

**TRONCATRICE A DISCO PER METALLI FERROSI
CUTTING-OFF MACHINE WITH CIRCULAR BLADE FOR FERROUS METALS
METALL-KREISSAEGE
TRONÇONNEUSE A DISQUE POUR METAUX FERREUX
CORTADORA DE DISCO PARA METALES FERROSOS**

**MANUALE DI ISTRUZIONI PER L'USO - INSTRUCTION MANUAL FOR OPERATION
BETRIEBSANLEITUNG - MANUEL D'INSTRUCTIONS POUR L'EMPLOI
MANUAL DE INSTRUCCIONES DE USO**

COSTRUTTORE:

MANUFACTURER :

ERBAUER:

MACC S.p.A. SCHIO (VI) - ITALY

CONSTRUCTEUR:

CONSTRUCTOR:

MODELLO:

MODEL :

TRS 315 DV

MODELL:

MODELE:

MODELO:

MATRICOLA:

SERIAL NUMBER:

KENNNUMMER:

MATRICULE:

MATRICULA:

ANNO DI COSTRUZIONE:

YEAR OF CONSTRUCTION:

2010

BAUJAHR:

ANNEE DE CONSTRUCTION:

AÑO DE COSTRUCCION :

1. INTRODUCTION

The "Operating instructions" are an integral part of the machine and should be consulted before, during and after the start up of the machine and whenever else required. The content of these instructions should always be carefully observed.

The observance of the above is the only way to achieve the two fundamental aims of this manual:

- **Optimization of machine performance**
- **Prevent damage to the machine and injury to the operator**

The index of the chapters and the index of the drawings, diagrams and tables is contained in chapter 3 and can be used to help the location of specific information.

CAUTION : BEFORE INSTALLING THE MACHINE, READ THE OPERATING INSTRUCTIONS CAREFULLY

2. INFORMATION ABOUT MAINTENANCE ASSISTANCE

2.1 GUARANTEE

- MACC S.p.A. products are guaranteed against material and manufacturing defects for a period of 12 months from the date of delivery or, if the machine is installed by MACC employees, from the date of machine start up.
- The buyer is only entitled to the replacement of parts which are acknowledged as faulty: carriage and packing are at the buyer's expense. In the event of the above, the following information should be supplied:
 1. Date and number of purchasing document
 2. Machine model
 3. Serial number
 4. Code of any relevant drawings
- Requests for compensation for the inactivity of the machine will not be accepted.
- The guarantee does not cover uses which are not in line with these operating instructions which are an integral part of the machine. Nor is maintenance covered if the instructions supplied are not observed.
- The guarantee will not cover machines which have undergone unauthorized modifications.
- Modification or tampering with the safety devices is strictly forbidden.

3. INDEX

3.1 INDEX OF CHAPTERS

Chap. 1	Introduction
Chap. 2	Information about maintenance assistance
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Chap. 4	Description of the machine Description of the machine and its components Intended and unsuitable uses of the machine
Chap. 5	Main technical data
Chap. 6	Handling and transportation
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Chap. 8	Start up and operation Devices and their location Tools supplied Operation Special safety checks General safety rules Measures to prevent residual risks Safety, Guidance, Notice Labels on the Machine
Chap. 9	Maintenance and repairs General safety measures Routine checks and maintenance Description of routine maintenance
Chap. 10	Information regarding environmental noise
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3.2 INDEX OF DRAWINGS, DIAGRAMS AND TABLES

ENCL. TYPE	DESCRIPTION	ENCL No.	CHAP.
Table	Choice of circular blade	1	9.3
Drawings	Handling and transportation- Installation plan	1	6/7/8
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4. DESCRIPTION OF THE MACHINE

4.1 DESCRIPTION OF THE MACHINE AND ITS COMPONENTS

The TRS 315 DV cutting-off machine with circular blade for ferrous metals produced by MACC is made from a solid casting, carefully processed and provided with holes for fastening to a bench or pedestal. The upper surface, designed to allow the complete draining away of the cutting fluid, has been processed using precision machinery to allow the attachment of a sturdy vice with burr-proof jaws.

The bar-stop device allows the length required to be preset and a constant level of performance for repeated cuts.

The blade-holding head is firmly attached to a reduction unit in oil bath built onto the motor and to the base by means of a joint which provides 45° rotation both to the left and right and the cutting movement with manual feed.

The coolant pump is also securely attached to the motor block.

The main switch is located above the motor block. Another switch is used to select motor rotation speed and therefore cutting speed.

The control lever, fitted with an ergonomic hand-grip and blade activation button with safety release action, reduces fatigue during operation to a minimum.

The blade is protected by a guard which in its turn protects the operator from ejected shavings and coolant.

The machine is supplied with a set of service spanners.

4.2 INTENDED AND UNSUITABLE USES OF THE MACHINE

The TRS 315 DV cutting-off machine with circular blade has been designed and built to cut bars, structural steel and ferrous metal pipes in accordance with the instructions contained in this manual.

Therefore, the cutting of other materials is not permitted: if the above recommendations are not observed, the machine could be damaged and the health and safety of the operator put at risk.

Cutting is not permitted, if the bar has not been first locked in the vice.

5. MAIN TECHNICAL DATA

Under no circumstances should the following data be altered, this is in order to protect the correct functioning of the machine and to avoid creating safety risks for the operator.

MOTOR	three-phase
Motor Power	KW 1,5/2,2 - KW 1,32/1,91
Motor revolutions (two speeds)	1400-2800 rpm - 700-1400 rpm
CIRCULAR BLADE (SAW)	Number of teeth and feed holes according to table
Maximum diameter and thickness	Diameter: 315 mm Thickness: 2,5
BLADE REVOLUTIONS per minute	40-80 rpm - 20-40 rpm
CUTTING ANGLE	45° right - 45° left
PIECE LOCKING VICE: MAX OPENING	115 mm
COOLANT TANK CAPACITY	litres 3
MACHINE WEIGHT	160 kg - 1570 N

6. HANDLING AND TRANSPORTATION

For safe handling and transportation use a lift truck for movement indoors or a bridge crane; in this case, also using cables fastened to the sling positions indicated on the drawing 1 Encl. 1. Keep the machine in its normal position and avoid turning it upside down. If the machine is fastened to the pedestal, stability will be greatly reduced and therefore all the necessary measures should be taken to stop the machine from tipping over.

All handling and transportation operations should be carried out by trained staff.

7. MACHINE INSTALLATION

A. MACHINE CHECK AND CONTROL LEVER ASSEMBLY

The machine should be checked to make sure that it has not been damaged during transportation and handling.

Control lever assembly (drawing 5. Encl. 4) : Fit the supplied head lever 25, into position 24 and fasten it by means of the nut 131. To fit the handle, connect the electric cable terminals 220 to the microswitch 218 and place it in the left second half of the handle as shown in draw. 4 Encl.2. Then insert the button 222 and the lever 25. Complete the assembly using the screws 221 and then 219. Make sure that the cable is inserted into the lever slot 25, after having checked that there are no burrs or sharp edges in the slot.

B. FASTENING OF THE MACHINE

The machine will be able to operate in keeping with the technical parameters supplied by MACC if it is positioned correctly and fastened securely to the bench or the factory floor so that vibrations are minimal during operation. Consult drawing 2 TRS 315 DV Installation plan Encl. 1.

C. ASSEMBLY OF CIRCULAR BLADE

For the assembly of the circular blade, remove the screw No. 36 (Draw. 6 Encl. 4), keeping the motor-blade block raised and rotate the mobile guard 31 backwards. Unscrew the screw 28 clockwise, withdraw the flange 29, insert the circular blade, making sure that the tothing faces the same direction as the arrow on the mobile guard. Then refit flange 29 and screw 28.

