

# INSTRUCTION, USE AND MAINTENANCE HAND - BOOK



**Machine: SUCTION BOX    Type: ASP/PL4**



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The present instruction hand-book informs about the basic requirements for SAFETY AND HEALTH OF THE USERS. These requirements are stated by the MACHINE DIRECTION 2006/42/EC

(Issue No. 01 of April 1<sup>st</sup> , 2015)



## SIDE I WARNINGS, PRECAUTIONS AND GENERAL ADVICES

### 1.1.1 WARNINGS



Before connecting the plug of the SUCTION BOX OMEC TYPE ASP/PL or ASP/PL4 into the current intake check the feeding voltage which must be the same as the voltage written on the machine plate.

Example: machine plate VOLT 230 - HZ 50 = feeding voltage VOLT 230 - HZ 50

### 1.1.2 PRECAUTIONS



a) The machine must be used ONLY AND EXCLUSIVELY to exhaust the dusts created by polishing and cleaning articles and goods manufactured by dental technicians and goldsmiths.

b) The protection screens must not be removed EVER. The removal of the same could cause serious risks to the user. The protection screens must be bent to the base of the machine during working. We suggest to use protection glasses during working.

c) Clean often the protection screens and from time to time replace them. These operations guarantee a better visibility and safety during use.

d) Before checking or controlling the unit TAKE OUT the plug which connects the machine to the intake.

e) Make sure that your electrical equipment is in conformity with 2006/95 - LOW VOLTAGE - Standard

### OMEC IS NOT GUILTY FOR A WRONG OR IMPROPER USE OF THE SUCTION BOX TYPE ASP/PL - ASP/PL4

### 1.1.3 GENERAL ADVICES



a) On receiving the unit check the package integrity and then make sure that the machine is perfect and not damaged (due to bad carrying).

b) Follow carefully the instructions for installing the machine

c) The OMEC SUCTION BOX TYPE ASP/PL or ASP/PL4 must be used only by a skilled worker, and therefore use the machine ONLY AFTER HAVING READ CAREFULLY and understood the instruction and maintenance hand book.

d) The machine is supplied complete with the following accessories:

- No. 2 small trays of Moplan

- No. 1 instruction hand-book which must ALWAYS go together with the machine even if it is sold as second-hand machine.

- No. 1 warranty certificate

- No. 1 conformity declaration

e) The SUCTION BOX OMEC TYPE ASP/PL or ASP/PL4 does not need special mechanical or electrical adjustments.



## SIDE II PRODUCT DESCRIPTION

### 2.1.1 TECHNICAL DATA



#### SUCTION BOX TYPE ASP/PL

- Absorbed power : KW 0.19  
- RPM : 2200  
- Air flow : 475 m<sup>3</sup>/h  
- Frequency : Hz 50 or 60  
- Volt : 240, 230 or 110  
- Noisiness : 63 Db  
- Halogen lamp : 12 V  
- Filter bag : telofelt 570x300h mm

#### POLISHING LATHE TYPE PL4:

- Absorbed power : KW 0.35  
- RPM : 1400/2800  
- Frequency : Hz 50 or 60  
- Volt : 230 or 110  
- Ampere : 1.9 at 240V  
: 1.8 at 230V  
: 0.8 at 110V  
- Noisiness : 50 Db

The operator may use a standard OMEC polishing lathe type PL/3 combined with the aspiration hood type ASP/PL. To connect the polishing unit to the aspiration hood, remove the electrical plug from the lathe's cord assembly and properly prepare the wires for electrical connection. Insert the electrical cord through the oval hole and insert the wires into the electric terminal connector as indicated in the instructions located on both the unit's front and rear panel, fixing them in place with the provided screws

### 2.1.2 EXTERNAL BODY DESCRIPTION



The OMEC SUCTION BOX type ASP/PL or ASP/PL4 has a supporting structure of iron sheet and stove enamelled steel shape, it is fire painted, its faces and splash-guards are of steel.

### 2.1.3 SUCTION MOTOR DESCRIPTION

These motors are manufactured in accordance with UNI EN 60335-1 EC STANDARD (safety of suction).

### 2.1.4 PL4 REVOLVING SHAFT DESCRIPTION

The PL4 revolving shaft is mounted on ball bearings with protection type 2Z. The turbines are dynamically balanced. The machine is in conformity with 88/642 EC ITALIAN STANDARDS (see correspondent standards in the use country).

### 2.1.5 FILTRATION DESCRIPTION

Telofelt filters 570 x 300h mm assure a perfect powder laying.

**IT IS COMPULSORY TO REPLACE THE FILTERS ONLY WITH ORIGINAL OMEC FILTERS**

### 2.1.6 LIGHTING DESCRIPTION

The work area is lighted by two movable halogen lights 20 W - 12 VOLTS LOW VOLTAGE.

### 2.1.7 SAFETY CHECK DESCRIPTION



The SUCTION BOX TYPE ASP/PL and ASP/PL4 has to pass a first general check (electrical - mechanical) during its assembly. The final conformity of the machine is stated and confirmed by an electronic system which checks automatically the safety of the machine by itself.

## SIDE III ASSEMBLING, INSTALLATION AND USE INSTRUCTIONS

### INTRODUCTION

Before starting-up the machine, follow precisely the following instructions.

#### 3.1.1 WARNINGS AGAINST WORK-RISKS



Make sure that your electrical equipment has a good earth and that it is in conformity with the 2006/95 EC standards - LOW VOLTAGE.

