

**SEGATRICE A NASTRO PER METALLI FERROSI  
BAND SAW FOR FERROUS METALS  
BANDSAEGEMASCHINE FÜR EISENMETALLE  
SCIE A RUBAN POUR METAUX FERREUX  
SIERRA DE CINTA 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.r.l. SCHIO (VI) - ITALY**

**CONSTRUCTEUR:**

**CONSTRUCTOR:**

**MODELLO:**

**MODEL:**

**SPECIAL 330 CSO**

**MODELL:**

**MODELE:**

**MODELO:**

**MATRICOLA:**

**SERIAL NUMBER:**

**KENNNUMMER:**

**MATRICULE:**

**MATRICULA:**

**ANNO DI COSTRUZIONE:**

**YEAR OF CONSTRUCTION:**

**2014**

**BAUJAHR:**

**ANNEE DE CONSTRUCTION:**

**AÑO DE COSTRUCCION:**







DICHIARAZIONE DI CONFORMITA' 'CE'  
CERTIFICATE OF CONFORMITY 'EEC'  
KONFORMITÄTSBESCHEINIGUNG 'EWG'  
DECLARATION DE CONFORMITE 'CE'  
DECLARACION DE CONFORMIDAD 'CE'

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- Dichiaro, sotto la propria responsabilità, che la macchina nuova descritta in appresso:
- Declares, by its own undertaking, that the new machine described below:
- Erklärt auf eigene Verantwortung, daß die nachstehend beschriebene neue Maschine:
- Déclare sous sa propre responsabilité, que la machine neuve décrite de suite:
- Declara, bajo la propia responsabilidad, que la nueva máquina descrita a continuación:

SEGATRICE A NASTRO PER METALLI  
BAND SAW MACHINE FOR METALS  
BANDSAEGEMASCHINE FÜR EISENMETALLE  
SCIE A RUBAN POUR METAUX  
SIERRA DE CINTA PARA METALES

TIPO - TYPE - TYP - TYPE - TIPO

SPECIAL 330 CSO

MATRICOLA - SERIAL NUMBER - KENNNUMMER - MATRICULE - MATRICULA

ANNO DI COSTRUZIONE - YEAR OF CONSTRUCTION - BAUJAHR - ANNEE DE CONSTRUCTION  
AÑO DE COSTRUCCION

2014

- E' CONFORME ALLA DIRETTIVA MACCHINE 2006/42/CE, ALLA DIRETTIVA COMPATIBILITA' ELETTROMAGNETICA 2004/108/CE ED ALLA DIRETTIVA BASSA TENSIONE 2006/95/CE.

- IS IN COMPLIANCE WITH THE 2006/42/EEC MACHINERY DIRECTIVE, 2004/108/EEC DIRECTIVE ON ELECTROMAGNETIC COMPATIBILITY, 2006/95/EEC LOW VOLTAGE DIRECTIVE.

- DEN NORMEN BEZÜGLICH DER MASCHINEN-RICHTLINIE 2006/42/EWG, 2004/108/EWG RICHTLINIE ZUR ELEKTROMAGNETISCHEN KOMPATIBILITÄT, 2006/95/EWG RICHTLINIE FÜR NIEDERSpannung ENTSPRICHT.

- EST CONFORME A LA DIRECTIVE MACHINES 2006/42/CEE, 2004/108/CEE DIRECTIVE SUR LA COMPATIBILITÉ ÉLECTROMAGNÉTIQUE, 2006/95/CEE DIRECTIVE BASSE TENSION.

- HA SIDO FABRICADA CONFORME A LA DIRECTIVA MÁQUINAS 2006/42/CEE, 2004/108/CEE DIRECTIVA COMPATIBILIDAD ELECTROMAGNÉTICA, 2006/95/CEE DIRECTIVA BAJA TENSIÓN.

Nome della persona autorizzata a costituire il 'Fascicolo Tecnico' - Name of the person authorized to represent the 'Technical File' - Name der Person, auf die "Technical File" vertreten - Nom de la personne autorisée à représenter le 'dossier technique' Nombre de la persona autorizada para representar a la "Ficha Técnica"

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Nom du Représentant Légal - Apellido del Representante Legal:

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Firma - Signature - Unterschrift - Signature - Firma

Schio, 2014





E' SEVERAMENTE VIETATO UTILIZZARE LA MACCHINA SENZA LIQUIDO DI TAGLIO.

IT IS STRICTLY FORBIDDEN TO USE THE MACHINE WITHOUT CUTTING FLUID.

ES IST STRENG VERBOTEN, DIE MASCHINE OHNE SCHNEIDFLÜSSIGKEIT IN BETRIEB ZU NEHMEN.

IL EST SEVEREMENT INTERDIT D'UTILISER LA MACHINE SANS LIQUIDE DE COUPE.

SE PROHÍBE TERMINANTEMENTE UTILIZAR LA MÁQUINA SIN LÍQUIDO DE CORTE.

É SEVERAMENTE PROIBIDO UTILIZAR A MÁQUINA SEM LÍQUIDO DE CORTE.









## 1. INTRODUCTION

This operation instruction manual conforms to the requirements of the 2006/42/EEC Machine Directives and subsequent amendments. In the light of this, special attention has been given to safety aspects and accident prevention in the workplace for each stage in the machine's "life". Information which could be of particular assistance to the operator has been highlighted.

**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
Chap. 3	Index of chapters, drawings, diagrams and tables
Chap. 4	Description of the machine Safety standards complied with during the design and construction of the machine Description of the machine and its components
Chap. 5	Main technical data
Chap. 6	Handling and transportation
Chap. 7	Installation
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
Chap. 11	Laying off and dismantling
Chap. 12	List of spare parts

### 3.2 INDEX OF DRAWINGS, DIAGRAMS AND TABLES

ENCL. TYPE	DESCRIPTION	ENCL No.	CHAP.
Table	Cutting capacity - Selection of blade -Cutting speeds	1	8.3
Drawings	Handling and transportation- Installation plan	2	6/7A/7B/8.1/8.3
Drawings	Blade guides – Tensioning – pulleys – bow support	3	7C/8.3/9.3
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Drawings	Machine assembly	5	9.3
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## 4. DESCRIPTION OF THE MACHINE

### 4.1 SAFETY STANDARDS COMPLIED WITH DURING THE DESIGN AND CONSTRUCTION OF THE MACHINE

The machine produced by us is in compliance with:

• **2006/42/EEC Machinery Directive** (ex 98/37/EEC, as amended by the 89/392EEC, 91/368/EEC, 93/44/EEC and 93/68/EEC Directives).

The following Standards apply:

- **EN ISO12100-1** 2005 Safety of machinery. Basic concepts, general principles for design, basic methodology.
- **EN ISO12100-2** 2005 Safety of machinery. Basic concepts and general principles for design. Specifications and technical principles.
- **EN 418** 1994 Safety of machinery. Emergency stop devices, functional aspects - design principles.
- **EN 983** 1996 Safety requirements related to systems and components for hydraulic and pneumatic transmissions.
- **EN 1037** 1995 Isolation and energy dissipation. Prevention of unexpected start-up.
- **EN 1088** 1995 Interlocking devices associated with guards — Principles for design and selection.
- **EN 60204-1** 1998 Safety of machinery. Electrical equipment of machines. General requirements.
- **EN 294** 1992 Safety distances to prevent danger zones being reached by the upper limbs.

• **89/336/EEC Directive on electromagnetic compatibility** as amended by the 92/31/EEC, 96/68/EEC, 93/97/EEC and 93/68/EEC.

The following Standards apply:

- **EN 55014-1** 2000 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus.
- **EN 61000-3-2** 2000 Electromagnetic compatibility – Limits for harmonic current emissions.
- **EN 61000-3-11** 2000 Electromagnetic compatibility (EMC) – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.
- **EN 55022** 1998 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.
- **EN 61000-4-2** 1995 Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques Section 2: Electrostatic discharge immunity test. EMC Base Publication.
- **EN 61000-4-4** 2004 Electromagnetic compatibility (EMC) Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
- **EN 61000-4-6** 1996 Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques. Section 6: Immunity to conducted disturbances, induced by radio-frequency fields.

**73/23/EEC Low Voltage Directive, as amended by the 93/68/EEC Directive**

**Directive 2003/11/EC** Directive 2003/11/EC of the European Parliament and of the Council of 6 February 2003 amending for the 24th time Council Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations (pentabromodiphenyl ether, octabromodiphenyl ether)  
**Directive 2002/44/EC** of the European Parliament and of the Council of 25 June 2002 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration) (sixteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC).

### 1.2 DESCRIPTION OF THE MACHINE AND ITS COMPONENTS

The **SPECIAL 330 CSO** band sawing machine produced by MACC has a sturdy frame made from welded and painted sheet-steel. The upper surface is designed to allow the complete draining away of the cutting fluid. The band holding bow is made of cast-iron and has generous dimensions, providing the cutting unit with the necessary strength and precision. The vice unit is also made of cast-iron and clamps the material to be cut securely. The bar-stop device allows the length required to be present and a constant level of performance for repeated cuts. The blade-holding bow is firmly attached to a reduction unit built onto the motor and to the base by means of a joint which allows 60° rotation to the right and 45° rotation to the left. This joint also allows the cutting movement to advance manually or by means of a pneumatic cylinder. The coolant pump is fitted to the machine base. An electro-mechanical band tensioning device, with gate microswitch, stops the band from advancing in the event of insufficient tension and moreover allows ideal operation conditions to be restored at any moment. This is confirmed by an illuminated pilot light. The main switch is located on the front panel. Another switch, located to the right of the main switch, allows the cutting liquid pump to be started. The choice of one of the two motor rotation speeds and therefore cutting speed is carried out by means of a switch, also located on the front panel. The front panel is also fitted with an emergency stop button. The control lever, fitted with an ergonomic hand-grip and activation button with safety release action, reduces fatigue during operation to a minimum. The blade is protected by a guard with interlock which covers the upper area and the handwheels and by two adjustable lower guards which protect the operator from ejected shavings and coolant. The machine is supplied with a set of service spanners.

