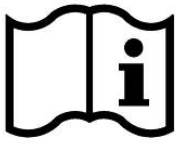
YOUR DENTAL UNITNESS

User Manual

Dental Unit

LINEA ESSE

ESSE PLUS



CE
0051

ENGLISH (TRANSLATION FROM ORIGINAL USER MANUAL)

WARNING

Please read this manual carefully before using the unit. For information on OEM products, please refer to OEM documentation.

This document is destined for dental care professionals. Describes the dental chair and its different parts as well as instructs how to operate and clean the dental unit.

1. GENERAL INFORMATION

Dental Units **Linea Esse** and **Esse Plus** manufactured by O.M.S. spa offers a wide range of instruments to be installed on the doctor console, **Linea ESSE** cuspidor connected to the chair on standard version, **Esse Plus** has a floor standing cuspidor, instead.

Both versions are available with two different instrument doctor consoles. S.P.R.I.D.O. and Hanging hose.

- S.P.R.I.D.O technology with reduce heigh of the instrument arm, overall dimension and long hose extension, the arm is completely balanced when instrument is selected. This avoid the push back feeling while doctor is working.

- Hanging hose, has a doctor console completely made with ceramic, it also makes the dental post-treatment cleaning and hygiene simple and easy. Available also as a Kart.

The bowl is also made with ceramic, simple and easy to clean. The cuspidor on the version **Linea Esse**, might be swivelling (option), therefor the assistant will have more free space. On the **Esse Plus** the bowl is swivelling to better access on rinsing position.

The suction tube are very easy to remove for a better disinfection as well as the suction filter.

Linea Esse e **Esse Plus** have different version, following the configuration that has been chosen.

Version:

- CUSPIDOR
  - T – on the floor
  - S – Suspended
  - R – on the floor with chair with wheels
- INSTRUMENT DOCTOR
  - S - S.P.R.I.D.O.
  - P – Hanging hose (ceramic)
  - T - Star S.P.R.I.D.O. (Ceiling mounting)
  - K - Kart (Handing hose, ceramic on Kart)
  - O - Orthodontic (without arms or/and instrument console)
- PATIENT CHIAR
  - W - Without
  - E - Arcadia EXT
  - P - Arcadia P
  - S - Swan
  - M - Moon
- JUCTION BOX
  - I – inside.

Version with suspended cuspidor

Version with cuspidor on floor

1.1. SYMBOLS

	**CAUTION**	Indicates a hazardous situation that can lead to property damage or mild to moderate injury.
	**DANGER**	Indicates a hazardous situation that may result in serious injury or death.
	**NOTE**	Warning, explanation or addition, important information for users and technicians.

1.2. SERVICE

O.M.S. SPA Officine Meccaniche Specializzate

Via Dante 20/A 35030 Caselle di Selvazzano (PD) Italia

tel: +39 0498976455 - www.omsdentalunits.com

e-mail: aftersales@omsdentalunits.com

Always communicate the serial number of the device.

1.3. FOR YOUR SAFETY

1.3.1. Safety precaution

DANGER

To avoid risk of electric shock, this device should only be connected to power networks with protective ground according to the regulations in force in your country.

DANGER

Before powering the device after installation, repair or any other technical intervention, verify, and if necessary, ground cables to the screw marked with the ground symbol.

DANGER

The device must be installed with electrical systems according with the regulations in force in your country.

DANGER

The installation of the device must be performed by authorized O.M.S. technician; the choice of pipelines by the designer and the laying of the same must be done by a qualified electrician in accordance with current legislation in your country

DANGER

The use of the device is not allowed to non-professional operators or who have not read the manual instructions.

Always check that the dental units is in good condition.

CAUTION

Do not use the device if any part is defective or worn out. In this case, request the assistance of O.M.S. authorized technicians.

CAUTION

Replace the faulty or worn parts only with original spare parts, guaranteed O.M.S.

DANGER

Do not operate the equipment on patients with pacemakers.

DANGER

Do not use the equipment in close conjunction with anesthetic gas or highly oxygenated environments as well as nitrous oxide.

CAUTION

Do not use the device when there is liquid on the floor.

CAUTION

Micromotors, scalers, scaler tips and turbines are not supplied by O.M.S. We recommend use original parts according to the standard ISO 10993 as well as clean and sterilized process according to their manufacturers.

DANGER

No modification on this unit are allowed, do not use non-approved accessories and/or unauthorized modification that might be danger or cause injury to persons and damage

CAUTION

Maintenance procedures shall not be performed while equipment is in use with a patient.

DANGER

Some parts, identified by the symbol “WARNING – LIVE PARTS”

The voltage is present even after turning off the main switch, in case you need to intervene on the parts, you must disconnect the power to the system which powers off the device before operate.

DANGER

When servicing the unit or in case of maintenance, always switch the unit off.

CAUTION

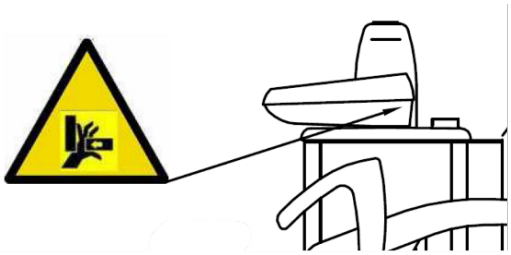
In order to ensure that chair is looked in case of treatment request any movement can be done while using the dental unit, is needed activate such feature (see. Looked movement chair).

CAUTION

To connect a suction system, it must be observed the instructions given in this manual and the wiring diagram; the suction system must be marked CE in accordance with Directive 93/42/EEC and s.m.i. or Regulation (UE) 2017/745 Medical devices and safety international standards CEI EN 60601-1 (medical electrical equipment-General requirements for safety), CEI EN 60601-1-2 (medical electrical equipment – collateral regulation: electromagnetic compatibility).

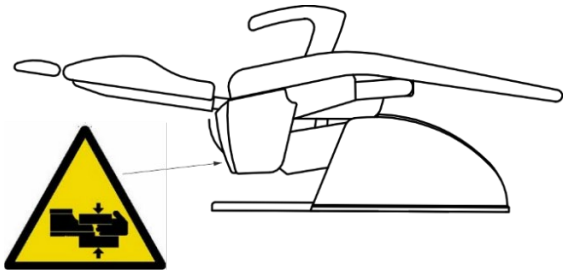
DANGER

The unit with cuspidor on the floor (PLUS), when drive the chair lift motor with the patient check the patient ‘s arm side, to avoid the risk of crushing with the bowl.



DANGER

During the movements of the patient chair, both in manual and automatic position, do not put hands and feet near the baseplate of the chair to avoid the risk of crushing, read the chair instructions.



CAUTION

During the automatic movement of the chair the dental user must stay closer to the dental unit.

CAUTION

Be carefully when moving the doctor console, assistant arm, or lamp. The tools and tips installed on the doctor console might hurt or cut,

CAUTION

Do not sit on the headrest or on legrest lower part of the chair.

CAUTION

We recommend that you run the flushing and cleaning programs, before use the dental unit, or if the unit has not been used for long time, is needed flushing the air and water supply lines. See the flushing system

CAUTION

In case of prolonged treatment in elder patients, pay attention to the pressure ulcer

CAUTION

During the movement of the chair and in particular the headrest the patient's hair can get tangled.

CAUTION

Dental Unit has a general water tap. While using the dental unit, tap should be open. At the end of the work day, the tap should be close. In case of main water valve is installed switch off the unit.

DANGER

In case of ceiling installation, follow the procedure installation indicated on the instruction manual (IO AT 001) attached to the current documentation, use only material provided by OMS (chemical anchor bolt, screw, etc).

CAUTION

Do not load extra weight, do not lean on, on the pole, installed vertical on ceiling, not even on doctor arm or lamp arm.

CAUTION

Do not use the tray with heavy items. No more 2 kilos are allowed.

1.4. INTENDED USE

Dental unit intended to treat dental pathologies, intended for professional operator use (dentists).

1.5. ENVIRONMENT CONDITION ACCEPTED

1.5.1. ENVIROMENTAL CONDITIONS FOR TRANSPORT AND STORARGE

The unit packed can be exposed for a period not exceeding 15 weeks to the following environmental conditions:

Temperature from -40°C to +70°C

Relative humidity from 10% to 100% non-condensing

Air pressure from 500hPa to 1060 hPa

1.5.2. ENVIRONMENTAL CONDITIONS FOR OPERATION AND OTHER SPECIFICATIONS

Temperature from +10°C to +40°C

Relative humidity from 30% to 75%

Air pressure from 800 hPa to 1060 hPa

Altitude ≤ 3000m

Pollution degree 2

Overvoltage category II

1.6. WARRANTY

The standard warranty period of OMS is 36 (thirty-six) months, from the date of installation belong to the end customer. The warranty conditions are shown inside the warranty book supplied with the device.

The warranty is applied to the end customer and follow the product specified INSTALLATION AND INSPECTION REPORT, only parts are covered under warranty and under no circumstances will O.M.S. Spa cover the labor cost

Please ensure that INSTALLATION AND INSPECTION REPORT is correctly completed in all the sections by an authorised O.M.S. spa technician, and signed by you as well as the technician. To activate the warranty, you must return the signed original INSTALLATION AND INSPECTION REPORT to O.M.S. spa by fax or certified email within TEN DAYS from the date of installation, otherwise the warranty will not be valid O.M.S. SPA Officine Meccaniche Specializzate

Via Dante 20/A 35030 Caselle di Selvazzano (PD) Italia

fax: +39 0498975566 - e-mail: aftersales@omsdentalunits.com - PEC: omsstaff@legalmail.it

2. TECHNICAL CHARACTERISTICS

Model	LINEA ESSE – ESSE PLUS
Manufactured by	O.M.S. S.p.A. Officine Meccaniche Specializzate
	Via Dante 20/A - 35030 Caselle di Selvazzano Padova Italia
Class	CLASS 1 
Application parts type	B
Protection level device	IPX0
Protection level foot control	IPX1

POWER SUPPLY

Mains voltage settings	230 Vac +/-10%
Main frequency	50/60 Hz

Network connections that comply with the rules in force in the territory.

Rated current	8A
Nominal power	1800 W

HYDRO-PNEUMATIC SUPPLIES

Pneumatic supply	from 450 kPa to 650 kPa (from 4.5 to 6.5 bar)
(Consumption air 40 liters/minute)	
Water supply	from 200 kPa to 400 kPa (from 2 to 4 bar)
(Consumption of water 2 liters/minute)	
Max. temperature	30 °C

OPERATION TIME

Chair	discontinuous	60 sec ON / 600sec OFF
Syringe 6F (hot water)	discontinuous	5 sec ON / 10 sec OFF
Curing lamp	discontinuous	20 sec ON / 3 sec OFF
Scaler (with water)	discontinuous	3 sec ON / 5 sec OFF
Micromotor	discontinuous	3 sec ON / 3 sec OFF
Operating lamp	continuous	
Syringe 3F (cold water)	continuous	

EDI OPERATION LAMP (with cooling fan)

Halogen lamp:	17 Vac, 95 W
Colour temperature:	5,000 °K
Focal distance:	700 mm
Operating field (at 700 mm):	60x180 mm
Max. luminous intensity (at 700 mm):	25000 Lux.

ALYA OPERATION LIGHT (led)

Colour temperature:	5,000 °K
Focal distance:	700 mm
Operating field (at 700 mm):	170x85 mm
Max. luminous intensity (at 700 mm):	8000-50000 Lux.
Cri (colour rendering index)	>85

MAIA OPERATION LIGHT (led)

Colour temperature:	5,000 °K
Focal distance:	700 mm
Operating field (at 700 mm):	170x85 mm
Max. luminous intensity (at 700 mm):	3000-35000 Lux.

GCOMM POLARIS OPERATION LAMP (led)

Colour temperature:	4200-6000 °K
Focal distance:	380mm to 780mm
Operating field (at 700 mm):	70x140 mm
Luminous intensity:	8000-50000 Lux.

LAMPADA GCOMM IRIS VIEW (led)

Colour temperature	3000-7500 °K
Focal distance:	350mm to 800mm
Operating field (at 700 mm):	70x140 mm
Luminous intensity:	8000 - 45000 Lux.

MISCELLANEOUS

Length of foot control cable	2.5 m
Dimensions of the version with suspended cuspidor unit	approx. 1.08x0.84x1.05 m (LxHxW)
Dimensions of the version with floor cuspidor unit	approx. 1.08x110x1.05 m (LxHxW)
Total weight of the version with suspended cuspidor unit	approx. 50 Kg
Total weight of the version with floor cuspidor unit	approx. 100 Kg
Minimum space recommended for device installation	approx. 3.20x3.00x3.00 m (LxHxW)

IMPORTANT

Note:

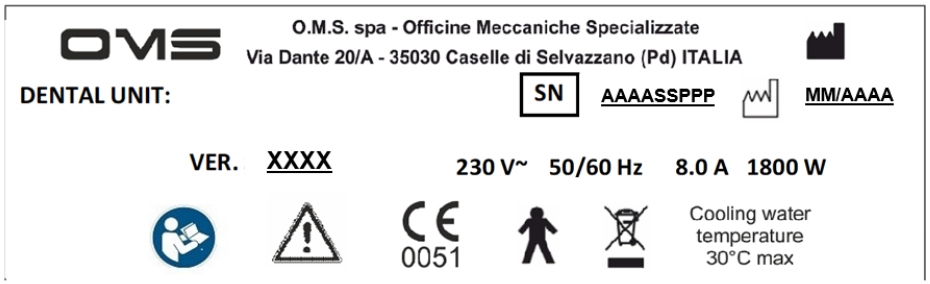
The device is designed and manufactured in compliance with Directive 93/42/EEC medical devices (and s) and international safety regulations CEI EN 60601-1 (medical electrical equipment-General requirements for safety), CEI EN 60601-1-2 (medical electrical equipment – collateral regulation: electromagnetic compatibility), IEC 80601-2-60 (Medical electrical equipment: Particular requirements for basic safety and essential performance of dental equipment), ISO 7494-1 (dental unit) , UNI CEI EN ISO 14971 (risk analysis), CEI EN 62304 (ing. Software), CEI EN 62366 (ing. Usability), CEI EN 60601-1-6 (Usability).

