

MASONRY 700

SAWING MACHINE



OPERATING, MAINTENANCE, SPARE PARTS MANUAL

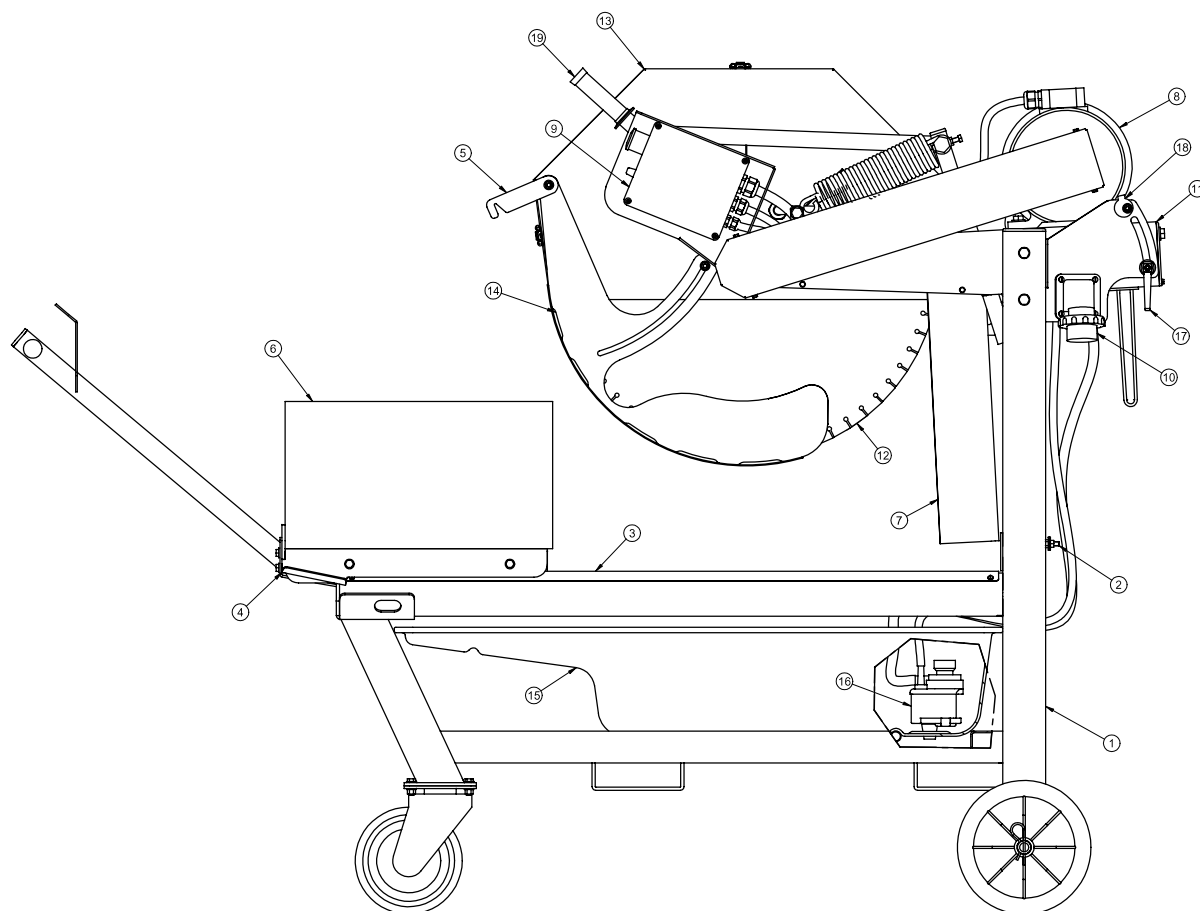


FIG. 1

REF.	DESCRIPTION
1	Frame
2	Screw
3	Guide bar
4	Carriage
5	Trolley clamping
6	Workpiece
7	Spray guard
8	Motor
9	Junction box
10	Plug
11	Cutting head group
12	Blade
13	Disc cover
14	Blade cover
15	Drum
16	Water pump
17	Adjusting cut lever
18	Cam

Special attention must be given to warnings with this symbol:





Dear Customer,

Congratulations on your choice of purchase: this IMER saw, the result of years of experience, is a fully reliable machine and is equipped with the latest technical innovations.



- WORKING IN SAFETY

To work in complete safety, read the following instructions carefully.

This OPERATION AND MAINTENANCE manual must be kept on site by the person in charge, e.g. the SITE FOREMAN, and must always be available for consultation.

This manual is to be considered an integral part of the machine, and it must be preserved for future reference (EN 12100/2) throughout the machine's normal working life. If the manual is damaged or lost, a replacement may be requested from the saw manufacturer.

The manual contains important information regarding site preparation, installation, machine use, maintenance procedures and requests for spare parts. Nevertheless, the installer and the operator must both have adequate experience and knowledge of the machine prior to use.

To guarantee complete safety of the operator, safe operation and long life of equipment, follow the instructions in this manual carefully, and observe all safety standards currently in force for the prevention of accidents at work. Use personal protection (safety footwear, suitable clothing, gloves, goggles, etc.).



- The use of protective goggles is compulsory.



- Ear protection must be worn at all times.



- Make sure that warning signs are always legible.



- It is strictly forbidden to carry out any form of modification to the steel structure or working parts of the machine.

IMER INTERNATIONAL declines all responsibility for non-compliance with laws and standards governing the use of this equipment, in particular; improper use, defective power supply, lack of maintenance, unauthorised modifications, and partial or total failure to observe the instructions contained in this manual.

IMER INTERNATIONAL is entitled to modify the characteristics of the sawing machine and/or the contents of this manual without necessarily updating previous machines and/or manuals.

1. TECHNICAL DATA

Technical data are stated in table 1 and electrical specifications in table 2.

