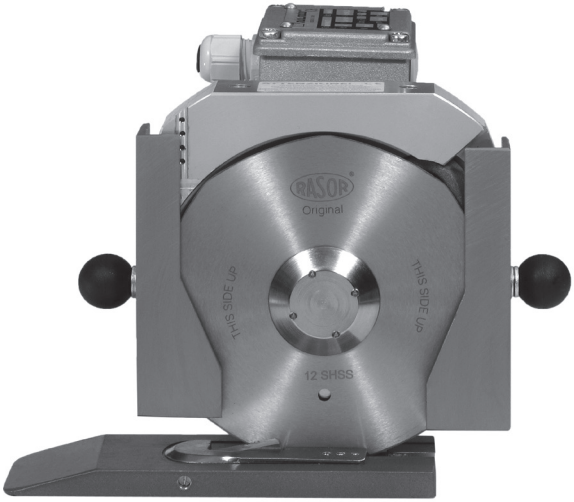
RASOR®

1946

DD120R

THREE-PHASE CUTTING UNIT



USE MANUAL

COMPANY

Rasor® Elettromeccanica S.r.l. was established in Milan in 1946 by Luigi Spinelli. For more than sixty years it has been producing automatic cutting systems, cutting units for textile applications and electric and pneumatic cutters.

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Initially considered as a point of reference for cutting systems in the textile applications, the Rasor® products are nowadays widely used in other fields: chemical, automotive, nautical and sport sectors and in furniture manufacturing.

Rasor® can rely on the professional continuity of three generations, thanks to the precious support of the promoting partner, to his passion, dedication and great experience of seventy years.

The main characteristic of Rasor® is that each working phase, starting from the manufacturing of the product up to its packing and delivery is carried out in Rasor® premises by qualified operators who have professionaly grown up following the spirit of the company and of its founders. This ensures the high quality which Rasor® has always considered as essential since the beginning of its activity.

Following the innovative spirit mentioned above, our company is constantly focused on the improvement of the product quality, on the study and development of new materials and technologies.

ACKNOLEDGEMENT

Dear Customer,
thank you for choosing a Rasor® Elettromeccanica S.r.l. product.

Rasor® has been a reference point in the field of cutting systems in the textile, clothing, furniture, tailoring, sport, chemical, automotive, nautical and insulating material sectors for years. Its production has been always synonymous with reliability attested by many of satisfied customers.

Rasor® quality system supervises all the company activities in order to provide the Customer with a service that meets its needs and expectations in terms of product quality, delivery reliability and stock of finished products.

All the parts of the devices have been planned and produced to guarantee an optimum performance. In order to keep the high quality level and the long reliabilty of the Rasor® products, it is recommended using only original spare parts and to contact the head office for any maintenance work.

1. GENERAL SAFETY RULES

This manual is an integral part of cutting unit DD120R and must be carefully read before using it since it gives important indications with regards to its safe installation, use and maintenance. Keep it with care.

Before using cutting unit DD120R, read carefully the following general safety rules.

- PACKAGING.
  After taking off the packaging make sure that the cutting unit is intact. In case of doubt do not use it and contact an authorized service centre. Do not leave pieces of packaging (plastic bags, foam polystyrene, boxes, etc.) within the reach of children or disabled persons since they are potential sources of danger.
- AVOID DANGEROUS ENVIRONMENTS.
  Prevent the cutting unit DD120R components from coming in contact with damp or wet surfaces.
- KEEP CHILDREN AWAY.
  Unauthorized persons, in particular children, must be kept away from the working area.
- FEED CABLE.
  Prevent the feed cable from coming in contact with hot objects, pointed surfaces or sharp edges. Never pull the feed cable of the machine. It must never be replaced by the user. If necessary contact professionally qualified staff.
- KEEP THE WORKING AREA ALWAYS IN ORDER.
  The workplace must always be kept in order and well lightened; liquids or oil traces must not be present.
- ALWAYS USE CUTTING UNITS DD120R PROPERLY.
  Use the cutting units only to carry out the works they have been designed for; do not use them improperly.
- OBSERVE THE USE OF THE TOOLS.
  Do not cut excessively thick materials and always check blade conditions.
- AVOID ACCIDENTAL STARTINGS.
  Before connecting cutting unit DD120R, make sure that everything is installed properly.
- CLOTHING.
  Do not use large clothes or accessories that might get stuck in the moving parts.
- GOGGLES AND PROTECTIVE METAL MESH GLOVES.
  Always use goggles, protective metal mesh gloves approved by Rasor® during use and maintenance operations (according to UNI EN 388:2004 standard).
- SPARE PARTS.
  During maintenance and replacement operations use only original spare parts. Blade maintenance must be only performed by Rasor® technicians.
- INSTALLATION.
  Any installation that is not in conformity with these specifications could jeopardize your safety and cancels the warranty.