### 4.3 INTENDED AND UNSUITABLE USES OF THE MACHINE

The **SPECIAL 330 CSO** band sawing machine 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.

Three phase power supply	
Motor power	0.75 - 1.1 kW
Motor revolutions	700 - 1420 rpm
Cutting speed	38 - 78 m/1'

Single phase power supply	
Motor power	1.1 kW
Motor revolutions	1380 rpm
Cutting speed	69 m/1'

Electric pump	0.06 kW
Blade size (length x width x thick)	3010 x 27 x 0.9 mm
Cutting thickness	1,2 mm
Cutting angle	60° dx – 45°sx
Material clamping vice max opening	300 mm
Rapid clamping displacement	5 mm
Jaws height	130 mm
Jaws length	205 mm
Bed height	965 mm
Coolant tank capacity	13 liters
Machine weight	~3580 N (365 kg)

## 6. HANDLING AND TRANSPORTATION

For safe handling and transportation use a lift truck for movement indoors also indicated on the drawing 3 Encl. 2. 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

The machine should be checked to make sure that it has not been damaged during transportation and handling. If the machine appears to have been damaged, contact MACC immediately. Fit all the supplied accessories onto the machine such as the bar-stop 116 and the roller arm 54 (DRAW. 4 ENCL. 2).

### 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 4 SPECIAL 330 CSO Installation plan Encl. 2.**

### C. BAND ASSEMBLY

Remove the bow guard 2 by unscrewing the screws (DRAW. 14 ENCL. 6). Fit the band by inserting it first between the bearings of the blade guide heads and then on the two pulleys, tighten the blade slightly by means of the hand wheel 058/35 and replace the bow guard. Check that the band is fitted with the correct direction of teeth, as shown in drawing 5-6-7 enclosed document 3. Make sure that the band type (dimensions 3010x27x0.9) and its teeth pitch are suited to the material to be cut.

### 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 SPECIAL 330 CSO installation plan drawing.4 Encl. 2)

Code 228	LOCKABLE MAIN SWITCH
Code 105	ELECTRIC PUMP
Code 132	LOCKING VICE
Code 116	BAR-STOP
Code 160	CUTTING ANGLE DEVICE: to check that cutting inclination is as required.

## 8.2 TOOLS SUPPLIED

- 1 Allen wrench size 3
- 1 Allen wrench size 5
- 1 Allen wrench size 6
- 1 Allen wrench size 8
- 1 Allen wrench size 10

## 8.3 OPERATION

### CHECKS TO CARRY OUT BEFORE EACH CUT

- A. Tension the band by rotating the handwheel 28 until the limit switch (DRAW. 5-6-7 ENCL. 3). Remember at the end of the operation to loosen the hand wheel to avoid the slackening of the band.
  - B. Check that the hand indicates the required cutting angle (vice scale).
  - C. Make sure that the bow and the vice are locked by means of the lever 113 (DRAW. 11 ENCL. 4).
  - D. With the motor off, lower the bow and check that at the end of stroke, the band does not touch the counter-vice 004-A/38. If the band does touch, adjust the screw 225/95 located on the bow support 107 (DRAW. 8-9 ENCL. 3). By adjusting screw 225/95, the width of the working stroke can also be established.
  - E. Make sure that the piece to be cut is properly secured in the vice;
  - F. Make sure that the cooling liquid is circulating in the machine.
- When starting the motor, make sure that the band rotates in the direction of the arrow shown in DRAW 5-6-7 ENCL. 3.
- H. To obtain maximum cutting accuracy, the unit must be located the nearest possible to the work piece. Clamp the work piece with the vice. release the blade guide arm 60 (DRAW 5-6-7 ENCL.3) with handle 61 and move it near the vice jaw so that it doesn't touch it during the cutting operation, then secure it again.

### CUTTING OPERATION

- A. Before cutting, check that the inclination is the one required. In order to correct or change the inclination, place the bench lever 113 in position A (DRAW. 11 ENCL. 4) and after correction, move it back to position D strongly.
  - B. Clamp the material to be cut with the handwheel 28 after having positioned the vice 3-4mm near the piece to be cut by turning the lever 96 from position C to position B (DRAW. 10 ENCL. 4). Turn the main switch 212 and the speed change over switch 203 to the position required. After having started the unit by pressing the START push button, the blade starts to rotate.
- The down stroke of the bow can be adjusted by means of the appropriate regulator. Position the blade carefully on the piece to be cut. Then increase the pressure with the regulator in order to accelerate the cutting operation without force.
- C. Cuts left for releasing lever 138, clamp group move to the right and fix the lever 138 (DRAW. 11 ALL 4)
  - D. To make a series of cuts, position the bar stop 116 in correspondence of the size required. Fix it into position by using the handwheel 121 (DRAW. 10 ENCL. 4).
  - E. To replace the band, carry out the same operations used to assemble the band (chapter 7c).
  - F. For the choice of blade see table ENCL.1.

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

***Attention!!! With selector in CSO position is strictly forbidden to perform cuts by forcing the bow manually. This machine has been conceived to perform cuts by falling action only. Any manual operation can seriously damage the machine.***

## 8.4 SPECIAL SAFETY CHECKS

- A. 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.
- B. Make sure, before operating the machine, that the screws of the guards and other protective devices are adequately secured, especially the screws of the bow guard.**
- C. Check that the safety microswitches and the emergency button are functioning correctly. Test them during a loadless machine cycle.**
- D. Make sure that the mobile guard does not leave uncovered an angle of more than 5° in order to prevent fingers from entering.**
- E. Pay attention to environmental conditions. Do not expose the machine to rain; to not use it in damp environments, position the machine on a clean dry floor that has no oil or grease stains.
- F. 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

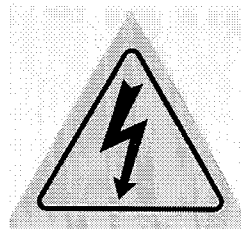
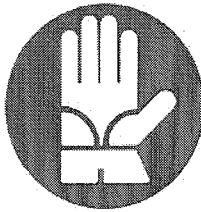
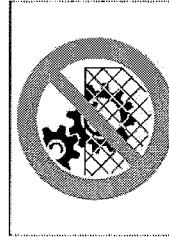
- A. Wear appropriate clothing. The operator's clothing should not be loose or dangling nor should it have parts which could easily get caught. Sleeves should contain elastic. Belts, rings or chains should not be worn. Long hair should be kept in a net.
- B. Avoid unstable operating positions. Find a 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.

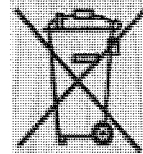
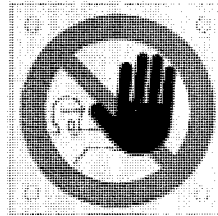
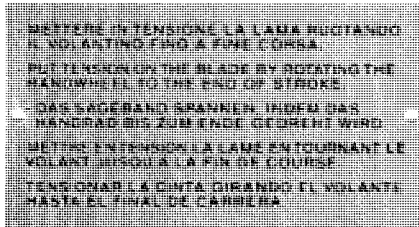
### Safety, Guidance, Notice labels on the machine

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Modello - Model	Massa - Weight (Kg)		
Matricola - Serial number	Anno - Year		
	Centralina idraulica - hydraulic unit Scatola ingranaggi - gearbox Puntii a grasso - grease points	<b>AGIP ARNICA 32</b> <b>AGIP BLASIA 220</b> <b>AGIP GR MU 2</b>	



**COLLEGATO  
CONNECTED  
400 VOLT**

**COLLEGATO  
CONNECTED  
230 VOLT**



## 9. MAINTENANCE AND REPAIRS

### 9.1 GENERAL SAFETY MEASURES

- A. Lockable main switch. Use the padlock in the event of machine failure or replacement of the band. 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.
- 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.

## 9.2 Routine checks and maintenance

FREQUENCY (working hours)	OPERATION
100 hours	Adjustment blade guide bearings
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. Adjustment of the blade guide bearings

Loosen the screw 69-A, rotate the cams 72, so that the blade guide bushings vertically position the blade in axis (DRAW. 5-6-7 ENCL. 3). Tighten the dowels 67-A until the blade secured. Loosen the dowels 67-A slightly (about 1/10 of a turn). The front blade guides must be positioned the nearest possible to the piece to be cut. Check every 3 months the existing tolerance between the blade guides, making sure that it does not exceed the blade thickness of one tenth of a millimeter, so as to avoid inexactnesses in the cut squaring. Periodically check with mounted blade that the blade guide bearings rotate freely.

### B. Lubrication of mobile parts of piece locking vice

Remove jaw 137 (DRAW.10 ENCL.4 - DRAW.11 ENCL.4), withdraw vice 132 completely by lowering the lever 128. Clean and grease the mobile parts of the counter-vice 115 and vice 130-132. In case of sliding difficulties or play the clamp guides carry out the following operations: loosen nut 57-A, adjust dowel 56-A and secure nut 57-A.

### C. Cleaning of the coolant tank.

The coolant tank can be cleaned by simply removing the crucible 104 (DRAW. 12 ENCL. 5). Empty the coolant from the tank and collect the coolant in a container for future disposal. Clean away 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. Fill the tank with the amount and liquid stated earlier.