Note:

O.M.S. declines all responsibility regarding for the safety, reliability and the performance of the unit , if installation , calibrations, and repairs has not been performed by technical authorized and qualified O.M.S. with instructions and components exclusively provided from O.M.S. Electrical installation are carried out according to the appropriate requirements IEC. Equipment is used according to the instruction manual.

2.1. SYMBOLS ON PRODUCT LABELS

The product label shows the following information.



- REF: device reference
- Rated voltage and nature of current (alternating)
- Rated frequency
- Rated current
- Rated power
- SN: Device serial n°
- Date of Manufacturer
- WEEE symbol
- MD: Medical Device symbol
- Applied part Type B
- Refer to instruction manual /booklet
- Follow operating instructions

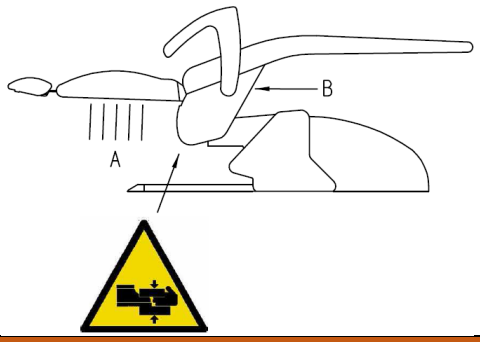
3. COMMAND - CONTROL - WARNING

3.1. SAFETY SYSTEMS

Care should be taken when driving the patient chair to minimize the risk of collision during the movement, Obstruction in the patient chair's line of movement activate safety switches that stop the motorized movements as well as cuspidor when is out.

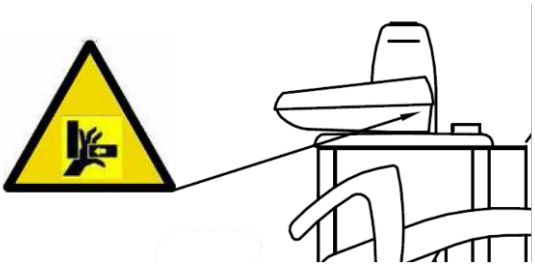
PERICOLO

CHAIR MOON The backrest has also a safety microswitch located on backrest itself, (inside the seat, on the lower part of the backrest) as the sensor before it while the chair or backrest is driving down, the movement get stop and a sounds beep (bip-bip) inform that the safely backrest chair is activated



DANGER

In the version PLUS with a floor cuspidor, the bowl is above the patient chair and stops upward chair movements, Move the bowl into home position to resume normal operation.



Note:

To calibrate the backrest's sensore from the Chair MOON:

- **Drive the chair or complete dental unit, into the upper position.**
- **Use a small flat screew driver, inside the hold , and turn the trimmer , turn it clockwise to decrease the sensibility or turn it anti clockwise to increase the senibility. To calibrate the backrest's sensore from the MOON Chair, follow the procedur.**
- **Drive the chair or complete dental Unit, into the upper position.**
- **Use a small flat screew driver, inside the hold , and turn the trimmer , (see the following picure), turn it clockwise to decrease the sensibility or turn it anti clockwise to increase the senibility.**
- **Drive towards down the chiar and by touching the backrest the saftly should activated.**

Note:

When backrest sensor is activated the lift motor and backrest movement towards down are disable.

Note:

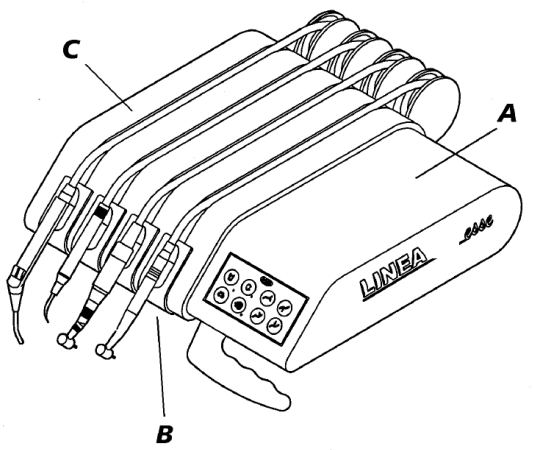
When safety switch located on the assistant arm is activated the lift motor and backrest movement towards down are disable.

Note:

While using automatic chair position (ei: zero position, preset or rinsing position) the movement can get stops immediately by pressing any patient chair command (from the dental unit or push off of the foot controller)

The movement of the chair, can be stuck if one or more safety switches are active

3.2. DOCTOR CONSOLE



Doctor Console with S.P.R.I.D.O.

Doctor Console with hanging hose

The doctor console can house up to four instruments (syringe included).

The part **A** has the button for instrument control, as well as movement chair buttons. Inside there is the general PCB with all electrical connections.

The part **B** includes the instrument electrical valves used to drive the instrument as well as their adjustment flow rate, the feature is described below. Adjustments on cooling air and drive air need to be done by authorized O.M.S. technicians.

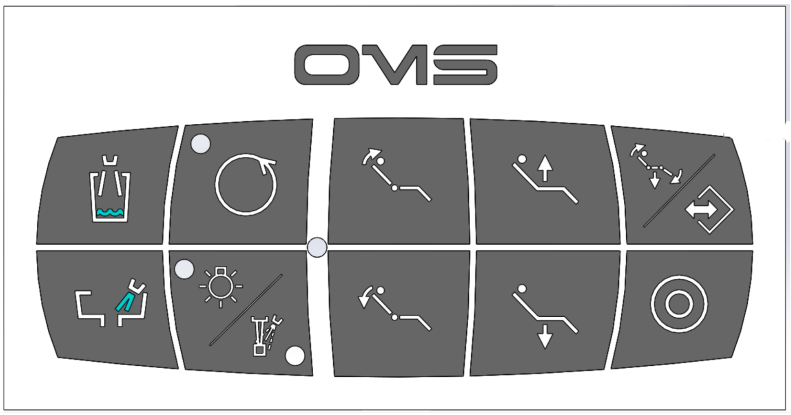
The part **C** is the instrument housing.

3.2.1. MEMBRANE (COMMAND BUTTONS)

All the buttons are inside of sealed membrane, to high protection and safety, therefor it is very suitable for clean and disinfection.

Switch on the unit, the central LED is on

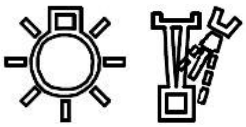
Description of command:



Cup fill

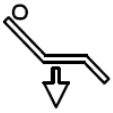
Bowl rinse

Micromotor reverse control

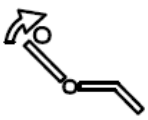


Spray and instrument light (keeping pressed button for 3 seconds).

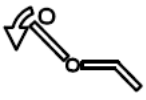
Chair Up



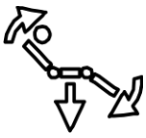
Chair down



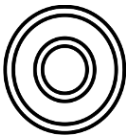
Backrest up



Backrest down




Zero Position /Memory

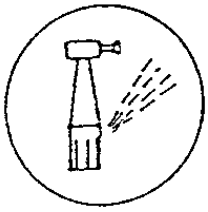


Rinsing position /Last position

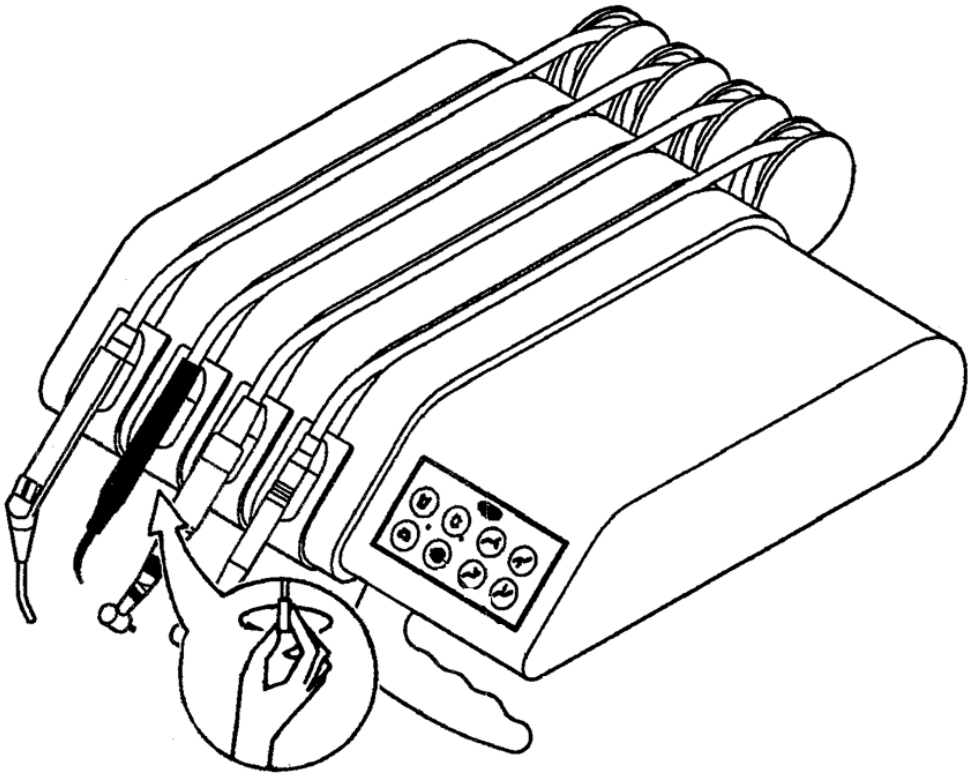
3.2.2. INSTRUMENT GENERAL FUNCTIONS

3.2.2.1. SPRAY

Spray is selected by pressing the button  on the keyboard.



Spray is enable by pressing the pedal (A) while instrument is working (standard configuration).



The water spray flow is adjusted by using the tap located under of that instrument, when turned counter-clockwise, the flow of water to the spray is gradually reduced; when turned clockwise the flow is gradually increase. Do not adjust the other settings close to the water tap.

3.2.2.2. CHIP BLOWER

When instrument is selected, by pressing the pedal (A) of the foot control chip-blower is activated.

3.2.3. TURBINE MODULE

When turbine is selected by taking it out, therefor all others instrument are disable as well as the patient chair movements are disabled.

The spray is always activated. The water spray flow water can be adjusted by opening/closing the tap located under the turbine. Wthen turned counter-clockwise, the flow of water to the spray is gradually reduced; when turned clockwise the flow is gradually increase. Do not adjust the other settings close to the water tap.

The light of the turbine can be switch on/ off by pressing the button  on the keyboard.

The air pressure set up for the turbine is calibrated at O.M.S. factory. It should be checked when the installation of the dental units is done. DO not increase the pressure over the indication of the turbine manufacturer. This operation must be performed by an authorized O.M.S. technician.

Note:

For further details refer to the manufacturer's user manual of the turbine.

3.2.4. MICROMOTOR

When micromotor is selected by taking it out, therefor all others instrument are disable as well as the patient chair movements are disabled.

In normal operation the micromotor rotates in a clockwise direction, the speed can be adjusted by using the pedal from 900 RPM to 40.000 RPM.

To activated the reverse, press the button  on the keyboard.

Note:

Activate the reverse, when micromotor is not working to avoid damages.

Spray is enable by pressing  on the keyboard. See also MICROMOTOR OPERATION.

The water spray flow water can be adjusted by opening/closing the tap located under the micromotor. When turned counter-clockwise, the flow of water to the spray is gradually reduced; when turned clockwise the flow is gradually increase. Do not adjust the other settings close to the water tap.

The light of the turbine can be switch on/ off by pressing the button  on the keyboard.

Note:

For further details refer to the manufacturer's user manual of the turbine.

3.2.5. SCALER

When scaler is selected by taking it out, therefor all others instrument are disable as well as the patient chair movements are disabled.

Spray is enable by pressing  on the keyboard. See also SCALER OPERATION.

The water spray flow water can be adjusted by opening/closing the tap located under the micromotor. When turned counter-clockwise, the flow of water to the spray is gradually reduced; when turned clockwise the flow is gradually increase.

EMS scaler:

- Endodontics mode, needs to use a correct tip, and need to adjust the power (between 10 and 30%). Never increase the power over 30% in Endodontics mode.

- Periodontics mode, needs to use a correct tip, and need to adjust the power (between 10 and 50%). Never increase the power over 50% in Periodontics mode.

SATELEC SP NEWTRON has to adjust the power according to the tip used.

If the scaler with light has been installed, can be switched on by pressing the button  , on keyboard,

Note:

For further details refer to the manufacturer's user manual of the scaler.

3.2.1. CURING LAMP

When Curing Lamp is selected by taking it out, the handpiece has also the buttons to control the lamp.

Note:

For further details refer to the manufacturer's user manual of the curing lamp.

3.2.2. SYRINGE MODULE

The syringe can be use at any time by pressing one of the two buttons water or air (left-hand buttons for water and right-hand buttons for air). When both buttons are pressed simultaneously, spray water is delivered.

The syringe can be installed (on request) on both, doctor console and assistant console. Available in three versions: with 3 ways (air and cold water), 6 ways (air and warm water), 6 ways (air and warm water) plus light. By rotating the bottom of the syringe. The green LED on the bottom of the syringe will show that warm water is activated.

If the syringe is provided with light, it will turn on automatically while is used.

Note:

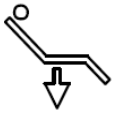
For further details refer to the manufacturer's user manual of the syringe.

3.3. CHAIR

3.3.1. MANUAL CONTROLS

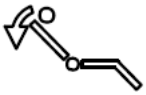
The chair movement can be activated from the doctor console as well as from the foot control.

