUNCTION	BENDING OF REINFORCED CONCRETE RODS
MODEL	PTC
TYPE	
SERIAL NUMBER	
TRADE NAME	...

complies with the essential requirements of the directives of the European Parliament and of the Council:

- “Machines 2006/42/CE published in O.G.E.U. on June 9, 2006.
- “Electromagnetic compatibility” 2004/108/CE published in O.G.E.U. on December 31, 2004

Furthermore it is declared that the machine has been designed and built according to the following harmonised standards:

- EN ISO 12100-1 (2003) Safety of machinery - basic concepts, general principles of design - Part 1: basic terminology, methodology,
- EN ISO 12100-2 (2003) Safety of machinery - basic concepts, general principles of design - Part 2: specifications and technical principles
- EN ISO 14121-1 (2007) Safety of machinery – risk evaluation -Part 1: principles
- EN 60204-1 (2006) Safety of machinery - electric system of the machine – Part 1: general rules
- EN ISO 13857 (2008) Safety of machinery - safety distances to prevent the upper and lower limbs from attaining dangerous areas
- EN ISO 13850 (2008) Safety of machinery – emergency stop – principles of design.
- EN ISO 13849-1 (2008) Safety of machinery - parts of the control systems concerning safety -Part 1: general principles of design one
- EN ISO 13849-2 (2008) Safety of machinery - parts of the control systems concerning safety -Part 2: validation

The legal person entitled to form the technical dossier and that has custody of the technical documents is

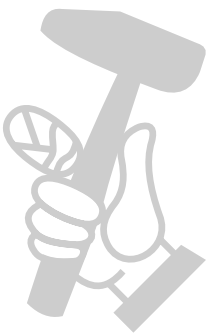
SILLA Macchine Edili e Stradali Srl

Via S.Gimignano , 96 - 53036 – POGGIBONSI (SI) – ITALY

Poggibonsi, date

Signature

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11. WARRANTY REGISTRATION FORM

Machine type	Part number
--------------	-------------

IMPORTANT

This form must be filled out and stamped by the Dealer at the time of purchase of the machine. The Dealer or the buyer must send this form by registered mail to the After-Sales Dept. of the Company SILLA within 3 days from the purchase, together with a copy of the delivery note or of the invoice.

The mailing of this form, together with a copy of the transport document or a copy of the invoice, is an essential requirement to start warranty period.

The warranty is void if not registered.

Date

Stamp and Signature of the Dealer

Messrs.

SILLA *Macchine Edili e Stradali*

Via S.Gimignano , 96 - 53036 – POGGIBONSI (SI) – ITALIA

11.1 WARRANTY CONDITIONS

Warranty means the repair and/or the replacement of those parts, which are proven to be defective in manufacture. The replacement of the whole machine is excluded.

The warranty is for the period of 1 year from the date of delivery to the user, that is to say the date written in the Warranty Registration Form.

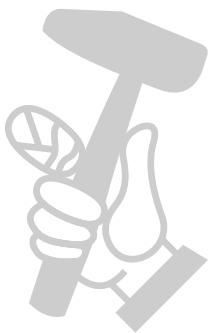
The defective materials must be sent, free delivered, to our factory. After technical approval the material will be replaced and sent carriage forward.

The warranty expires in case of:

- modifications, repairs, alterations of the machine carried out by the buyer and not expressly authorised by SILLA.
- improper assembling or failure to use the machine according to the instructions of the instruction manual.
- The electric components are not covered by this warranty, because a wrong connection done by the user and/or line problems may cause damage to these components.

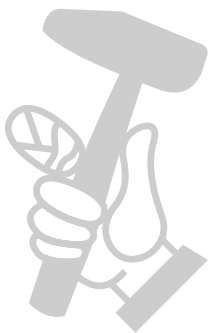
Any repair under warranty will not interrupt the warranty period.

- **We recommend to the dealers to write the part number of the Combined Bending-Cutting Machine both on the delivery note and on the invoice.**