D. ELECTRICAL CONNECTION TO THE MAINS

Install a differential thermomagnetic switch with characteristics suited to the mains.

Make sure that the power supply voltage corresponds to the voltage on the motor plate. Connect the cable to the power supply line observing the colour codes of the individual wires, pay particular attention to the earth wire. Connect the machine, make sure that the rotation of the circular blade is in the direction shown by the arrow on the guard.

E. CUTTING COOLANT

For the cooling of the circular blade, fill the tank with emulsible oil obtained from a mixture of water and AGIP AQUAMET 700 EP oil with a percentage of 5-7%

8. MACHINE START UP AND OPERATION

8.1 DEVICES AND THEIR LOCATION

(The location of the devices described is shown on the TRS 315 DV installation plan Encl. 2)

Code 203	CHANGEOVER SWITCH
Code 218	START-STOP MICROSWITCH: situated inside the handle located at the end of the control lever and has safety release action.
Code 208	EMERGENCY STOP
Code 4	CUTTING ANGLE DEVICE: to check that cutting inclination is as required
Code 21	LOCKING VICE
Code 77	BAR-STOP
Code 25	CONTROL LEVER WITH HANDLE

8.2 TOOLS SUPPLIED

1	Allen wrench size 3
1	Allen wrench size 4
1	Allen wrench size 5
1	Allen wrench size 6
1	Allen wrench size 14

8.3 OPERATION

CHECKS TO CARRY OUT BEFORE EACH CUT

- Make sure that the circular blade is fastened securely by means of screw 28 (DRAW.6 ENCL.4)
- Check that the hand indicates the required cutting angle (vice scale)
- Make sure that the head and vice are locked by means of the lever 88 (DRAW.7-8 ENCL.4)
- With the motor off, lower the head and check that at the end of the stroke, the circular blade does not touch the counter-vice 75. If the circular blade does touch, adjust the screw 109 located at the centre of the head support 4 (DRAW.5 ENCL.4)
- Make sure that the piece to be cut is adequately secured in the vice.
- Make sure that the coolant is circulating in the machine.

CUTTING OPERATION

- Before each cutting operation, if the cutting inclination is not as required, correct or change the inclination by placing the bench lever 88 in position 2 (DRAW.8 ENCL.4) and after correction, forcefully turn it to position 1. By untightening the lever 88, the whole vice unit can be positioned forward or back with respect to the blade depending on the cutting requirements. By fastening the grub screw 107 (DRAW.7 ENCL.4), located in the front part of the rotating plate 115, a more secure locking of the vice unit during the cutting stages will be obtained.
- Clamp the piece to be cut by means of the handwheel 11 and the lever 20 (DRAW.7 ENCL.6). Lock the piece to be cut into position by means of the handwheel 11 and lever 20. Bring the vice jaw to about 3-4 mm from the piece by rotating the handwheel 11. Then fasten securely using lever 20. Turn the main switch 212 and the speed switch 203 to the position required (we recommend No.1), **use the 2° speed 80 RPM only in case of need and no longer than 5 minutes in 1 hour.** Take hold of the handle 26 located at the end of the head lever and press button 218. The blade will now start turning.
- Position the blade carefully on the piece to be cut. Then increase the pressure in order to accelerate the cutting operation without using excessive force. To make a series of cuts, position the bar-stop 77 at the size required. Fix it into position by using the knob 79 (DRAW.9 ENCL.5).
- To replace the circular blade carry out the same operations used to assemble the circular blade. (chapter 7c).
- For the choice of most suitable blade consult the table ENCL. 1.

We strongly discourage the use of blades with ruined or insufficiently sharp cutting edges

8.4 SPECIAL SAFETY CHECKS

- Before using the machine, check carefully that the safety devices are in good working order, that the mobile parts are not blocked, that no parts are damaged and that all the components are installed correctly and are functioning properly.
- Make sure, before operating the machine, that the screws of the guards and other protective devices are adequately secured, especially the screws on the circular blade guard and the rotation levers of the circular blade mobile guard.**
- Check that the safety microswitches and the emergency button are functioning correctly. Test them during a loadless machine cycle.**
- Make sure that the mobile guard does not leave uncovered an angle of more than 5° in order to prevent fingers from entering.**
- Pay attention to environmental conditions. Do not expose the machine to rain; do not use it in damp environments, position the machine on a clean dry floor that has no oil or grease stains.
- Before using the machine, the operator should make sure that all tools and service spanners used for maintenance or adjustment have been removed.

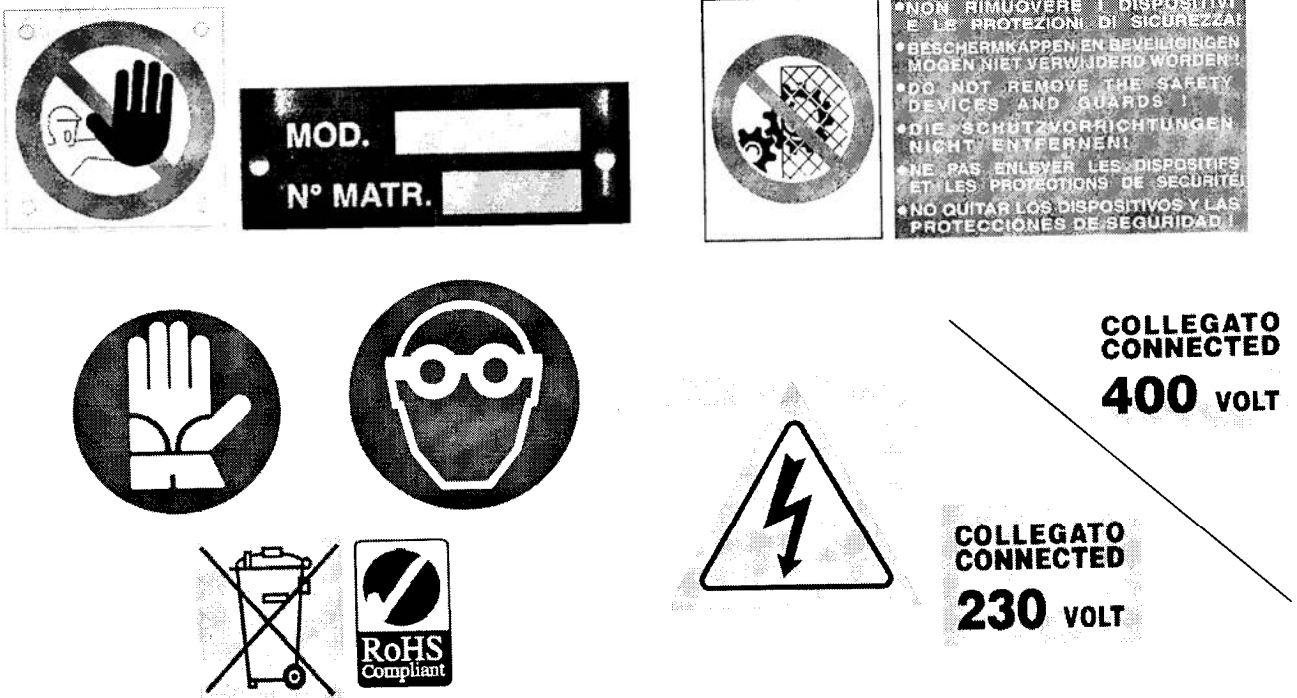
8.5 GENERAL SAFETY RULES

- A. Wear appropriate clothing. The operator's clothing should not be loose or dangling nor should it have parts which could easily get caught. Sleeves should contain elastic.
- Belts, rings or chains should not be worn. Long hair should be kept in a net.
- B. Avoid unstable operating positions. Find a safe and evenly balanced position to operate the machine.
- C. Keep the work area tidy, untidiness increases the risk of accidents.
- D. Do not use the power supply cable to disconnect the plug from the socket. Protect the cable from high temperatures, oil or sharp edges. For outdoor use, only use extension cables which are in line with current regulations.