Informative letter

The installer and the maintenance man must know the content of this manual. Although the main features of the machine described in this manual are not subject to change, **Rasor® Elettromeccanica S.r.l**. reserves the right to modify the components, details and accessories it deems necessary to improve the machine or to meet manufacturing or commercial requirements at any time and without being obliged to update this manual immediately.

WARNING

ALL RIGHTS ARE RESERVED ACCORDING TO THE INTERNATIONAL COPYRIGHT CONVENTIONS,
The reproduction of any part of this manual, in any form, is forbidden without the prior written authorization of Rasor® Elettromeccanica S.r.l.
The content of this guide can be modified without prior notice. Great care has been taken in collecting and checking the documentation contained in this manual to make it as complete and comprehensible as possible.
Nothing contained in this manual can be considered as a warranty, either expressed or implied - including, not in a restrictive way, the suitability warranty for any special purpose. Nothing contained in this manual can be interpreted as a modification or confirmation of the terms of any purchase contract.

Rasor® Elettromeccanica S.r.l. machines have not been conceived to work in areas at risk of explosions and at high risk of fire and they cannot cut wet or damp materials. Moreover, they cannot work in case of rain.
In case of damage or malfunction, cutting unit DD120R must not be used until the Customer Care Technical Service has repaired them.

Customer Care Technical Service

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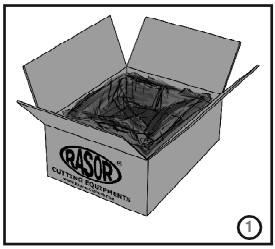
For any information, please contact
RASOR® ELETTROMECCANICA S.r.l.
Via V. Caldesi, 6; 20161, MILANO (MI) - ITALY
Tel: +39.02.66221231; Fax: +39.02.66221293
e-mail: info@rasor-cutters.com
web: www.rasor-cutters.com

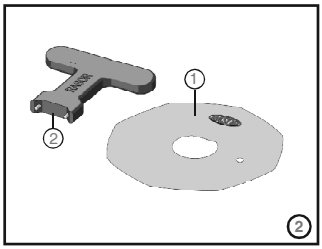
WARNING
The original configuration of the cutting unit must not be changed at all.
On receiving the machine make sure the supply corresponds to what has been ordered.
In case of non-compliance immediately inform Rasor®.
Also make sure the cutting unit has not been damaged during transport.

2. TRANSPORT AND PACKING

The cutting unit is delivered in a cardboard box, inside which there are various options. The code of the ordered product and its serial number are indicated outside the package (see picture 1). The following accessories are contained in a bag inside the package:

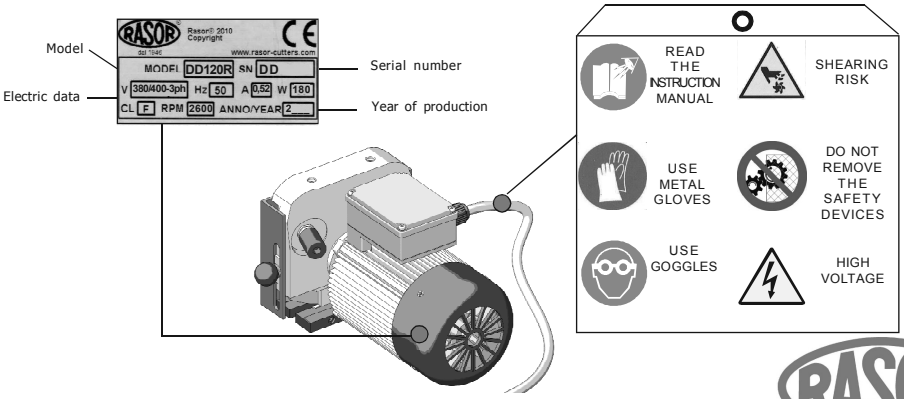
1) Poligonal blade;
2) Butterfly wrench for blade nut disassembly.