Table 1 - TECHNICAL DATA

Model	Masonry 700
Blade diameter	700 mm
Blade mounting hole	25,4 mm
Blade rpm (220V/60Hz) single-phase	1220 rpm
Blade rpm (220V/60Hz) three-phase	1710 rpm
Blade rotation direction (seen from blade clamping flange)	clockwise
Motor rating 220V/60Hz single-phase	4 kW
Motor rating 220V/60Hz three-phase	5.5kW
Cutting table dimension	490x660 mm
Overall dimensions (width x length x height)	850x1550x1600 mm
Overall dimensions for transport (width x length x height)	850x1550x1600 mm
Sawing machine operating weight	285 Kg
Weight for transport	202 Kg

Table 2

Feature	Motor (220V/60Hz) three-phase	Motor (220V/60Hz) single-phase
Power (kW)	5.5	4
Rated voltage (V)	220	220
Frequency (Hz)	60	60
Absorbed current (A)	22	23.2
rpm	1710	1220
Service type	S1	S1
Insulation category	F	F
Protection category	IP55	IP55
Capacitor (μF)		180

2. DESIGN STANDARDS

The MASONRY 700 sawing machine has been designed and manufactured in accordance with the following standards: EN 12100-1-2; EN 12418 and meets directives 89/336/EEC; 98/37/CE.

3. SOUND PRESSURE LEVEL AND VIBRATIONS

Table 3 shows the sound pressure level measured loadless at the operator's ear (L_{pA}) and of the vibrations transmitted during operation.

Table 3

Model	Type of motor	L_{pA}	A_{eq}
Masonry 700	Electric	95 dB	2.33 m/s ²

4. CUTTING SPECIFICATIONS

This saw model has been specially designed for cutting stone, ceramics, marble, granite, concrete and similar materials. Only water-cooled diamond blades with continuous or segmented edges must be used. Under no circumstances must dry cutting blades be used or materials other than those specified above. IMER INTERNATIONAL declines all responsibility for damage caused by improper use of the above machine.

5. CUTTING CAPACITY (Blade diameter 700 mm)

- max. cutting capacity with vertical blade= 275 mm in one single pass.
- max. height of workpiece: 460 mm.
- min. width of workpiece: 50 mm.
- max. cutting length: 500 mm (with blade lowered), 560 mm (vertical movement of the disk).

6. WARNING

- Do not load the saw with workpieces that exceed the specified weight (max. 40 kg)
- Ensure stability of machine: it must be installed on a solid base with a maximum slope of 5° (fig.2).
- The machine is fitted with a brake on the front castor wheels. Block the wheels with the brake before starting cutting operations.
- Ensure the workpiece is stable before, during and after cutting: in any case, workpieces must not overhang the worktable.
- Respect the environment; use suitable receptacles for collection of cooling water contaminated with cutting dust.

7. SAFETY PRECAUTIONS

IMER saws are designed for work on construction sites and under conditions of natural light, hence the workplace must be adequately lit (min 500 lux).



- It must never be used in environments where the danger of explosions and/or fires exists.

1. IMER saws may only be used when fitted with all required safety devices, which must be in perfect condition.

2. Never use makeshift and/or faulty power cables.

3. Make electrical connections on the construction site where they will not be subject to damage. Never stand the saw on power supply cables.

4. Lay power cables in such a way as to prevent water penetration. Only use connectors fitted with water-spray protection (IP67).

5. Repairs to electrical installations must only be carried out by qualified technicians. Always ensure that the machine is disconnected from the power supply and is completely immobile during repairs and maintenance operations.



- The machine should be connected to the site's equipotential earth system with a copper plait with a minimum cross section of 16 mm². The connection point is made with a screw welded on the frame (ref.2, fig.1) and identified with the earth symbol.



- Stop the saw only by means of the main switch (ref.9, fig.1).

8. ELECTRICAL SAFETY

The IMER saw meets Std. EN 60204-1, EN 61029-1 and is in particular fitted with:

- Protection device against automatic re-start after power failure.
- Short-circuit cutout device.
- Motor overload cutout switch.

**9. TRANSPORTATION**

! - Before removing the panel saw, lock the carriage using the stop (ref.4, fig.4).

For hoisting the machine use a brace with three arms and (ref.1, fig.4), inserting the hooks in the special couplings (ref.3, fig.4). When transporting the machine with a fork lift, insert the left fork in the slot provided (ref.2, fig.4).

As the machine is fitted on wheels, it can be moved by hand on flat surfaces as follows:

1. make sure that the front wheel brakes are released.
2. make sure that the piece holder carriage is clamped with the special ratchet (ref. 4, fig. 4).
3. pull the machine by hand using the piece holder carriage grip; movement (also round corners) is facilitated by the front castor wheels.

10. INSTALLATION

1. Install the machine on a completely even and stable surface.
2. Block the front wheels with the brakes.
3. Release the carriage from the lever that secures it to the frame (ref.4, fig.4).

11. ELECTRICAL MAINS CONNECTION

! - Make certain that a residual current device and miniature circuit breaker are installed on the electrical power line.

11.1 Connecting versions with motor 115V/60Hz

Ensure that the supply voltage corresponds to machine dataplate specifications. At full load it must be between ***V and ***V.

! - To supply the machine it is necessary to use a 2-pole + ground cable in order to ensure the machine's connection to the site's equipotential system.

11.2 Connecting versions with motor 220V/60Hz

Ensure that the supply voltage corresponds to machine dataplate specifications. At full load it must be between ***V and ***V.

! - To supply the machine it is necessary to use a 3-pole + ground cable in order to ensure the machine's connection to the site's equipotential system.

11.3 Sizing the power supply cable

The power supply line must be suitably sized to prevent voltage drops. Do not use cable winders. The electric cable wire size must take into account the operating currents and length of the line to avoid excessive voltage drops (table 4).

Table 4					
Model	Type of motor	Cable (mm ²)			Cable length (m)
		1.5	2.5	4.0	
Masonry 700 Single-phase	220 V 23.2 A	0 - 12	13 - 24	25 - 50	
Masonry 700 Three-phase	220 V 22 A	0 - 12	13 - 24	25 - 50	

Cables used on construction sites must be fitted with suitable external sheathing that is resistant to wear, crushing and extreme weather conditions (for example H07RN-F).

! - All power supply installations must comply with CEI 64-8 standards (harmonised document CENELEC HD384).

12. MACHINE START-UP

Before connecting the machine to the power supply:

1. Ensure that the metal structure is connected to an earthing plant as indicated in Section 7 "Safety Precautions".
2. Ensure that the tank contains sufficient cooling water (min. 60 L; max. 90 L).
3. Ensure that the power circuit corresponds to the requirements as indicated in Section 11 "Electrical connections"
4. Connect the machine to the power supply
5. Turn the start-stop selector to the start position (star connection). Wait for 5 sec. and turn to the running position (delta connection).
6. Check that the direction of blade rotation corresponds to that indicated by the arrow on the blade guard.