8.6 MEASURES TO PREVENT RESIDUAL RISKS

- A. The removal of guards and tampering with the safety devices is strictly forbidden.
- B. Gloves should always be worn.
- C. Standard work clothing should be used and kept closed and should not have flapping parts.
- D. The machine should not be cleaned with liquids under pressure.
- E. In the event of fire, extinguishers should not be used unless they are the powder type. The electric power supply to the machine should always be disconnected in these circumstances.
- F. Do not insert foreign bodies into the motor cover and to not supply the machine with voltage by tampering with the safety microswitches or main switch.
- G. Take the necessary precautions to avoid the machine being started by other people during loading, adjustment, piece changing or cleaning.

Safety, Guidance, Notice Labels on the Machine



9. MAINTENANCE AND REPAIRS

9.1 GENERAL SAFETY MEASURES

- A. Lockable main switch. Open the padlock in the event of machine failure or replacement of the circular blade. The padlock key should be entrusted to a responsible person.
- B. Before carrying out any work on electrical equipment, remove the power supply plug from the control panel (disconnect voltage).
- C. Only use cables to supply power, which have a cross-section suited to the power of the machine.
- D. Opening key. The keys of the machine should be kept by authorized personnel. Do not leave the keys for doors which provide access to the hydraulic or electrical parts or keys to lockable switches in easy of reach of unauthorized personnel.
- E. Repairs should only be carried out by authorized personnel. Only spare parts made by the original manufacturer should be used, otherwise these could cause damage or injury.

9.2 ROUTINE CHECKS AND MAINTENANCE

FREQUENCY (working hours)	OPERATION
1000 hours	Replace the oil in the gear box with AGIP ACER 320 oil (0.2 litres) or equivalent.
1000	Lubrication of mobile parts in the piece locking vice (GREASE AGIP MU 2)
50	Cleaning of the coolant tank and filter check
if necessary	Check functioning of bench lever

9.3 DESCRIPTION OF ROUTINE MAINTENANCE

A. Replacement of gear box oil

Remove caps 95 and 23 (draw.5-6 Encl.4), let all the used oil flow out into a container which should have a label indicating the contents for the purposes of disposal. Replace cap 23. Feed 0.2 litres of oil (as specified above) into the oil feed hole located on the upper part of the gear box and then replace cap 95.

B. Lubrication of mobile parts of piece locking vice

Withdraw vice 21 completely by turning handwheel 11 (DRAW.7 ENCL.4). Clean and grease the parts worked by the counter-vice 75, the vice 21 and vice gib 101. Put a drop of oil in the oil feed hole 19 located behind the handwheel. In case of sliding difficulties or play of the clamp guides carry out of the following operations: loosen nut 100, adjust dowel 99, secure nut 100.

C. Cleaning of the coolant tank: Filter check.

Empty the coolant from the tank by means of the tap located on the rear part of the machine bench (after moving the liquid feed pipe away from this). Collect the coolant in a container for future disposal. Remove screws 89 and the drilled plate 87(draw.8 Encl.4). Clean out the shavings and the metallic powder, taking care not to scatter this over the machine especially around the motor and the box containing the electrical equipment. Refit the plate 87 and fasten it with screws 89, turn the tap off and reconnect the pipe. Check filter 55 and if necessary replace it. Fill the tank with the amount and liquid previously stated.

D Checking of bench lever functioning

Check regularly that the rotation release - locking lever is working properly. In the event of the lever not locking correctly, loosen grub screw 91 (draw.7 Encl.4), tighten nut 90 and fasten grub screw 91 again. Make sure that with the bench lever in position 2, arm 4 which supports the blade-motor block can rotate freely.

10. INFORMATION REGARDING ENVIRONMENTAL NOISE

An environmental noise test carried out on the TRS 315 DV cutting-off machine with circular blade, identical to the machine to which these operation instructions refer, has given the following results:

ACOUSTIC RADIATION PRESSURE

1. $L_{Aeq} = 82,6 \text{ dB (A)}$
2. $L_{peak} = 90.6 \text{ dB}$ (the maximum acceptable value is 140 dB).
3. The level of background noise has no influence = 48.5-54.2 dB (A).

11. LAYING OFF AND DISMANTLING

11.1 LAYING OFF

If the machine is to be laid off or left idle for a long period, the following operations must be carried out:

1. Disconnect the machine from the electricity mains.
2. Empty oil from the gear box and cooling liquid from its tank
3. Clean carefully the machine by getting rid of all traces of grease, especially on the worked parts that must be protected with anti-oxidants.
4. Cover the machine with a sheet, preferably not plastic as it can cause rust due to the humidity condensation.
5. Store the machine in a closed, dust-free place.

11.2 DISMANTLING

If the machine must be definitively dismantled, its components must be sub-divided for the purpose of a possible recycle of the materials and for the environment safety. The following table is given for your guidance:

Steel	Electrical Components	Light alloy	Cast iron	Bronze Copper	Plastic rubber and	Various
Shaft	Motors winding	Gear boxes	Structural parts		Seals	
Spring	Push button and Control system (relais-transformer)	Disk guard			Electrical box	
Pedestal		Disk movable guard			Head lever handle	