Chair Up



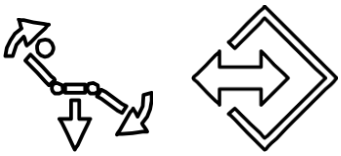
Chair Down

Backrest Up



Backrest Down

3.3.2. ZERO POSITION AND MEMORY



When the button is pressed chair goes to Zero Position, pressing the button again chair goes to memory. If memory needs to be saved in different position, press the Zero position once, drive the chair to the new position where is going to be save, keep pressed the Memory button until you heard a beep.

3.3.3. RINSING/LAST POSITION

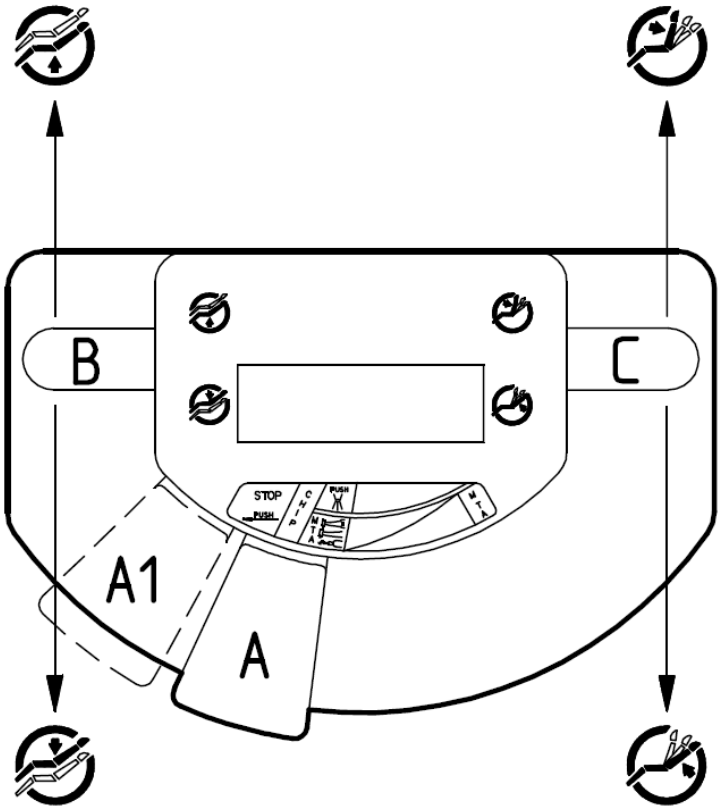
The rinsing / last positions can be activated from the doctor console by pressing button  .

Esse PLUS If rinsing position needs to be saved in different position, press the Zero position once, drive the chair to the new position where is going to be save, keep pressed the  button until you heard a beep.

When the controls above are enabled, the chair gets positioned in either the rinsing position or the last position before the control was given.

3.4. FOOT CONTROL

The dental unit is fitted with foot control.



The foot control has been designed to control all instruments feature with a simple movement of the pedal (A).

Pedal (A), placed with a slight pressure towards left (see figure, reference A1), blocks all chair's movements, that can be use in case of external dental instrument like laser or electro-surgical device.

Move the pedal towards right to unlock this feature.

Note:

When instrument is selected, it is automatically connected to the foot control, thus all the other instruments are disable.

Chip-Blower

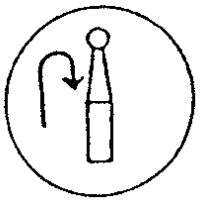
Pressing pedal (A) of the foot control, the chip-blower is activated.

knobs B and C are used to drive the chair.

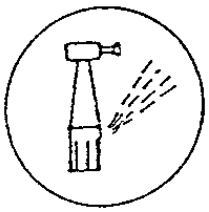
3.4.1. TURBINE

Select the instrument from its housing. Then:

- pressing pedal (A) of the foot control will enable the chip-blower;



- move the pedal A to the right to drive the instrument;



- If pedal A is pressed simultaneously while driven the instrument, the water spray will be activated (standard configuration).

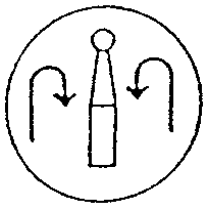
Note:

Upon request, at the time of installation, the technician can change the configuration so that the spray can be operated without press the pedal.

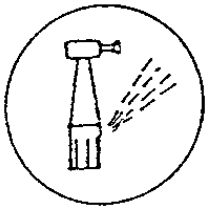
3.4.2. MICROMOTOR

Select the instrument from its housing. Then:

- pressing pedal (A) of the foot control will enable the chip-blower; The spray is enabled by pressing the button on doctor console.



- Move the pedal A to the right to drive the instrument; to activated the reverse of the micromotor rotation. Press the button on doctor console



- If pedal A is pressed simultaneously while driven the instrument, the water spray will be activated (standard configuration).

Note:

Upon request, at the time of installation, the technician can change the configuration so that the spray can be operated without press the pedal.

3.4.3. SCALER OPERATIONS

Select the instrument from its housing. Then:

- Move the pedal towards right to drive the scaler, when spray  is enable.
- Spray delivery is possible when the pedal (A) is slightly pressed with the instrument in operation (standard configuration).

Note:

Upon request, at the time of installation, the technician can change the configuration so that the spray can be operated without press the pedal.

3.4.4. DRIVING CHAIR FROM THE FOOT CONTROL

The foot control has two side knobs (B and C) that drive the movement chair in the following way:

	Chari Up (B)
	Chair Down (B);
	Backrest Up (C);
	Backrest Down (C).

3.4.1. OTHER ACCESSORIES

Note:

For accessories not described before, but indicated in the product list description, see the specific user manuals supplied with the device.

3.5. ASSISTANT CONSOLE

The assistant console has three housings, two used for suction tubes, third one can be used for assistant syringe or curing lamp, and is fitted on an arm that can be:

Linea ESSE as standard has an assistant arm with assistant console swivelling with two joints (arm and assistant console) as optional can be installed the balance arm, with swivelling movements.

ESSE PLUS as standard has a balance arm, with swivelling movements.

The suction holders are designed for two suction tubes (11 mm Saliva and 16 mm High-Power), third one can be used for syringe or the curing lamp (a fourth external housing may be provided for additional accessories).

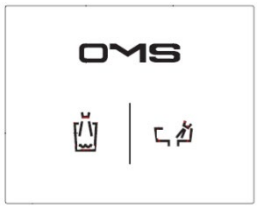
Keyboards of assistant console has the following buttons:

- Bowl rinse (after five switches off automatically)
- Cup filled (can be adjusted)

3.5.1. ASSISTANT KEYBOARD

All the buttons are inside of sealed membrane, to high protection and safety, therefor it is very suitable for clean and disinfection.

Description of command:

		Cup fill
		Bowl rinsing on/off.

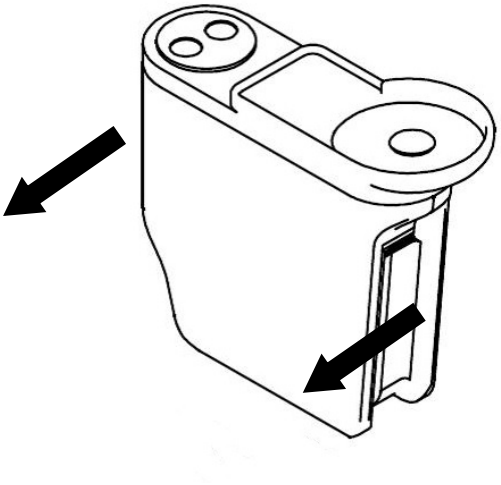
DANGER

Make sure when **LINEA ESSE** is driven up and down, the area around the assistant arm must be clear. The assistant console has a safety device that protect against the collision with any objects underneath while the chair is driving down.

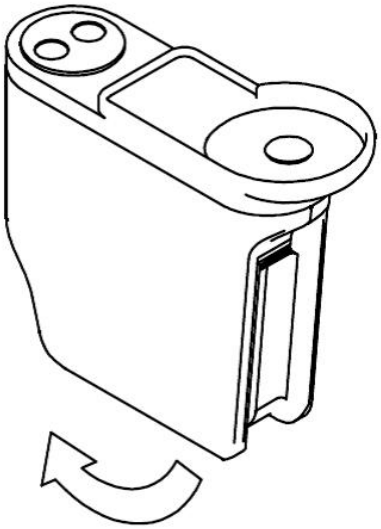
3.6. CUSPIDOR

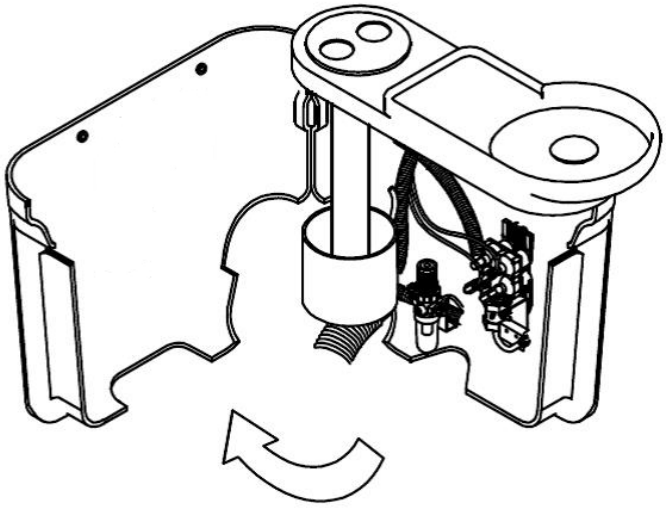
3.6.1. LINEA ESSE WITH CUSPISOR CONNECTED TO THE CHAIR

Inside the cuspidor, are located the electronic, water and pneumatic control systems, as well as suction devices, if fitted. To open the cuspidor, pull the panel outwards using both hands at the same time, make sure that unit is switched of before open.



The hinged cover is available as option, to open it carefully pull the cover outwards, make sure that unit is switched off before open.





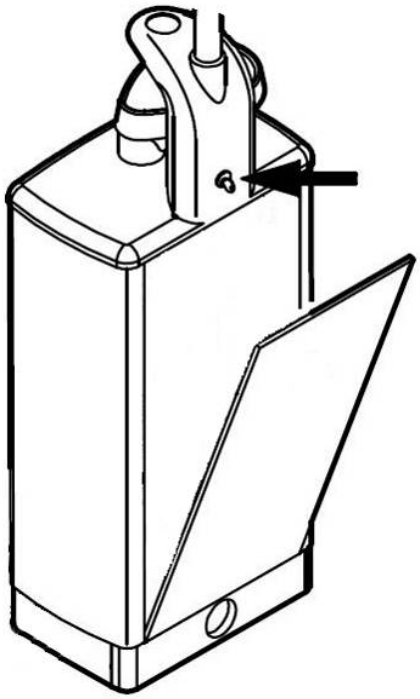
The swivelling 90° cuspidor is also available as an option.

DANGER

The main power switch disconnects the unit from the mains electricity, before perform any operations, make sure that the power switch is off.

3.6.2. ESSE PLUS CUSPIDOR FLOOR

Inside the cuspidor, are located the electronic, water and pneumatic control systems, as well as suction devices, if fitted. To open the cuspidor, pull the panel outwards using both hands at the same time, make sure that unit is switched of before open.



DANGER

The main power switch disconnects the unit from the mains electricity, before perform any operations, make sure that the power switch is off.

3.6.3. MAIN PRESSURE AIR REGULATOR

The air pressure regulator is installed inside the cuspidor, it keeps air pressure equal while instruments are used.

The air pressure regulator is calibrated at O.M.S. in case of technical proposed it can be changed later. This operation must be performed by an authorized technician.

The air pressure is also used to avoid humidity get the instrument. Keep it clear.

3.6.4. MAIN PRESSURE WATER REGULATOR

The water pressure regulator is installed inside the cuspidor, it keeps air pressure equal while instruments are used.

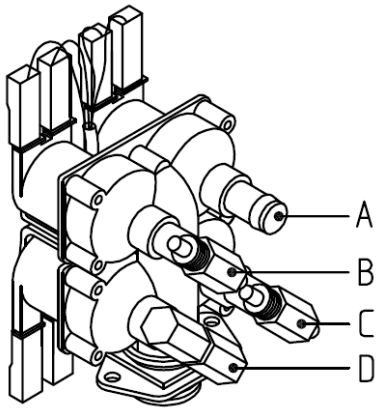
The water pressure regulator is calibrated at O.M.S. in case of technical proposed it can be changed later. This operation must be performed by an authorized technician.

Note:

The water pressure regulator has a filter that must be annually replaced or early.

3.6.5. WATER FLOW TO CUP AND SPITTOON

Inside the cuspidor, is installed four solenoid valves, which contains the water filter. The tap is adjusted using a screwdriver to reduce the water flow when turned clockwise, and increase it when turned anticlockwise:



A. NOT USED;

B. Glass Regulator;

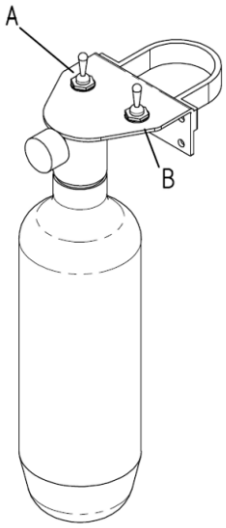
C. Bowl Regulator;

D. NOT USED;

3.6.6. CLEAN SPRAY

Clean Spray is an external water supply, of the city water. It has a bottle and bottle holder installed inside or outside of the cuspidor.

It can be used to feed with water the instrument installed on the doctor console or assistant elements. This has two selectors. Selector B select the inlet water to the instrument, bottle or city. Selector A, pressurized the bottle (max 2 bar). Before remove the bottle set up the selector A to OFF.