! - The machine is fitted with a plug with phase inversion. If the direction of rotation of the disk is the opposite of the arrow on

the protective guard, disconnect the power socket from the plug on the machine and invert a phase. To do this, exchange the two mobile terminals on the poles using a screwdriver. This operation is carried out without removing the plug working on the rotary element that holds the mobile poles.

7. adjust the flow of cooling water by turning the cock next to the blade guard (do not perform cutting without water).
8. If all is in order, proceed with cutting.

13. EMERGENCY STOP

! - In the case of an emergency, stop the machine pressing the special red mushroom button. To start again, reset the mushroom button turning it clockwise and turn the selector to zero, then repeat point 12.5 (ref.9, fig.1).

14. BLADE INSTALLATION

1. Slacken the fastener and remove the water pipe (ref. 4, fig. 5).
2. Release the spring catches clamping the disk mobile guard (ref. 3, fig. 5).
3. Slacken the locking nut (ref. 1, fig. 5) turning it clockwise (left-hand thread).
4. Remove the mobile flange (ref. 2, fig. 5). Check that there is no damage on the flanges, disk shaft and disk.

! - Never use worn blades or blades with missing segments.

! - Only use blades that are designed for the number of revolutions indicated on the machine rating plate.

! - Check that the direction of rotation of the disk is as shown on the disk guard.

5. Centre the disk on the fixed flange, position the mobile flange (ref. 2, fig. 5) and tighten the disk locking nut correctly (ref. 1, fig. 5) turning it counter-clockwise (left-hand thread).
6. Refit the disk mobile guard, hooking the spring catches (ref.3, fig.5).
7. Put the water pipe back in place and tighten the fastener until the pipe is clamped (ref.4, fig.5).

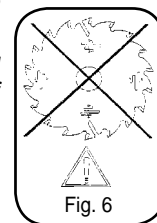
! - Ensure that the blade guard (ref.3) is locked securely into position.

! - An incorrectly installed blade, or a screw insufficiently tightened can provoke damage to the machine or injury to persons.

! - Note that the blade must have an external diameter of 700 mm, a central hole diameter of 25.4 mm and max. thickness of 4 mm.

! - Check that the blade to be used is suitable for the material to be cut.

! - Do not use blades for wood (fig.6).

**15. USE**

! - Leave a space of 150 cm around the machine to operate in full safety.

- Do not allow other persons to approach the machine during cutting.
- Never use the machine in fire-risk areas. Sparks can cause fire or explosions.
- Make sure that the machine is switched off before positioning or handling.
- Always ensure that the blade is free of any contact before start-up.

! - Ensure correct installation of all protective devices.

- Before starting work, fill the water tank. Top up during operation whenever necessary: N.B. the pump suction hose must always remain immersed in water.
- Insert the plug in the power socket.


! - For safety purposes the removal of protective guards from the machine is strictly prohibited.

! - The machine is protected against overload: this protection triggers stopping the machine, after which the time necessary for the overload to cool must pass before it is possible to restart the machine.

! - To resume work after a voltage cut-off, turn the selector to zero and repeat point 12.5 (ref.9, fig.1).



15.1 Vertical disk movement


 - **Always switch off the machine before carrying out blade adjustment.**

To raise or lower the disk, work on the lever (ref.19, fig.1) until reaching the required height from the cutting table and tighten the clamping lever (ref.17, fig.1)


 - **Make sure that the clamping lever is firmly tightened before starting to work.**

15.2 Cutting

For safe use of the machine when cutting, push the carriage forwards as the cut advances, placing your hands to the two sides of the carriage. Never push directly on the piece to be cut.

 - **Check that the blade is aligned with the cutting line.**

1. Place the workpiece on the worktable (ref.4, fig.1), resting firmly against the stop.
2. Start the engine.
3. Wait until the water reaches the blade.
4. Begin cutting.
5. Horizontal cutting movement is carried out by pulling the carriage towards the blade.

 - **As cutting thickness increases, the blade is subjected to greater stress. To avoid overloading the engine, the operator should continually check blade feed speed. The speed will also depend on the characteristics of the material being cut (hardness, toughness etc.).**

15.3.1 Cutting downwards from above

Release the cutting head working on the clamping lever (ref.17, fig.1). Position the piece to be cut. Start the sawing machine and start cutting downwards from above working on the head lever (ref.19, fig.1).

15.3.2 Changing the disk


For changing the disk, please refer to paragraph 4.


16. USING 650 DIAMETER CUTTING WHEEL

A 650 mm diameter cutting disk can be fitted on the machine. This operation requires adjustment of the cutting head stroke, which is set by the manufacturer for a 700 mm diameter disk. If not carried out properly, this adjustment can damage the machine and cause hazard for persons, it must be carried out by competent and qualified personnel.


Proceed as follows:


1. Make sure that the machine is disconnected from the power supply.
 2. Fit the 650 mm diameter disk according to the procedure described in paragraph 14.
 3. Loosen the bolt (ref.18, fig.1).
 4. Lower the cutting head until the disk is in the best cutting position (the disk outside diameter should protrude 15 mm from the cutting surface).
 5. Turn the cam until locking the cutting head and tighten the bolt.
- At this point, the cutting head is adjusted for a 650 mm diameter disk.


 - **To refit a 700 mm diameter disk, the adjustment should be repeated restoring the original setting. If adjustment is not carried out, the 700 mm disk would interfere with the piece holder carriage structure and damage it with the risk of breakage.**

 - **Note that the blade must have an external diameter of 650 mm, a central hole diameter of 25.4 mm and max. thickness of 4 mm.**

17. MAINTENANCE

 - **Servicing must always be carried out by qualified technicians and only after the motor has been switched off.**

 - **Always keep the guards in proper working order and free from damage. Take particular care to ensure that the blade guards are kept efficient and clean, replacing them if they are damaged.**

 - **As there is the continuous risk of inadvertent damage to the electric cables, these must be checked regularly each time before the machine is used.**

In particular, keep the blade guards in efficient conditions and clean, changing them when damaged.

Never leave the machine outdoors: it must be sheltered from the wea-

ther.

Below is a list of the cleaning operations that must be carried out at the end of every shift.