12. LIST OF SPARE PARTS

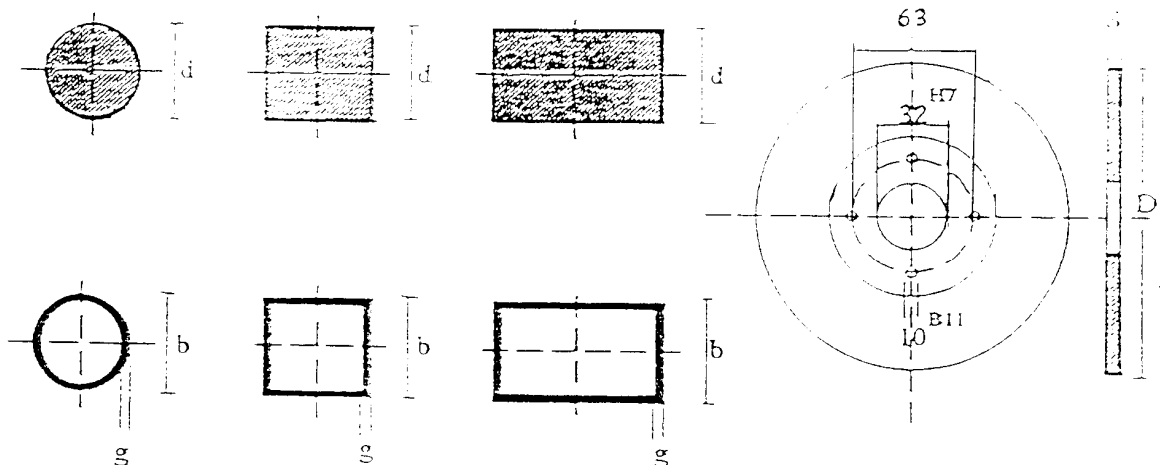
POS.	DESCRIPTION	Quant	CODE
1	Pedestal	1	004/71
2	Bench	1	001/06
3	Ring OR 134	1	068/04
4	Head carrying arm	1	004/19
5	Roller carrier arm pin	1	048/04
6	Snap ring D.25E DIN 471	1	
7	Medium nut M 10 DIN 934	1	
8	HH Screw M10x50 DIN 931	1	
9	Roller carrying arm	1	047/04
10	Roller	1	049/04
11	Vice handwheel	1	029/03
12	Hexagon sock. screw M6x10 DIN914	1	
13	Vice spring	1	021/31
14	Hexagon sock.screw M8x14 DIN 914	1	
15	Bearing vice flange	1	020/31
16	Cage AxK 30 47	1	060/31
17	Fifth wheel AS 30 47 (n.2)	2	061/31
18	Bush	1	025/03
19	Oiler D.6	1	
20	Vice lever	1	007/31
21	Double vice	1	051/04
22	Oil level plug 3/8"	1	
23	Oil drain plug 3/8"	1	
24	Head	1	001/27
25	Head lever	1	028-A/19
26	Head lever handle	1	046/05
27	Disk	1	
28	Disk fastening screw TCCE16x25 SX	1	018/05
29	Disk fastening flange	1	019/19
30	Snap ring D.45 E DIN 471	1	
31	Disk movable guard	1	011/19
32	Screw HSHC 6x16 DIN 912	2	
33	Jet-breaker	1	030/19
34	Water pipe	1	
35	Disk guard	1	010/19
36	Screw HSHC 6x16 DIN 912	2	
37	Movable guard rod	1	027/19
38	Screw HSHC 8x20 DIN 912	2	
39	Fixed guard rod	1	026/19
40	Medium nut M 10 DIN 934	4	
41	Front motor flange	1	
42	Motor casing	1	
43	Key 5x5x36 DIN 6885	1	
44	Bearing 6205	1	052/35
45	Support plate	1	048/19
46	Bearing 629	1	043/05
47	Snap ring D.9E DIN 471	1	
48	Pump carrier	1	003/05
49	Screw HSHC 6x20 DIN 912	3	
50			
51	Washer D.6 DIN 125/A	2	
52	Screw HSHC 6x20 DIN 912	2	
53	A.C. Pump	1	041/05
54	Water pipe	1	
55	Filter	1	045/05
56	Fan cover	1	
57	Fan	1	
58	Rotor	1	
59	Stator	1	
60	Dowel 10x45 DIN 914	4	
61			
62			
63	Splash guard 30-47-7	1	067/04
64	Bearing 3205	1	065/04
65	Snap ring D.521	1	

66	Spacer	1	016/21
67	Worm screw	1	016/03
68	Ring nut CRN 3 M 17x1	1	
69	Bearing 6302	1	044/03
70	Helical gear	1	007/18
71	Ring nut CRN 5 M25x1,5	1	
72	HSFHC Screw M10x16 DIN 7991	4	
73	Washer x M10 DIN 125/A	4	067/31
74	Right jaw countervice	1	052/04
75	Double countervice	1	050/04
76	Nut M 16 DIN 936	1	
77	Bar stopper	1	004/05
78	Bar stopper rod	1	031/05
79	Handwheel D.40 M 8x25	1	077/25
80	Water pipe	1	
81	Screw HSFHC M8x30 Din 7991	1	
82	Washer	1	
83	Bench tap	1	042/05
84			
85			
86			
87	Crucible	1	021/21
88	Bench lever	1	002/06
89	Screw HSHC 6x60 DIN 912	2	
90	Selflocking ring nut 32x1.5	1	
91	Dowel 8x10 DIN 916	1	
92	Key 7x8x30 DIN 6885	1	
93	Disk shaft	1	018/19
94	Splash-guard 32-47-7	1	005/03
95	Oil filling cap 3/8"	1	
96	Left jaw double vice	1	055/04
97	Right jaw double vice	1	054/04
98	Left jaw countervice	1	053/04
99	Hexag. soc. screw M8x25 DIN 914	3	
100	Nut M 8 DIN 934	3	
101	Vice gib	1	031/03
102	Vice screw	1	033-A/03
103			
104			
105	Pin	1	023/21
106	Pin	1	023/21
107	Hexag. screw f.p. M6x10 DIN 915	1	
108	Nut M 10 DIN 936	2	
109	Screw HH 10x25 DIN 933	2	
110	Hexag.sock. screw M6x10 DIN914	1	
111			
112	Vice slide bushing	1	032/07
113	Screw HSHC M10x25 DIN 912	2	
114	Countervice pin New 350	1	022/07
115	Revolving plate	1	007/19
116	Head pin	1	004/27
117	Oiler D.6	1	
118			
119			
120	Washer	2	
121	Screw HSHC M10x20 DIN 912	2	
122	Rear motor flange	1	
123			
124			
125			
126			
127			
128			
129			
130	Head seal	1	024/19
131	Medium nut M 20 DIN 934	1	

200	Box	1	066/90
199	Cover box	1	067/90
201	Plate	1	069/90
202	Omega raceway	1	046/90
203	Changeover switch	1	011/90
204	RH screw M4x14 DIN 7981	4	
205	HSHC screw M4x6 DIN 912	4	
206			053/90
207			
208	Emergency button	1	085/90
209	TBEI screw M4x6 ISO 7380	2	280/95
210	Remote controlled switch	1	032/90
211	Thermal relay	1	053/90
212			
213			
214	RH screw M4x14 DIN 7981	4	
215			
216			
217	Transformer 20 VA	1	042/90
218	Micro switch of handle	1	028/90
219	HSFHC screw M4x8 DIN 7991	2	
220	Electrical cable 2x1	1	
221	RH screw M2,9x13 DIN 7981	6	
222	Button	1	

SCELTA DELLE SEGHE- BLANDE SELECTION
CHOIX DES FRAISES SCIE- WAHL DER SAGEBLATTER

DIAMETRO - DIAMETER DIAMETRE - DURCHMESSER		200	225	250	275	300	315	350
SPESSORE - THICKNESS EPAISSEUR - DICKE		1.8	1.8	2	2.5	2.5	2.5	3
b = 10-80 g = ≤ 2	t	3	3	3	3	3	3	3
	z	200	230	250	280	300	315	350
b = 10-80 g = 2-4 d = 10-18	t	5	5	5	5	5	5	5
	z	130	140	160	170	190	200	220
d = 20-80 g = 4-10 d = 18-30	t	8	8	8	8	8	8	8
	z	80	90	100	110	120	120	140
d = 30-40	t	10	10	10	10	10	10	10
	z	60	70	80	90	90	100	110
d > 40	t	—	—	—	12	12	12	12
	z	—	—	—	70	80	80	90



Si garantisce il funzionamento ottimale della vite-corona utilizzando seghe con fori di trascinamento.

Best performance of worm screw worm wheel gearing is guaranteed when circular saw blades with drawing-holes are used.

Nous garantissons le bon fonctionnement de la vis et couronne seulement si l'on emploie des fraise-scies avec trous d'entraînement.