### 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 123 (draw.12 Encl.5), tighten nut 114 and fasten grub screw 123 again. Make sure that with the bench lever in position D, arm 109+107 which supports the bow, can rotate freely.

## 10. INFORMATION REGARDING ENVIRONMENTAL NOISE

An environmental noise test carried out on the SPECIAL 330 CSO band saw machine, identical to the machine to which these operation instructions refer, has given the following results:

### ACOUSTIC RADIATION PRESSURE

1.  $L_{Aeq} = 83,2$  dB (A)
2.  $L_{peak} = 90,6$  dB (the maximum acceptable value is 140 dB).
3. The level of background noise has no influence = 48.5-54.2 dB (A).

The considerable data are the result of tests made under the D. lgs. 277/1991 in the implementation of the directives nr. 80/1107/CEE, nr. 82/605/CEE, nr. 84/477/CEE, and 88/642/CEE.

## 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:

<b>Steels</b>	<b>Electric and electronic components</b>	<b>Light alloy</b>	<b>Cast iron</b>	<b>Copper bronze</b>	<b>Plastic and rubber</b>	<b>Various</b>
Shafts, Flanges, Pivots	Motor winding	Motor casing	Structural parts	Bushings	Seals	
Rollers	Electronic panel	Cylinders			Handwheels	
Base					Handles	
Springs						
Tank						
Plate with electrical components	Push buttons and control systems (relays, transformers, etc.)				Cable support chain	
Guards						

Used oil and materials must be disposed of according to 75/439/EEC and 87/101/EEC Directives and to country specific regulations.

The disposal of electrical components is provided for by European Directives 2002/95/CEE and 2002/96/CEE.

## 12. SPARE PARTS LIST




POS.	DESCRIPTION	CODE	Q.TY
1	Bow	127/38	1
2	Bow guard	128/38	1
3			
4	Washer as drawing ø45 foro12,5 Sp6 Washer as drawing ø45 foro12,5 Sp6	040/06 040-A/06	1 1
5			
6	Bow cylinder bracket bushing	070/38	2
7	Idle pulley spacer	016/36	1
8	Bearing 6207 2RS	103/32	2
9	Idle pulley	015/36	1
10	Blade tightener pin	037/38	1
11			2
12			6
13	Blade tightener guide plate	046/32	2
14			2
15	Blade tightener screw	039/32	1
16			
17	Clamping lever M10x40	061/35	1
18	Mobile blade guide fastening plate	018/38	1
19	Rear Guard	042/38	1
20	Micro ERSCE E 100 00 S5I	030/90	1
21			
22			
23	Blade tightener bushing	041/38	1
24	Casing AXK 20 35	109/32	1
25	Thrust bearing AS 20 35	108/32	2
26	Belleville washer 40x20,4x1,5 DIN 2093	458/95	18
27			
28	Blade tightener handwheel	058/35	1
29	Eye tie rod M12x50	035/38	2
30	Micro switch stop bush	120/38	1
31	Micro carrier block	051/38	1
32	Micro ERSCE E 100 00 BI	023/90	1
33			
34	Micro switch stop washer	094/32	1
35			
36			
37			
38	Reduction unit MV 63 FC 1/19	021/38	1
39	Motor M90L V.400/50 8/4P HP1/1,5	122/80	1
40	OR ring 4900	024/34	1
41			
42			
43			
44			
45			
46	Micro ERSCE E-100-00-AI	022/90	1
47			
48	Bearing 6208 2RS	016/38	1
49			
50			
51			
52			
53			
54			
55	Motor pulley	006/36	1
56			
57			
58			
59			
60	Blade guide mobile rod	023/35	1
61	Clamping lever M12x45	037/32	1
62			
63	Mobile front blade guide cover	071/38	1
64	Spring anchoring bracket	013/42	4
65	Blade guide tap	030/96	1



66	Front blade guide	026/35	1
67			
68	Blade guide plate	044/35	2+2
69			
70			
71	Bearing 608 2RS	055/35	2+2
72	Guide blade eccentric bushing	027/35	4
73			
74	Rear blade guide	025/35	1
75	Fixed guide blade rod	041/40	1
76			
77	Rotation pin	108/38	1
78	Bearing 32008 XA	072/20	2
79	Rotation pin nut	027/38	1
80			
81			
82			
83			
84			
85			
86	Positioning pin	002-B/35	1
87	Sphere D.30 F.M. 10	082/14	1
88			
89	Return spring	031/38	1
90	Spring pin	017/32	1
91	Handle movebal guide	075/11	1
92	Fixed blade guide guard	071/38	1
93	Countervice fastening bracket	013/38	1
94	Handle rod	035/32	1
95	Handle with push-button	046/05	1
96	Micro MATSUSHITA AH 715079	028/90	1
97	Antigrease ring	020/35	1
98	Mobile blade guide guard	071-A/38	1
99	Material support plate	004-A/38	1
100	Hub flange	003/34	1
101	Base	110/38	1
102	Door	111/38	1
103	Tank	119/38	1
104	Crucible	025-A/38	1
105	Coolant pump SA/85	090/90	1
106	Valve EUROPA 3/8"	035/96	1
107	Bow support	114/38	1
108	Cylinder bracket	061/38	1
109	Rotating arm	113-A/38	1
110	Door hinge	156/50	2
111	Countervice pin	031/35	1
112	Joint fork M10x1,25 d 25/35	040/39	1
113	Bench lever	062/32	1
114	Bench lever nut	027/04	1
115	Countervice	121/38	1
116	Millimetric rod	077/32	1
117	Metric rule	080/32	1
118	Stopping rod	078/32	1
119	Stopping rod support	079/32	1
120	Regulator	100/32	1
121	Handwheel D.40 4L M8x20	077/25	2
122	Degrees index	128/36	1
123	Control panel	053-C/38	1
124	Bow protection hinge	013-A/36	2
125	Vice handwheel	058/35	1
126	Vice lever handle	086/38	1
127	Vice screw	014/34	1
128	Vice lever	023/38	1
129	Lever spring	032/14	1
130	Vice support	028-A/42	1
131	Vice threaded pin	009/38	1
132	Vice	005/38	1
133	Vice flange	098/38	1

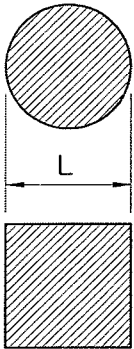
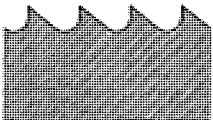
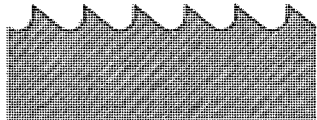
134	Sphere ø3/8"	101/38	1
135	Cylinder hinge + pin	041/39	1
136	CSO cylinder	080/38	1
137	Vice jaw	007/39	1
138	Release leverM 8x20	025/21	1
139	Vice gib	008/38	1
140	Eye tie rod M8x40	525/95	1
141	Eye tie rod M8x70	527/95	1
142	Roller	076/32	1
143	Roller carrier arm	075/35	1
144	Lefth countervice jaw	124/38	1
145	Rigthl countervice jaw	125/38	1
200	Plate with electrical components	054-B/36	1
201	Control panel	052-C/38	1
202	Fuse 10x38 gG 1A	202/90	2
203	Changeover switch VEMER CA0120000R03	018/90	1
204			
205	Transformer 30VA 0-230-400V 0-24V	045/90	1
206			
207			
208	Fuse 10x38 aM 10A	206/90	3
209	Fuse carrier WEBER PCH3x38	092/90	1
210	Omega holed bar cm.10	046/90	1
211	Omega holed bar cm.17	047/90	1
212	Terminal CABUR CBD.2	222/90	22
213			
214			
215	Remote control switch LC1-D12	032/90	1
216			
217			
218	Thermal relay LR2-D1308/10/12	053/90	1
219	Fuse carrier WEBER PCH1x38	093/90	1
220	Fuse carrier WEBER PCH2x38	094/90	1
221	Fuse 10x38 gG 2A	203/90	1
222	White light	266/90	2
223	Green light	267/90	1
224	Start button	086/90	1
225	Selector	100/90	1
226	Emergency button	085/90	1
227	Coolant pump switch	006/90	1
228	Main switch VEMER CA0120003207+G595	002/90	1
228	Yellow terminal cover G3228	065/90	1
229	Earth connection bar	050/90	1
230	Control panel seal	054/90	1

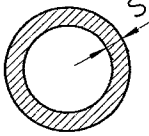
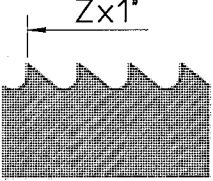
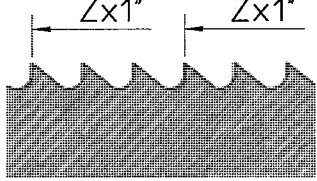
# CAPACITA' DI TAGLIO - Special 330 M-CSO-S

CAPACITA' DI TAGLIO CUTTING CAPACITY - CAPACITE DE COUPE SCHNITTKAPAZITAET - CAPACIDAD DE CORTE			
90°	260	250	220 x 330
45° Sinistra - left - links - gauche	225	210	160 x 225
45° Destra - right - droite - rechts	215	200	160 x 210
60° Destra - right - droite - rechts	130	130	130 x 140