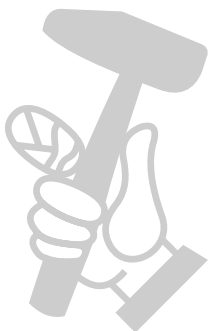
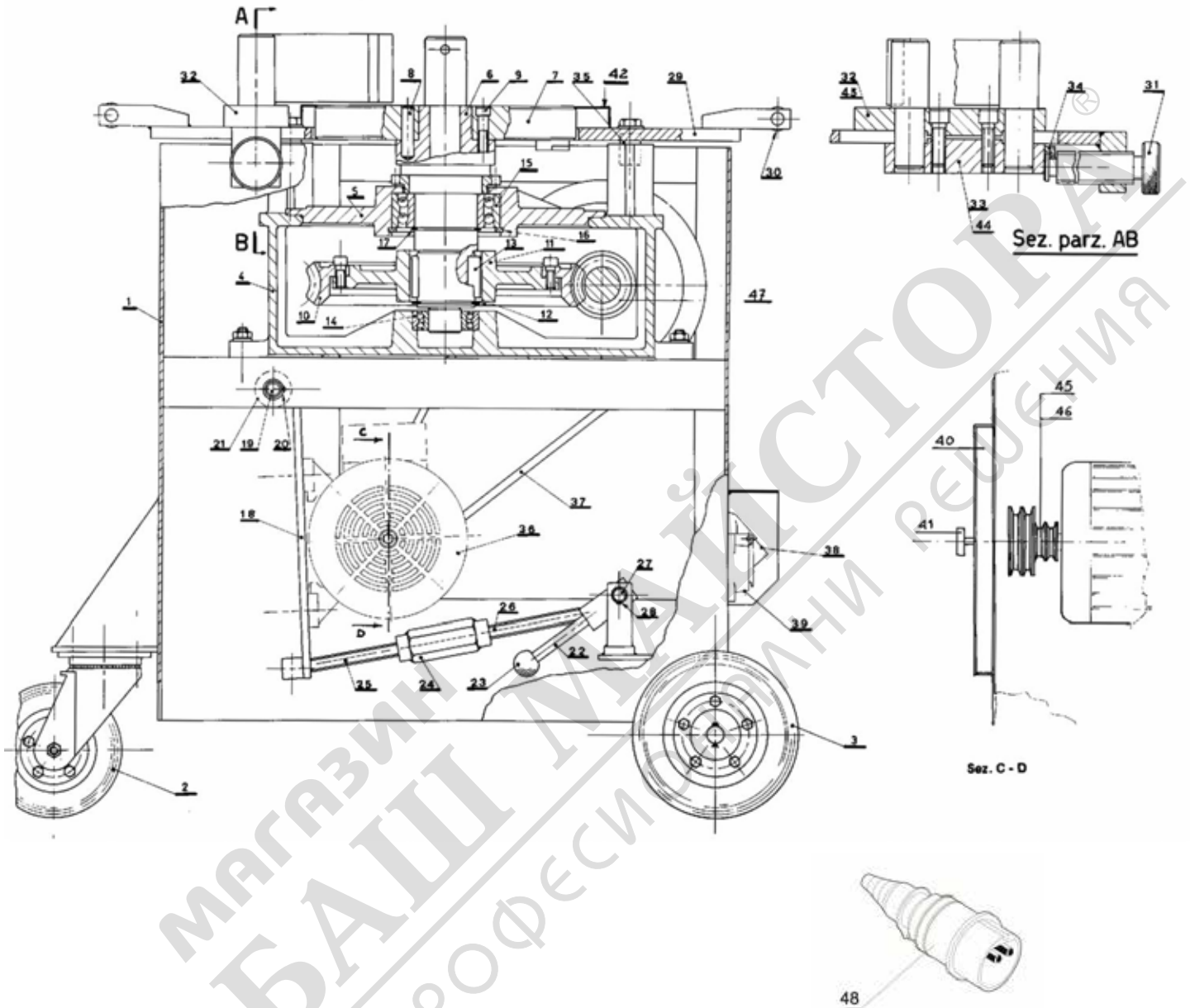
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“I” - RICAMBI -
“GB” - PARTS MANUAL -