Die verwendung von sägeblättern mit mitnehmerlöchern sichert den guten betrieb der schnecke und des schneckenkranzes.

b = diametro esterno/altezza (tubi) - outside diameter/height (pipe)
diametre extérieur/hauteur (tube) - aussendurchmesser/höhe (rohr)

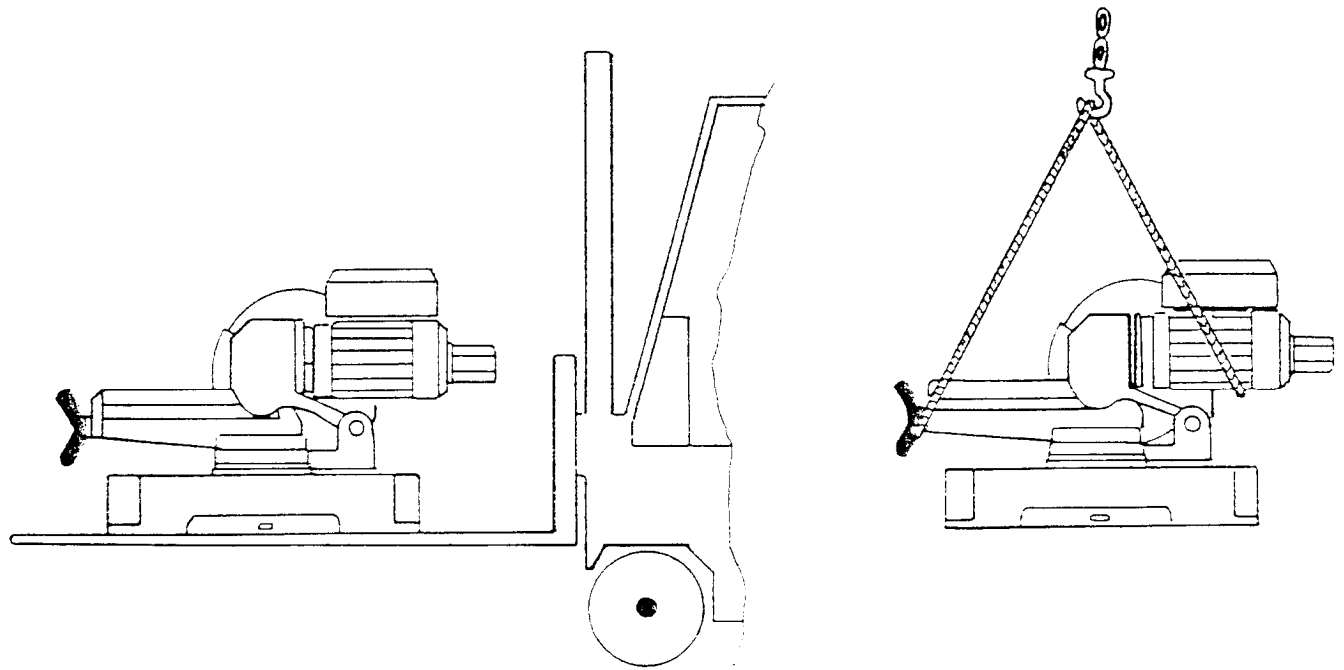
d = diametro/altezza (pieni) - diameter/height (solid)
diamètre/hauteur (plein) - durchmesser/höhe (voll)

g = spessore del tubo - pipe thickness
épaisseur du tube - rohrdicke

t = passo dentatura - toothing pitch
pas denture - entfernung verzahnung

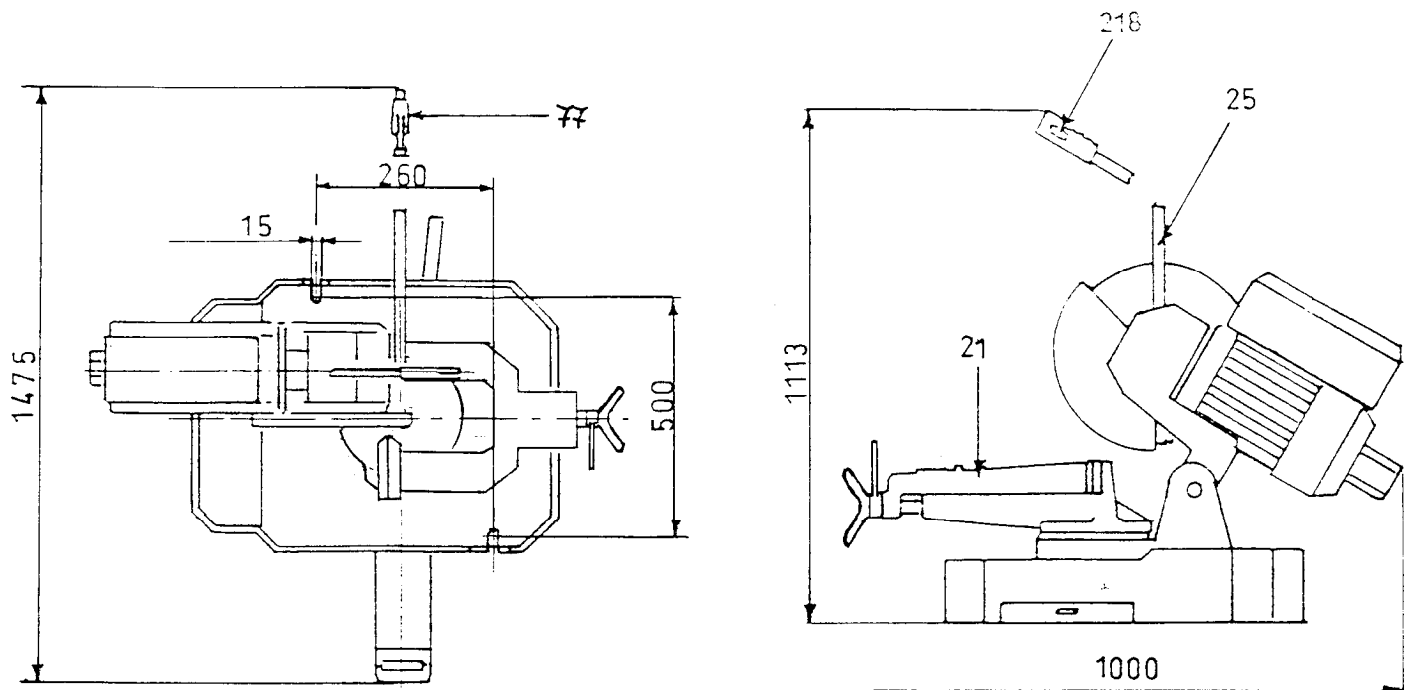
z = numero di denti - number of teeth
numero de dents - zahnnummer