## SCELTA DELLA LAMA

SCELTA DELLA LAMA  
 SELECTION OF BLADE  
 CHOIX DE LA LAME  
 WAHL DES SAEGEBLATTS  
 SELECCION DE LA HOJA

 L mm			
	≤40	8	6/10
	>30<80	6	5/8
	>60<90	4	4/6
	≤100	3	3/4

 S mm			
	≤1,5	14	-
	>1<2	10	10/14
	>2<4	8	8/12
	>4<8	6	6/10
	>6<12	6	5/8
	≤12	4	4/6

Velocità di taglio La macchina è dotata di due velocità di taglio		38-78 m/1'
Cutting machine The machine is equipped with two cutting speeds		38-78 m/1'
Vitesse de coupe La machine est dotée de deux vitesses de coupe		38-78 m/1'
Schnittgeschwindigkeit Die Maschine ist mit zwei Schnittgeschwindigkeiten ausgestattet		38-78 m/1'
Velocidad de corte La maquina esta dotada de dos velocidades de corte		38-78 m/1'
Materiale Material Materiel Material Material		Velocità di taglio m/1' Cutting machine m/1' Vitesse de coupe m/1' Schnittgeschwindigkeit m/1' Velocidad de corte m/1'
Acciai da costruzione Fe37+Fe42 Structural steel Fe37+Fe42 Aciers de construction Fe37+Fe42 Baustahl Fe37+Fe42 Acero de construccion Fe37+Fe42		Pieni Solid Pleins Volles Material Pies 78 Profilati Structural steel Profilés Profile Perfiles 78
Acciai da costruzione Fe50+Fe70 Structural steel Fe50+Fe70 Aciers de construction Fe50+Fe70 Baustahl Fe50+Fe70 Acero de construccion Fe50+Fe70		78
Acciai al carbonio C40+C60 Carbon steel C40+C60 Aciers au carbone C40+C60 Kohlenstoffstahl C40+C60 Acero de carbono C40+C60		78
Acciai legati Alloyed steel Aciers allié Legierter Stahl Acero aleado		38
Acciai inox Stainless steel Aciers inoxydables Rostfreier Stahl Acero inoxidable		38
Ghisa grigia Grey cast iron Fonte grise Grauguß Fundición gris		78
Leghe d'alluminio Aluminium alloys Alliages d'aluminium Legierungen aus Aluminium Aleación de Aluminio		78
Bronzi Bronze Bronze Bronze Bronces		78

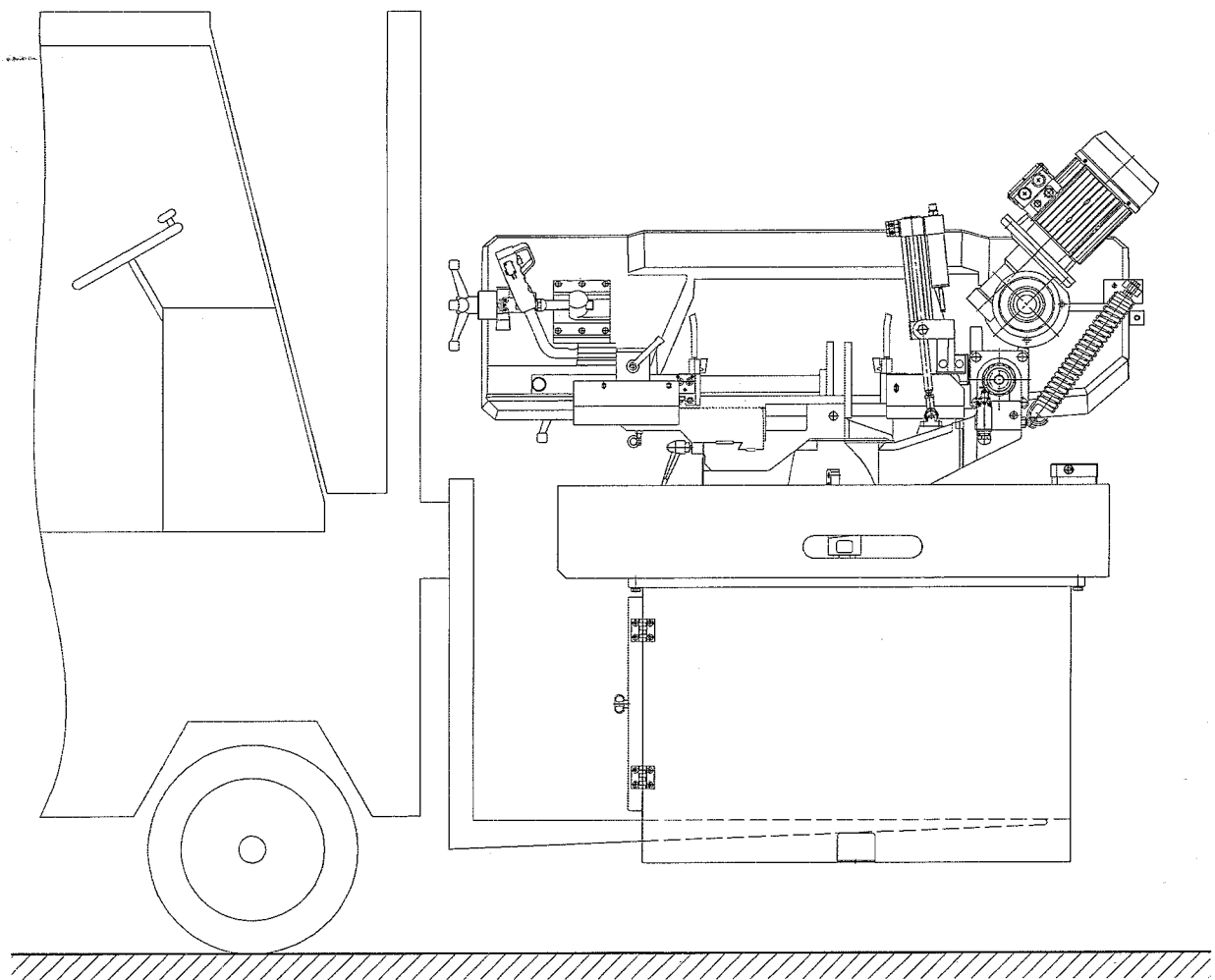
# MOVIMENTAZIONE E TRASPORTO

Handling and transportation

Manutention et transport

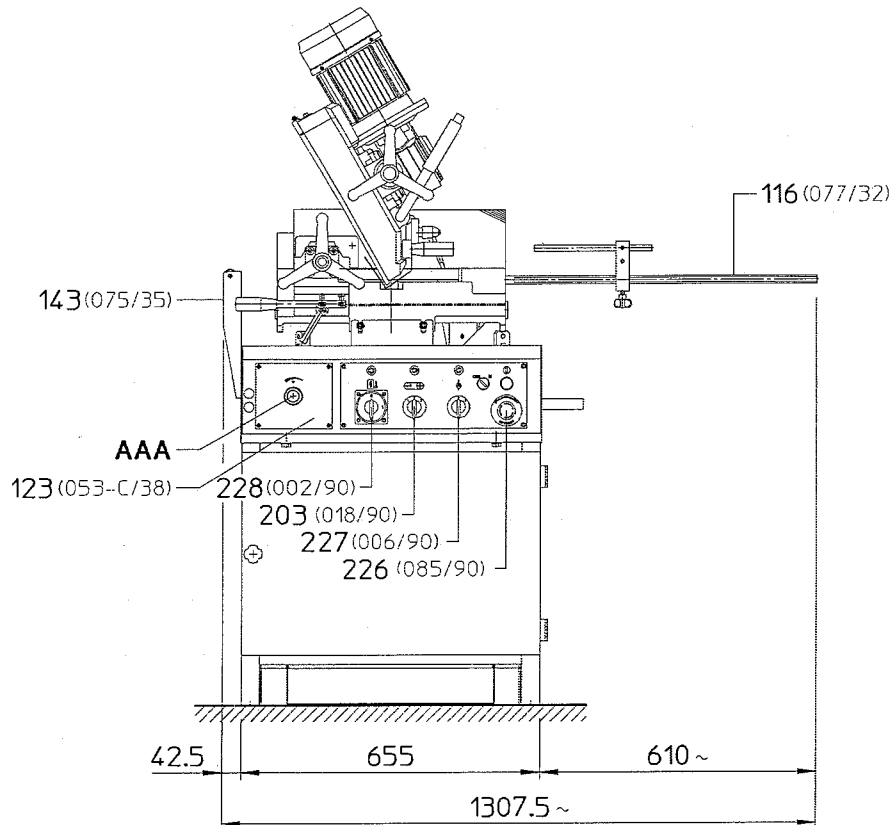
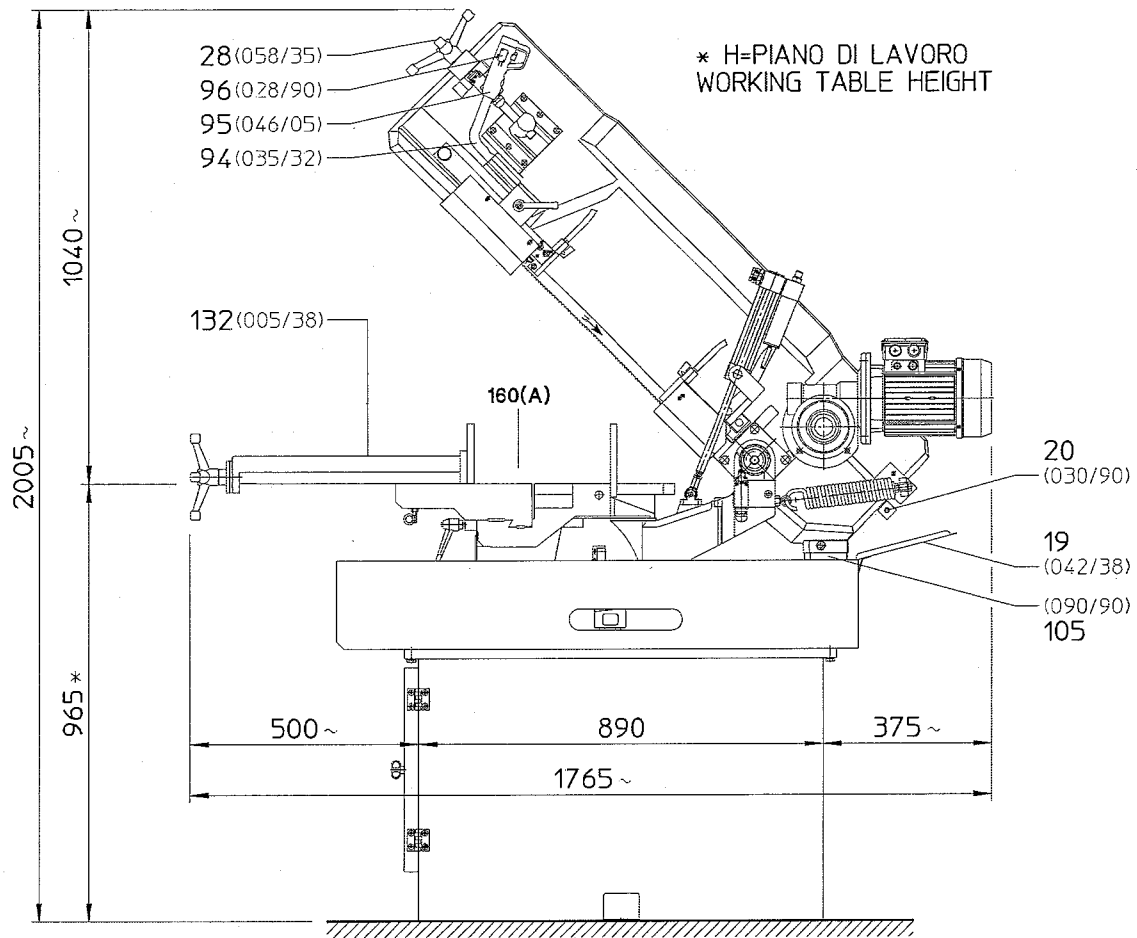
Handhabung und Transport