17.1 Tank cleaning

Empty the tank by removing the drain plug. Remove cutting residue using a jet of water.

17.2 Tank removal (ref.1, fig.7)

Empty the drum opening the drum cap from right or left side.

17.3 Work surface cleaning

Always keep work surfaces clean. Residual dirt can impair cutting precision.

17.4 Guide rail cleaning

It is good practice to remove all traces of dirt from the guides.


17.5 Cleaning and maintenance of cooling circuit

If water does not reach the blade stop the machine immediately to avoid blade damage.

After switching off the machine ensure that the water level is sufficient. If necessary, after disconnecting the machine from the power supply check that the tap, hose and pump filter are not blocked

17.6 Tensioning the drive belt


1. Switch off the electric motor and remove the plug from the power supply.
2. Unscrew the 4 screws that secure the movable belt guard (ref.1, fig.8).
3. Loosen the 4 (ref.2, fig.8) screws that clamp the electric motor to the blade support.
4. Tension the belt using the nut (ref.3): applying a force of about F=6 Kg to the centre of the free section of the belt, the arrow should be about f=6 mm (fig.9).
5. Tighten the screws on the electric motor (ref.2, fig.8), checking the alignment of the motor pulley and the blade pulley
6. Refit the guard and lock it using the 4 screws (ref.1, fig.8).


 - **To avoid shortening the life of the belt, the bearings and the blade shaft, do not overtension the belt. Finally, check the two pulleys are aligned.**

17.7 Changing the drive belt

1. Switch off the electric motor and disconnect the plug.
2. Slacken the 4 screws fastening the belt mobile guard (ref.1, fig.8).
3. Slacken the 4 screws (ref.2, fig.8) fastening the electric motor on the disk holder arm.
4. Slacken the belt working on the screws (ref.3, fig.8) and replace it with the new one.
5. Pull the belt working on the screws (ref.3, fig.8): if the belt tension is correct, applying a force of approx. F=6 Kg at the centre of the free section of belt, the camber should be approx. f=6 mm (fig.9).
6. Tighten the electric motor screws (ref.2, fig.8), checking the alignment of the motor pulley and that of the disk.
7. Refit the belt guard and lock it with the 4 screws (ref.1, fig.8).

17.8 Repairs

 - **Before carrying out any maintenance operations, switch off the machine, and remove the plug from the power socket.**

 - **If the guards are removed to carry out repairs, they must be refitted properly when the repair work is finished.**

Only use genuine IMER spare parts and do not modify them.



18. RESIDUAL RISKS AND SAFETY SIGNS

Although the sawing machine has been manufactured fully in compliance with current regulations, residual risks exist that cannot be eliminated and involve the use of appropriate individual protection devices. Adequate warning signs fitted on the machine point out both the risks and the behaviour to be followed.

NOISE RISK



Ear protection must be worn

RISK OF INJURY TO THE HANDS



Safety gloves must be worn

RISK OF INJURY TO THE EYES



Eye protection must be worn

ABNORMAL USE RISK



Reading the manual before use is compulsory



Cutting with water is compulsory

RISK OF DRAGGING, ABRASION AND CUTTING



Do not remove the guards



Do not touch transmission components



Danger cutoff

RISK OF ELECTROCUTION



Danger electricity

Please be reminded that checking the use of IPDs is delegated to the employer.

19. TROUBLESHOOTING



- CAUTION!!! All maintenance operations must be performed exclusively with the machine switched off, with the selector set to "0" and the power plug disconnected from the mains.

Fault	Cause	Remedy
Motor does not start when switch is turned	Defective power cable	Check power cables *
	Plug not inserted in socket correctly	Ensure correct connection
	Power cable from plug to control panel detached	Remake the connection *
	Loose wire inside motor circuit board	Remake the connection *
	A wire has become disconnected inside the panel	Remake the connection *
	Faulty main switch	Replace switch
	A fuse has blown	Replace the fuse *
	The overload safety device has been activated	Wait for a few minutes and then try restarting the machine
Horizontal carriage movement not smooth	Guide rails dirty	Clean the guide rails
Lack of cooling water supply to blade	Refer to section "cleaning and maintenance of cooling circuit" (chapter 17.5)	
Blade does not cut	Blade is worn	Fit new blade
	Drive belt not tensioned	Tension the belt
Motor starts but blade does not rotate	Belt is broken	Replace drive belt
* Operation to be carried out by an electrician		