**TO AVOID ELECTRICAL SHOCKS, AVOID AT ALL TIMES BRINGING THE LATHE IN CONTACT WITH WATER OR IN LOCATING IT NEAR STEAM GENERATORS**

The polishing lathe is designed to work at 50% intermittent utilization with a maximum of two hours work combined with two hours of rest. Failure to adhere to this rule may cause the motor to burn out.

### **3.1.2 INSTALLATION INSTRUCTIONS**

Put the SUCTION BOX TYPE ASP/PL and ASP/PL4 on a plane or a piece of furniture which guarantees a good stability of the machine. In order to make easier the air out-let, the back side of the machine must be 10 cm. far from the wall at least.

### **3.1.3 USE INSTRUCTIONS**

Insert the two threaded conical spindles to the lathe armature having accurately cleaned it of the excess grease. Use particular attention to insert the right threaded spindle (marked with "two rings") on the right armature and the left threaded spindle (marked with "one ring") on the left armature. These spindles are easily removed using the supplied saddle key to turn the extractor nuts. This procedure automatically causes the removal of the spindles. N.B.: It is recommended to perform periodic removal and cleansing of the cones and motor axle to ensure both functionality and durability of the unit.

### **3.1.4 ASPIRATION HOOD OPERATION:**

To start the aspiration hood, turn the self-illuminated green ignition switch ("General" Ignition Switch), located on the unit's top right side, to the "on" position. This procedure gives electrical current to the entire unit and simultaneously turns on the halogen lamp lighting system. Then turn the other self-illuminated green ignition switch, located on the unit's left top front side, to the "on" position. In this manner the aspiration ventilator will begin functioning automatically when the lathe is started. At this time one may start the polishing lathe by turning its ignition switch counter-clockwise to the "AVV" position. This procedure activates the relay switch, which starts the unit. The knob will automatically return to the No. 2 position (1400 Rpm.). The relay switch, as requested by European standards, prohibits the unit from automatically restarting upon the restoration of electrical current after a power failure. In this case, one has to repeat the above ignition procedure. Follow the same procedure when using the No. 1 position (2800 Rpm).

#### **VERY IMPORTANT:**

It is recommended to avoid sudden speed increasing and to always start the unit first at low speed (position 2) and then to high speed (position 1), each time assuring to have turned the ignition knob to the "AVV" position before releasing it. Furthermore, one should always avoid sudden passage from high speed to low speed as this may cause damage to the motor and compromise the lathe's functionality. To avoid it, always turn the machine off from high speed (position 2 + AVV) to stop (position 0), wait for ten seconds and then pass to low speed (position 1 + AVV).

**OMEC IS NOT GUILTY FOR A WRONG OR IMPROPER USE OF THE SUCTION BOX TYPE ASP/PL or ASP/PL4**

## **SIDE IV MAINTENANCE**

### **4.1.1 CLEANING**

It is recommended to maintain clean the work area. This is easily performed as both the rubber non-corrosive splash bins and the Plexiglas visors are extractable allowing for easy cleaning. It is recommended to use a soft cloth for cleaning the visors to avoid scratching of the Plexiglas, which will impair its transparency. The stainless steel work surface eliminates rusting and makes for rapid cleanup.

### **4.2.1 REPLACEMENTS OF FILTER**

This unit is equipped with a very large polyester filter bag (Tav.31C/Art.18), which filters particles as small as ten microns. Due to its large capacity, it requires minimum changing. When the aspiration potential of the unit has been reduced or when the filter is one third full, it is recommended to change the filter. This operation is easily performed. When the unit is not functioning, remove the unit's cover (see above) and subsequently the filter tank cover. Lift the filter bag with its support out of the filter tank and loosen the screw, which tightens the filter-clamping band around the filter. Remove the used filter and replace it with a new filter using the inverse procedure, giving special attention to assure that the filter's border is completely secured just below the clamping band before tightening the clamp. Replace the filter in the unit and apply the filter tank cover being assured that it completely covers the tank to guarantee maximum aspiration potential.

### **4.2.2 REPLACEMENTS OF HALOGEN LAMP**

To replace a burnt halogen lamp bulb, remove the units cover, loosen the handwheel, remove the lamp spring and washer and lift the lamp out of the lamp holder. The lamp bulb is replaced by pulling the bulb out of the lamp socket and inserting a new bulb. Replace the bulb on the inside of the unit and fix in place with the spring and washer prior to retightening the hand wheel.

### **4.2.3 REPLACEMENTS OF FUSE**

#### **Main fuse**

First disconnect the unit from the electrical outlet. Then it is necessary to remove the fuse cap with a screwdriver, slide out the fuse and replace it with one of equal size ( $\emptyset$  5x20) and power (5A), being carefully to accurately and completely retighten the fuse cap.

#### **Halogen lamp fuse**

Remove the unit's cover and then extract the fuse holder from the combined connector-fuse holder located near the right halogen lamp. Substitute the burnt fuse with one of equal measurements ( $\emptyset$  5x20 mm.) and characteristics (3 Amps.).

## 4.2.4 REPLACEMENTS OF CAPACITOR

### Polishing lathe capacitor

Remove the four screws and remove the ignition switch support panel with the limits of the electric wiring extension to expose the capacitor. Before disconnecting the fastons and relative electric wires attached to the capacitor, **to avoid electrical shock, take caution to discharge any electrical charges accumulated in the capacitor** by "shorting" the capacitor.

Place a screwdriver with an electrically insulated handle between the electrodes assuring to touch all four outlets at the same time. At this point, disconnect the fastons from the burnt capacitor and replace them in the same positions on a new capacitor having the same electrical characteristics as the original (8  $\mu$ F. -400V.). (See electrical circuit diagram).