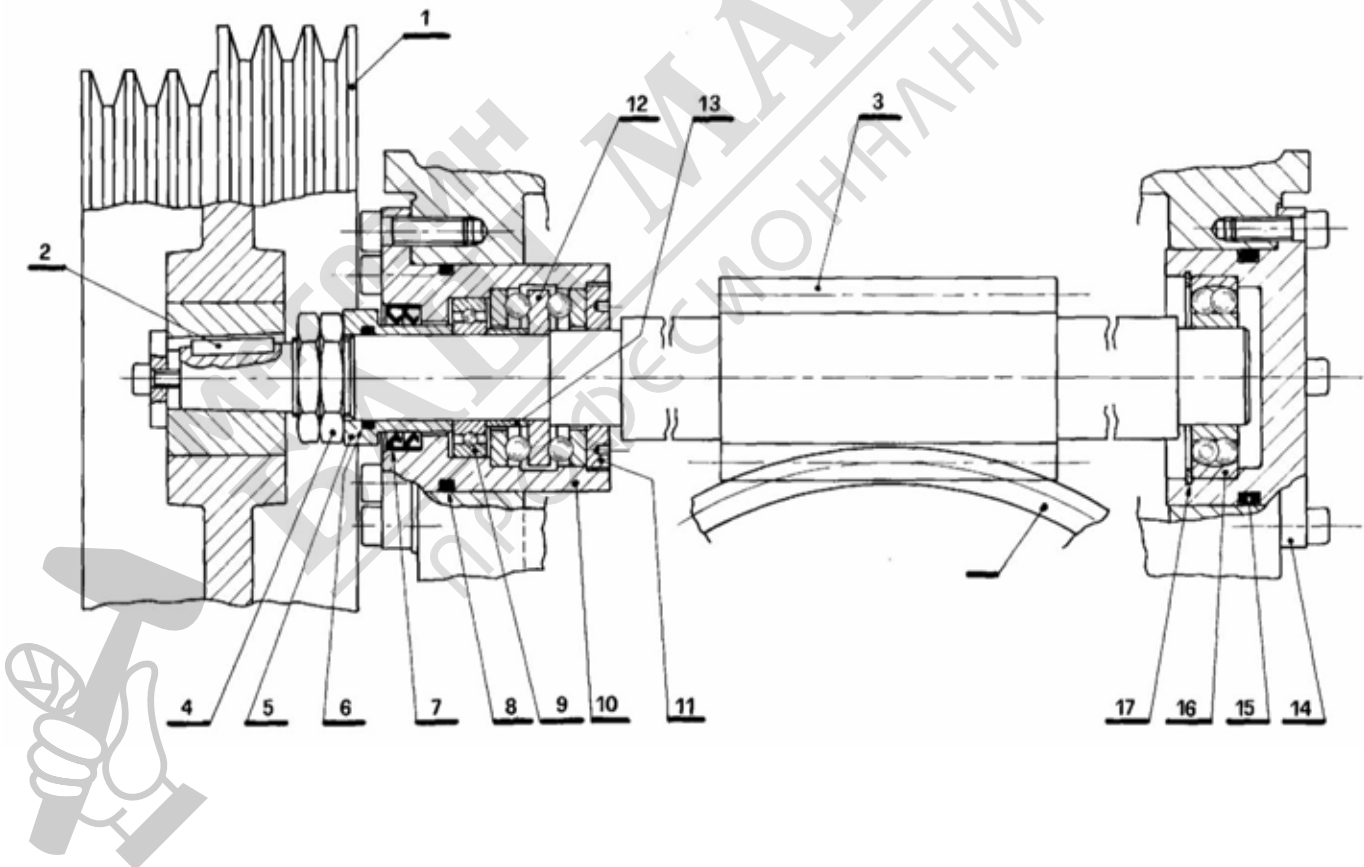


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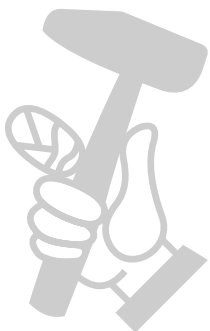
	Tav.01	Gruppo telaio e scatola riduttore	Frame group and adapter box
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.01.001	Telaio	Frame
2	PTC32 30.01.002	Ruota anteriore (160/40/80)	Wheel
3	PTC32 30.01.003	Ruota posteriore (200/50/100)	Wheel
4	PTC32 30.01.004	Scatola riduttore	Adapter box
5	PTC32 30.01.005	Coperchio riduttore	Adapter tap
6	PTC32 30.01.006	Albero d'uscita	Exit bar
7	PTC32 30.01.007	Disco	Disc
8	PTC32 30.01.008	Spina	Plug
9	PTC32 30.01.009	Vite M8x45 TCCE	Screw
10	PTC32 30.01.010	Corona dentata	Ferrule
11	PTC32 30.01.011	Porta corona	Ferrule support
12	PTC32 30.01.012	Seeger E 55	Seeger ring
13	PTC32 30.01.013	Linguetta 18x11x35	Tongue
14	PTC32 30.01.014	Cuscinetto 4207	Pad
15	PTC32 30.01.015	Cuscinetto 3213	Pad
16	PTC32 30.01.016	Seeger I 120	Seeger ring
17	PTC32 30.01.017	Seeger E 65	Seeger ring
18	PTC32 30.01.018	Supporto motore	Engine support
19	PTC32 30.01.019	Perno	Pin
20	PTC32 30.01.020	Anello seeger	Seeger ring
21	PTC32 30.01.021	Boccola isolante	Buckle
22	PTC32 30.01.022	Leva tenditore	Connecting rod bar
23	PTC32 30.01.023	Sfera Ø 30	Ø 30 Sphere
24	PTC32 30.01.024	Manicotto tendicinghie	Extender
25	PTC32 30.01.025	Tirante destro	Right connecting rod
26	PTC32 30.01.026	Tirante sinistro	Left connecting rod
27	PTC32 30.01.027	Perno per tenditore	Connecting rod pivot
28	PTC32 30.01.028	Seeger E 15	Seeger ring
29	PTC32 30.01.029	Piano	Table
30	PTC32 30.01.030	Rullo scorrimento barre	Bars sliding roller
31	PTC32 30.01.031	Vite posizionamento slitte	Guides positionment screw
32	PTC32 30.01.032	Slitta superiore sinistra	Up. Right guide
33	PTC32 30.01.033	Slitta inferiore sinistra	Down Right guide
34	PTC32 30.01.034	Rondella filettata	Washer
35	PTC32 30.01.035	Boccola	Buckle
36	PTC32 30.01.036	Motore elettrico frenante 4 HP	Engine
37	PTC32 30.01.037	Cinghia A 46	Strap
38	PTC32 30.01.038	Spina 16 Amp.	16 Amp. Plug
39	PTC32 30.01.039	Presa comando a pedale	Pedal command plug
40	PTC32 30.01.040	Sportello	Door
41	PTC32 30.01.041	Manopola sportello	Handle
42	PTC32 30.01.042	Carter protezione	Protection carter
43	PTC32 30.01.043	Slitta superiore destra	Up. Left guide
44	PTC32 30.01.044	Slitta inferiore destra	Down left guide
45	PTC32 30.01.045	Puleggia conduttrice	Pulley
46	PTC32 30.01.046	Linguetta	Tongue
47	PTC32 30.01.047	Vite senza fine	Screw without end
48	PTC32 30.01.048	Spina CEE 2 poli	2-pole CEE plug