3. PLATE DATA

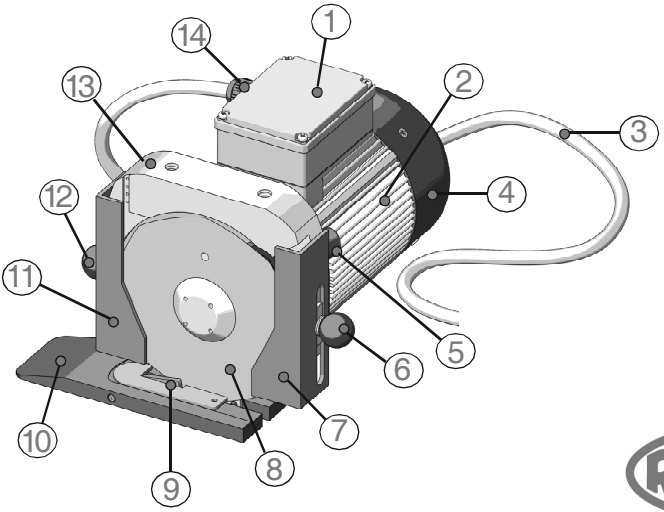
The manufacturer's identification and EC STANDARD 2006/42/EC conformity plate (see picture below) is located on the front part of the cutting unit.
The plate must not be removed at all, even if the machine is resold. Always refer to the serial number written on the plate itself when contacting the manufacturer.
Several safety warnings are printed on a card which is applied to the cutting unit feeding cable; such warnings must be strictly followed by everyone dealing with the machine. **The company is not to be held responsible for damage to property or accidents to people which might occur if the above-mentioned warnings are not observed. In such a case, the operator is the only person responsible.**



4. PRODUCT DESCRIPTION

The fixture described in this manual is a cutting unit model DD120R which can be assembled on automatic machines (e.g. spreaders, computerized cutting) by means of proper holes located in the motor rest.
DD120R can operate continuously and it can cut at various heights by means of multiple installation.
By cutting with the blade and the counterblade always in contact and thanks to the steel upper quality of the blade supplied, DD120R guarantees the clean separation without frayings of the two borders of the cut material. The cutting time is halved and the material can slide at a doubled speed, thus reducing idle time. The three-phase motor, with extremely compact dimensions and extreme reliability with 120 mm diameter blades, guarantees cuts with thickness up to 4 cm. A sharpener assembled on the cutting unit head allows whetting the blade at any moment without disassembling it. After carrying out this operation, it is possible to start cutting again. A high power motor, perfectly balanced, with a high number of revolutions and totally free of maintenance, reduces the vibrations to the minimum, thus making the cutting unit comply with European Directive No. 2002/44/EC concerning the risks deriving from mechanical vibrations.The mechanical parts are made of high resistance steel, bronze and aluminium.

Device components			
1	Connector block	8	Poligonal blade
2	Motor frame	9	Hard metal counterblade
3	Feed cable	10	Aluminium base covered with Teflon®
4	Motor cover	11	Left aluminium protection cover
5	Sharpening button	12	Adjusting knob for left protection cover
6	Adjusting knob for right protection cover	13	Motor rest
7	Right aluminium protection cover	14	Cable gland



5. TECHNICAL FEATURES

DD120R cutting unit features	
Blade diameter	120 mm with hard metal counterblade
Blade speed	2600 rev./min
Cutting working depth	about 4 cm
Motor power	Three-phase-Asynchronous, 180 W (IP65-CL F)
Max. absorption	0,52 A
Weight (with feeding cable)	4700 g
Weight (with package)	4950 g
Electric cable length	1 mt
Minimum light for working operations	LUX 200
Vibration at the start up	< 2,5 m/s^2
Working temperature	0 ~ 55°C
Working humidity	10 ~ 95% without condensate