### Aspirator capacitor

Remove and set aside the rear panel after having removed the screws and washers. The capacitor is located at the lower right side. Prior to disconnecting the capacitor, **assure to discharge it of any accumulated electrical charges**. This is easily executed by unplugging the unit and simultaneously activating all of the ignition switches including the lathe ignition switch. Disconnect all fastons and relative wiring before unscrewing the nut and washer, which fix it in position. Substitute it with one of equal characteristics (4  $\mu$ F-400V.), fixing it in place and then reconnecting all wiring and closing the unit before trying it.

## 4.2.5 REPLACEMENTS OF IGNITION SWITCH

### Polishing lathe ignition switch

Call a technician.

### General and aspirator ignition switches

Disconnect the electrical plug from the wall socket and activate all the ignition switches to discharge any electrical accumulation as in the aspirator capacitor substitution. Remove the unit's cover, disconnect the fastons from the ignition switch, remove it from the main body and substitute it with one having identical characteristics.

## 4.3.1 PROBLEM SOLVING

The lathe does not start. What to do.

- A.) Control that the electrical plug is plugged into the wall socket.
- B.) Control to have accurately followed the motor ignition instructions
- C.) Perhaps the fuse is burnt. Substitute it as indicated above having first controlled the possible causes as indicated in point "2" below.
- D.) Perhaps the capacitor is burned out. Replace it as described above.
- E.) Perhaps the ignition switch is defective. Replace it as described above.
- F.) The relay switch is defective. Call an electrical technician.
- G.) The motor is short-circuited. Call a qualified technician.
- H.) Perhaps the "general" ignition switch is defective. Substitute it.

The fuse is burnt. Substitute it, having controlled and corrected the following possible causes:

- A.) The ignition switch is defective. Substitute it.
- B.) The capacitor is defective. Substitute it.
- C.) The relay switch is defective. Call a technician
- D.) The signal lamp burnt out. Call a technician.
- E.) The motor is short circuited. Call a technician.
- F.) Perhaps the transformer for the lamps is defective. Call a technician.

The halogen lamps do not light. Possible causes:

- A.) Perhaps the lamp bulbs are burnt. Substitute them.
- B.) Perhaps the lamp fuse is burnt. Substitute it.
- C.) Perhaps the transformer for the lamps is defective. Call a technician.

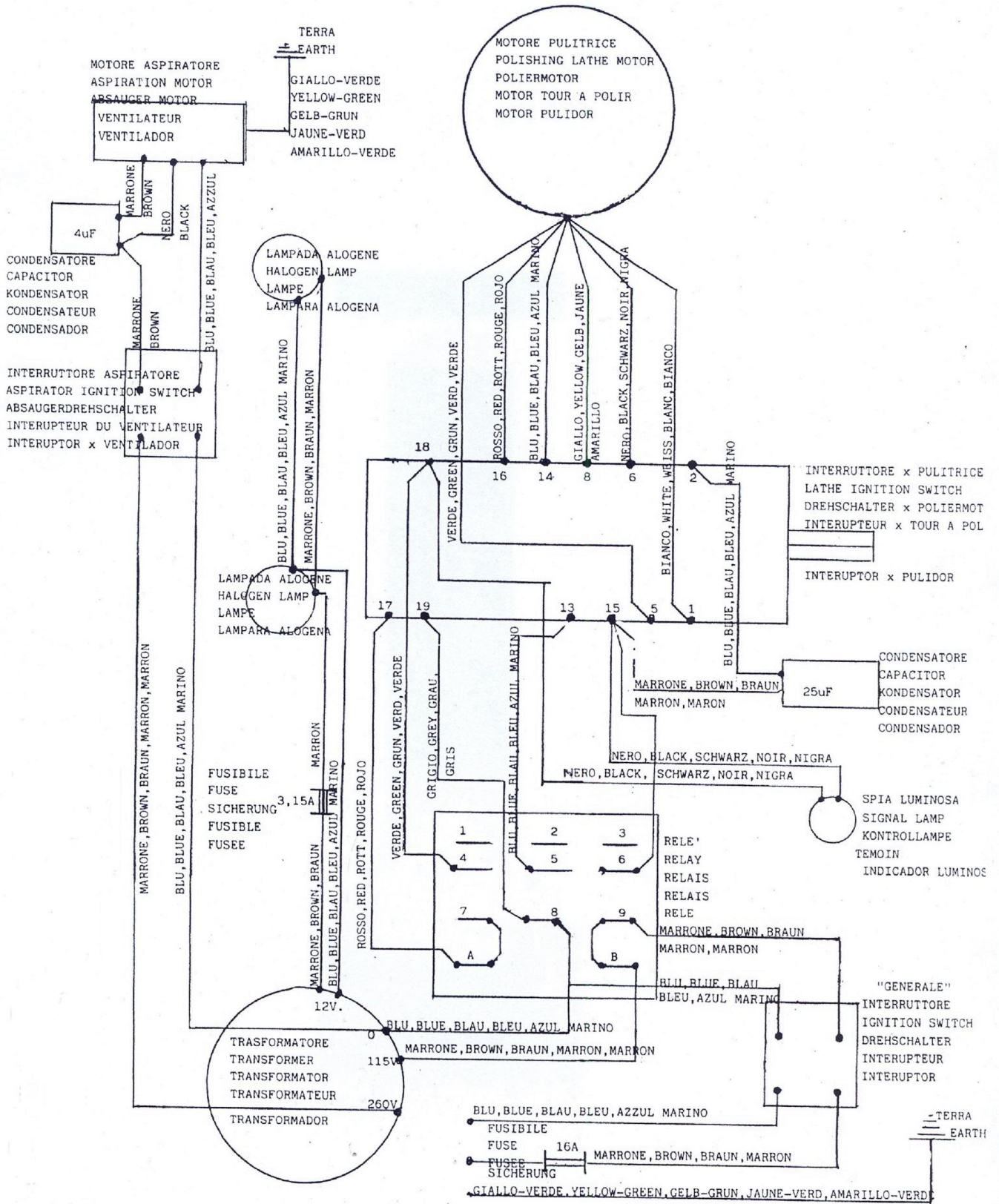
The aspiration unit does not function. Possible causes:

- A.) The aspirator's capacitor is burnt. Substitute it.
- B.) The motor of the aspirator is defective. Call a technician.
- C.) The aspirator's ignition switch is defective. Substitute it.
- D.) The relay switch is defective. Call a technician.