3.6.7. AMALGAM SEPARATOR CAS1 and MST1

Inside the cuspidor can be installed an amalgam separator, read carefully the instructions manual for use such device.

Note:

For further details refer to the manufacturer's operating instructions enclosed.

3.6.8. AIR/WATER SEPARATOR CS1 and MST1 ECO

Inside the cuspidor can be installed an air/water separator, read carefully the instructions manual for use such device.

Note:

For further details refer to the manufacturer's operating instructions enclosed.

3.6.9. WATER DECONTAMINATOR SYSTEM WEK AND WEK LIGHT

A device capable of decontaminating water automatically by adding disinfectant, can be installed inside the spittoon unit, refer to the instructions for use of the installed device.

Note:

For further details refer to the manufacturer's operating instructions enclosed.

3.6.10. ANTI LEGIONELLA FILTER – KOALA

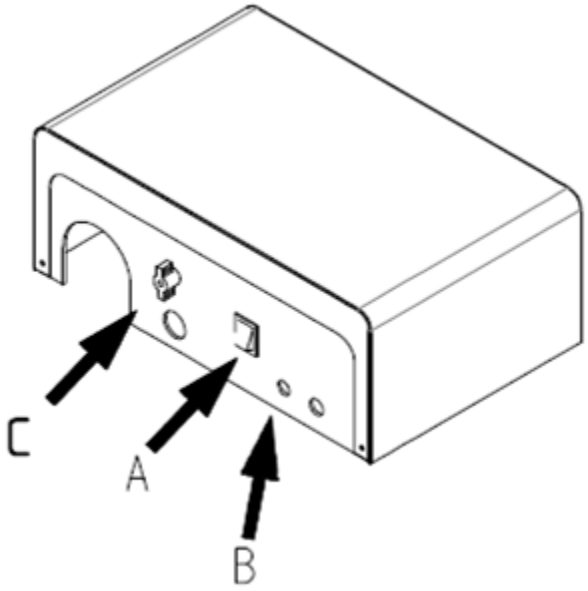
To decontaminate the dental unit water and protect the patient from the risk of legionella infection.

Note:

For further details refer to the manufacturer's operating instructions enclosed. Replace the filter once in a year.

3.7. JUCTION FLOOR BOX

The floor box can be built-in (in front of the chair) or separated (in this case it is on the floor near the dental unit). Inside of the junction box, there are the electric mains connection as well as, inlet water and air, drain, suction.



Outside of Junction box:

C. **G**eneral water tap, that controls the inlet water supply to the unit.

A. Main switch electrical switch

B. Fuse

DANGER

The main power switch disconnects the unit from the mains electricity, before perform any operations, make sure that the power switch is off.

CAUTION

The equipment is equipped with a general water tap. During use, the tap should be open. At the end of the work day, the tap should be closed, otherwise close the unit's general supply tap of the clinic.

3.8. OPERATING LAMP

The use of the lamp is limited to just two operations:

- switching on / off;

- brightness adjustment.

Note:

For further details refer to the manufacturer's operating instructions enclosed.

4. SUCTION HIGH VOLUME

The equipment can be connected to a suction pump. Therefor the cuspidor is supplied with an assistant arm (see section CANNULA HOLDER). Some suction device, can be fitted inside of the cuspidor unit.

The aspiration system consists of the following parts:

A. Filter holder (located on the column);

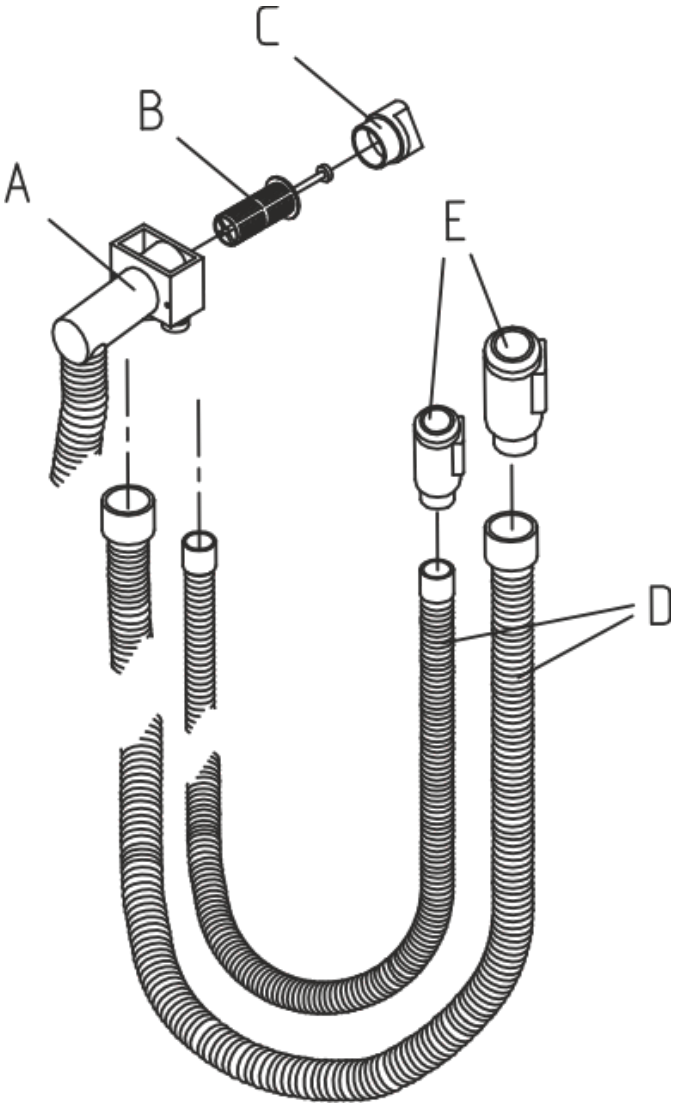
B. Filter;

C. Filter cap,

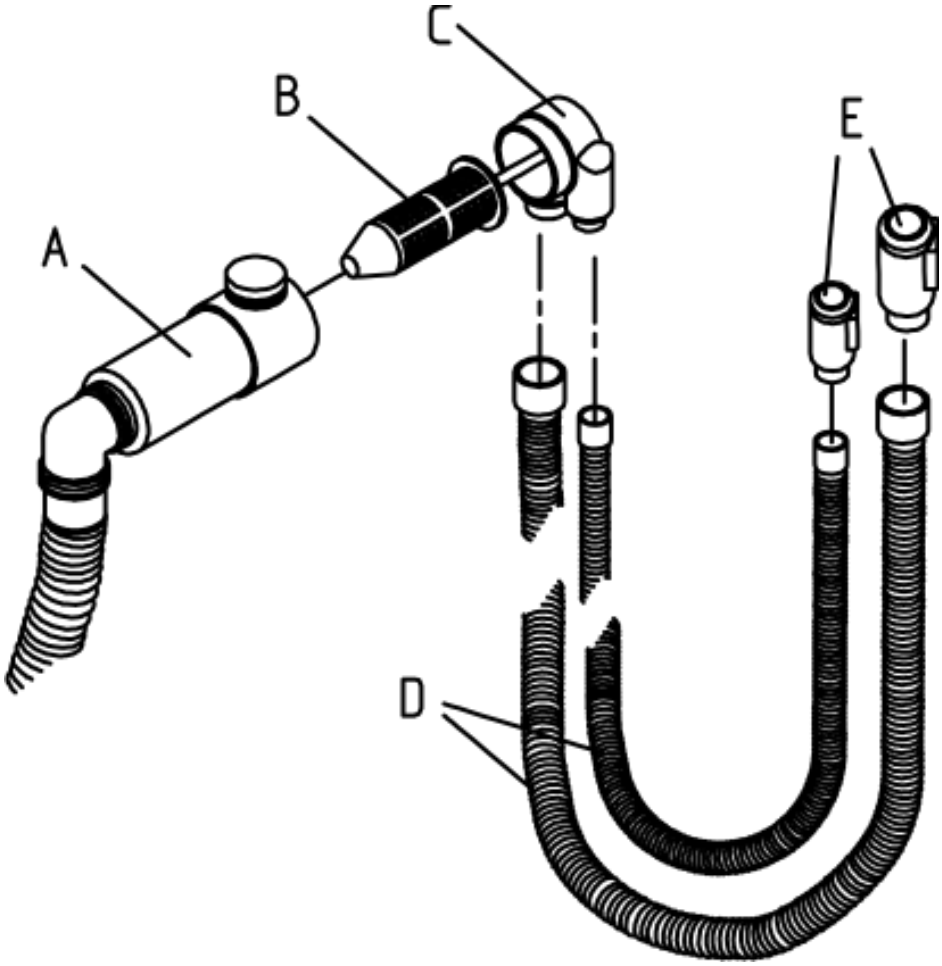
D. Suction Tubes, 1.5 m in length and 11 (SALIVA) and 16 mm (HIGH VOLUME) in diameter;

E. Handpiece, 11 (SALIVA) and 16 mm (HIGH VOLUME) in diameter.

4.1.1. VERSION WITH SPITTOON UNIT ON THE CHAIR



4.1.2. VERSION WITH FLOOR SPITTOON UNIT



Note:

If the dental unit is connected to suction pump centralized, the main unit shall be installed a suction valve.

Dental unit can also be connected to amalgam separation systems that are fitted inside the main unit.

5. START UP THE UNIT AFTER LEFT IDLE TIME

Following the instruction about how to start up the unit after the device has left idle for extended period.

NOTE:

Following the instruction of the device installed. For further information please refer the instruction manual of the manufacture's device.

5.1. START UP AFTER IDLE TIME LESS THAN *4 WEEKS.* (DENTAL UNIT WITHOUT DECIVES)

- Switch on the unit.
- Check that not leaks are present where it is possible.
- Make sure that the water tap is open as well as the instruments water taps. Opportunely closed before.
- Make a flushing with all instrument installed on the doctor console, flushing should be at least 1 minute for each instrument.

Note:

Check that all instruments tap are open on the bottom of doctor console.

- Fill the cup at least 5 time.
- Use the bowl rinsing for at least 1 minute.

CAUTION

The flushing without specific device for water treatment, is not an operation anti-legionella.

CAUTION

We strongly recommend follow this procedure (Point 5.1) daily.

5.2. START UP AFTER IDLE TIME *MORE THAN 4 WEEKS*. (DENTAL UNIT WITHOUT DECIVES)

- Following the step illustrate before (See Point 5.1)
- Replace the water filter of the unit.
- In case of the dental units has been idle for more than 10 weeks, is strongly recommend perform the maintenance CARE KIT. This operation must be performed by an authorized technician.

CAUTION

The flushing without specific device for water treatment, is not an operation anti-legionella.

5.3. START UP THE UNIT WITH DESINFECTION SYSTEM WEK OR WEK LIGHT, AFTER IDLE TIME *LESS THAN 4 WEEKS*. (DENTAL UNIT WITH WATER SYSTEM DEVICE TREATMENT)

CAUTION

Before to use the water system device read careful the instruction manual of METASYS WEK or WEK LIGHT.
This document is destined for dental care professionals.

CAUTION

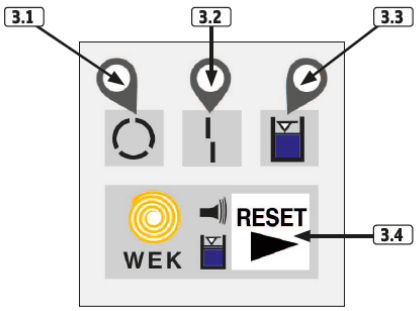
It is mandatory check once in a week, as well as after idle long period unit the amount of peroxide. Using the stick **"464441"** the amount of the peroxide can be test in just 45 seconds.

CAUTION

It is mandatory perform the maintenance kit of system Wek or Wek Light (Cod 463329 e 511448) once a year, to ensure a reliable functioning.

- Switch ON the unit.
- Check that not leaks are present where it is possible.
- Check the control panel of the WEK, make sure that not alarm is shown, if any alarm is present read the instruction manual of Metasys WEK system.
- Check the expired date of the pouch of GREEN&CLEEN, if needed replace it.
- Make a flushing with all instrument installed on the doctor console, flushing should be at least 1 minute for each instrument. Do not forget to set up the WEK as intensive mode.

Read careful the "***intensive decontamination set up".***



- Keep pressed 4 second the button RESET 3.4 (the LED 3.1 will blink) up to the first sound signal. During this phase the LED 3.1 and LED 3.3. will be ON.
- The intensive decontamination mode now is activated.
- Drive all instrument installed on the doctor console and doctor and assistant console at least for 30 seconds or more
- Pay attention the "intensive decontamination mode" is activated for 500 ml of water. Then the WEK or WEK Light go back to normal use phase, the LED 3.3 will blink 3 times and short sound signal.
- NOTE: IF the flushing has not been done on all instrument, repeat the intensive mode set up.
- As soon as flushing has finished, check the amount of peroxide using the stick 464441, Green and Clean WK.

CAUTION

In case that the verification of the peroxide fail, repeat the process of "***intensive decontamination set up".*** If the test fail again call an authorized technician O.M.S..
Is strongly recommend perform the Maintenance KIT METASYS WEK (Cod. 511448 o 463329)

5.4. START UP THE UNIT WITH DESINFECTION SYSTEM WEK OR WEK LIGHT, AFTER IDLE TIME *MORE THAN 4 WEEKS.* (DENTAL UNIT WITH WATER SYSTEM DEVICE TREATMENT)

- Following the step illustrate before (See Point 5.3)
- Replace the water filter of the unit.
- In case of the dental units has been idle for more than 10 weeks, is strongly recommend perform the maintenance CARE KIT. This operation must be performed by an authorized technician.