Features of the available blades	
12SHSS	8 side blade Ø 120 mm, in H.S.S. steel
12DHSS	12 side blade Ø 120 mm, in H.S.S. steel
12CSW	Circular blade Ø 120 mm, in Extra steel
12SHSSTN	8 side blade Ø 120 mm, in H.S.S. steel covered with TIN
12DHSSTN	12 side blade Ø 120 mm, in H.S.S. steel covered with TIN
12SMD	8 side blade Ø 120 mm, in integral hard metal
12SHSSTF	8 side blade Ø 120 mm, in H.S.S. steel covered with Teflon®

The technical data are only indicative and they can be changed without notice.

6. NOISE LEVEL

The maximum acoustic pressure level emitted by cutting unit DD120R is about 60 dB (A). Noise tests have been carried out in compliance with Standard UNI EN ISO 11202:2010. The device noise levels, measured at different distances (without any sound wave filtering system), vary in the extent of few db (A).

NOTE

It is advisable for cutting unit DD120R owners to verify the compliance with the standard concerning safety of workers: Italian legislative decree 81/08.

7. FIELD OF APPLICATION

Cutting unit DD120R has been designed, manufactured and assembled to cut any kind of fabrics or materials, with the exception of metal, plastic or wood, by means of rotary poligonal blades. This equipment must not work:

- in areas prone to explosions;
- in presence of fine dust or corrosive gases;
- on wet or damp materials;
- to cut plastic, metal and wooden materials.

It is forbidden to use cutting unit DD120R for purposes different from the above-mentioned ones.

8. USE WARNINGS

We recommend following the indications below in order to always work in safety conditions.

- All the operations must be carried out complying strictly with the safety rules of the country where the device is to be installed.
- It is STRICTLY FORBIDDEN to smoke during the installation or adjustment operations of the cutting unit.
- The Customer undertakes to comply with and make his staff observe all the rules and regulations in force concerning safety, prevention of accidents and health in the work place.
  Therefore, the Customer assumes the responsibility to strictly follow all the rules and regulations in force, as well as the special provisions in force in sport and public installations the Customer declares to know after receiving all the relative necessary information.
- **The cutting unit works also without its safety protective device. This protective device must NEVER be removed.**
- Always check the resistance of the material to be cut and the kind of blade which is being used.
- The Customer shall equip his own personnel with all the individual safety protections for the execution of the works, as well as with the ones which might be prescribed by the Manufacturer due to specific danger conditions of the plant or of the area where the personnel must work.
- Do not make any adjustment while the blade is working or while the electric plug is connected.
- Always pay attention to the electric cable position to prevent it from being cut or damaged by the blade.
- It is allowed to assemble cutting unit DD120R on machines O.E.M. on condition that their original structure is not modified. Otherwise, the intervention must be certified by Rasor®.

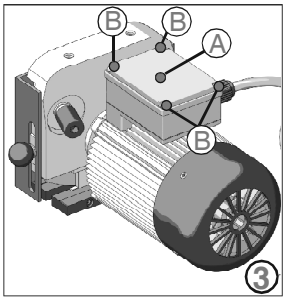
9. ELECTRIC CONNECTION

Firstly make sure that the lines are able to feed the cutting unit correcltly, in compliance with the safety rules (for the feature required see par. 5).

WARNING ⚠

We suggest installing a magnetothermic safety device before the cutting unit and check that the ground circuit is effective.
Before working on the feeding cable pull the plug out. Check that electric connections and protections correspond to the driving force and the plate data values (voltage and current), required by the different electric circuits.
By referring to the CEI 11-27/1 standard all the works carried out by means of electric current must be performed by a staff, who has been provided with all the devices required by the above-mentioned standard.
For the works carried out under voltage, it is necessary that the employer certifies the suitability, against formative processes. The cutting unit DD120R is supplied with electric cable connected to the connector block located beside the motor.
The user must connect the cutting unit to the mains (the cable complies with the CEI 20-22 III Standard). Never change the length of the cable supplied. If it is necessary, use a longer cable and replace the one supplied.