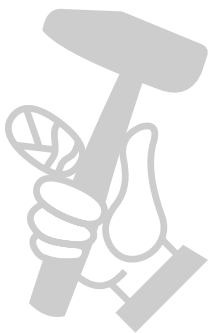
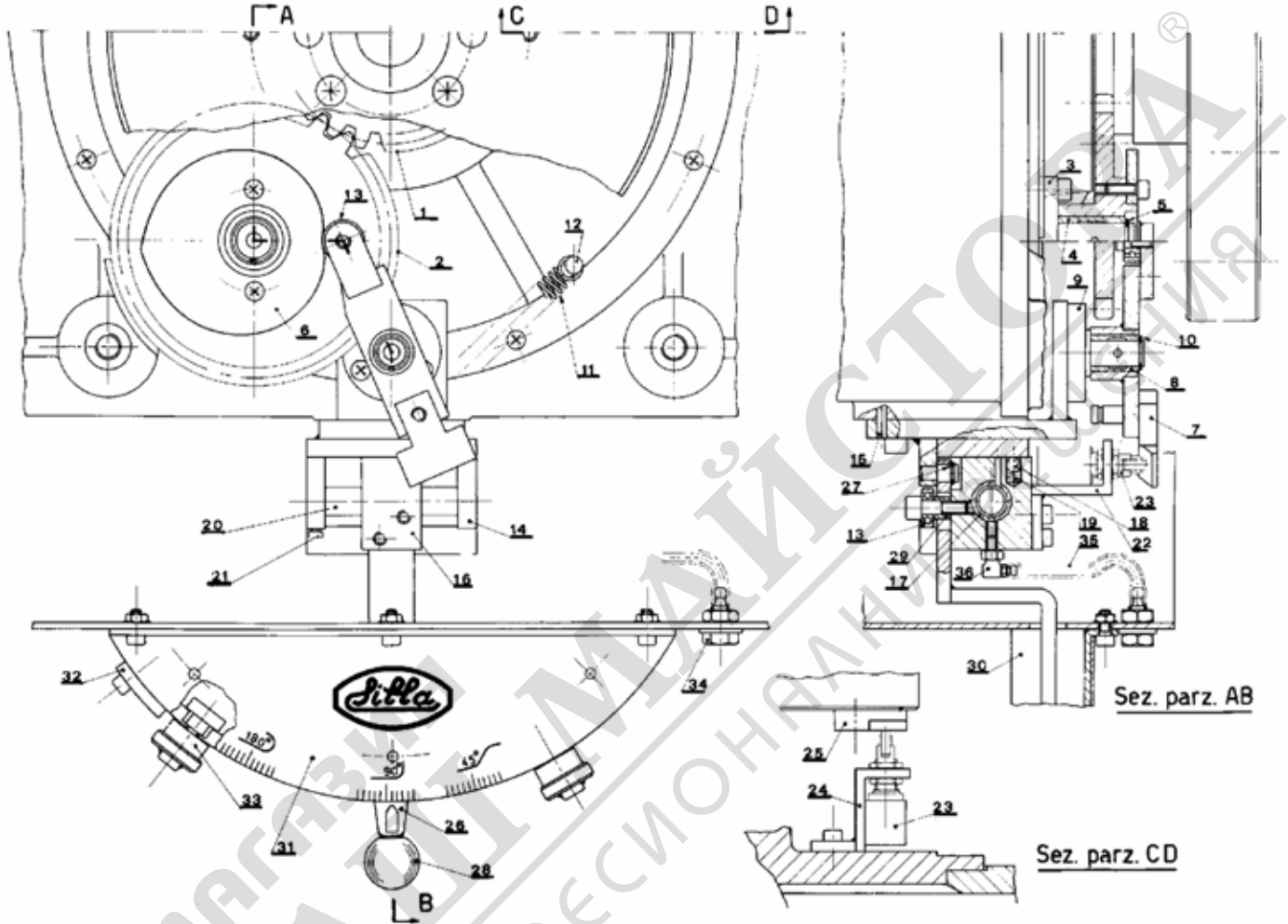
TAV. 1 GRUPPO TELAIO E SCATOLA RIDUTTORE
BENDING MACHINE ASSEMBLY


	Tav.02	Gruppo vite senza fine	Screw group
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.02.001	Puleggia condotta	Pulley
2	PTC32 30.02.002	Linguetta	Tongue
3	PTC32 30.02.003	Vite senza fine	Screw without end
4	PTC32 30.02.004	Dado	Bolt
5	PTC32 30.02.005	Distanziale	Spacer
6	PTC32 30.02.006	Guarnizione OR 4100-133	Gasket
7	PTC32 30.02.007	Guarnizione MIM 304410	Gasket
8	PTC32 30.02.008	Guarnizione OR 168	Gasket
9	PTC32 30.02.009	Cuscinetto 6005	Pad
10	PTC32 30.02.010	Boccola posteriore	Buckle
11	PTC32 30.02.011	Anello filettato	Ring
12	PTC32 30.02.012	Cuscinetto 52206X	Pad
13	PTC32 30.02.013	Distanziale	Spacer
14	PTC32 30.02.014	Supporto flangiato	Support
15	PTC32 30.02.015	Guarnizione OR 174	Gasket
16	PTC32 30.02.016	Cuscinetto 1206	Pad
17	PTC32 30.02.017	Seeger I 62	Seeger ring