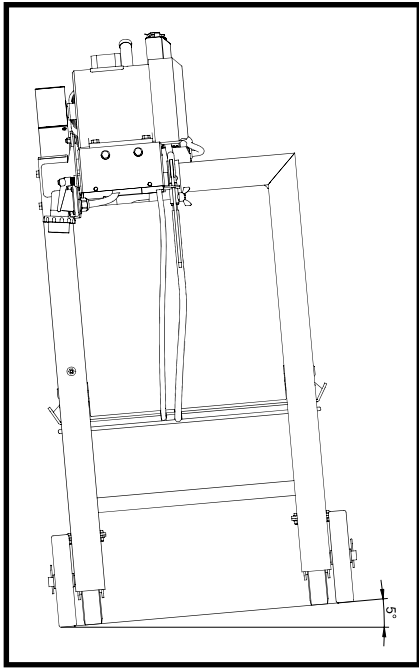


FIG. 2

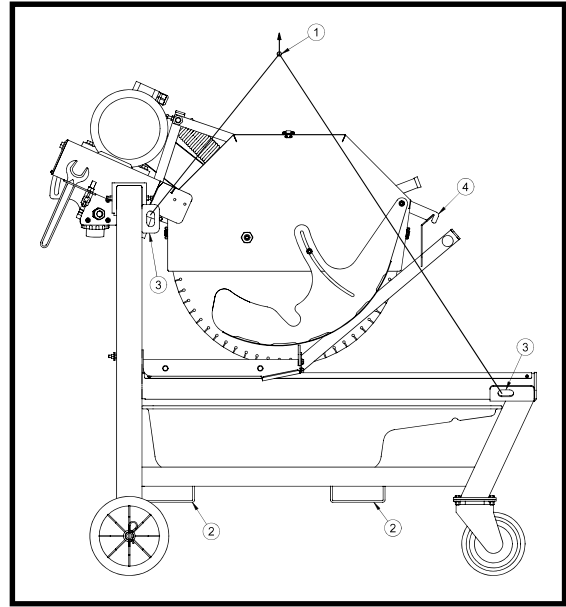


FIG. 4

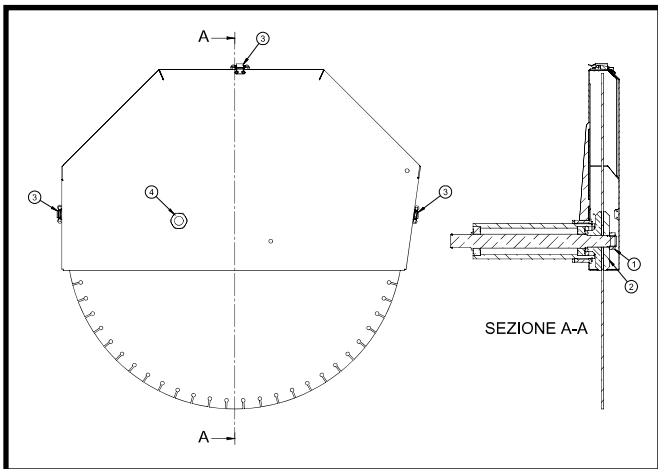


FIG. 5

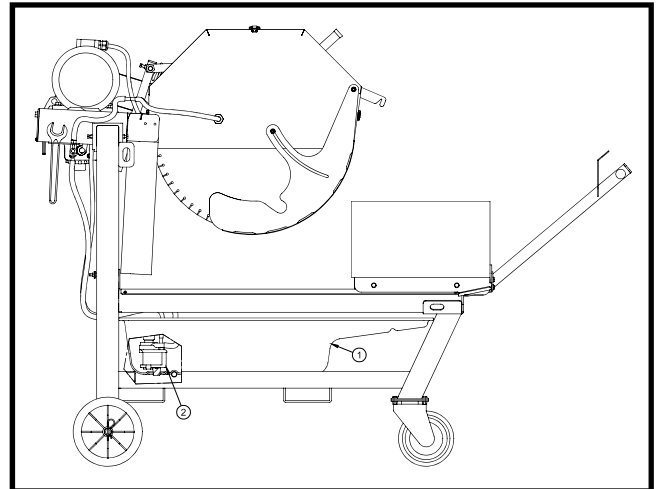


FIG. 7

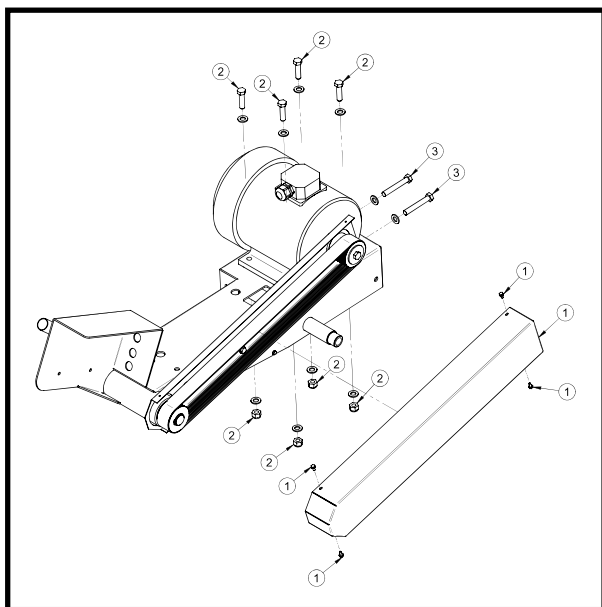


FIG. 8

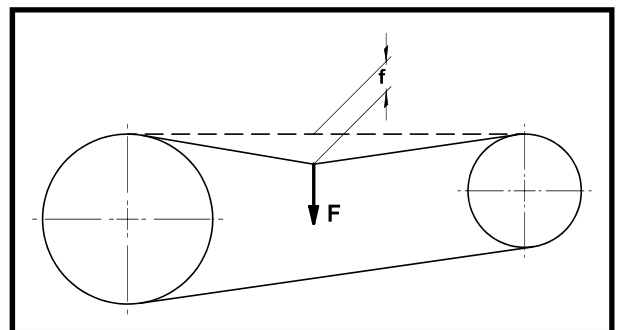
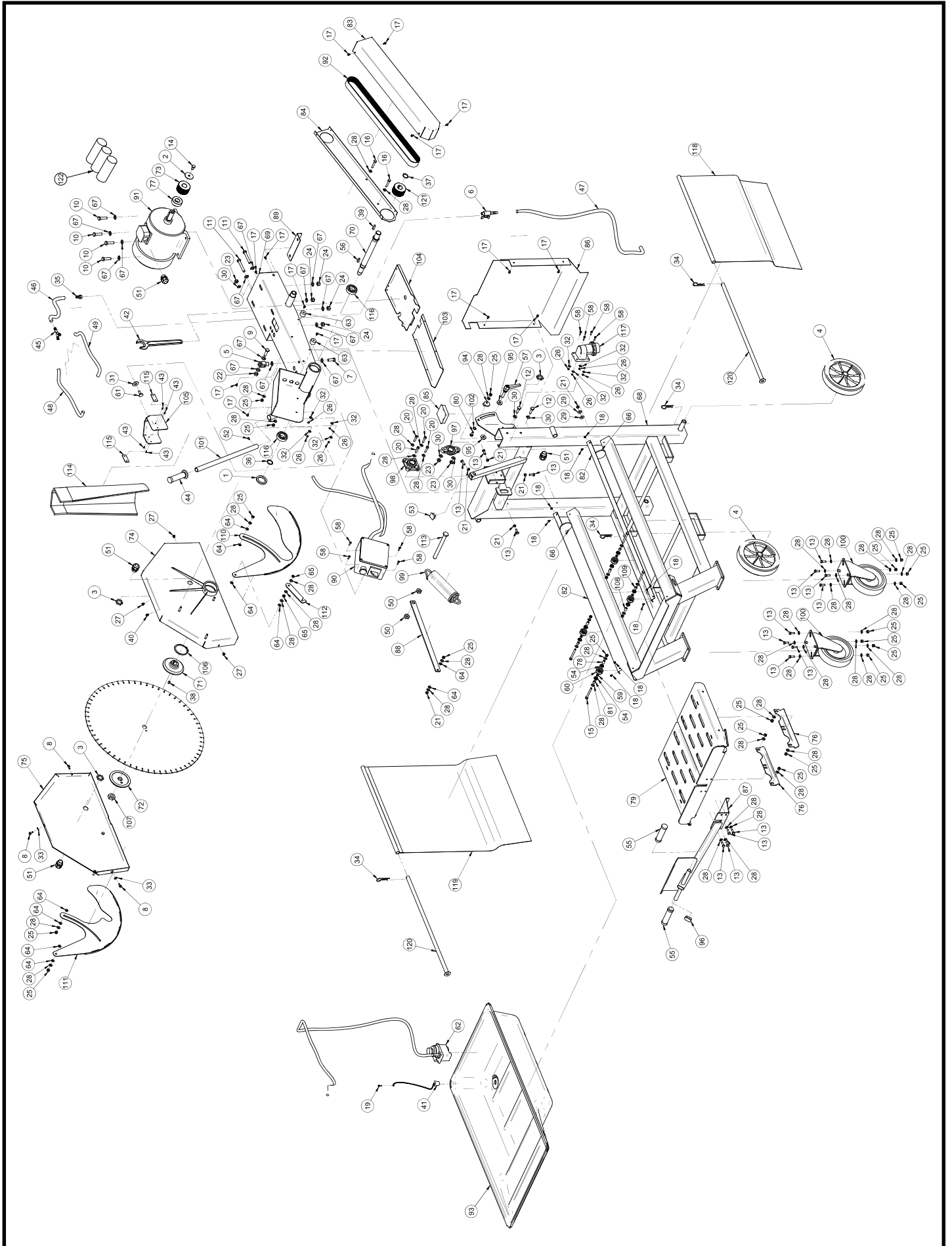