To connect the new cable open the cover "**A**" by unscrewing the 4 cross-slotted screws "**B**" (see picture 3). Connect the phase cable to the terminal board. The minimum section of the connecting cables must be determined by the operator in charge of the installation.



We recommend using safety cables and sockets IMQ approved. Check the connection by enabling the cutting unit and verify the rotation direction. The cutting unit is provided with earthing (yellow-green cable). Possible faulty earthing connections may cause unsafe working conditions. Possible damages are not at RASOR® s.r.l. charge.

The electric feeding must be supplied by a line protected against overcurrent by means of the automatic switch (magnetothermal) or delayed fuses with a suitable dimensions. The current of the safety devices must be as low as possible considering the max. absorption of the machine (see identification plate).

WARNING ⚠

The operator must arrange a disconnetting switch on the supply line in order to switch off the machine, if necessary.

10. RESIDUAL RISKS

Even though the cutting unit is safe, operators must pay attention to preserve their and other people's safety.

☹ At the end of the working operations, the metal parts could be very hot.
☹ The cutting blade can work even when the protective device is disassembled.

11. INSTALLATION AND USE

To install and use the cutting unit, proceed as follows:

1) Fix the cutting unit on level squares or angles by using the two threaded holes "A" for 5MA screws located in the blade holder support (see picture 4).

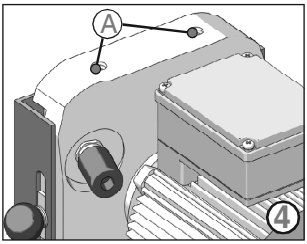
NOTE

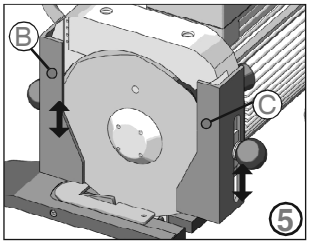
The cutting unit can be installed in any position/angle: vertically, laterally and it can be turned upside down. It is not compulsory for the aluminium base to touch the machine table.

2) Lay the material to be cut;
3) Connect the cutting unit to the electric feeding;
4) Put the material on the cutting base;
5) Adjust the right and left mobile protection covers "B" and "C" according to the thickness of the material to be cut (see picture 5);
6) Carry out the cutting operation.

NOTE

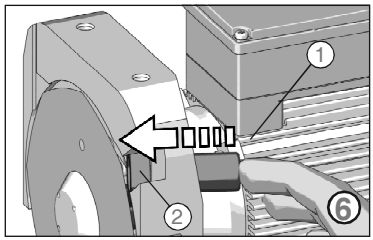
Cutting unit DD120R can work in a fixed position (the material has to be moved) or it can move forward while the material is kept in the same position. Make sure the material to be cut is properly stretched, preventing it from curling.



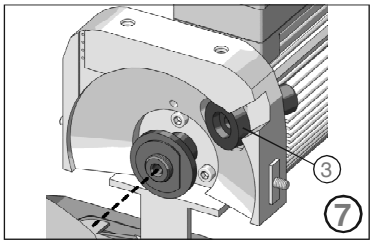


12. BLADE SHARPENING

After many hours of a continuative use of the cutting unit, or if it should not be able to cut anymore, it is necessary to sharp the blade.
To carry out this operation, start the blade and press sharpener "2" located on it for 3-4 seconds (by pressing push button "1", as shown in picture 6).
Repeat the operation 2-3 times.

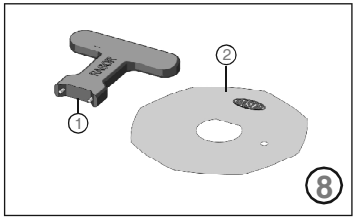


If the sharpening operation is not effective, check the wear of emery grinding wheel "3" (see picture 7). If emery grinding wheel "3" is too worn or dirty, replace it after disassembling the blade by means of the proper tool.