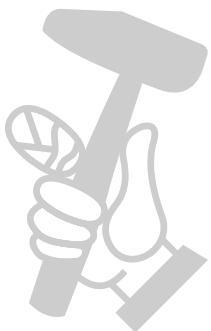
Tav.02 Gruppo vite senza fin


	Tav.03	Dispositivo regolazione angolo piegatura	Banding angle Regulation
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.03.001	Ingranaggio conduttore	Conduction Gear
2	PTC32 30.03.002	Ingranaggio condotto	Conducted Gear
3	PTC32 30.03.003	Perno flangiato	Pivot
4	PTC32 30.03.004	Bronzina	Bearing
5	PTC32 30.03.005	Seeger E 20	E20 Seeger
6	PTC32 30.03.006	Camma	Camshaft
7	PTC32 30.03.007	Bilanciere	Balance Wheel
8	PTC32 30.03.008	Bronzina bilanciere	Balance wheel bearing
9	PTC32 30.03.009	Supporto bilanciere	Balance Wheel support
10	PTC32 30.03.010	Seeger E 15	E15 Seeger
11	PTC32 30.03.011	Molla	Spring
12	PTC32 30.03.012	Perno	Pivot
13	PTC32 30.03.013	Cuscinetto 608 E	608 E Pad
14	PTC32 30.03.014	Supporto cursore	Support
15	PTC32 30.03.015	Spina elastica Ø 4,5x25	Elastic plug Ø 4,5x25
16	PTC32 30.03.016	Cursore	Cursor
17	PTC32 30.03.017	Bronzina	Bearing
18	PTC32 30.03.018	Sfere cursore	Cursor spheres
19	PTC32 30.03.019	Molla	Spring
20	PTC32 30.03.020	Perno	Pivot
21	PTC32 30.03.021	Vite TCCE M4x15	TCCE M4x15 Screw
22	PTC32 30.03.022	Supporto finecorsa bilanciere	Support
23	PTC32 30.03.023	Interruttore di finecorsa	Switch
24	PTC32 30.03.024	Supporto finecorsa disco	Support
25	PTC32 30.03.025	Battuta finecorsa disco	Beating
26	PTC32 30.03.026	Leva regolazione piegature	Regulation bar
27	PTC32 30.03.027	Seeger E 10	E10 Seeger
28	PTC32 30.03.028	Sfera Ø 30	Sphere Ø 30
29	PTC32 30.03.029	Boccola	Buckle
30	PTC32 30.03.030	Supporto settore graduato	Support
31	PTC32 30.03.031	Settore graduato	Graduated sector
32	PTC32 30.03.032	Piastrina	Plate
33	PTC32 30.03.033	Battuta scorrevole	Sliding Beating
34	PTC32 30.03.034	Porta ingrassatore cursore	Lubrificator rack
35	PTC32 30.03.035	Tubo lubrificazione cursore	Cursor lubrification pipe
36	PTC32 30.03.036	Ingrassatori a 90° M6	Lubrificators