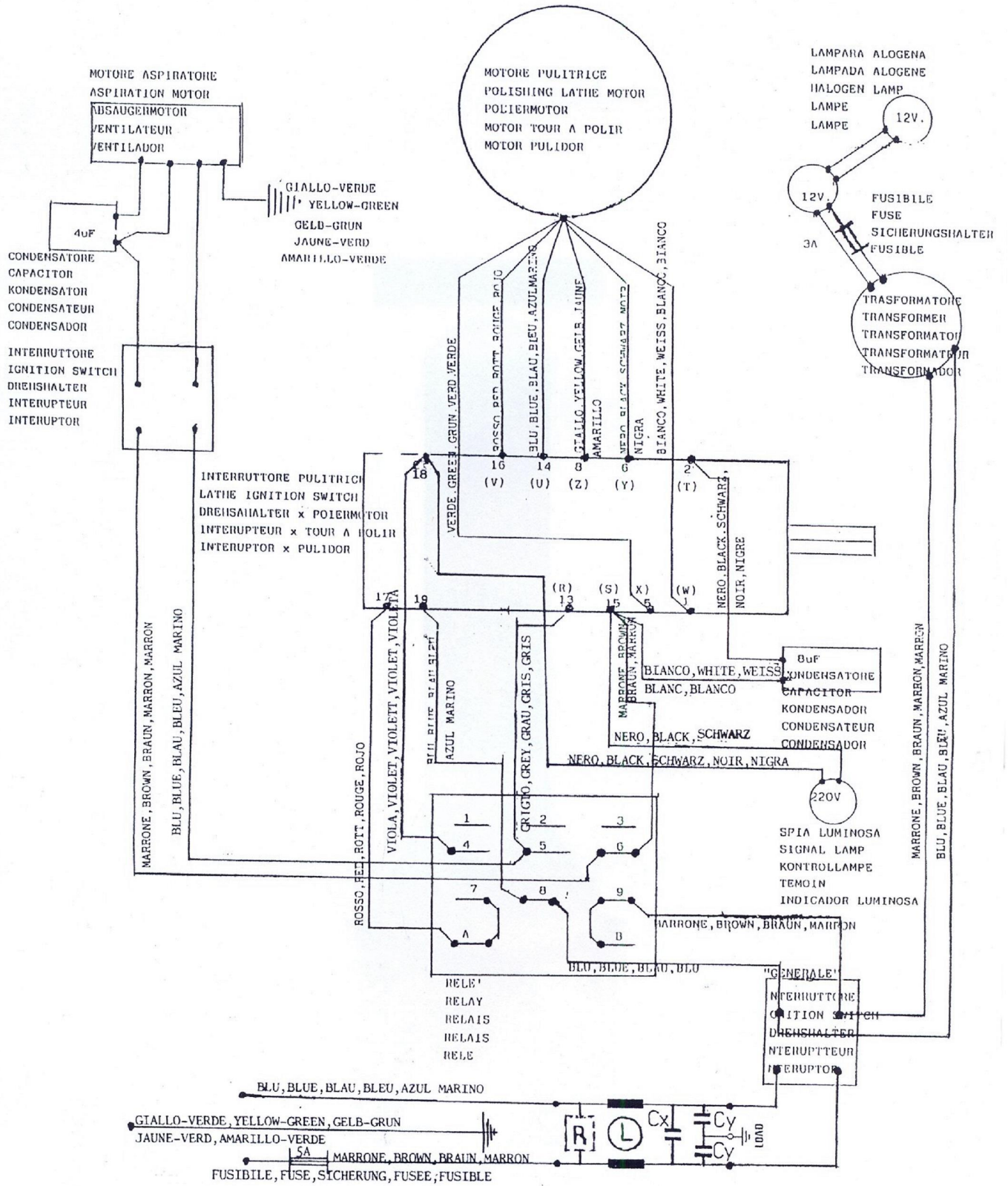


# SIDE V ELECTRIC DIAGRAM

## 5.1.1 ELECTRIC DIAGRAM ASP/PL4 - 110 V

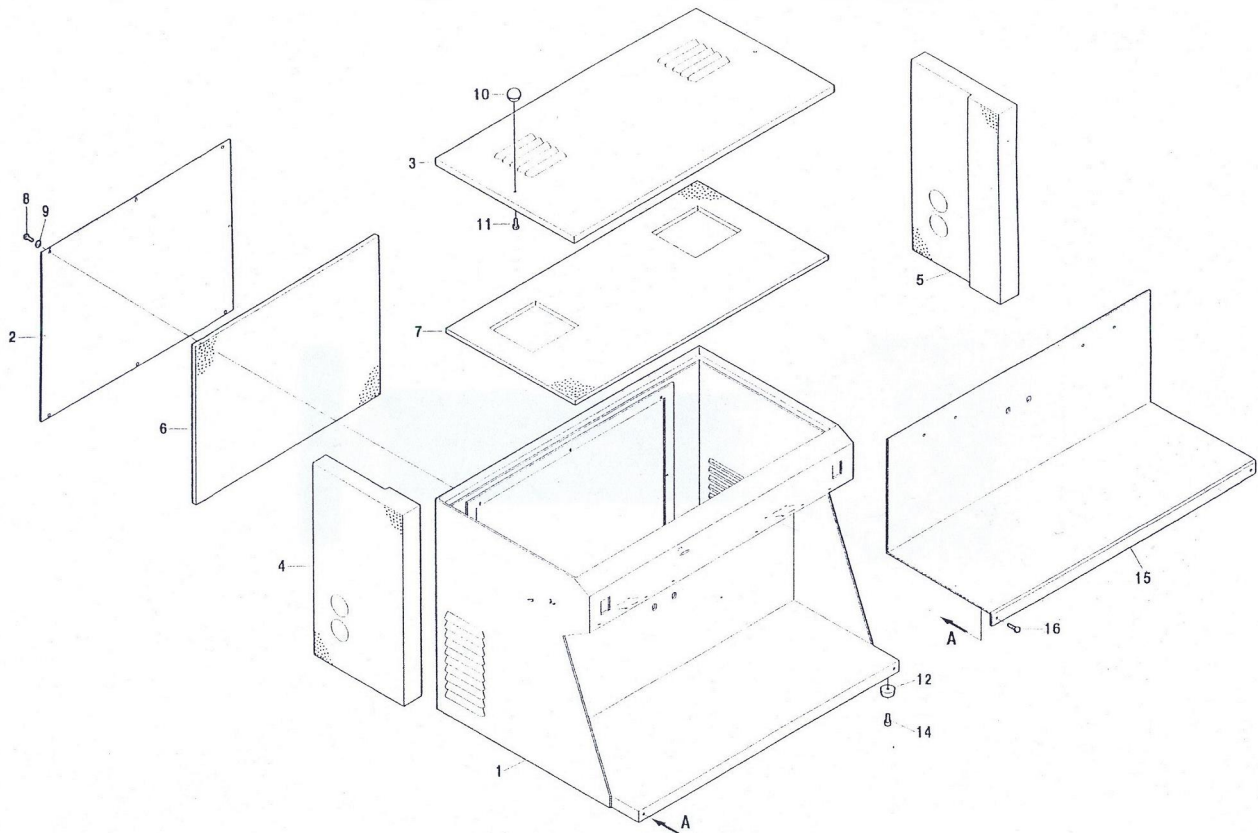


### 5.1.2 ELECTRIC DIAGRAM ASP/PL4 - 230 / 240 V



## SIDE VI DRAWINGS

### 6.1.1 DRAWINGS TAV 31A

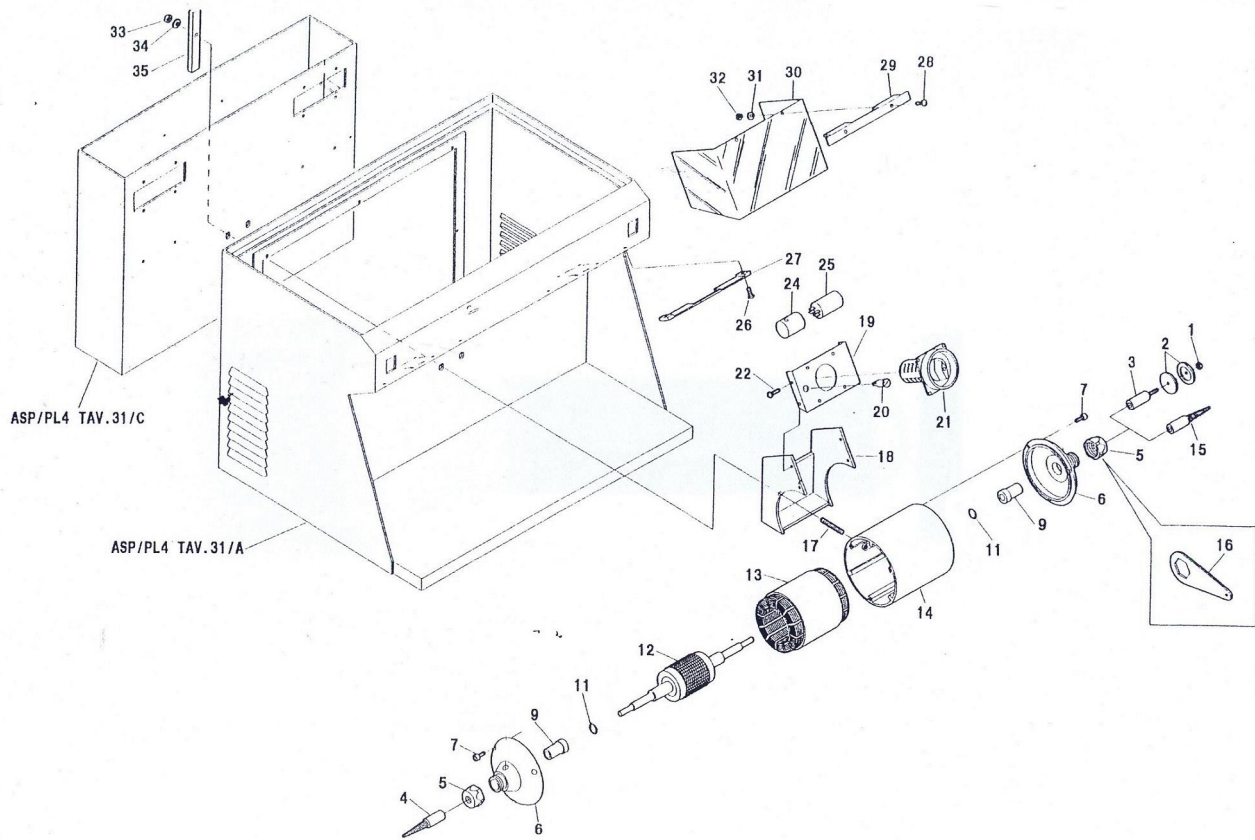


### 6.1.2 SPARE PART LIST TAV 31A

1 - TAV 31A / ART 1	- MAIN BODY
2 - TAV 31A / ART 2	- REAR PANEL
3 - TAV 31A / ART 3	- COVER
4 - TAV 31A / ART 4	- LEFT SOUNDPROOFING
5 - TAV 31A / ART 5	- RIGHT SOUNDPROOFING
6 - TAV 31A / ART 6	- REAR SOUNDPROOFING
7 - TAV 31A / ART 7	- COVER SOUNDPROOFING
8 - MC.002.73	- SOCKET SCREW D.4 x 10
9 - TAV 31A / ART 9	- WASHER D.4
10 - MC.100.093	- HANDWHEEL 6MA
11 - MC.001.09	- BOLT D.6x14
12 - MC.000.46	- BUFFER
14 - MC.BIP.19	- SOCKET SCREW D.5x16
15 - TAV 31A / ART 15	- STAINLESS STEEL PANEL
16 - MC.002.73	- SCREW D.4x10