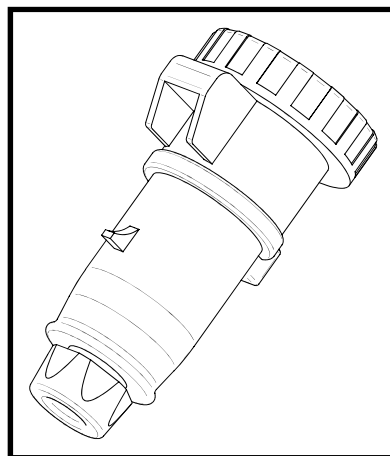
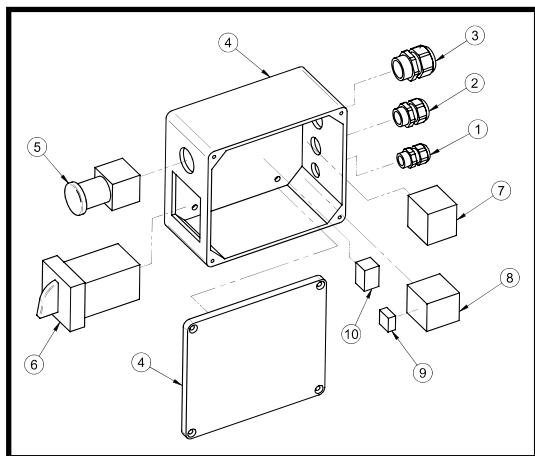
FIG. 9