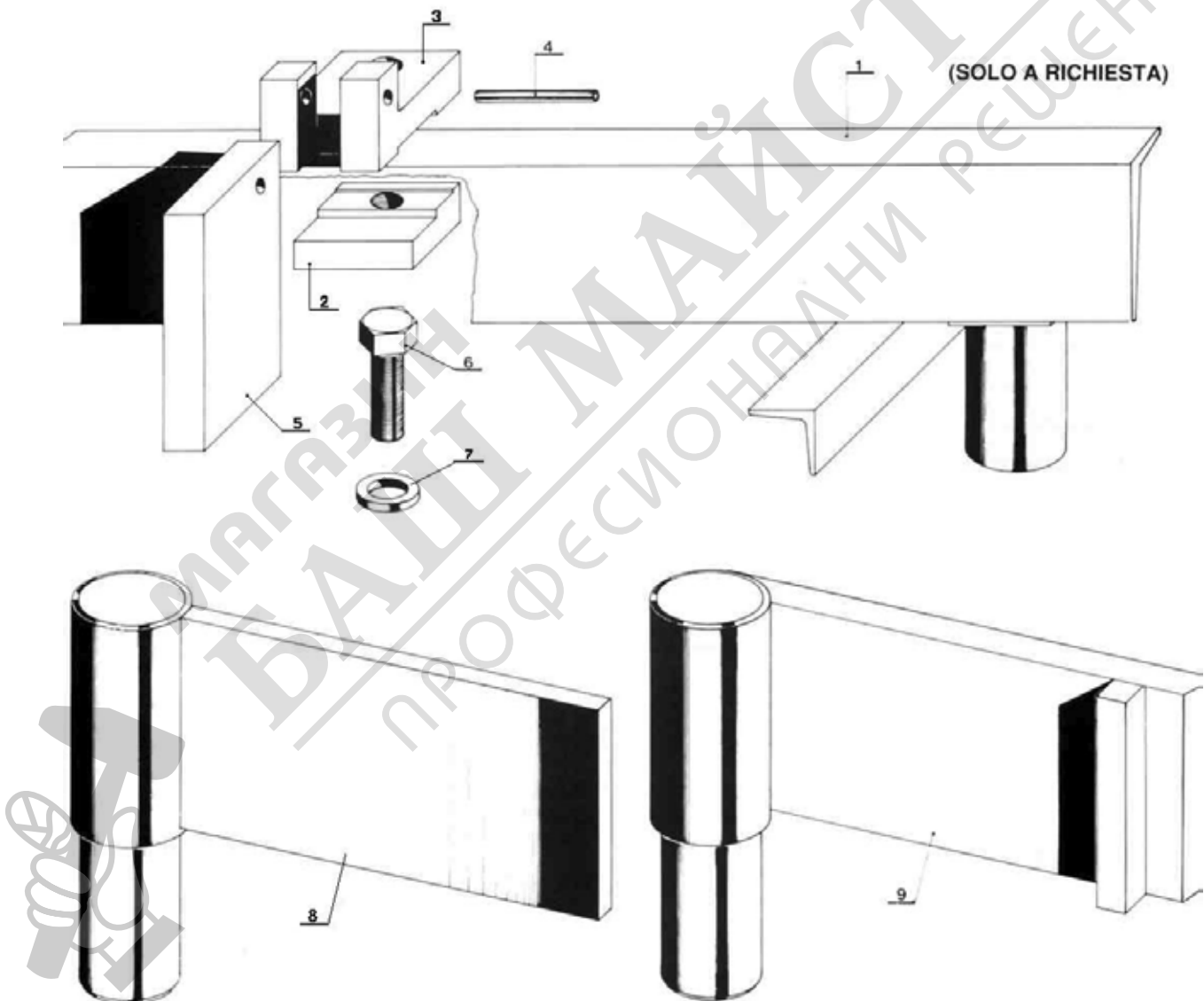


Tav.03 Dispositivo regolazione angolo di piegatura


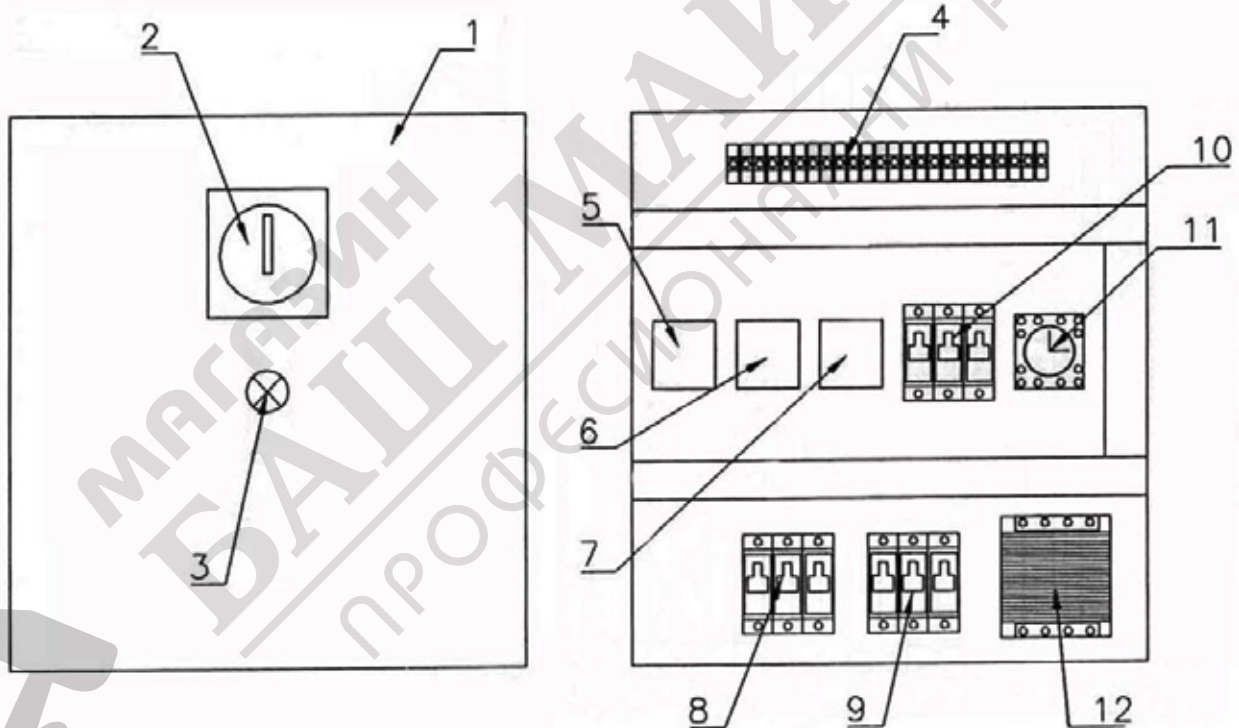
	Tav.04	Serie completa di perni e boccole	Complete range of Pivots and buckles
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.04.001	Perno centrale (Ø25)	Centre Pivot (Ø25)
2	PTC32 30.04.002	Perno centrale (Ø 35)	Centre Pivot (Ø35)
3	PTC32 30.04.003	Perno centrale (Ø 44)	Centre Pivot (Ø44)
4	PTC32 30.04.004	Perno centrale (Ø 55)	Centre Pivot (Ø55)
6	PTC32 30.04.006	Perno laterale (Ø 35)	Lateral Pivot(Ø35)
7	PTC32 30.04.007	Perno laterale (Ø 45)	Lateral Pivot(Ø45)
8	PTC32 30.04.008	Perno laterale (Ø 50)	Buckles (Ø50)
10	PTC32 30.04.010	Boccole (Ø 70)	Buckles (Ø70)
11	PTC32 30.04.011	Boccole (Ø 80)	Buckles (Ø80)
12	PTC32 30.04.012	Boccole (Ø 90)	Buckles (Ø90)
13	PTC32 30.04.013	Boccole (Ø 115)	Buckles (Ø115)