MOVIMENTAZIONE E TRASPORTO

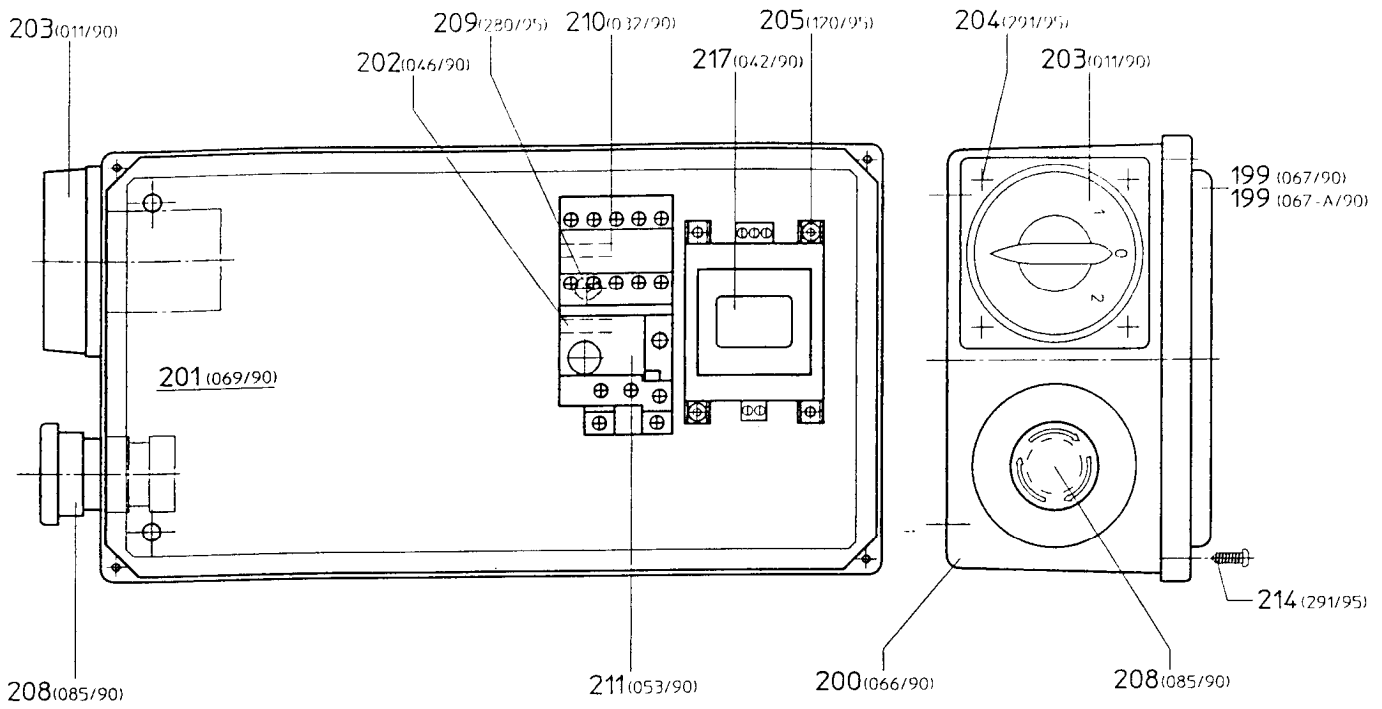


DIS. 1

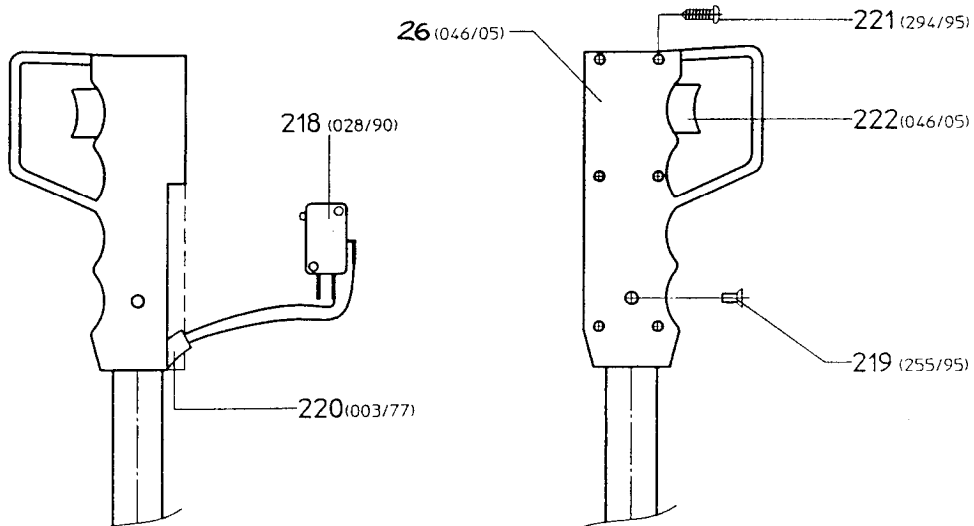
PIANO DI INSTALLAZIONE



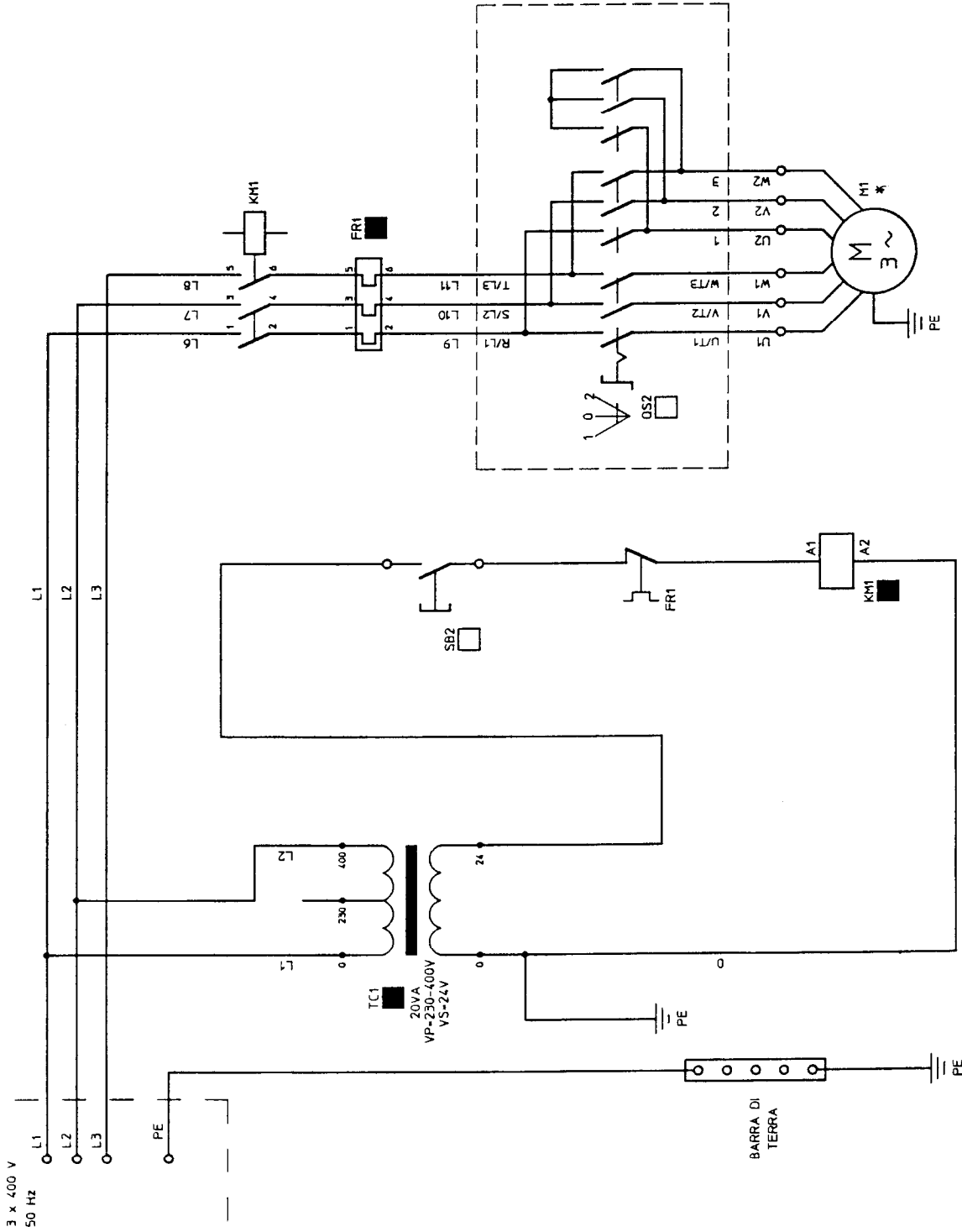
DIS. 2



Cassetta Impianto elettrico
 Electric Box
 Boîte Electrique
 Schaltkasten
 Caja Eléctrica