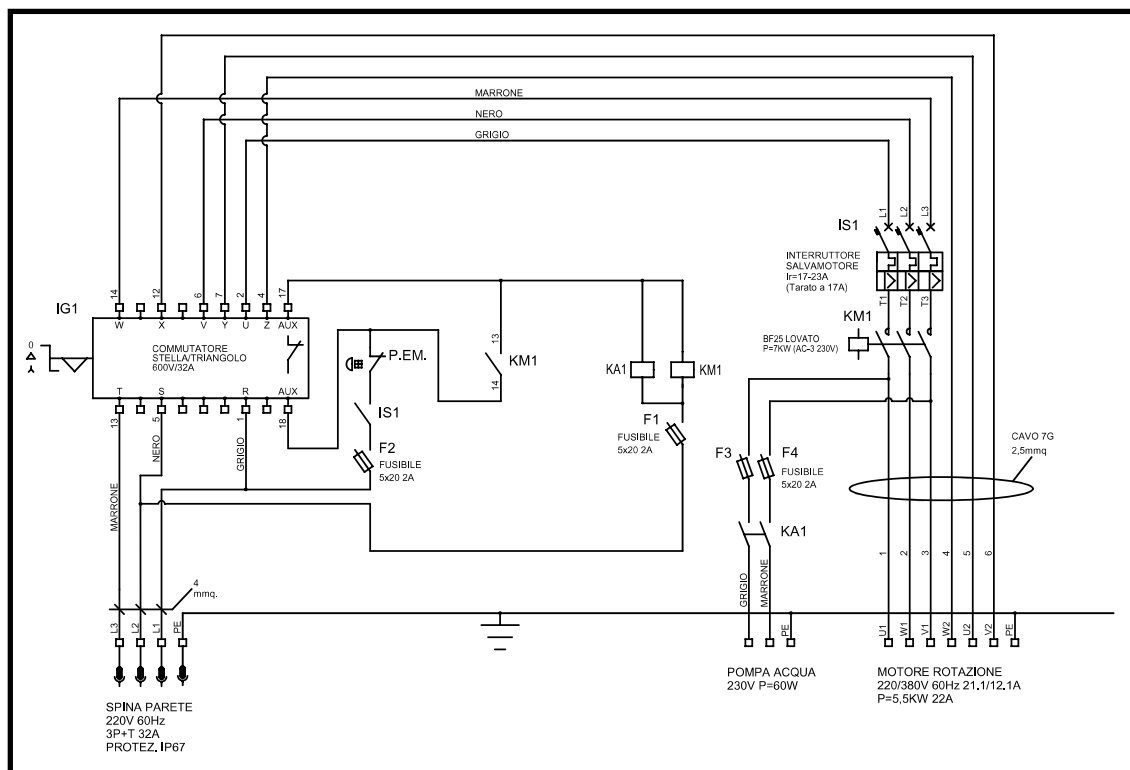
TAV.1 - MACHINE STRUCTURE			
REF.	CODE	DESCRIPTION	NOTES
1	1207088	OIL SEAL RING	ADT D.45X62X8
2	1224113	WASHER	D.10X50X3 Z
3	1283984	NUT	PG 21
4	2211150	WHEEL	
5	2213840	FORK	1676 M12X62 Z
6	2218075	VALVE	
7	2222007	BOLT	TE 8.8 5739 M12X35 Z
8	2222021	BOLT	TEFR 8.8 5739 M6X16 Z
9	2222036	BOLT	TE 8.8 5739 M12X40 Z
10	2222050	BOLT	TE 8.8 5739 M12X45 Z
11	2222054	BOLT	TE 8.8 5739 M12X80 Z
12	2222073	BOLT	TE 8.8 5739 M10X35 Z
13	2222076	BOLT	TE 8.8 5739 M8X25 Z
14	2222077	BOLT	TE 8.8 5739 M10X20 Z
15	2222110	BOLT	TE 8.8 5737 M8X80 Z
16	2222176	BOLT	TE 8.8 5737 M8X50 Z
17	2222420	BOLT	AUT. TE 6950 D.4.8X13 Z
18	2222430	BOLT	AUTOF. TC 7971 4.8X9.5
19	2222449	BOLT	AUTOF. TC 6954 3.5X19
20	2222530	BOLT	TCEI 5931 M8X35 Z
21	2223570	NUT	5588 M8 Z
22	2223700	NUT	5588 M12 Z
23	2223920	SELF LOCKING NUT	AUTOBL. M10 7474
24	2223921	SELF LOCKING NUT	AUTOBL. M12 7474
25	2223923	SELF LOCKING NUT	AUTOBL. M8 7473
26	2223927	SELF LOCKING NUT	AUTOBL. M5
27	2224006	THREADED INSERT	
28	2224140	WASHER	6593 D.8X18 Z
29	2224204	WASHER	6593 D.8X24 Z
30	2224340	WASHER	6592 D.10X21 Z
31	2224430	WASHER	6593 D.14X36 Z
32	2224528	WASHER	D.5X15 Z
33	2224531	WASHER	D.6X18 Z
34	2226700	SPLIT PIN	
35	2226778	ELBOWN	F.3/8" D.10 RO150
36	2227240	OIL SEAL RING	7435 E/30
37	2227300	OIL SEAL RING	3653 E/28
38	2228738	PIN	1707 D.10X14
39	2229350	KEY	8X7X35
40	2230550	GREASER	1/8 DIRITTO SGS - 196
41	2235428	CONICAL CAP	
42	2241574	KEY	
43	2288810	RIVET	
44	2288887	KNOB	
45	2292355	Y DEVIATION	
46	2292356	ANTI-FREEZE HOOSE	
47	2292356	ANTI-FREEZE HOOSE	
48	2292365	ANTI-FREEZE HOOSE	
49	2292365	ANTI-FREEZE HOOSE	
50	3201163	NUT	5589 M18
51	3201503	CABLE CLAMP	HSK-K PG21
52	3203921	BOLT	TC PH M5X10 N
53	3204420	CAP	
54	3204945	BEARING	608 2RS1
55	3206079	KNOB	
56	3206722	KEY	8X7X30
57	3206973	LEVER	
58	3207152	BOLT	TCB 7687 M5X20
59	3207393	SPACER BRACKET	
60	3207397	WHEEL	
61	3208455	BOLT	TTDE M10X35 5732 Z
62	3208726	WATER PUMP	
63	3210411	SPACER BRACKET	
64	3210576	WASHER	D.8.4X17X1.5
65	3210623	SELF LOCKING NUT	M8 7474
66	3210646	CAP	
67	3211038	WASHER	6592 D.13X24 Z

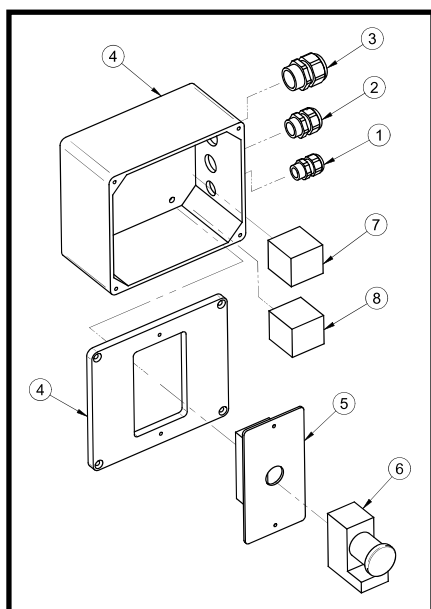
TAV.1 - MACHINE STRUCTURE			
REF.	CODE	DESCRIPTION	NOTES
68	3224476	FRAME	
69	3224479	CUTTING HEAD GROUP	
70	3224482	BLADE SHAFT	
71	3224483	INNER FLANGE	
72	3224484	OUTER FLANGE	
73	3224486 3230340	PULLEY	THREE-PHASE SINGLE-PHASE
74	3224510	DISC COVER	
75	3224513	GUARD	
76	3224514	PLATE	
77	3224565	SPACER BRACKET	
78	3224566	SPACER BRACKET	
79	3234187	CARRIAGE	
80	3224626	BOLT	TTCQ 5732-65 M8X25 Z
81	3224680	SPACER BRACKET	
82	3224705	GUIDE BAR	
83	3224740	GUARD	
84	3224741	GUARD	
85	3224814	CAP	
86	3225043	PROTECTION	
87	3225543	HANDGRIP	
88	3225548	BLADE GUARD ROTATION ROD	
89	3225551	PLATE	
90	3228124 3230332	JUNCTION BOX	THREE-PHASE SINGLE-PHASE
91	3228123 3230330	MOTOR	THREE-PHASE SINGLE-PHASE
92	3225564	BELT	
93	3225642	DRUM	
94	3225955	CAM	
95	3225956	SPACER	
96	3225984	PLUG	
97	3225993	SUPPORT	
98	3225994	SUPPORT	
99	3225996	SPRING	
100	3225997	WHEEL	
101	3226001	HANDGRIP	
102	3226002	WASHER	PS 13X19X1
103	3226003	FRONT HEAD PROTECTION CASING	
104	3226004	REAR HEAD PROTECTION CASING	
105	3226009	REAR SPLASHGUARD SUPPORT	
106	3226015	OIL SEAL RING	7435 E/75
107	3226028	NUT	5589 M24X2 SIN Z
108	3226034	SPACER BRACKET	
109	3226035	SPACER BRACKET	
110	3226036	CUTTING WHEEL RH GUARD	
111	3226037	CUTTING WHEEL LH GUARD	
112	3226039	TROLLEY CLAMPING	
113	3226040	BOLT	TE 8.8 5737 M18X200 Z
114	3226043	REAR SPLASHGUARD	
115	3226044	PLATE	
116	2204220	BEARING	THREE-PHASE
117	3228125 3230465	PLUG	THREE-PHASE SINGLE-PHASE
118	3228471	RH SPLASHGUARD	OPTIONAL
119	3228472	LH SPLASHGUARD	OPTIONAL
120	3228543	SIDE SPLASHGUARD SUPPORT	OPTIONAL
121	3224486 3230342	PULLEY	THREE-PHASE SINGLE-PHASE
122	3210448	CAPACITOR	60 µF