Tav.04 Serie completa di perni e boccole


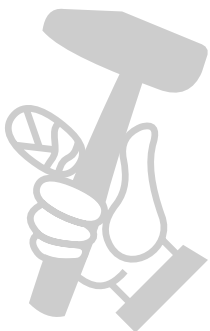
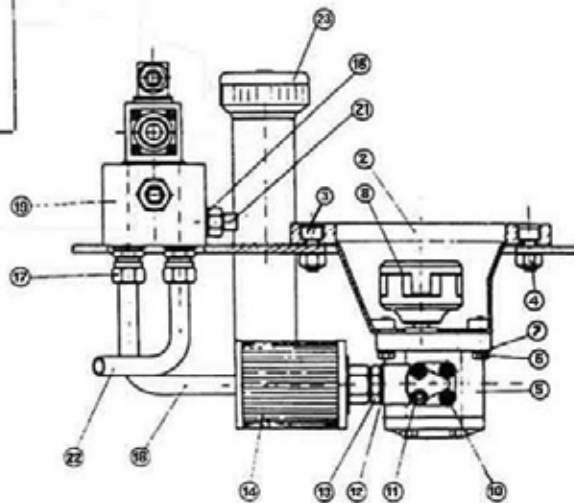
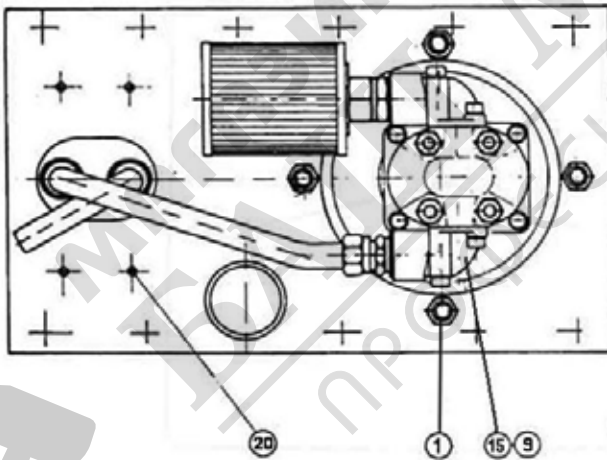
	Tav.05	Accessori per staffatura	Accessories
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.05.001	Asta appoggio staffe	Brace
2	PTC32 30.05.002	Piastra di fissaggio battuta	Fixing plate
3	PTC32 30.05.003	Cerniera per battuta	Hasp
4	PTC32 30.05.004	Spina elastica	Elastic plug
5	PTC32 30.05.005	Battuta retrattile	Beating
6	PTC32 30.05.006	Vite	Screw
7	PTC32 30.05.007	Rondella	Washer
8	PTC32 30.05.008	Contrasto appoggio barre	Support contrast
9	PTC32 30.05.009	Appoggio barre	BArs support



	Tav.06	Cassetta comandi elettrici	Electrical drive box
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.06.001	Cassetta elettrica completa	Complete box
2	PTC32 30.06.002	Commutatore di linea	Line changer
3	PTC32 30.06.003	Spia luminosa	Lights
4	PTC32 30.06.004	Morsettiera	Clamps box
5	PTC32 30.06.005	Contattore	Contacter
6	PTC32 30.06.006	Contattore	Contacter
7	PTC32 30.06.007	Contattore	Contacter
8	PTC32 30.06.008	Porta fusibili completo	Complete Fuse box
9	PTC32 30.06.009	Porta fusibili completo	Complete Fuse box
10	PTC32 30.06.010	Porta fusibili completo	Complete Fuse box
11	PTC32 30.06.011	Temporizzatore	Timer
12	PTC32 30.06.012	Trasformatore 50 VAR	Transormer