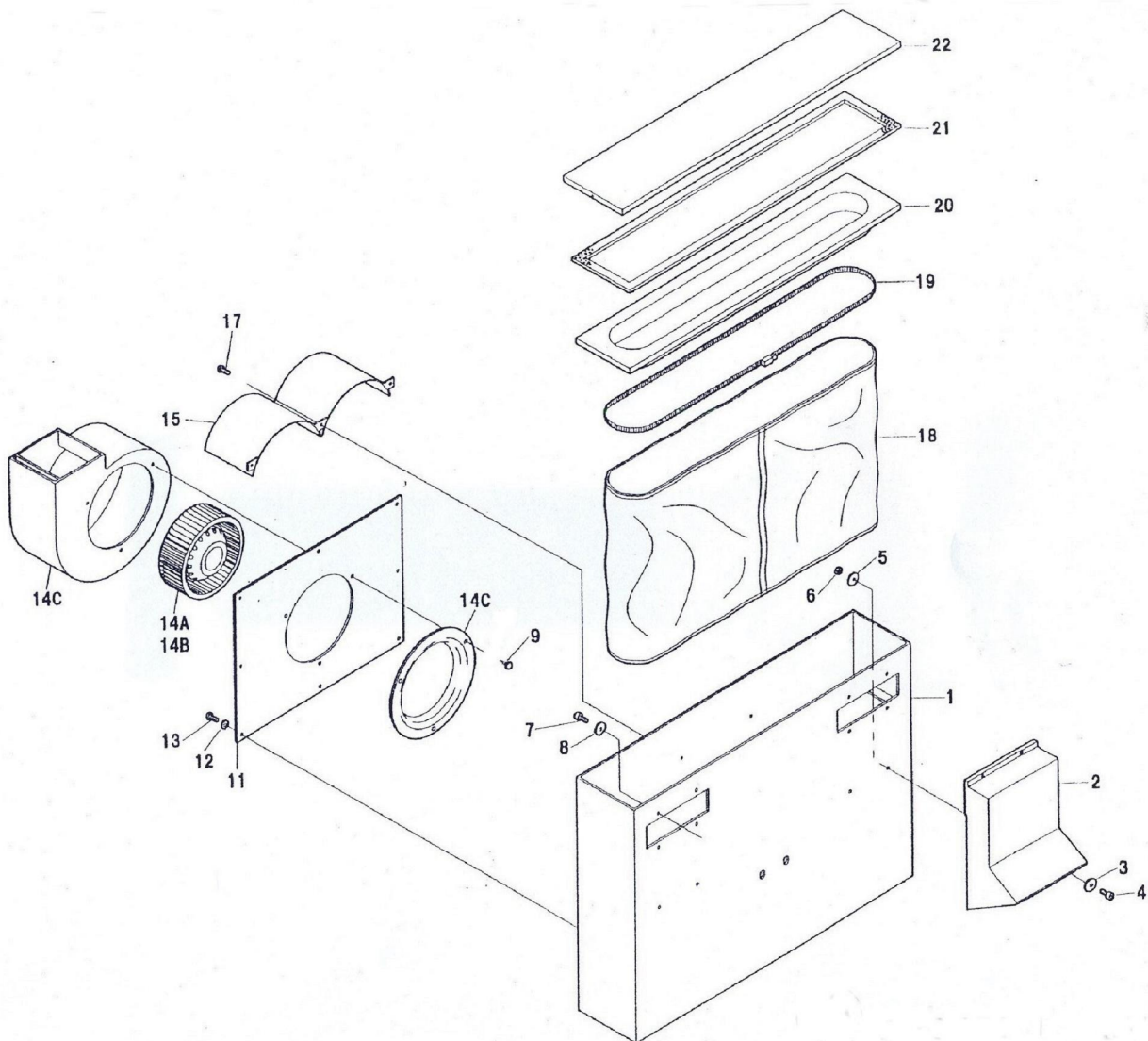
## 6.2.1 DRAWINGS TAV 31B



## 6.2.2 SPARE PART LIST TAV 31B

1	- MC.100.084	- NUT D.4	19	- TAV31B/ART19	- SWITCH SUPPORT
2	- MC.100.083	- WASHER D.40x5x6	20A	- MC.100.028	- SIGNAL LAMP 110V
3	- MC.100.082	- THREADED SPINDLE	20B	- MC.100.027	- SIGNAL LAMP 220V
4	- MC.100.005	- LEFT SPINDLE	21A	- MC.100.022	- IGNITION SWITCH 110V
5	- MC.100.020	- EXTRACTOR	21B	- MC.100.022	- IGNITION SWITCH 220V
6	- MC.100.048	- PL/4 ENDPLATE	22	- MC.002.73	- SCREW D.4x10
7	- MC.001.87	- SOCKET SCREW 4x16	24	- TAV31B/ART24	- CAPACITOR CAP
9	- MC.BIP.06	- BALL BEARING	25A	- MC.100.021	- CAPACITOR 100V/50Hz 25uF
11	- MC.BIP.05	- WASHER	25B	- MC.100.021	- CAPACITOR 115V/60Hz 25uF
12	- TAV31B/ART 12	- ARMATURE PL/4	25C	- MC.100.073	- CAPACITOR 220-40V/60Hz 8uF
13A	- TAV31B/ART 13A	- FIELD CORE 100V/50 Hz	26	- MC.002.73	- SCREW D.4x10
13B	- TAV31B/ART 13B	- FIELD CORE 115V/60 Hz	27	- TAV31B/ART27	- FIXED VISOR SUPPORT
13C	- TAV31B/ART 13C	- FIELD CORE 220V/50 Hz	28	- MC.002.73	- SCREW D.4x10
13D	- TAV31B/ART 13D	- FIELD CORE 240V/50 Hz	29	- TAV31B/ART29	- MOBILE PLEXIGLASS SUPPORT
14	- TAV31B/ART 14	- BODY PL/4	30	- TAV31B/ART30	- PLEXIGLASS VISOR
15	- MC.100.004	- RIGHT SPINDLE	31	- MC.000.95	- WASHER D.4
16	- MC.100.026	- SADDLE KEY	32	- MC.000.63	- NUT D.4
17	- TAV31B/ART 17	- STUD BOLT D.8x70	33	- MC.000.39	- NUT D.8
18	- TAV31B/ART 18	- PL/4 SUPPORT	34	- MC.000.42	- WASHER D.8
			35	- TAV31B/ART35	- SUPPORT