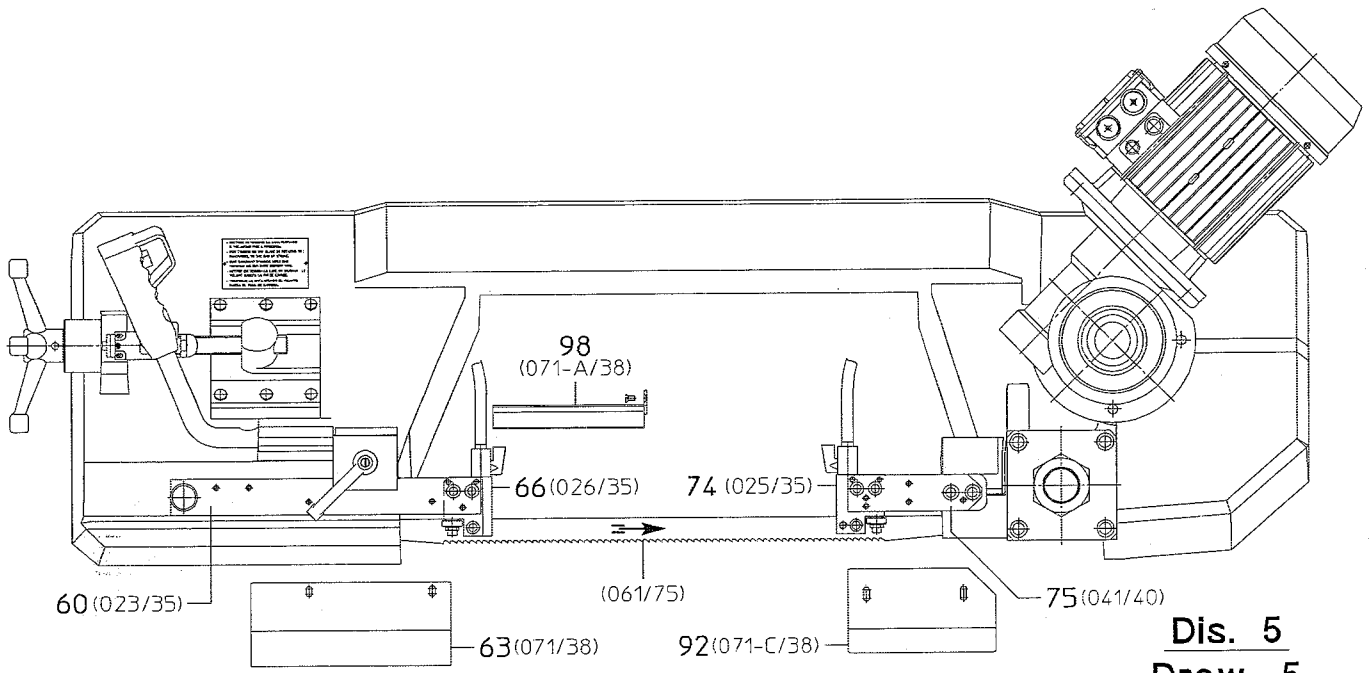
Movilización y transporte



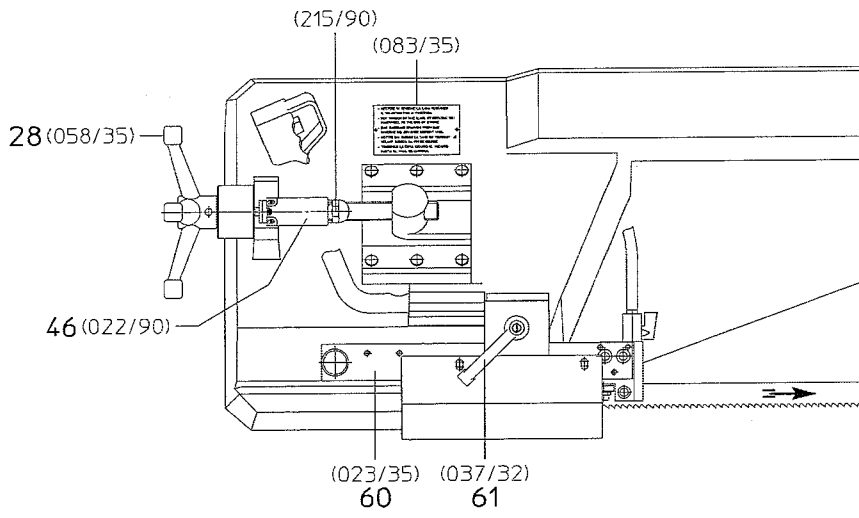
# DIMENSIONI D'INGOMBRO ED INSTALLAZIONE

Overall dimensions and installation  
 Dimensions hors-tout et installation  
 Aussenabmessungen und installation  
 Dimensiones máximas extremas e instalación