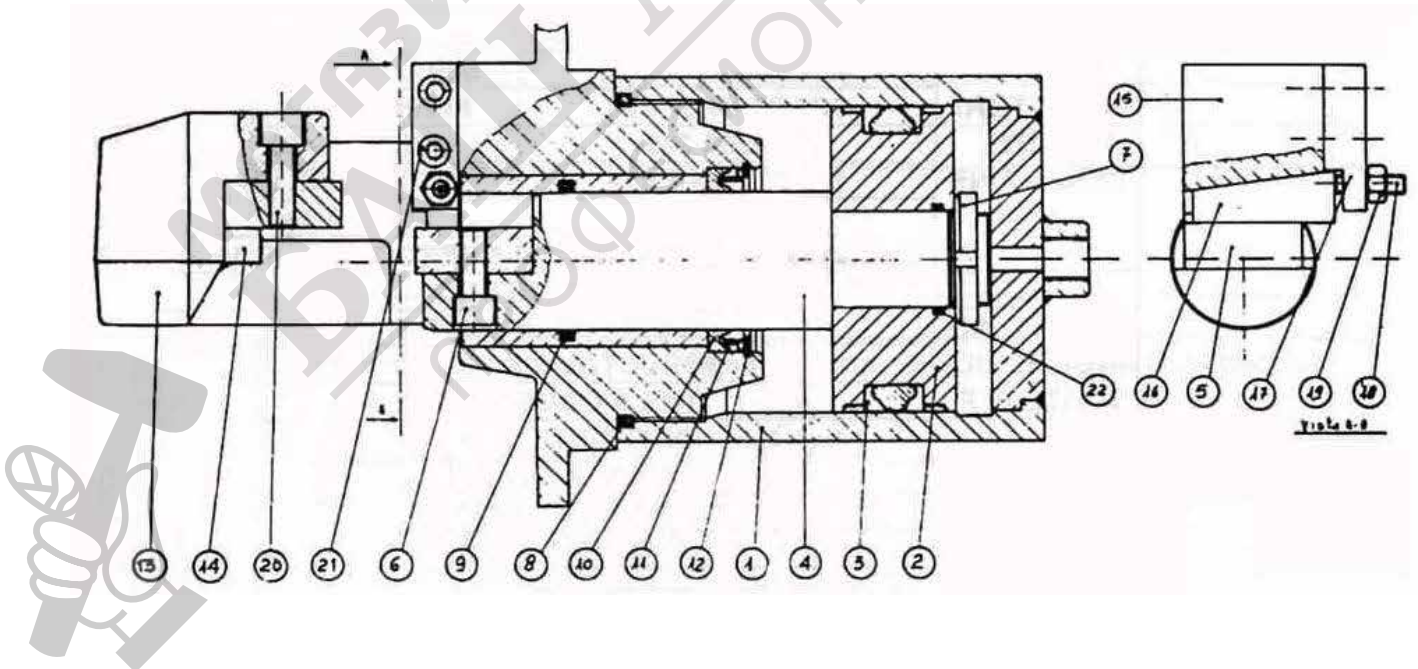
Tav.06 Cassetta comandi elettrici


	Tav.07	Centralina oleodinamica Cesويا	Shear Oleodynamic Switchbox
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.07.001	Coperchio serbatoio olio	Tank Cap
2	PTC32 30.07.002	Flangia BL5S	Flange
3	PTC32 30.07.003	Vite	Screw
4	PTC32 30.07.004	Dado autobloccante	Nut
5	PTC32 30.07.005	Pompa	Joint motor side
6	PTC32 30.07.006	Vite	Screw
7	PTC32 30.07.007	Rondella Grower	Brower washer
8	PTC32 30.07.008	Giunto elastico	Joint
9	PTC32 30.07.009	Raccordo a flangia	Flange connection
10	PTC32 30.07.010	Vite	Screw
11	PTC32 30.07.011	Vite	Screw
12	PTC32 30.07.012	Rondella rame	Copper washer
13	PTC32 30.07.013	Raccordo MM	MM connection
14	PTC32 30.07.014	Filtro MPAM 25/60	MPAM 25/60 filter
15	PTC32 30.07.015	Anello OR	OR ring
16	PTC32 30.07.016	Rondella rame	Copper washer
17	PTC32 30.07.017	Raccordo estremità dritto	Right connection
18	PTC32 30.07.018	Tubo acciaio	Steel tube
19	PTC32 30.07.019	Distributore con elettrovalvola	Hydraulic distributor with solenoid valve
20	PTC32 30.07.020	Vite	Screw
21	PTC32 30.07.021	Raccordo MM	MM connection
22	PTC32 30.07.022	Tubo acciaio	Steel tube
23	PTC32 30.07.023	Tappo con sfiato	Tap



GB

	Tav.08	Testina di taglio Cesoa	Sher cut head
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.08.001	Cilindro	Cylinder
2	PTC32 30.08.002	Pistone	Piston
3	PTC32 30.08.003	Guarnizione	Sealing ring
4	PTC32 30.08.004	Stelo	Piston rod
5	PTC32 30.08.005	Coltello	Knife
6	PTC32 30.08.006	Vite	Screw
7	PTC32 30.08.007	Ghiera	Ferrule
8	PTC32 30.08.008	Anello OR 865	O-Ring
9	PTC32 30.08.009	Anello OR 332	O-Ring
10	PTC32 30.08.010	Anello UM 8060	UM 8060 ring
11	PTC32 30.08.011	Anello limitatore	Limiter ring
12	PTC32 30.08.012	Anello seeger	Seeger ring
13	PTC32 30.08.013	Testa di troncatura	Truncate head
14	PTC32 30.08.014	Rinforzo coltello fisso	Fix knife reinforce
15	PTC32 30.08.015	Supporto lardone	Support
16	PTC32 30.08.016	Lardone	Steal sliding plate
17	PTC32 30.08.017	Piastra fissaggio lardone	Fixing plate
18	PTC32 30.08.018	Vite	Screw
19	PTC32 30.08.019	Dado	Nut
20	PTC32 30.08.020	Vite	Screw
21	PTC32 30.08.021	Vite	Screw
22	PTC32 30.08.022	Anello OR	OR ring



GB

	Tav.09	Impianto oleodinamico	Oleodynamic installation
	PTC32/30	I	GB
Rif	Codice		
1	PTC32 30.09.001	Filtro olio	Oil filter
2	PTC32 30.09.002	Pompa	Pump
3	PTC32 30.09.003	Valvola max pressione	Max. pressure valve
4	PTC32 30.09.004	Elettrovalvola	Electric valve
5	PTC32 30.09.005	Valvola max pressione	Max. pressure valve
6	PTC32 30.09.006	Martinetto	Piston bar

Tav.09 Impianto oleodinamico