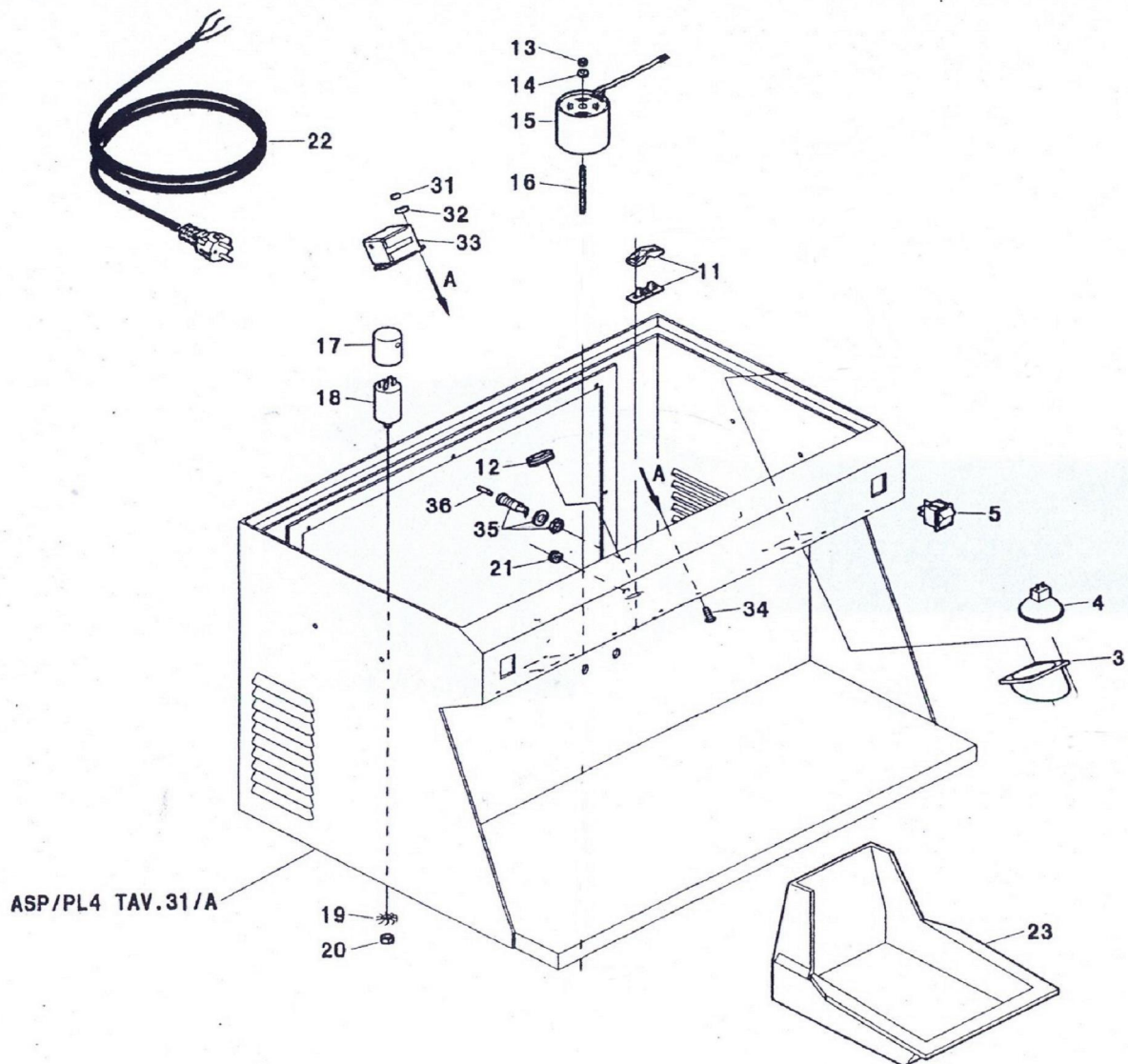
### 6.3.1 DRAWINGS TAV 31C



### 6.3.2 SPARE PART LIST TAV 31C

1 - TAV 31C / ART 1	- FILTER TANK
2 - TAV 31C / ART 2	- DUST CONVEYER
3 - MC.000.95	- WASHER D.4x20
4 - TAV 31C / ART 4	- SOCKET SCREW D.4x20
5 - MC.000.95	- WASHER D.4
6 - TAV 31C / ART 6	- SCREW TE D.4X12
7 - TAV 31C / ART 7	- SOCKET SCREW D. 4X12
8 - MC.000.78	- WASHER D.4x16
9 - MC.009.55	- SELF THREADING SCREW 3,9x13
11 - TAV 31C / ART 11	- VENTILATOR SUPPORT
12 - MC.000.95	- WASHER D.4
13 - MC.002.73	- SCREW D.4x10
14 - TAV 31C / ART 14	- VENTILATOR
15 - TAV 31C / ART 15	- AIR FLUX DEVIATOR
17 - MC.007.06	- SCREW D.3,5x9,5
18 - TAV 31C / ART 18	- ASP/PL FILTER
19 - TAV 31C / ART 19	- FILTER CLAMPING BAND
20 - TAV 31C / ART 20	- FILTER SUPPORT
21 - TAV 31C / ART 21	- GASKET 5x15x1340
22 - TAV 31C / ART 22	- FILTER TANK COVER

## 6.4.1 DRAWINGS TAV 31D



## 6.4.2 SPARE PARTS LIST TAV 31D

3	- BA.86.23	- LAMPHOLDER	20	- MC.000.39	- NUT D.8
4	- MC.006.85	- HALOGEN LAMP	21	- TAV 31D / ART 21	- CORD GUARD
5	- SD.84.53	- BIPOLAR IGNITION SWITCH	22A	- TAV 31D / ART 22A	- CORD ASSEMBLY 110V
11	- MC.009.40	- CORD FASTENER	22B	- MC.008.91	- CORD ASSEMBLY 230V
12	- TAV 31D / ART 12	- OVAL CORD GUARD	23	- TAV 31D / ART 23	- SPLASH GUARD ASP/PL
13	- MC.001.86	- NUT D.6	31	- MC.000.64	- SELF-BLOCKING NUT D.4
14	- MC.000.82	- WASHER D.6x18	32	- MC.000.95	- WASHER D.4
15A	- TAV 31D / ART 15A	- TRANSFORMER 230/240V.	33	- MC.100.050	- RELAY 230V.
15B	- TAV 31D / ART 15B	- TRANSFORMER 115V.	33	- MC.100.049	- RELAY 240V.
16A	- TAV 31D / ART 16A	- STUD BOLT D.6x70 TE	33	- MC.100.051	- RELAY 110V.
17	- TAV 31D / ART 17	- CAPACITOR CAP	34	- MC.002.73	- SCREW D.4x10