3 x 400 V
50 Hz



M1 *	TE 250
MOTORE LAMA : RPM 1400 / 2800	
HP 1,3 / 1,8 - Kw 0,95 / 1,32	
A 2,5 / 3,3 - Volt 400 50 Hz	

M1 *	TRS 275
MOTORE LAMA : RPM 700/1400 (1400/2800)	
HP 1,5 / 2 - Kw 1,1 / 1,5	
A 2,6/3,5 - Volt 400 50 Hz	

M1 *	TRS 30
MOTORE LAMA : RPM 700/1400(1400/2800)	
HP 1,8 / 2,6 - Kw 1,32 / 1,91	
A 4,5/6 (4/5,5) - Volt 400 50 Hz	

M1 *	NEW 315
MOTORE LAMA : RPM 700/1400 (1400/2800)	
HP 1,8 / 2,6 - Kw 1,32 / 1,91	
A 4,5/6 (4/5,5) - Volt 400 50 Hz	

M1 *	NEW 350
MOTORE LAMA : RPM 700/1400 (1400/2800)	
HP 2/3 (2,5/3,3) - Kw 1,5/2,2 (1,8/2,4)	
A 4,8/6,3 (4,2/4,7) - Volt 400 50 Hz	

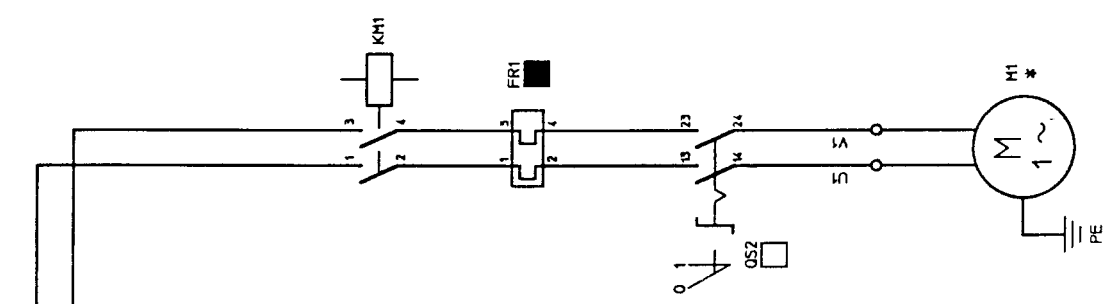
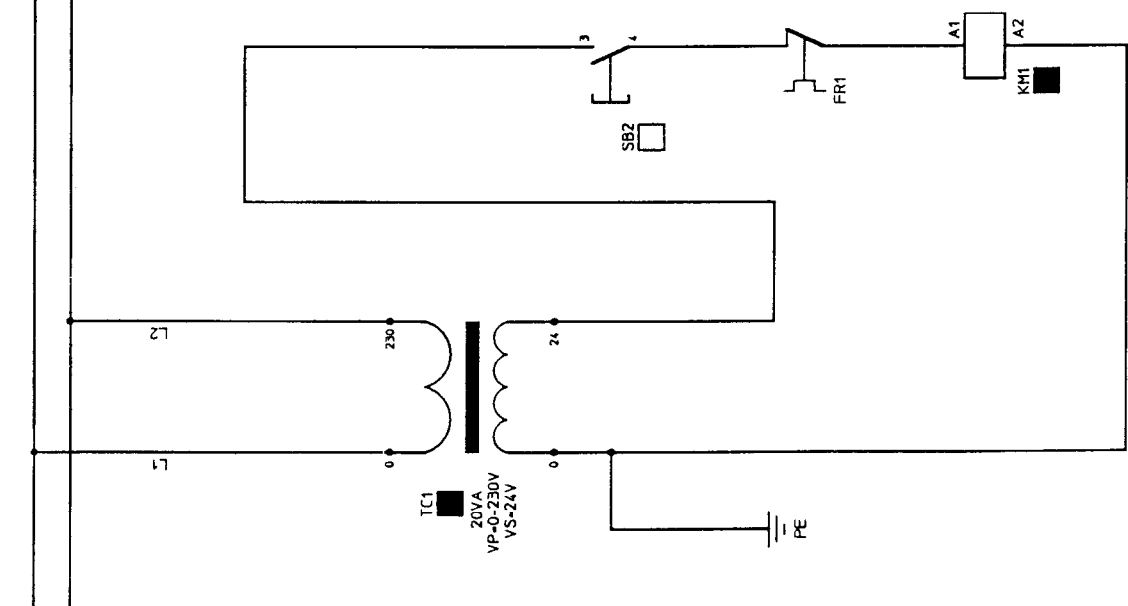
QS2	COMBUTATORE MOTORE DISCO
SB2	MICROINTERRUTTORE MANIGLIA
KM1	TELERUTTORE
FR1	RELE' TERMICO

Rev. Modificato	C./Appr.	Data	Descrizione
DESCRIZIONE: Schema Elettrico			
Data	21-06-04	Firma	PaolaXXY
Contr./Appr.			
Modello: TRONCATRICE		Macchina: NEW 315 - NEW 350	
		TE 250 - TRS 275 - TRS 30	
N° Schema		/ T	
Revisione	1	d	1
Foglio	1	d	1