13. BLADE REPLACEMENT

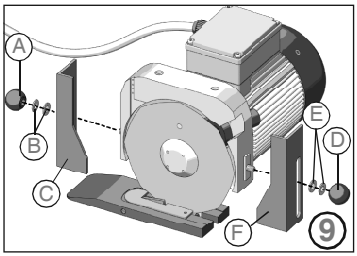
If the blade is no more able to cut (even after repeating the sharpening operation several times) it is necessary to replace it. To carry out this operation, use butterfly wrench "1" (shown in picture 8).



To replace the blade, proceed as follows:

1) Use some protective gloves in compliance with Italian Legislative Decree 81/08.

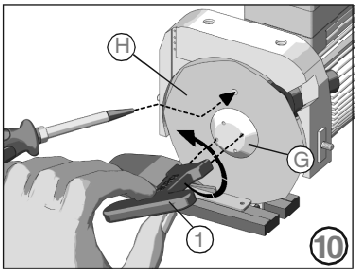
2) Remove the two adjusting knobs "A" and "D" of the right and left protection covers "C" and "F" by removing the two relative washers "B" and "E" (see picture 9).



3) Use butterfly wrench "1" to unscrew nut "G" and remove blade "H" (see picture 10).

5) Replace the worn blade with the new one "2", being careful to center the blade on the gear, in the correct position; we remind you to assemble it so that the side with the writing Rasor can be seen by the operator.

6) Assemble all the components again and carry out the sharpening.