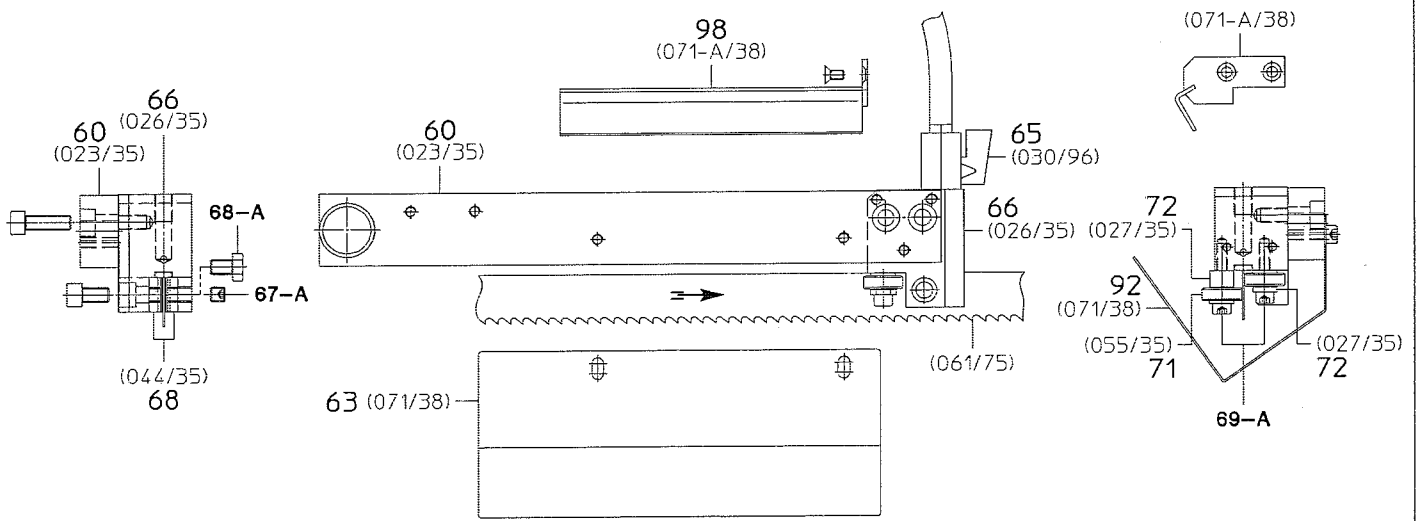


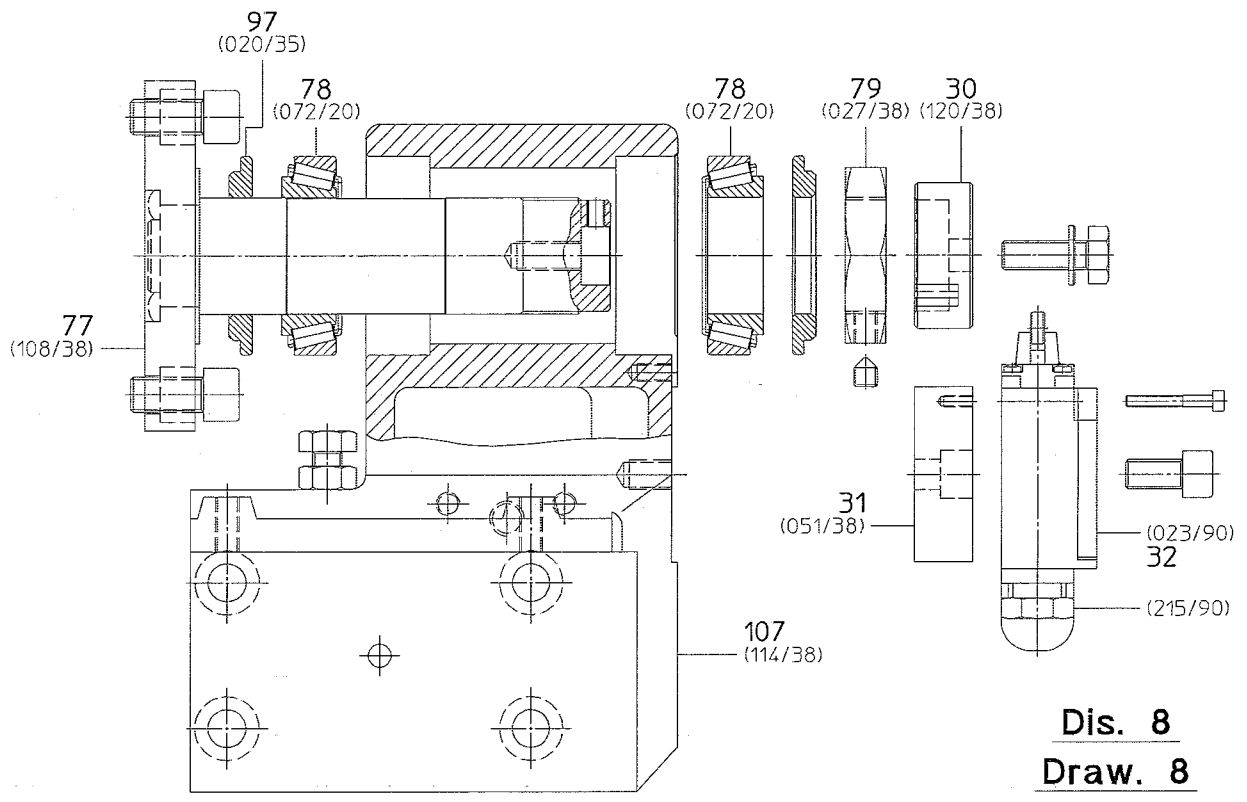
**Dis. 5**  
**Draw. 5**



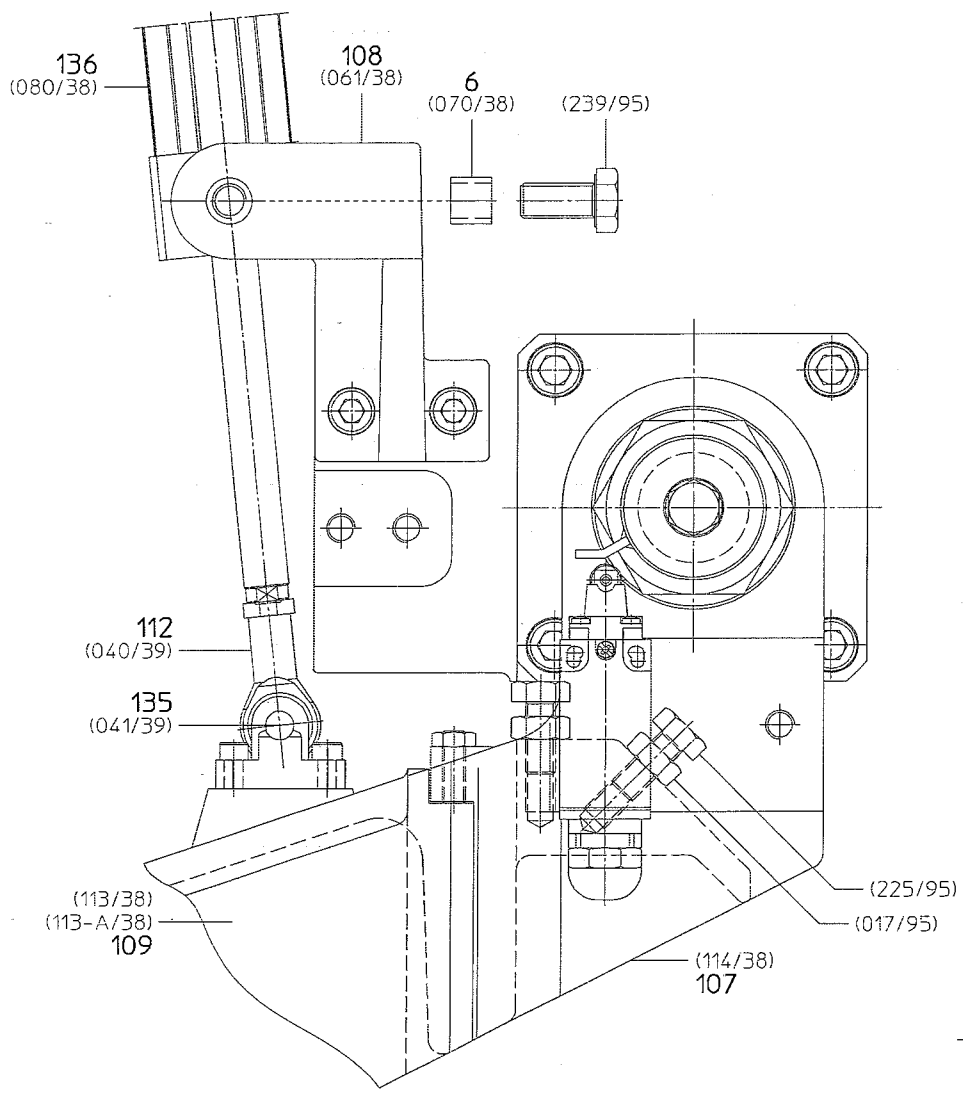
PATINO GUIDA ANTERIORE  
FRONT BLADE GUIDE  
PATIN GUIDAGE ANTERIEUR  
VORDERER FÜHRUNGSKUFE