0 1 2 3 4 5 6 7 8 9

2 x 230 V
50 Hz



M1 * TE 250
MOTORE LAMA : RPH 1400
HP 1,2 - Kw 0,9
A 5,5 - Volt 230 50 Hz

M1 * TRS 275
MOTORE LAMA : RPH 1400
HP 1,5 - Kw 1,1
A 8,5 - Volt 230 50 Hz

M1 * TRS 30
MOTORE LAMA : RPH 1400
HP 2 - Kw 1,5
A 10,5 - Volt 230 50 Hz

M1 * NEW 315
MOTORE LAMA : RPH 1400
HP 2 - Kw 1,5
A 10,5 - Volt 230 50 Hz

M1 * NEW 350
MOTORE LAMA : RPH 1400
HP 2 - Kw 1,5
A 15 - Volt 230 50 Hz

M1 * TA400
MOTORE LAMA : RPH 2810
HP 3 - Kw 2,2
A 13,4 - Volt 230 50 Hz

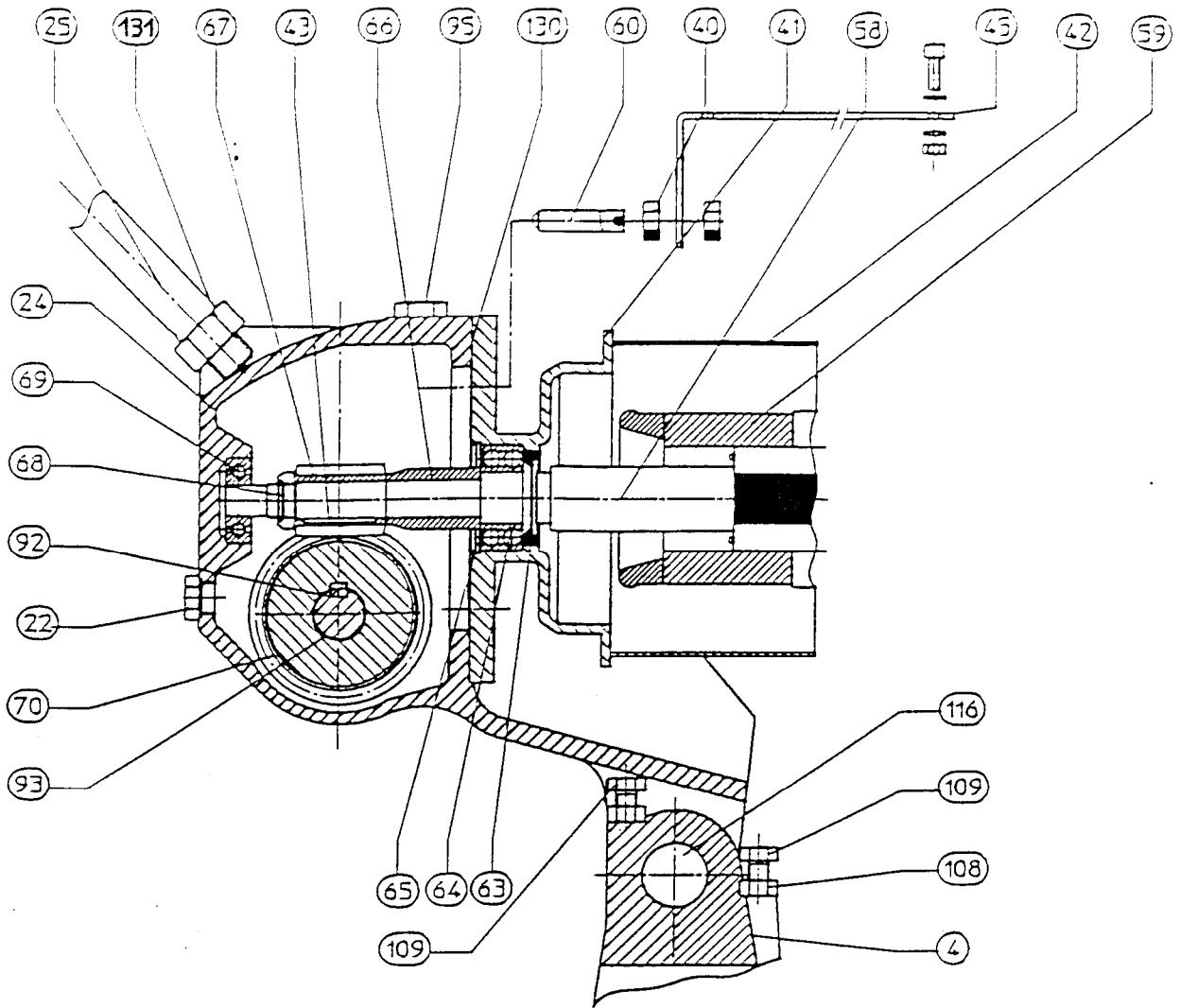
Rev./Modificata	C./Appr.	Data	Descrizione
			Schema Elettrico
DESCRIZIONE: Schema Elettrico			
Data	21-06-04	Firma	PaoloXV
Contr./Appr.			

Modello:	TRONCATORE
Macchina:	NEW315 - NEW350 - TA400 TE250 - TRS275 - TRS30
N° Schema	/ T
Revisione	1
Foglio	1 d 1

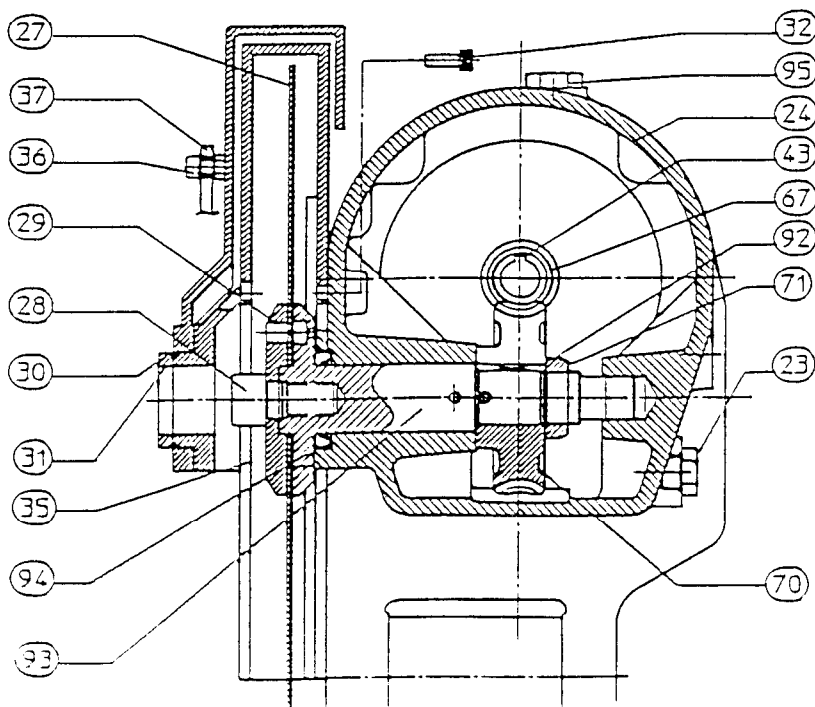
OS2	INTERRUTTORE MOTORE DISCO
SB2	MICROINTERRUTTORE MANGLIA
KM1	TELERUTTORE
FR1	RELE' TERMICO

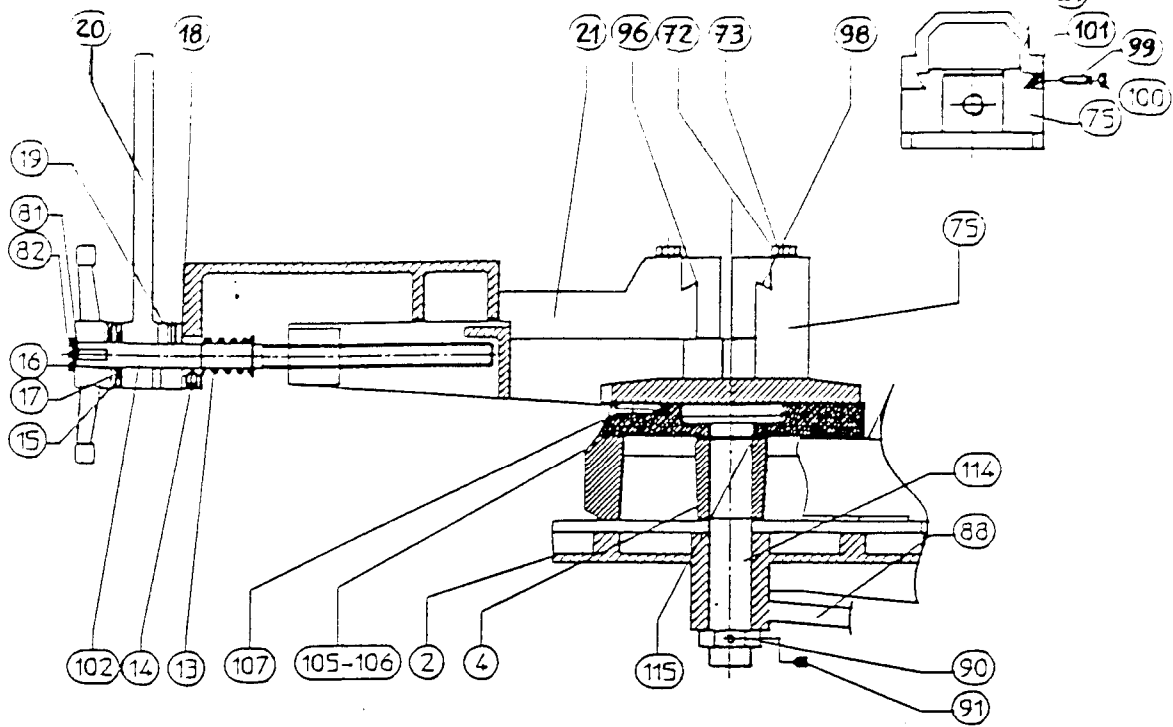


Allegato 4 - Dis. 5



Allegato 4 Dis. 6





Allegato 4 Dis. 8