18A	- TAV 31D / ART 18A	- CAPACITOR 230/240V. 4uF	35	- TR.87.42	- FUSE HOLDER 6,3x32
18B	- TAV 31D / ART 18B	- CAPACITOR 115V. 16uF	36A	- MC.004.64	- FUSE 230/240V. 5A (6,3x32)
19	- MC.000.42	- TOOTHED WASHER D.8	36B	- MC.007.87	- FUSE 115V. 10A (6,3x32)

### **6.5.1 SPARE PART GENERAL ADVISE**

- \* The OMEC Snc technological standards provides for the use of high quality components.
- \* All the commercial components used in the construction of the unit were chosen for the specific functions they serve.
- \* When substituting commercial parts not contemplated in this manual, verify that they are compatible not only in dimension but also that they have identical mechanical, electrical and electronic characteristics.
- \* When unable to verify these characteristics, consult (as a precaution and by writing) the technical office of the OMEC Snc.

### **6.6.1 HOW TO ORDER SPARE PARTS**

**Specify the following in the order:**

- \* The monogram of the unit
- \* The year of construction
- \* N° of matriculation
- \* Code N° (Tav.\_\_/Art.\_\_) of the article or articles desired to be replaced.
- \* The description of the article
- \* The quantity necessary

## **SIDE VII STANDARDS**



### **7.1.1 STANDARDS**

The OMEC SUCTION BOX TYPE BA.86F/V - BA.86.2F - BA.86.2V is manufactured in accordance with the Machine Directive:

- 2006/42/EC

with the following Standards:

- 88/642/EC
- 2004/18/EC EMC (Electro-magnetic Compatibility)
- 2006/95/EC (Low Voltage)
- UNI EN 60204-1
- UNI EN 60204-1/A1
- UNI EN 60335-1 EC (safety on suckers)

and with the following CEI (Italian Electro-technical Commission) Standards:

- CT2-3 1988 - 1110 BOOKLET (Electric revolving Machines)