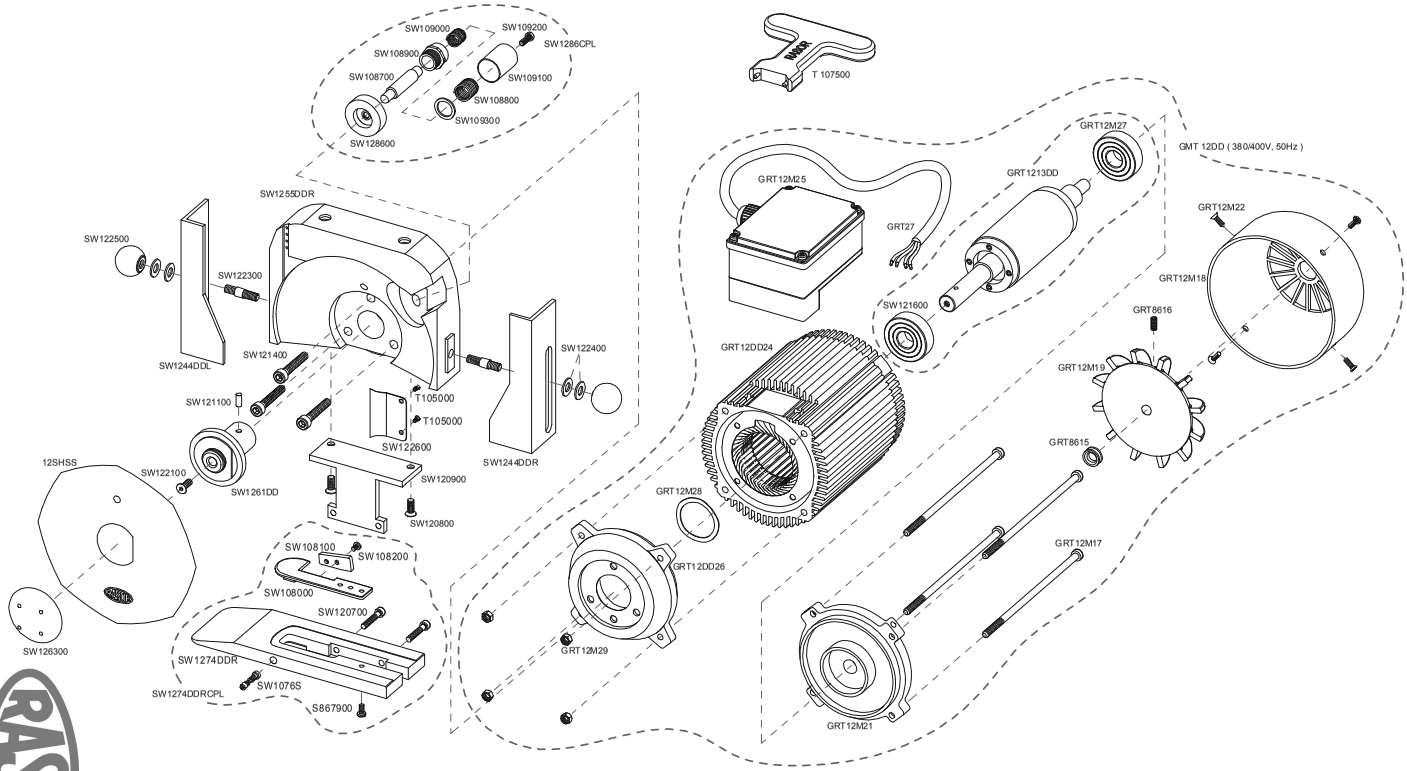


14. TROUBLESHOOTING

✖ PROBLEM	➡ SOLUTION
The material is not cut or it gets stuck between the blade and the counterblade	Make sure that the blade touches the counterblade
	Check the kind of material
	Sharpen the blade
	Check the material thickness
	Check the compatibility between blade and material
	Make sure that the motor turns correctly
	Reduce the feeding speed
	Check the counterblade integrity
The cutting unit is noisy	Check the blade integrity
	Disassemble the blade and remove the material residues
	Check the counterblade integrity
The cutting unit starts slowly, works intermittently or it does not start	Check the electric connections on the O.E.M. unit
	Check the electric connections
	Check the feeding cable

15. SPARE PARTS / EXPLODED VIEW

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
12SHSS	8 SIDE BLADE Ø 120 mm, IN H.S.S. STEEL	GRT12M29	FASTENING NUT	SW109100	SHARPENER CAP WITH BEARING	SW122600	PLATE LOCKING THE THREAD
GMT12DD	COMPLETE MOTOR SERIES DD120, 3-ph 380 V 50 Hz	GRT27	FLAME RETARDANT FEEDING CABLE	SW109200	SHARPENER CAP FIXING SCREW	SW1244DDL	LEFT ALUMINIUM PROTECTION COVER
GRT1213DD	COMPLETE ROTOR SERIES DD120	GRT8615	SPACER	SW109300	WASHER	SW1244DDR	RIGHT ALUMINIUM PROTECTION COVER
GRT12DD24	COMPLETE MOTOR FRAME SERIES DD120	GRT8616	DOWEL FASTENING THE FAN	SW120700	ALLEN SCREW FOR DD120 BASE FIXING	SW1255DDR	MOTOR REST
GRT12DD26	LOWER MOTOR FLANGE SERIES DD120	S867900	COUNTERBLADE HOLDER FIXING SCREW	SW120800	ALLEN SCREW FOR UPRIGHT FIXING	SW1261DD	GEAR
GRT12M17	MOTOR FRAME FIXING SCREW	SW1076S	SPRING WITH DOWEL	SW120900	STEEL UPRIGHT	SW126300	BLADE FIXING RING NUT
GRT12M18	MOTOR COVER	SW108000	COUNTERBLADE HOLDER	SW121100	STEEL PIN	SW1274DDR	RIGHT BASE WITH BEVEL DD120R
GRT12M19	MOTOR FAN	SW108100	HARD METAL COUNTERBLADE	SW121400	ALLEN SCREWS FOR DD120 SUPPORT FIXING	SW1274DDRCPL	RIGHT BASE WITH BEVEL DD120R, COMPLETE
GRT12M21	UPPER MOTOR COVER	SW108200	COUNTERBLADE FIXING SCREW	SW121600	L12 MOTOR BEARING	SW128600	MEDIUM GRAIN EMERY Ø 30x10x6
GRT12M22	MOTOR COVER FIXING SCREW	SW108700	SHARPENER PIN	SW122100	SHAFT HEAD FIXING SCREW	SW1286CPL	COMPLETE EMERY UNIT
GRT12M25	COMPLETE TERMINAL BOARD	SW108800	EMERY SPRING Ø 11 mm	SW122300	STEEL STUD BOLT	T105000	SCREW FOR FIXING THE PLATE LOCKING THE THREAD
GRT12M27	UPPER MOTOR BEARING	SW108900	SHARPENER BUSH	SW122400	STEEL WASHER	T 107500	BLADE ASSEMBLING/DISASSEMBLING WRENCH
GRT12M28	COMPENSATION RING	SW109000	EMERY SPRING Ø 6 mm	SW122500	PROTECTION COVER ADJUSTING KNOB		