CAUTION

In case that the verification of the peroxide fail, repeat the process of "***intensive decontamination set up".*** If the test fail again call an authorized technician O.M.S..
Is strongly recommend perform the Maintenance KIT METASYS WEK (Cod. 463182)

5.5. START UP THE UNIT WITH SUCTION AMALGAMA SEPARATOR, IDLE FOR MORE *THAN 4 SETTIMANE.*

CAUTION

Before to use the suction system device read careful the instruction manual.
This document is destined for dental care professionals.

CAUTION

In case no suction system are installed, replace the suction filter.

5.5.1. Metasys MST 1

CAUTION

Before to use the suction system device read careful the instruction manual of Metasys.
This document is destined for dental care professionals.

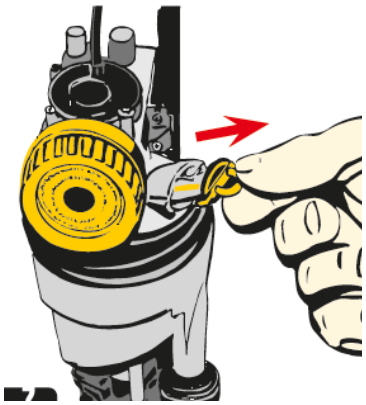
CAUTION

It is strongly recommended replace the filter (cod 463330), Amalgama collector (cod 464417), pump filter (cod 463331)

CAUTION

It is mandatory perform the maintenance kit of MST1 (cod 463332) once a year, to ensure a reliable functioning, as well as five years maintenance kit (cod 463333)

- Switch ON the unit.
- Check the control panel of the MST1, make sure that not alarm is shown, if any alarm is present read the instruction manual of Metasys MST1 system.
- Switch OFF the unit
- Check the suction filter if needed replace it.
- Remove the amalgama container, change if it is over a half.
- Remove the sensor from its holder, clean up the sensor. Use a vaseline to keep lubricated the o'ring.



5.5.2. Metasys MST 1 ECO

CAUTION

Before to use the suction system device read careful the instruction manual of Metasys.
This document is destined for dental care professionals.

CAUTION

It is strongly recommended replace the filter (cod 463330), Amalgama collector (cod 464417), pump filter (cod 463331)

CAUTION

It is mandatory perform the maintenance kit of MST1 ECO once a year, to ensure a reliable functioning, as well as five years maintenance kit.

- Switch ON the unit.
- Check the control panel of the MST1, make sure that not alarm is shown, if any alarm is present read the instruction manual of Metasys MST1 system.
- Switch OFF the unit.
- Check the suction filter if needed replace it.

5.5.3. DURR, CAS 1

CAUTION

Before to use the suction system device read careful the instruction manual of Durr.
This document is destined for dental care professionals.

CAUTION

It is strongly recommended replace the filter, and amalgama collector.

CAUTION

It is mandatory perform the maintenance kit of CAS1 once a year (cod 463334), to ensure a reliable functioning, as well as five years maintenance kit. (cod 463335)

- Switch ON the unit.
- Check the control panel of the CAS1, make sure that not alarm is shown, if any alarm is present read the instruction manual of Durr CAS1 system.
- In case of the amalgama collector is full, (LED yellow ON and LED RED blinking) can heard a sound signal. In such case replace the collector.
- Check the suction filter, replace it if it needed.

See point 6 "***MAINTENANCE AND KEEP UP".*** To clean up the CAS1 is needed use the agent cleaner recommended by Durr Dental.

- At the end of the work aspirate a glass of cold water through the large and the small suction hoses, use also the disinfector suggested by Durr.
- Starting up the unit after an idle period, make a pre clean, suck up 2 litres of water with the care system.
- Aspirate the disinfection/cleaning agent with the care system.
- Suck up 2 litres of water with the care system.

5.5.4. DURR, CS 1

CAUTION

Before to use the suction system device read careful the instruction manual of Durr.
This document is destined for dental care professionals.

CAUTION

It is mandatory perform the maintenance kit of CS1 once a year (cod 463336), to ensure a reliable functioning, as well as five years maintenance kit. (cod 463337)

- Switch ON the unit.
- Check the control panel of the CS1, make sure that not alarm is shown, if any alarm is present read the instruction manual of Durr CS1 system.
- In case of the amalgama collector is full, (LED yellow ON and LED RED blinking) can heard a sound signal. In such case replace the collector.
- Check the suction filter, replace it if it needed.

"***MAINTENANCE AND KEEP UP".*** To clean up the CS1 is needed use the agent cleaner recommended by Durr Dental.

- At the end of the work aspirate a glass of cold water through the large and the small suction hoses, use also the disinfector suggested by Durr.
- Starting up the unit after an idle period, make a pre clean, suck up 2 litres of water with the care system.
- Aspirate the disinfection/cleaning agent with the care system.
- Suck up 2 litres of water with the care system.

6. MAINTENANCE AND KEEP UP

To guarantee the dental unit's proper operation, the unit must be checked and serviced by a qualified OMS services technician according to the maintenance schedule that has been set for your dental units.

In the annual maintenance, "CARE KIT" the service technician replaces all parts specified by the Care Kit. These include, but are not limited to, parts in contact with air, water and suction system. In additional the service technician checks and services all dental units parts suspect to wear and tear in normal use. There includes part in the cuspidor, foot control, instrument console, arms, patient chair, assistant arm and operation light. Also, the mechanical stability and electrical safety inspection is performed.

The default maintenance interval is 365 days. The message "Care Kit" will remain you the annual maintenance well in advance.

The activities are classified in:

- Cleaning/disinfecting,
- adjustments,
- scheduled maintenance,
- extraordinary maintenance.

6.1. CLEANING AND DISINFECTING

For hygiene (and to avoid stains of corrosive agents) clean the device frequently.

For hygiene and cleaning, without risk of damage, O.M.S. recommends the use of products that contain:

- Quaternary Ammonium
- Phenolic compounds
- Iodophors

That **do not** contain:

- Alcohol
- Hypochlorite
- Soda
- Organic Solvents

O.M.S. recommends these products already tested, always refer to the manufacturer's instructions and safety data sheets detergent.

- SK SURFACES DISINFECTOR

  Disinfectant

- SK INSTRUMENTS DISINFECTOR 1

Upholstery Patient chair

For the thorough cleaning of the upholstery of the patient chair you can use a product suitable for the treatment of upholstery such as

- EMULSIO.

For daily cleaning and disinfection use a little aggressive product such as:

- SK SURFACES DISINFECTOR

Note:

O.M.S. declines all responsibility for problems or damages caused by using different productor than those recommended.

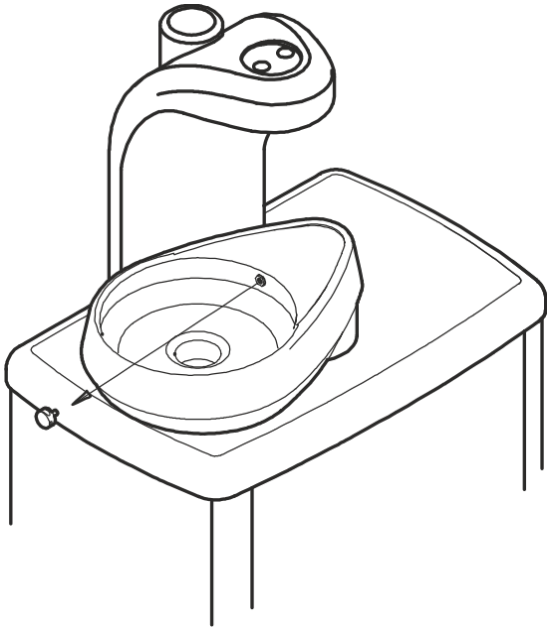
CLEANING AND DISINFECTION			
Activity	**Frequency**	**By whom?**	**Note/references**
Doctor console, instrument hose,	After each patient	Trained operator	Only use products indicated by OMS.
Doctor Console: instrument holder, handles, tray mat Assistant console mat	After each patient	Trained operator	Autoclave (if applicable) Only use products indicated by OMS.
Instruments and syringe	After each patient	Trained operator	Clean, disinfect and sterilise as indicated by the instrument manufacturer's instructions.
Chair: Upholstery, headrest and armrests	After each patient	Trained operator	Only use products indicated by OMS.
Operating lamp components	After each patient	Trained operator	Clean, disinfect and sterilise when indicated by the manufacturer's instructions.
Foot control cleaning	Daily	Trained operator	Only use products indicated by OMS.
Spittoon, cannula and spittoon filter	Daily	Trained operator	Only use products indicated by OMS.

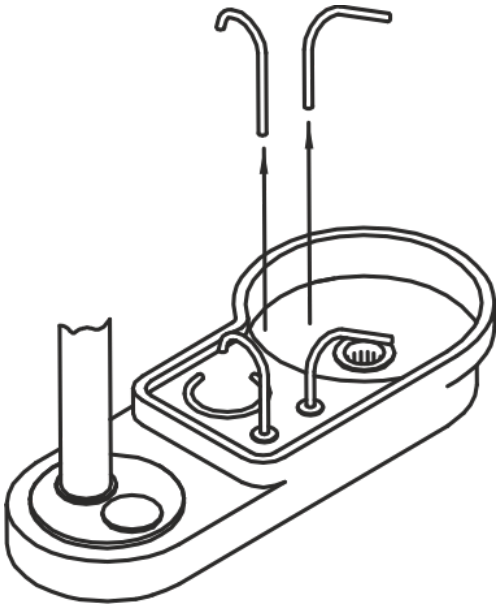
6.1.1. INSTRUMENTS

For instrument cleaning, sterilization and lubrication, we recommend consulting the instructions supplied by the manufacturer(s) for each model.

6.1.2. BOWL

The ceramic surface of the bowl allows a quick and easy daily cleaning using suitable products. The spittoon water tap can easily be removed for cleaning and sterilization propose.





Note:

Avoid cleaning the spittoon with high temperature. (i.e. directly aiming steam jets on the spittoon) that cause damage and break the ceramics.

6.1.3. CHAIR

Note:

Daily cleaning and disinfection must be done with approved OMS products. DO NOT use aggressive product for daily upholstery cleaning.

The deep cleaning of the upholstery, armrests and headrest shall carry out every 90 days, with products suitable for the treatment and following this procedure.

1. Wipe the upholstery with EMULSIO.
2. Start to treat a small surface and check that there are no changes on the upholstery, then apply it on the whole he upholstery.
3. Wipe the upholstery with a water to remove the EMUSION from the surface
4. Wait at least 90 days before repeat the treatment.

6.1.4. SUCTION HIGH VOLUME

To get the best performance of the suction system we strongly recommend, follow the maintenance instructions below.

After each patient, we recommend use a clean hot water for a few seconds, to rinse the tubes. Handpiece need to be clean: with a suitable detergent.

The suction handpiece supplied by O.M.S. can be sterilized at 134°C.

We strongly recommend to clean up the suction filter at the end of each working day, therefor the correct suction device maintenance.

- Use the recommend cleaner product indicated by the manufacture suction devices
- Remove the cover filter holder and clean up the filter. Use a lubricant on the oring
- We strongly recommend change the filter once on the month, do so early if necessary.
- Never mix up the disinfection liquid with other disinfection products.

6.2. ADJUSTMENTS

ADJUSTMENTS			
Activity	**Frequency**	**By whom?**	**Note/references**
General surgery water tap	End of the work day	Trained operator	Close the dental unit water supply tap
Instrument spray water pressure adjustment	When necessary	Trained operator	Tap under the instrument table (adjustment without tool)
Instrument air pressure adjustment	When necessary	Authorised technician	Tap under the instrument table (adjustment with tool, authorised technician only)
Friction adjustment (accessible from the exterior)	When necessary	Trained operator	
Cup/spittoon water flow adjustment	When necessary	Trained operator	
Oscillating arm spring adjustment (interior)	When necessary	Authorised technician	
Main unit water pressure adjustment	When necessary	Authorised technician	Pressure regulator calibration
Main unit air pressure adjustment	When necessary	Authorised technician	Pressure regulator calibration

6.2.1. INSTRUMENT SPRAY PRESSURE

The water flow on spray is adjusted by rotating the tap located under the its instrument: when turned anticlockwise, the flow of water to the spray is gradually reduced; when turned clockwise.

6.2.2. MAIN UNIT AIR PRESSURE

The air pressure regulator is installed inside the cuspidor, it keeps air pressure equal while instruments are used.

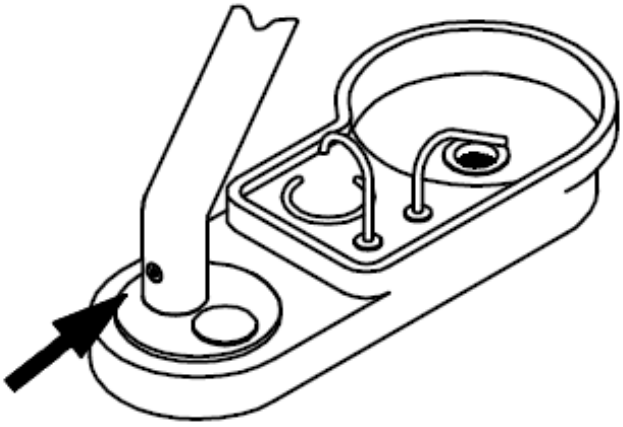
The air pressure regulator is calibrated at O.M.S. in case of technical proposed it can be changed later. This operation must be performed by an authorized technician.

The air pressure is also used to avoid humidity get the instrument. Keep it clear.

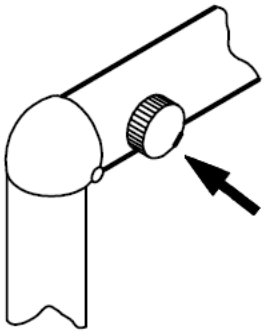
6.2.3. FRICTION ADJUSTMENT

Rotating and pivoting movements can be adjusted to get a perfect balance of the instrument console.