**Dis. 6**  
**Draw. 6**



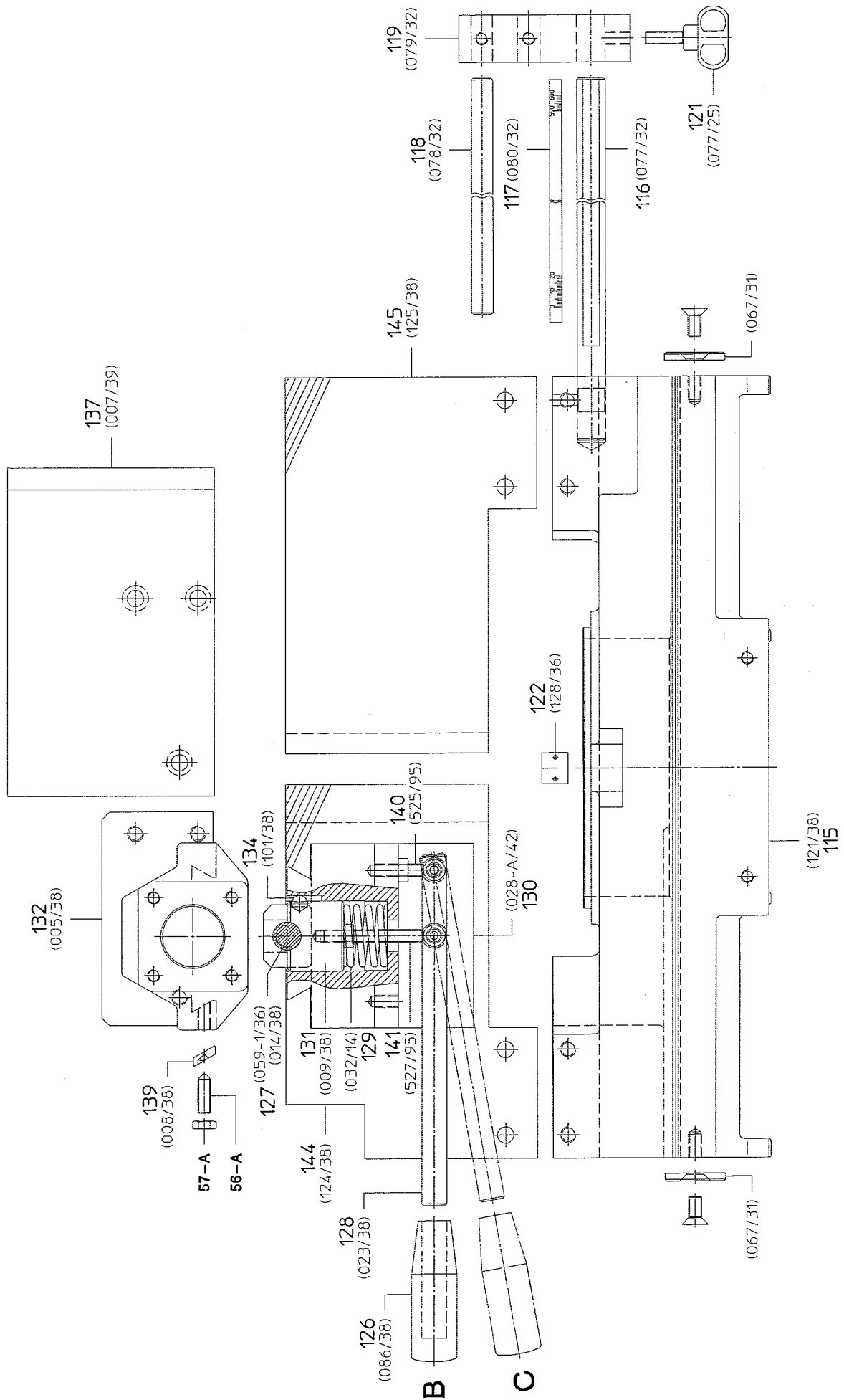


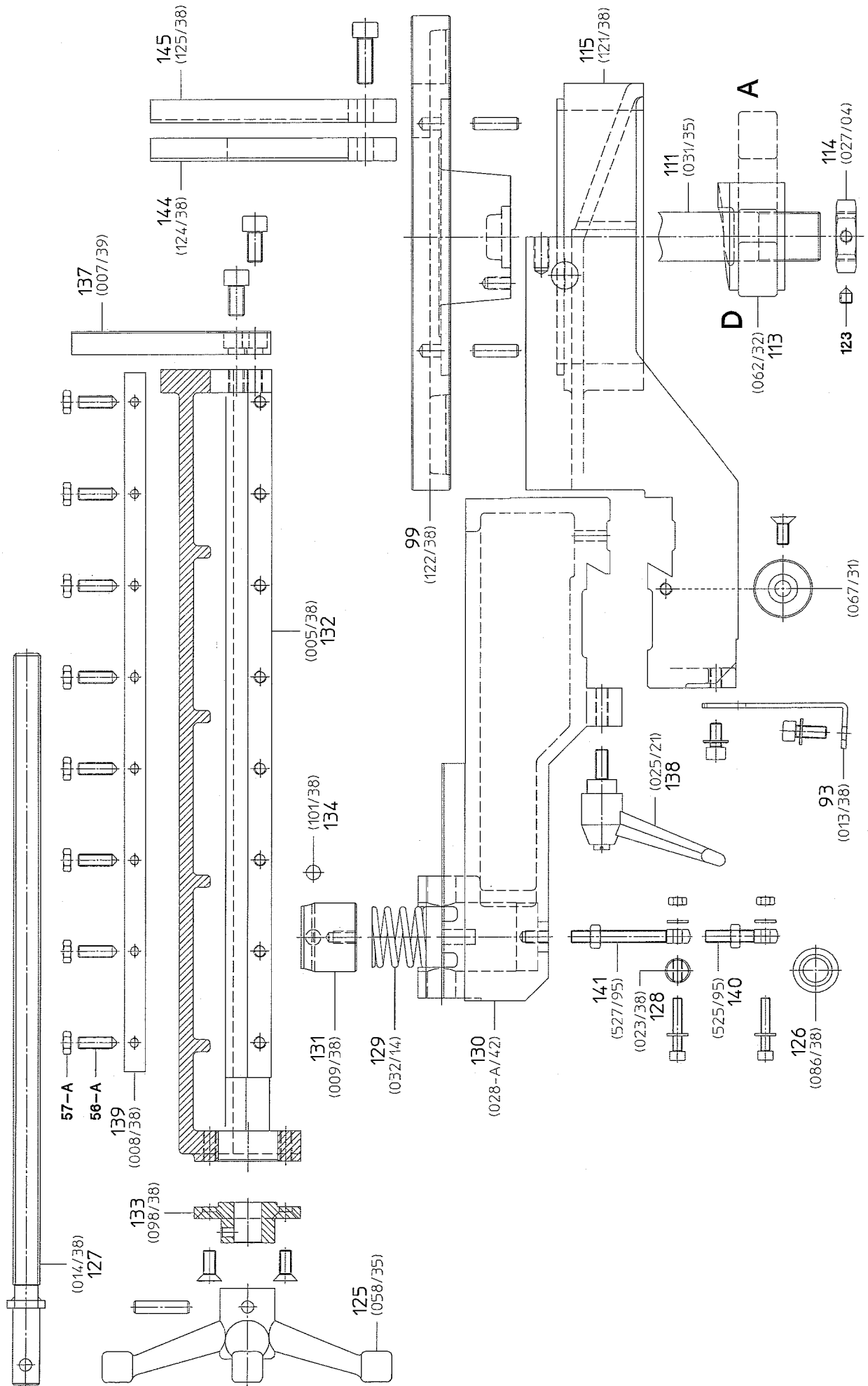
**Dis. 8**  
**Draw. 8**



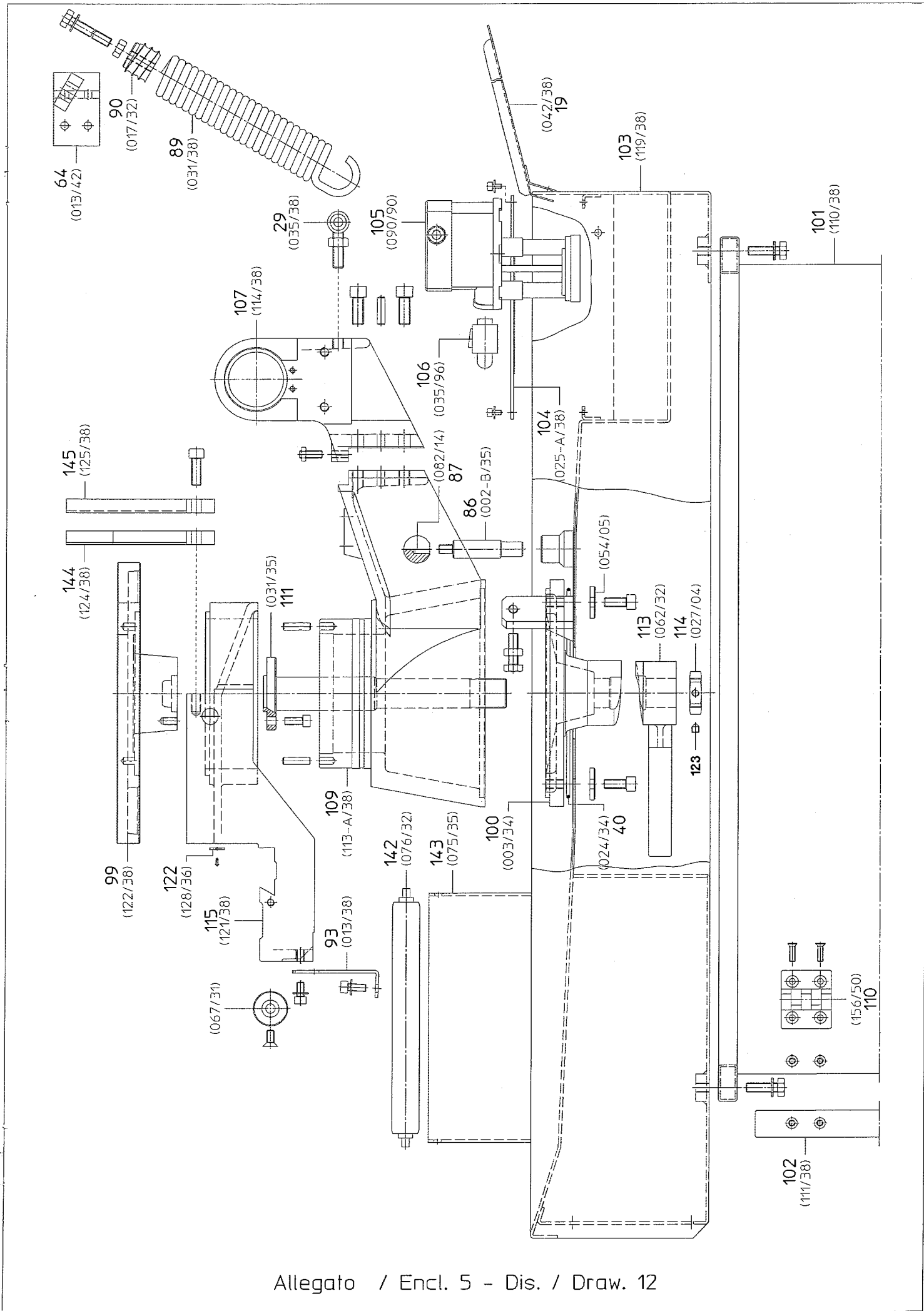
**Dis. 9**  
**Draw. 9**





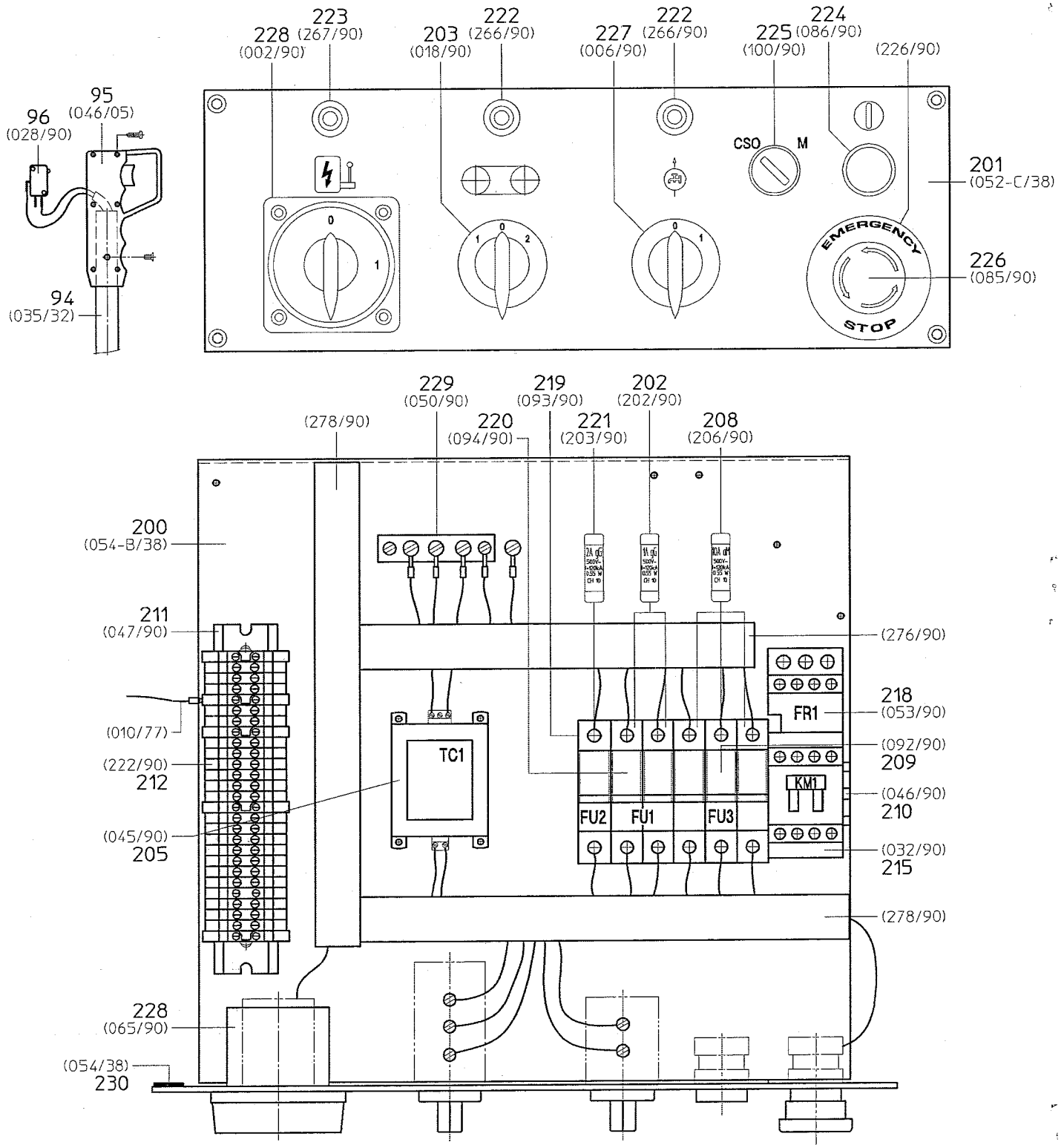


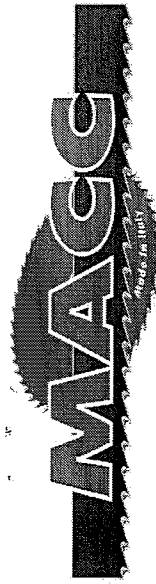
Allegato / Encl. 4 - Dis. / Draw. 11



# PANNELLO COMANDI SPECIAL 301-320-330-410 CSO/M

## CONTROL PANEL SPECIAL 301-320-330-410 CSO/M

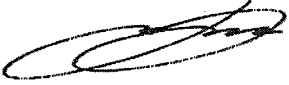




	ITALIANO	ENGLISH	DEUTSCH
FR1	RELE' TERMICO MOTORE POMPA OLIO	THERMAL RELAY OIL PUMP MOTOR	THERMISCHES RELAIS OIL PUMPE MOTOR
FR2	RELE' TERMICO MOTORE LAMA	THERMAL RELAY BLADE MOTOR	THERMISCHES RELAIS SÄGEBLATTMOTOR
FR3	RELE' TERMICO MOTORE REFRIGERANTE		
FR5	RELE' TERMICO MOTORE GUIDA PEZZO	THERMAL RELAY GUIDA-PIECE MOTOR	
FU1	FUSIBILI PROTEZIONE TRASFORMATORE	FUSE TRANSFORMER PROTECTION	SICHERUNG TRAF0 SCHUTZ
FU2	FUSIBILI PROTEZIONE MOTORI	FUSE MOTOR PROTECTION	SICHERUNG MOTOR SCHUTZ
FU3	FUSIBILI PROTEZIONE POMPA REFRIGERANTE	FUSE COOLANT PUMP PROTECTION	SICHERUNG KÜHLMITTELPOMPE SCHUTZ
FU4	FUSIBILI PROTEZIONE ALIMENTATORE	FUSE FEEDER PROTECTION	SICHERUNG ZUFÜHRER SCHUTZ
FU5	FUSIBILI PROTEZIONE 24 V dc	FUSE 24 V dc PROTECTION	SICHERUNG 24 V dc SCHUTZ
FU6	FUSIBILI PROTEZIONE 24 V ac	FUSE 24 V ac PROTECTION	SICHERUNG 24 V ac SCHUTZ
H1	SPIA PRESENZA LINEA	SPY LINE PRESENCE	LINE PRÄSENZ LAMPE
H2	SPIA LAMA IN TENSIONE	SPY BLADE IN TENSION	BLATT TENSION LAMPE
H3	SPIA START CICLO	SPY CYCLE START	ZYKLUS START LAMPE
K	TELERUTTORE TERMORESISTENZA	THERMO-RESISTANCE CONTROL SWITCH	
KM1	TELERUTTORE MOTORE POMPA OLIO	OIL PUMP MOTOR REMOTE CONTROL SWITCH	KONTAKTGEBER ZENTRALHYDRAULIK MOTOR
KM2	TELERUTTORE MOTORE LAMA	BLADE MOTOR REMOTE CONTROL SWITCH	KONTAKTGEBER SÄGEBLATTMOTOR