SW109000
SW109200
SW1286CPL
SW108900
SW108700
SW109100
SW108800
SW109300
SW128600
T 107500
GRT12M27
GMT 12DD (380/400V, 50Hz)
GRT12M25
GRT1213DD
GRT27
GRT12M22
SW1255DDR
SW122500
SW122300
GRT12M18
SW121600
GRT8616
SW121400
SW122400
GRT12DD24
SW1244DDL
T105000
GRT12M19
SW121100
T105000
SW122600
GRT8615
12SHSS
SW122100
SW1261DD
SW1244DDR
SW120900
GRT12M28
SW120800
SW108100
SW108200
GRT12M17
GRT12DD26
SW108000
SW120700
GRT12M29
SW126300
SW1274DDR
SW1076S
SW1274DDRCPL
S867900
GRT12M21

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WARRANTY

Rasor® Elettromeccanica S.r.l. cutting unit has a 12 month warranty from the date indicated on the last page of this manual, except in case of different written agreements.
The warranty covers all manufacturing and material defects. Replacement and repair operations are covered only if carried out by our company and at our workshop. If in-warranty goods need to be repaired, **the customer must always send the complete machine to Rasor®. Single units will not be repaired under warranty.**
The material to be repaired must be sent CARRIAGE FREE.
Once the machine has been repaired, it will be sent CARRIAGE FORWARD to the customer.
The warranty covers neither technicians' intervention on site nor the machine disassembly from the installation place.
If for practical reasons, one of our technicians is sent to the premises, the customer will be charged the costs plus the travelling expenses.

The warranty does not include:

- ☞ failure caused by wrong use or assembly,
- ☞ failure caused by external agents,
- ☞ failure caused by lack of maintenance or neglicence;
- ☞ blades and parts subject to wear.

WARRANTY FORFEITURE:

- ☞ In case of arrearage or other breaches of contract,
- ☞ Whenever changes or repairs are carried out on our cutting units without our prior authorization,
- ☞ Whenever the serial number is tampered with or cancelled,
- ☞ Whenever the damage is caused by improper use, bad treatment, bumps, falls and other causes not due to normal working conditions,
- ☞ Whenever the unit seems tampered with, dismantled or previously repaired by unauthorized staff,
- ☞ In case the cutting units are used for purposes that are different from the ones described in this manual.

All repair operations carried out under warranty do not interrupt its duration.

All disputes will be settled in the court of justice of Milan (Italy).

We thank you in advance for the attention you will pay to this manual and we invite you to inform us of any change you deem necessary to improve it and make it more complete.

DECLARATION OF CONFORMITY

CE

We hereby certify that the device specified hereunder complies to the requirements of Machinery Directive 2006/42/EC, Electromagnetic Compatibility 2004/108/EC and CEI EN 60204-1, Directive 2002/44/EC and to technical rulings UNI EN 414:2002, UNI EN ISO 12100:2010.

Noise tests have been carried out according to UNI EN ISO 11202:2010 Standards.

Cutting unit DD120R has been produced according to workmanlike standards.

We declare that the above-mentioned goods comply with the standards in force concerning safety and hygiene at work that can be applied to the material itself according to the Italian legislative decree No. 81/08 (local law); the above-mentioned goods are not included in the goods indicated in annex IV of Machinery Directive 2006/42/EC.

1. Category: **THREE-PHASE CUTTING UNIT**
2. Manufacturer: **RASOR®ELETTROMECCANICA S.R.L.**
3. Type: **DD120R**
4. Serial number: .....
5. Year of manufacture: .....
6. Country of manufacture: **ITALY**
7. Additional information: .....

Date:

Warranty expiry:

12 months invoice date or receipt

RASOR ELETTROMECCANICA S.R.L.
CUTTING EQUIPMENTS

(Firma)

RASOR®
dal 1946

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