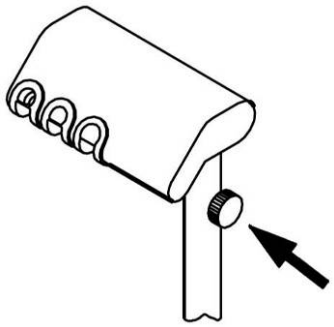
- **adjustment friction of the doctor arm movement;**



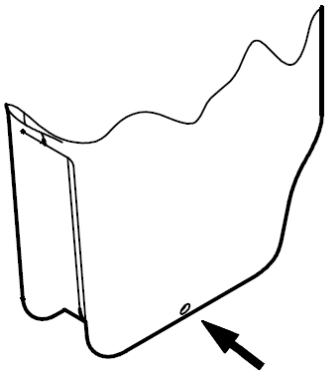
- **adjustment knob of the balance movement of the instrument console.**



- **adjustment knob of the assistant arm balance movement;**



- **adjustment friction to the assistant arm movement.**

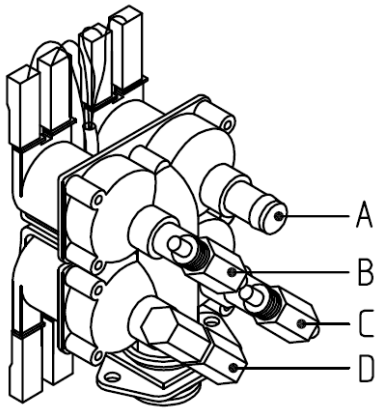


Note:

Use the Alen key inside the accessories of the unit to adjust the assistant arm, and instrument arm.

6.2.4. WATER FLOW TO CUP AND SPITTOON

Inside the cuspidor, is installed four solenoid valves, which contains the water filter. The tap is adjusted using a screwdriver to reduce the water flow when turned clockwise, and increase it when turned anticlockwise:



E. NOT USED;

F. Glass Regulator;

G. Bowl Regulator;

H. NOT USED;

6.2.5. SWIVEL ARM SPRING

The lifting friction of the doctor arm can be adjusted by the spring inside. This allows to get a perfectly balance according to the weight of the tray, which might change according to the instruments on it. This adjustment must be performed by an authorized O.M.S. technician.

6.2.6. MAIN UNIT WATER PRESSURE

The water pressure regulator is installed inside the cuspidor, it keeps air pressure equal while instruments are used.

The water pressure regulator is calibrated at O.M.S. in case of technical proposed it can be changed later. This operation must be performed by an authorized technician.

Note:

The water pressure regulator has a filter that must be annually replaced or early

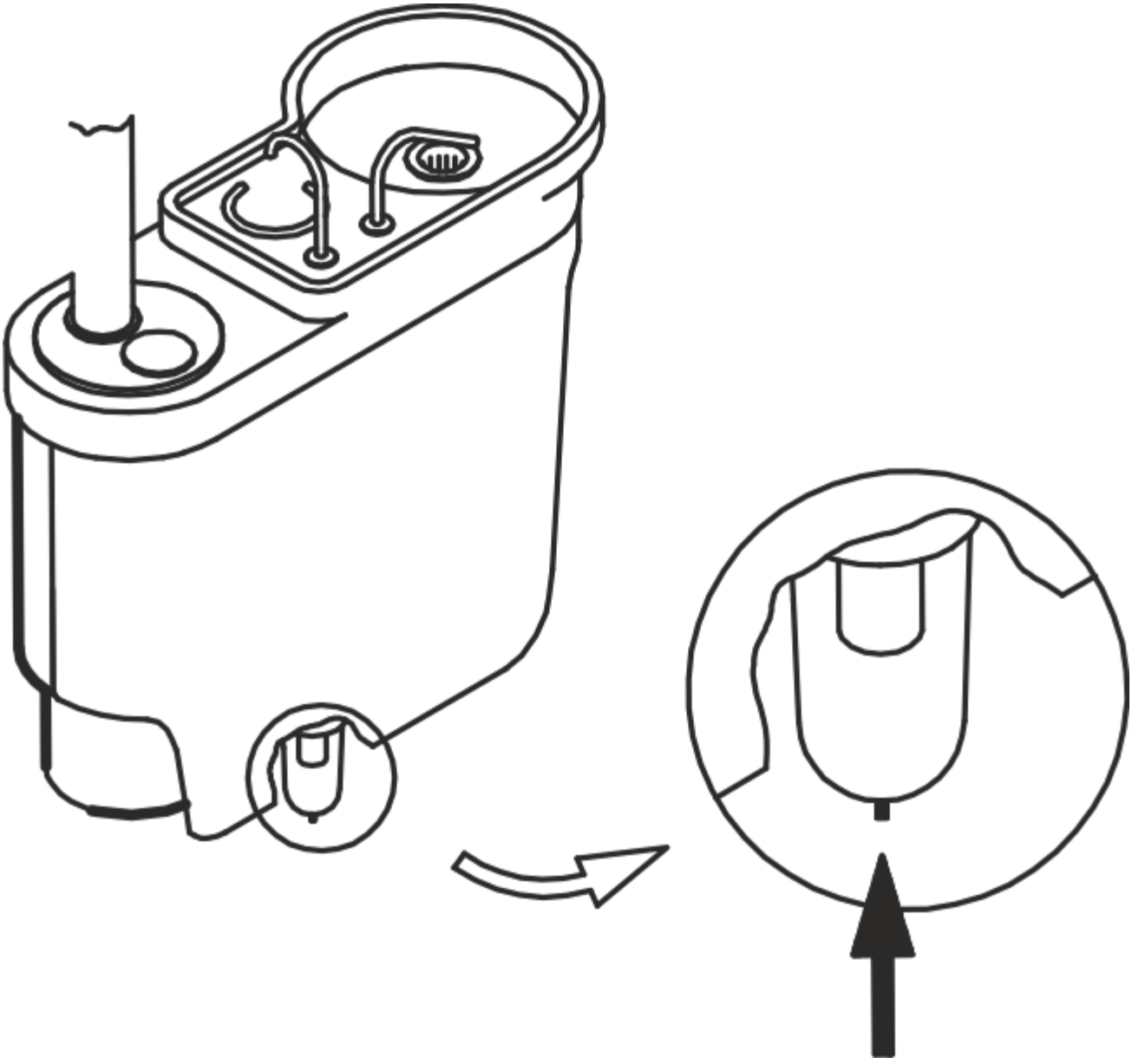
6.3. SCHEDULED MAINTENANCE

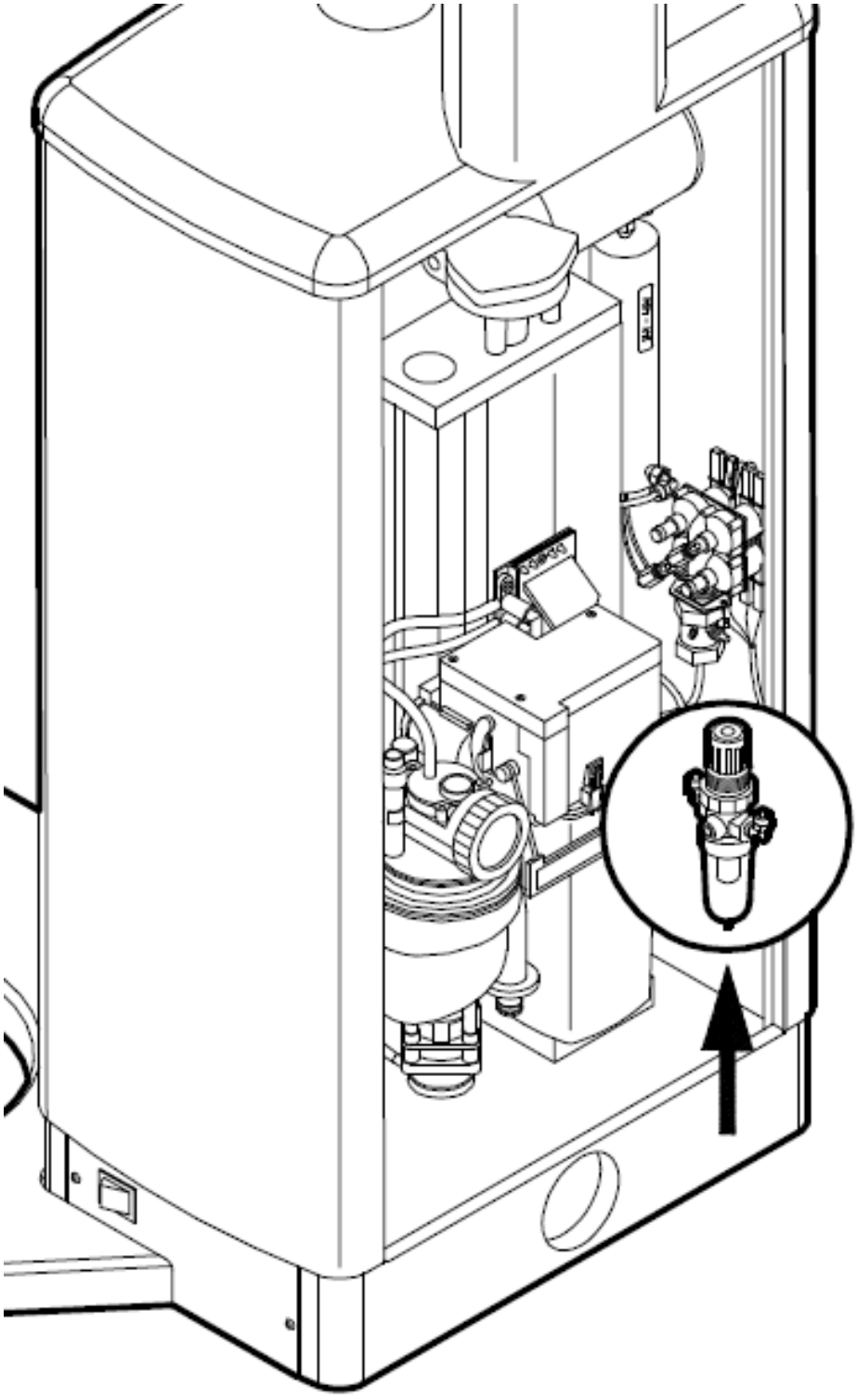
SCHEDULED MAINTENANCE			
Activity	**Frequency**	**By whom?**	**Note/references**
Bleeding air filter	Weekly	Trained operator	
Instrument lubrication	According to the instrument manufacturer's instructions	Trained operator	
Suction system check and cleaning	Monthly	Authorised technician	Recommended
Aspiration tube replacement	Annually	Authorised technician	
Disinfect separate distilled water container for instrument supply	Monthly	Trained operator	
Replace the main unit water filter	Annually	Authorised technician	
Check the instrument water filter	Annually	Authorised technician	
Replace amalgam tank	When indicated by separator	Trained operator	According to the instrument manufacturer's instructions
Replace disinfection system disinfectant cartridge	When indicated by the disinfection system	Trained operator	According to the instrument manufacturer's instructions
General functional checks	Yearly or after 8000 operating hours	Authorised technician	
Periodic safety/performance checks – IEC 62353	Two years	Authorised technician	Mandatory by law

6.3.1. BLEEDING AIR FILTER

Dental Unit is supplied with an air filter device.

Any moisture can be seen in the air filter cup by pushing upwards the needle valve located on the bottom, as shown in figure.





Note:

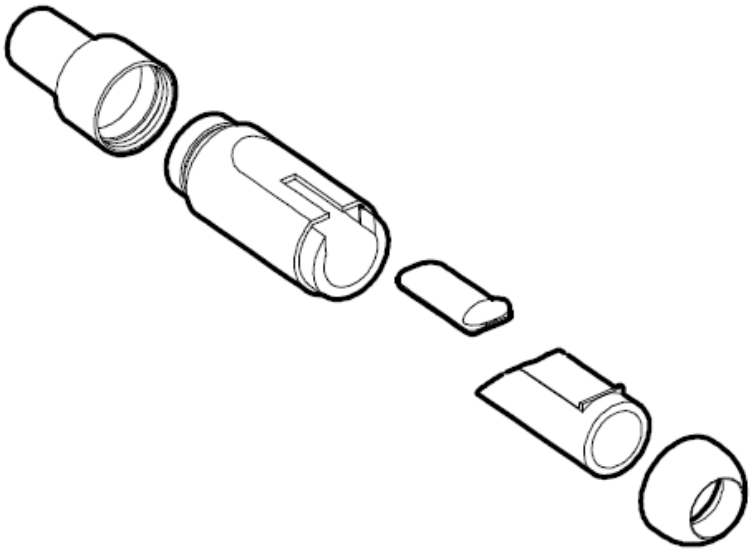
Check for condense moisture weekly.

6.3.2. SUCTUION DEVICE SYSTEM

Note:

Every 30 days of is strongly recommend a complete check suction device system and make sure that it works correctly. This check must be performed by an authorised technician.

All the parts of the suction handpiece are simple to disassemble (see Figure 19CT) for disinfection and cold sterilization.



Note:

Is strongly recommend replace the suction tubes, as well as the suction handpieces once in a year or early

6.3.3. CLEAN SPRAY DISINFECTION

Note:

We do not recommend keep distilled water in the bottle for long periods. This might create a dangerous bacteria.

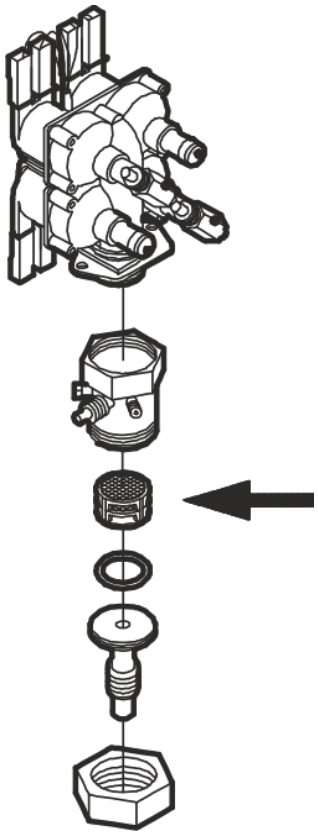
Note:

Check and clean the bottle of Clean Spray often. if deteriorated or deformed, replace it with an original OMS bottle.