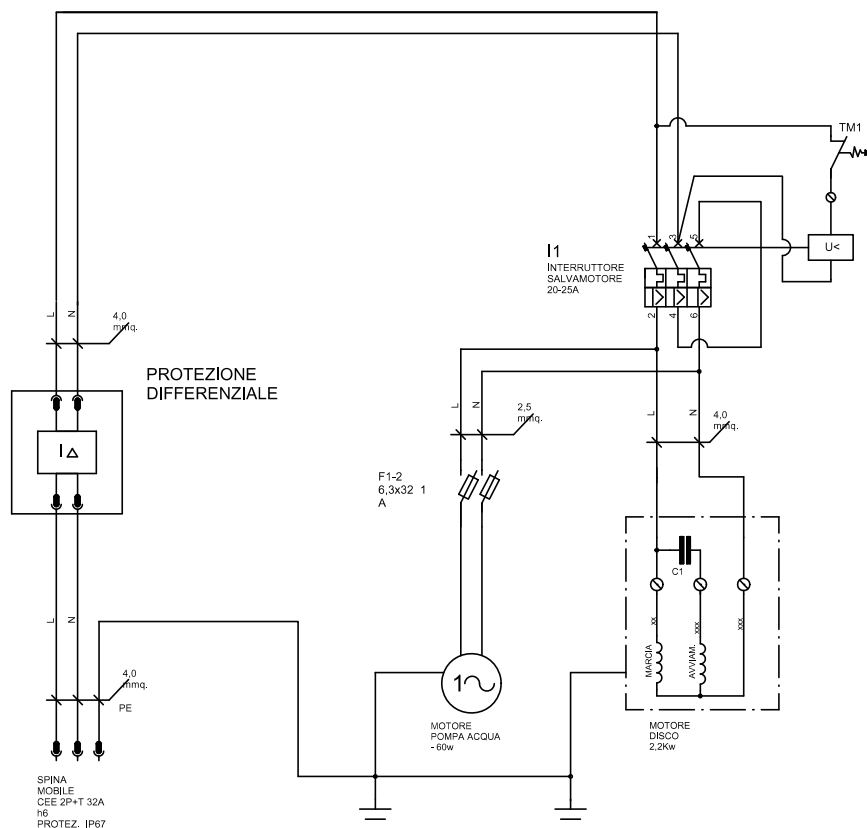
TAV.2 3228124 ELECTRIC PANEL THREE-PHASE		
REF.	CODE	DESCRIPTION
1	3201217	CABLE CLAMP
2	3201442	CABLE CLAMP
3	3201503	CABLE CLAMP
4	3226296	JUNCTION BOX
5	3228375	SAFETY CATCH BUTTON
6	3226298	SWITCH
7	3228376	CONTACTOR
8	3228374	MAGNETOTHERMAL MOTOR OVERLOAD PROTECTION CIRCUIT BREAKER
9	3228841	CONTROL CONTACTS
10	3228840	CONTROL RELAY

Table 4 MOBILE SOCKET		
CODE	3230464	SINGLE-PHASE
CODE	3228456	THREE-PHASE





3230332		TAV.5 ELECTRIC PANEL SINGLE PHASE
RIF.	COD.	
1	3201217	CABLE CLAMP
2	3201442	CABLE CLAMP
3	3201503	CABLE CLAMP
4	3230333	ELECTRIC BOARD
5	3207929	SUPPORT
6	3207928	START AND STOP SWITCH
7	3207924	THERMO-MAGNETIC CUTOUT SWITCH
8	3207922	COIL



RIF.	
ID	CUTOUT SWITCH 30 mA
I1	THERMO MAGNETIC CUTOUT SWITCH 20-25A
U <	MINIMUM VOLTAGE COIL
TM1	THERMAL PAD MAIN ENGINE
F1	FUSEHOLDER 6,3x32 + FUSE 1A
F2	FUSEHOLDER 6,3x32 + FUSE 1A
C1	CAPACITOR 180 µF



ONE YEAR WARRANTY

We warrant to the original purchaser that the IMER equipment described herein (the "equipment") shall be free from defects in material and workmanship under normal use and service for which it was intended for a period of one (1) year from the date of purchase by the original purchaser.

Our obligation under this warranty is expressly limited to replacing or repairing, free of charge, F.O.B. our designated service facility, such part or parts of the equipment as our inspection shall disclose to be defective. Parts such as engines, motors, pumps, valves, electric motors, etc. furnished by us but not manufactured by us will carry only the warranty of the manufacturer. Transportation charges or duties shall be borne by the purchaser. This shall be the limit of our liability with respect to the quality of the equipment.

This warranty shall not apply to any equipment, or parts thereof, which has been damaged by reason of accident, negligence, unreasonable use, faulty repairs, or which has not been maintained and operated in accordance with our printed instructions for our equipment. Further, this warranty is void if the equipment, or any of its components, is altered or modified in any way.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE.

We make no other warranty, representation or guarantee, nor is anyone authorized to make one on our behalf. We shall not be liable for any consequential damage of any kind, including loss or damage resulting, directly or indirectly, from the use or loss of use of the machine. Without limiting the generality of the foregoing, this exclusion from liability embraces the purchase's expenses for downtime, damages for which the purchaser may be liable to other persons, damages to property, and injury or death of any persons.

This warranty shall not be deemed to cover maintenance parts, including but not limited to blades, belts, hoses, hydraulic oil or filters, for which we shall have no responsibility or liability whatsoever.