KM3	TELERUTTORE POMPA REFRIGERANTE	COOLANT PUMP REMOTE CONTROL SWITCH	KONTAKTGEBER KÜHLMITTELPUMPE
KM5	TELERUTTORE MOTORE GUIDA PEZZO	THERMAL RELAY GUIDA-PIECE MOTOR CONTROL SWITCH	
M1	MOTORE POMPA OLIO	OIL PUMP MOTOR	ZENTRALHYDRAULIKMOTOR
M2	MOTORE LAMA	BLADE MOTOR	SÄGEBLATTMOTOR
M3	MOTORE POMPA REFRIGERANTE	COOLANT PUMP MOTOR	KÜHLMITTELPUMPE MOTOR
M4	MOTORE ESTRATTORE TRUCIOLI	CHIP EXTRACTOR MOTOR	SPAENEAUSLASSVORRICHTUNG MOTOR
M5	MOTORE ROTAZIONE TESTA		
M50	MOTORE GUIDA PEZZO	GUIDA-PIECE MOTOR	
P1	POTENZIOMETRO POSIZIONAMENTO LAMA	BLADE POSITIONING POTENTIOMETER	SÄGEBLATT-STENUNG POTENZIOMETER
P2	POTENZIOMETRO VELOCITA' LAMA	BLADE SPEED POTENTIOMETER	SÄGEBLATT-GESCHWINDIGKEIT POTENZIOMETER
QS1	INTERRUTTORE GENERALE	MAIN ON / OFF SWITCH	HAUPTSCHALTER
QS2	INTERRUTTORE / COMMUTATORE DI VELOCITA'	SWITCH / SPEED CHANGE OVERSWITCH	SCHALTER / GESCHWINDIGKEIT UMSCHALTER
QS3	INTERRUTTORE POMPA REFRIGERANTE	COOLANT PUMP SWITCH	KÜHLMITTELPUMPE SCHALTER
R	RELE' COMANDO MARCIA ROTAZIONE LAMA	ROTATING BLADE COMMAND RELAY	SÄGEBLATT UMDREHUNG POTENZIOMETER
R1	RELE' COMANDO TELERUTTORE POMPA OLIO	OIL PUMP REMOTE CONTROL SWITCH COMMAND RELAY	RELAIS OIL PUMPE FERNSCHALTER
R2	RELE' COMANDO TELERUTTORE LAMA	BLADE REMOTE CONTROL SWITCH COMMAND RELAY	RELAIS BLATT FERNSCHALTER
R5	RELE' COMANDO MICROLUBRIFICAZIONE	MICROLUBRICATION COMMAND RELAY	
RX	RELE' COMANDO TERMOSTATO	THERMOSTAT COMMAND RELAY	
S	SELETTORE FUNZIONE	FUNCTION SELECTOR	FUNKTION WÄHLER
SB1	PULSANTE DI ARRESTO EMERGENZA	EMERGENCY PUSH BUTTON	NOT AUS TASTER
SB2	PULSANTE START CICLO	CYCLE START BUTTON	ZYKLUS START SCHALTER
SB3	PUSANTE DI RESET	RESET BUTTON	
SB4	PULSANTE CHIUSURA MORSA	LOCK VICE BUTTON	SPANNSTOCK SCHLIEßEN SCHALTER





CONTROLLATO IL:	02/05/11
DA:	
REV.:	0

SPECIAL 330 CSO