6.3.4. MAIN UNIT WATER FILTER

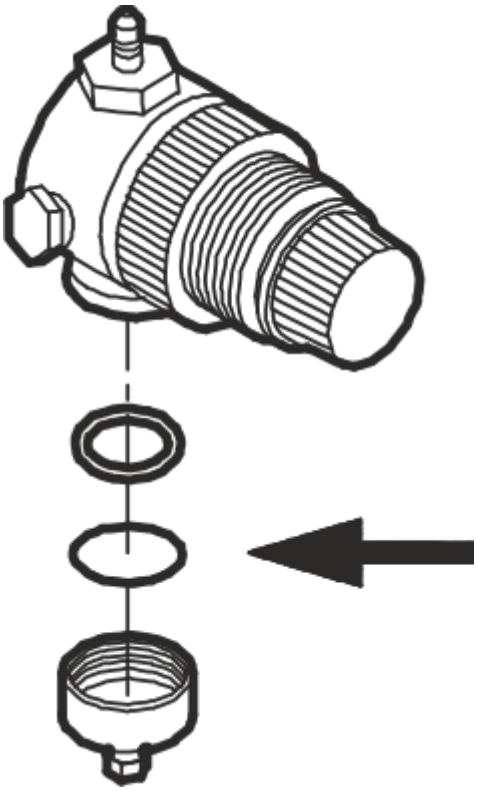
Note:

Check the water filter often and replace it once in a year or early



6.3.5. INSTRUMENT WATER FILTER

Check the water filter often and replace it once in a year or early



Note:

Check the water filter often and replace it once in a year or early

6.3.6. FUNCTIONAL SAFETY CHECKS

To guarantee the dental unit's proper operation, the unit must be checked by a qualified OMS services technician according to the maintenance schedule, CARE KIT has to be performed once in the year.

Medical devices are built to ensure safety even in the event of first failure for the patient, the operator or third parties, must follow the periodically checks, the level of effective safety.

CAUTION

It is mandatory perform periodic safety tests and checks at least every two years in order to avoid any electrical failures (e.g. damaged insulation), which may reduce the initial safety level

Such checks must be done by a OMS authorized technician, with appropriate tools and equipment and according to well-defined standards; The IEC 62353 standard is the benchmark for the control of electro-medical devices manufactured in accordance with IEC 60601-1.

Periodic tests and checks shall include visual checks, measurements of ground connections and dispersed currents; The results and measured values are necessarily recorded on specific forms and must be stored in order to demonstrate the maintenance of the appliance (complete with its accessories) in time, and to monitor the safety level of the device.

- Following the first commissioning (installation),
- After repair or maintenance work,
- During periodic checks.

DANGER

The use of the dental unit and chair is permitted only if all safety checks have been successful past.

6.4. EXTRAORDINARY MAINTENANCE

Some extraordinary maintenance operations are described below; we recommend that all must be done by authorized technicians O.M.S.

O.M.S. will provide on request all wiring diagrams, list of components, descriptions, calibration instructions, or other information that assist the authorized technicians O.M.S. in the repair of the device.

EXTRAORDINARY MAINTENANCE			
Activity	**Frequency**	**By whom?**	**Note/references**
Fuse replacement	When necessary	Authorised technician	Refer to technical documentation
Work due to malfunctions, faults or downtime	When necessary	Authorised technician	Refer to technical documentation

6.4.1. FUSE REPLACEMENT

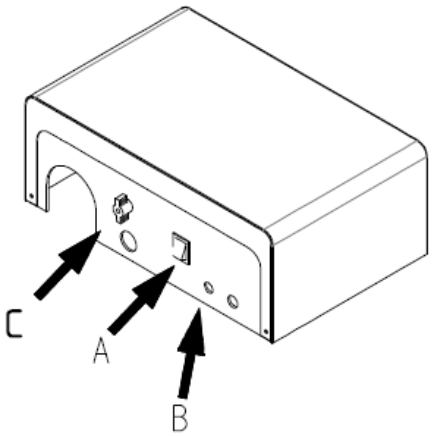
DANGER

Before to replace a fuse, is needed find the reason it is blown up, replace the fuse just when the problem has been fixed. The new fuse has to be the technical features as the replaced one, indicated on the electrical diagram of the dental unit.

CAUTION

Before to replace a fuse, is needed find the reason it is blown up, replace the fuse just when the problem has been fixed. The new fuse has to be the technical features as the replaced one, indicated on the electrical diagram of the dental unit.

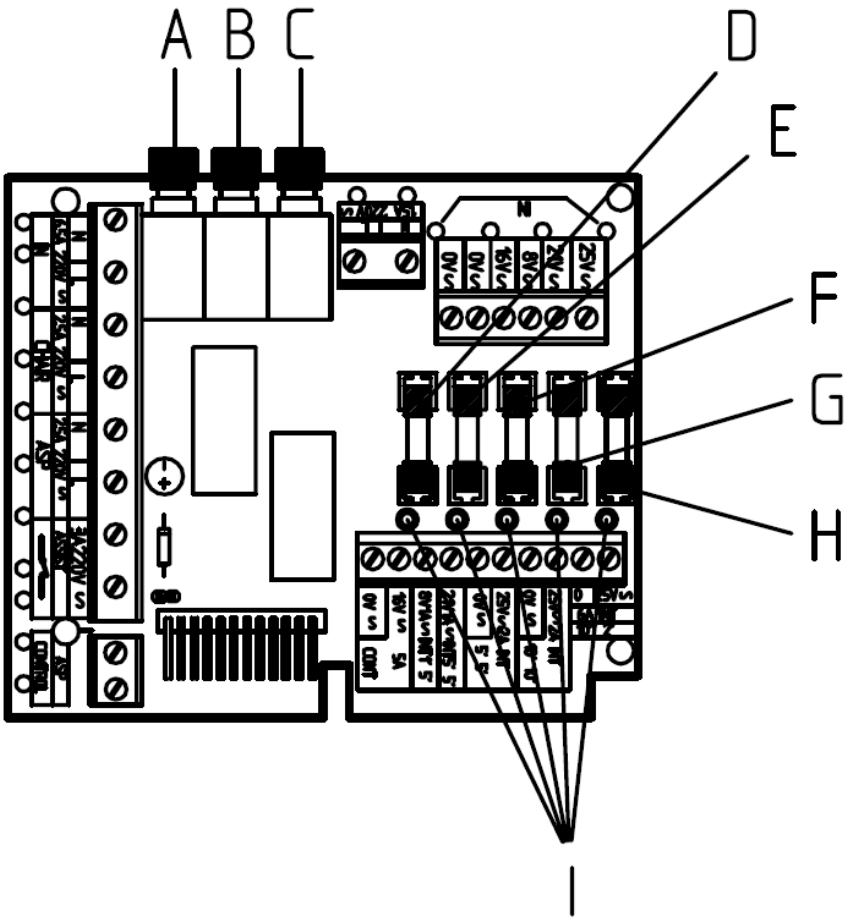
The general protection fuse can be easily found at the bottom of the column or chair (B in figure), can be easily replaced using a screwdriver; before replacement, make sure the main switch (A in figure) is off.



The transformer is located inside the junction box (at the base of the chair), on the bottom of PCB. The replacement of the fuses must be carried out by an O.M.S. authorised engineer.

Below is an indicative list of the values of the main fuses installed in the equipment:

A. General T.6.3 AT, 230 Vac



A. Patient chair motors 5AT, 230 Vac

B. Suction 5AT, 230Vac

C. Dental unit 2.5AT, 230Vac

D. Lamp 5AT, 17 Vac, 14.3 Vac

E. Free

F. Backrest motor 5AT, 24Vac (Only for version with floor spittoon unit)

G. Spittoon unit 4AT, 24 Vac

H. General board 6.3AT, 24Vac

Spare fuses supplied by O.M.S. are packed in the accessory box.

DANGER

Fuses should only be replaced by an authorized O.M.S. technician.

7. TECHNICAL INSTRUCTIONS FOR INSTALLATION

7.1. PACKAGING

Note:

Each box has a mark showing, the order confirmation number, the device model.

Note:

If an O.M.S. stool has been ordered, this will be packed separately

7.1.1. LINEA ESSE WITH CUSPISOR CONNECTED TO THE CHAIR.

The device is shipped in 3 boxes that contain:

Box 1: Spittoon unit, foot control, accessory box, documentation, assistant table arm, lamp*, lamp arm*,

Box 2: doctor console

Box 3: Chair

(*) Only included where specifically requested at the time of order.

7.1.2. ESSE PLUS WITH FLOOR CUSPISOR

The device is shipped in 2 boxes that contain:

Box 1: Spittoon unit, foot control, accessory box, documentation, assistant table arm, chair, lamp*, lamp arm*,

Box 2: doctor console

(*) Only included where specifically requested at the time of order.

7.2. INSTALLATION

7.2.1. VERSION WITH CUSPISOR CONNECTED TO THE CHAIR.

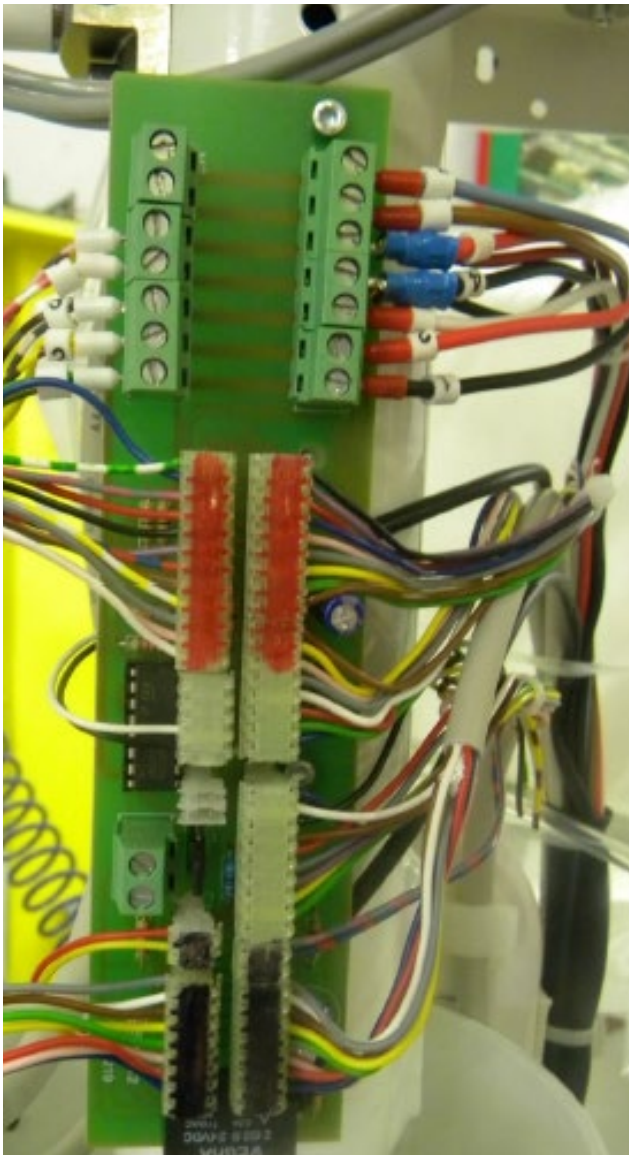
1. Remove the equipment from its packaging;

2. Install the chair, fix the seat, headrest and armrest if available. Fix the chair to the floor with the two expansion bolts supplied;

3. Lift the cuspidor, fixing it to the chair with the supplied screws, it may be better do not remove the packaging until the unit is fixed to the chair.

4. Open the cover of the cuspidor, and place the instrument arm with small rotating movements.

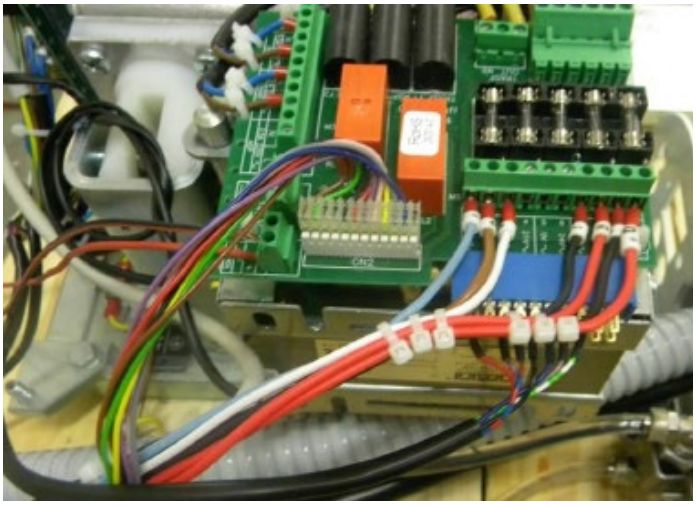
5. Connect the doctor console and cuspidor. Make sure that "Panduit" connectors are correct installed to the numbers of the wires.



6. Remove the packaging from the doctor console and install accessories.

7. Connect transformer and dental unit to the junction box, make sure that the numbers of wires are correctly connected. Make sure that “Panduit" connector correctly.

8. Finally, connect the foot control to the transformer, make sure, blue connector is with the wires downwards.



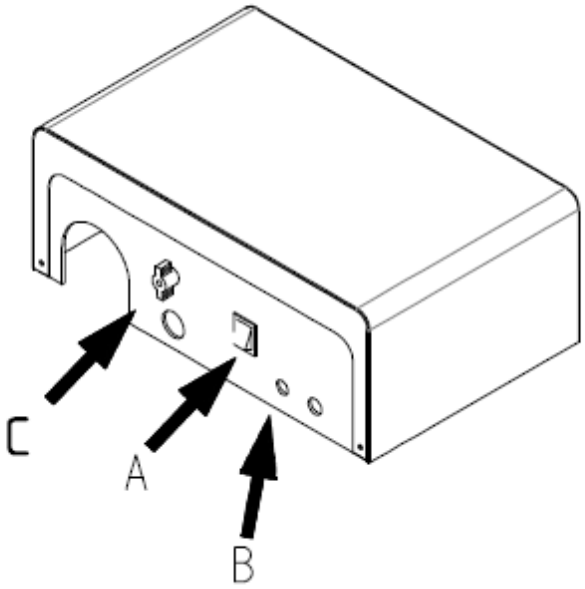
9. If the lamp is to be connected to the dental unit, the lamp stem must be fixed in the relative housing. The two fixing screws are already in the spittoon unit.

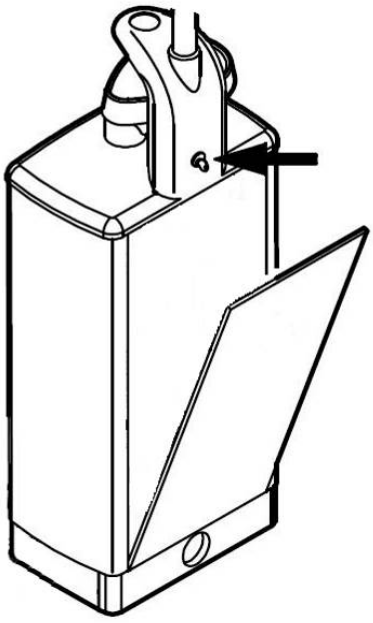
Note:

Refer to the wiring and installation diagrams provided for all electrical connections.

7.2.1. ESSE PLUS WITH FLOOR CUSPISOR

1. Remove the equipment from its packaging;
2. Place the column close the chair, fix both together following the installation plan;
3. Adjust the base of the chair and use the sprit level to make to ensure the chair is perfectly horizontal;
4. Connect the patient chair to the cuspidor make sure that there's no "gaps" to avoid vibration, fix the chair to the floor with the two expansion bolts supplied;
5. Connect cables and place back the cover that has been previously removed;
6. Install the upholstery seat and fix it with the 4 screws supplied;
7. Take off the cuspidor door and make the plumber connections;
8. If available install the monitor, and connect electrically together with its power supply;
9. Install the operating lamp and connect it to the cuspidor PCB.
10. Connect the grounding cables to the screw identified by the grounding symbol.
11. Following the electrical diagrams to connect the suction pump (see the wiring diagram),
12. Connect the water and air pipes, as well as electrical system. Inlet power must be connected only to its connector inside the floor box, while all the other connections can be done either inside junction box or inside cuspidor unit.





ATTENZIONE

Make sure that the water tube is far away from the lift motor.

13. Take off the cover from junction box, remove the knob from the water tap (C in the figure) connect the water and air suction and drain.

14. Connect the inlet power and suction cables inside junction box, connect also cables from cuspidor unit and the transformer PCB,

Note:

Refer to the wiring and installation diagrams

7.3. CONNECTIONS

Make sure that the flow of air and water is regular. O.M.S. declines any and all responsibility for damage for non-compliance with the warning below:

Water supply:

The requirements for inlet water are as follows:

- Water Pressure: 3 – 4 bar
- Water flow: At least 4 l/min
- PH Values: 6.5 -8.5
- Hardness: < 8° dH

  if the water has a hardness greater than 8°dH, a water conditioner must be fitted to the water inlet pipe. Hard water can very quickly ruin a dental unit.

- The water must be of drinking quality and free of all particles larger than 5µm that could block the small tubes in the dental units.
- 6x8 diameter tube (see paragraph 2 TECHNICAL SPECIFICATIONS).

Pneumatic supply:

- Air Pressure: 5.5 – 9 bar
- Air Flown: 55 l/min
- Compressed air, with air dryer to ensure that air is clean, dry and oil-free,
- 4x6 diameter tube (see paragraph 2 TECHNICAL SPECIFICATIONS).

Note:

Refer to the wiring and installation diagrams provided for electrical connections.

7.4. POST INSTALLATION CHECK OPERATION

Note:

During post installation check, make sure that mechanical stability, like floor attachment screws, cuspidor and doctor arm assembly, attachment screws must be checked, while movements are done (assistant arm, light, cuspidor, etc.). If the chair cannot be fastened to the floor, stabilizer elements are available.

- ❑ Check the main and water connections pipes.
- ❑ Check the drain and suction connections pipes.
- ❑ Check the main voltage and grounding connections.
- ❑ Adjust the internal air and water pressure if needed.
- ❑ Check the rinsing bowl and cup fill flown.
- ❑ Check the operation of the suction system.
- ❑ Check the operation of the foot control.
- ❑ Check the operation of the safety switches.
- ❑ Check the friction of the arms joint, adjust if needed,
- ❑ Check the function of all keyboard buttons.
- ❑ Check the operation of turbine.
- ❑ Check the operation of micromotor.
- ❑ Check the operation curing lamp.
- ❑ Check the operation Scaler.
- ❑ Visually check the condition of the chair and upholstery.
- ❑ Check the programming function and general operation.
- ❑ Check the operation of the emergency switches and backrest safety
- ❑ Check the operation of the headrest locking mechanism.

Note:

The equipment is equipped with a general water tap. During use, the tap should be open. At the end of the work day, the tap should be closed or, alternatively, close the unit's general supply tap in the surgery.

8. INFORMATION RELATING TO ELECTROMAGNETIC COMPATIBILITY IN ACCORDANCE WITH IEC 600601-1-2

The device is designed and manufactured in compliance with the standard CEI en 60601-1-2 (Electro-medical apparatus, collateral standard: electromagnetic compatibility) and therefore has a degree of immunity and emissions such as not to create dangerous interference with devices complying with the same norm. Warning: Interference with electrical equipment that has a level of emission or immunity that does not conform to CEI en 60601-1-2 may occur. In such cases, these equipment should not be used at the same time with O.M.S. equipment; If the device is in a stalemate due to such interference, it is sufficient to turn it off and on again.

In the presence of particular holes in the supply voltage, it is possible that the micromotor has a momentary drop in speed that does not affect the safety and performance of the same, the duration of the event is limited to the duration of the voltage drop.

Manufacturer's Guide and declaration – Electromagnetic emissions		
The device is intended to work in the electromagnetic environment below specified. The customer or user of the device must ensure that it is used in this environment.		
Emission test	**Complience**	**Electromagnetic Environment-Guide**
Emission RF CISPR 11	Gruop 1	The device uses RF energy only for its internal operation. As a result, its RF emissions are very low and probably does not cause any interference in the electronic devices located nearby.
Emission RF CISPR 11	Class B	The device is suitable for use in all environments, including domestic ones and those connected directly to a low-voltage public network power supply that feeds buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Fluctuations voltage emissions /flicker IEC 61000-3-3	In complience	

Manufacturer's Guide and declaration – Electromagnetic immunity			
The device is intended to work in the electromagnetic environment below specified. The customer or user of the device must ensure that it is used in this environment.			
Immunity test	**Test level IEC 60601**	**Level of Compliance**	**Electromagnetic Environment-Guide**
Electrostatic discharge (ESD) IEC 61000-4-2	contact ± 6 kV air ± 8 kV	± 6 kV ± 8 kV	The floors must be in wood, concrete or ceramic tiles. If the floors are covered with synthetic material, the relative humidity should be at least 30%.
Transients/rapid electrical pulse sequence *(Burst)* IEC 61000-4-4	± 2 kV For power lines ± 1 kV For input/output lines	± 2 kV ± 1 kV	The quality of the main voltage should be that of a typical commercial or hospital environment.
Surge *(Surge)* IEC 61000-4-5	± 1 kV between the phases ± 2 kV between phases and ground	± 1 kV ± 2 kV	The quality of the mains voltage should be that of a typical commercial or hospital environment
Voltage gaps, short interruptions and voltage variations on the input lines dell'alimentazione	<5 % U_T (>95 % hole in U_T per 0.5 cycle)	<5 % U_T 0.5 cycle (10mS)	The quality of the mains voltage should be that of a typical commercial or hospital environment. If the user of the device requires continuous operation during the interruption of the mains voltage, it is recommended to power the device with a UPS or with batteries.

IEC 61000-4-11	40 % U_T (60 % hole in U_T per 5 cicli) 70 % U_T (30 % hole in U_T per 20 cicli) <5 % U_T (>95 % hole in U_T per 5S)	40 % U_T 5 cycle (100mS) 70 % U_T 20 cycle (500mS) <5 % U_T 5S	
magnetic field at Network frequency (50/60 Hz) IEC 61000-4-8	3 A/m	3 A/m	The magnetic fields at network frequency should have characteristic levels of a typical locality in a environment such as commercial or hospital.
NOTE: U_T is the network tention in c.a. before the application of test level.			

Manufacturer's Guide and declaration – Electromagnetic immunity			
The device is intended to work in the electromagnetic environment below specified. The customer or the user of the device must ensure that it is used in this environment.			
Immunity test	**Level test IEC 60601**	**Level of Compliance**	**Electromagnetic Environment-Guide**
			Portable and mobile RF communication equipment should not be used near any part of the device including cables, the recommended separation distance calculated with the equation applicable to the frequency of the transmitter. Recommended Distance Separation: *d = 1,17 √P* *d = 1,17 √P* from 80 MHz to 800 MHz *d = 2,34 √P* from 800 MHz to 2,5 GHz
RF conduct IEC 61000-4-6	3 Veff from 150 kHz to 80 MHz	3 V	where P is the maximum rated output power of the transmitter in Watts (W) according to the manufacturer of the transmitter and D is the recommended separation distance, in meters (m).
RF irradiata IEC 61000-4-3	3 V/m from 80 MHz to 2,5 GHz	3 V/m	The field intensities of fixed RF transmitters, as determined by an electromagnetic investigation on site A should be below the level of compliance for each frequency range B. Interference may occur near devices marked with the following symbol:

Note 1: At 80 MHz and 800 MHz, the separation distance for the highest frequency range applies.

Note 2: These guidelines are not applicable in all situations. Electromagnetic propagation is influenced by the absorption and reflection of structures, objects and people.

a The intensities fiels for stationary transmitters, such as the base stations for radio telephones (cellular and cordless) and terrestrial radiomobiles, radioamateur devices, transmitters in AM/FM and TV transmitters can not be foreseen theoretically with precision. An electromagnetic survey of the site should be considered to evaluate an electromagnetic environment caused by fixed RF transmitters. If the field strength measured in the place do to the device is used exceeds the applicable level of compliance above, the operation of the device should be observed. If you notice abnormal performance, additional measures may be required as a different orientation or position of the device

b The field strength in the frequency range from 150 khz to 80 MHz should be less than 3 V/M

Recommended distances separation between portable and mobile radiocommunication devices.

The device is intended to operate in a environment electromagnetic space where RF radiated disturbances are under control. The customer or the user of the device can help prevent electromagnetic interference by ensuring a minimum distance between mobile and portable RF communication devices (transmitters) and the device as recommended, in relation to the maximum output power of the radio equipment.

Maximum output power of the specified transmitter **W**	**Separation distance for transmitter frequency** **m**		
	From 150 kHz a to MHz *d = 1,17 √P*	**from 80 MHz to 800 MHz** *d = 1,17 √P*	**from 800 MHz to 2,5 GHz** *d = 2,34 √P*
0,01	0,12	0,12	0,24
0,1	0,37	0,37	0,74
1	1,17	1,17	2,34
10	3,70	3,70	7,40
100	11,70	11,70	23,40

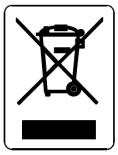
For the transmitters specified for maximum output power not shown above, the recommended separation distance d in meters (m) can be calculated using the equation applicable to the frequency of the transmitter, where p is the maximum rated output power of the transmitter in Watts (W) according to the manufacturer of the transmitter

NOTE 1: to 80 MHz and 800 MHz, applies the separation distance for the highest frequency range.

NOTE 2: These guidelines may not be applied in all situations. Electromagnetic propagation is influenced by the absorption and reflection of structures, objects and people.

9. DISPOSING OF THE DEVICE AT THE END OF LIFE

European Directives 2002/96/EC and 2003/108/EC electrical and electronic on waste equipment (RAEE).



The symbol of the crossed bin shown on the equipment or its packaging indicates that the product at the end of its useful life must be collected separately from the other waste. The user must, therefore, confer the equipment reached at the end of the life of the appropriate waste collection centres of electronic and electrotechnical, or return it to the retailer at the time of purchase of a new equipment of equivalent type, in reason of one by one.

The appropriate separate collection for the subsequent start of the equipment disposed of recycling, treatment and environmentally compatible disposal helps to avoid possible negative effects on the environment and health and promotes the reuse and/or recycling of the materials of which the equipment is composed.

10. REPORTING ACCIDENTS TO PEOPLE

Dir. 93/42/CEE All. II (D.G. 2/1 Rev. 0)

CUSTOMER NAME _____
ADDRESS _____
SERIAL NUMBER OF DEVICE _____
ACCIDENT _____
_____
_____
DAMAGE TO THE PATIENTS OR USER HEALTH _____
_____
_____
Date_____
Signature_____

Space reserved for the company (Quality assurance)
Possible cause of the accident:

- ❑ Malfunction
- ❑ deterioration of characteristics and/or performance
  Shortage of operating instructions

Other_____
Damage _____
_____
Proposed operational decisions_____
_____
Date_____
Signature_____

Space reserved for the Company (Directorate General)
Operational decisions_____
_____
_____
_____
_____
Corrective actions_____
_____
_____
_____
_____
Date_____
Signature_____

In case of an accident send the form to O.M.S.. with the maximum priority.

O.M.S. spa - Officine Meccaniche Specializzate
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