

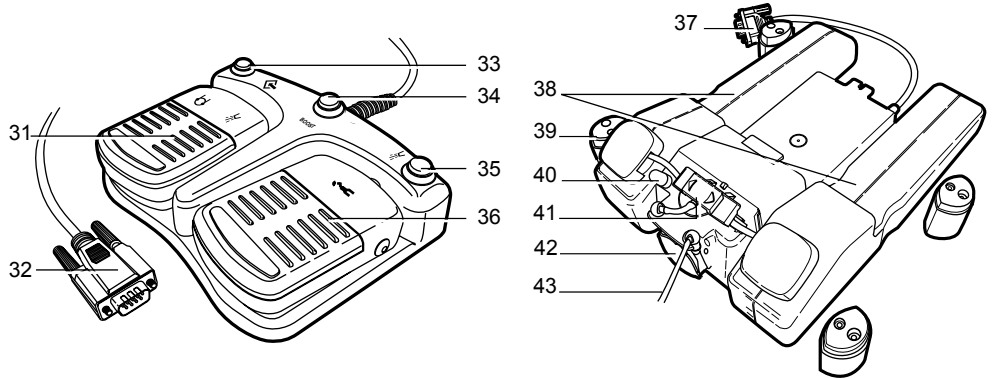
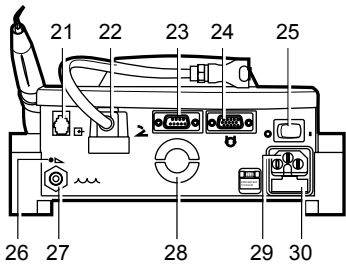
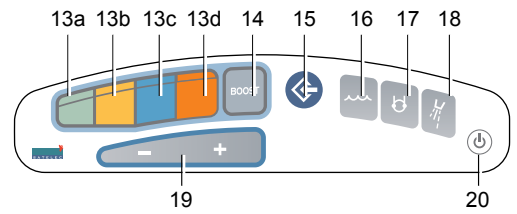
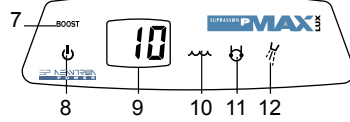
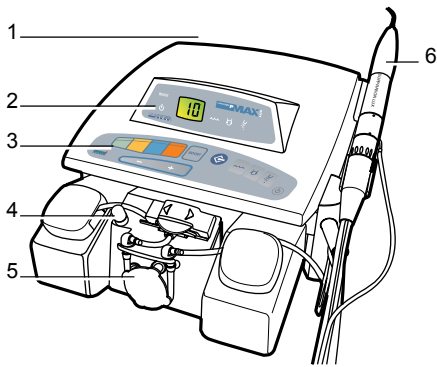


Suprasson® PMax - Suprasson® PMax Lux

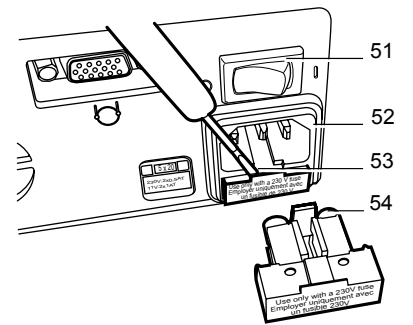
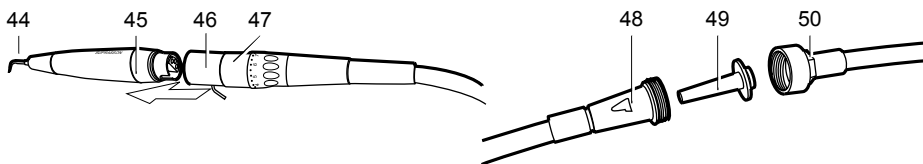
User's manual • Notice d'utilisation • Manual de uso
Benutzerhandbuch • Manuale d'uso • Handleiding voor de gebruiker



Illustrations



Illustrations



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The Suprasson® P Max is a multi-clinical piezoelectric ultrasound generator that enables treatment to be carried out in optimal aseptic and sterile conditions.

Suprasson® P Max is equipped with a Suprasson® handpiece (ultrasound).

Suprasson® P Max Lux is equipped with a Suprasson® Lux light handpiece (ultrasound).

General characteristics

- Four ultrasound power ranges, each adjustable with 10 levels.
- Color display for visual and ergonomic representation of the power.
- *Boost* function for instant selection of maximum power in the selected mode.
- Memory for each of the four power modes for easy recall of a chosen power level.
- Irrigation via the water supply with flow regulation on the handpiece connector.
- Main functions on the multifunction foot control.

The Suprasson® P Max is a multifunction device for scaling, endodontic and periodontic treatment (according to option) in sterile or aseptic conditions.

Irrigation kit

Available as an option

- Irrigation kit comprising a peristaltic pump, an irrigation line and two reservoirs for irrigation liquids.
- Independent adjustment of irrigation flow.
- Syringe effect.
- Easy manual selection of the active reservoir or complete shut-off.
- Support for using bottles or pouches of sterile solution.

Parts included

- A Suprasson® P Max or Suprasson® P Max Lux device (depending on the option)
- A mains cord

- A single or multifunction pedal foot control (depending on the option)
- Suprasson® or Suprasson® Lux handpiece depending on the version
- Tip kit depending on the sales version

General view

Refer to figure 1 on the fold-out part of the cover.

- | | |
|----------------------------|---------------------------------------|
| 1. <i>Rear panel</i> | 4. <i>Button to control pump flow</i> |
| 2. <i>Display area</i> | 5. <i>Irrigation kit</i> |
| 3. <i>Control keyboard</i> | 6. <i>Suprasson® handpiece</i> |

1. Introduction

Front panel - Display

Includes display and indicators.

7. Boost indicator

Lights when the BOOST function is activated.

8. Standby indicator

Lights when the device is in standby mode (energy saving).

9. Display

The display background color indicates:

- **power on**, the color indicator appears bluish white. Any other color signals a malfunction (see chapter "troubleshooting");
- **in use**, the color displayed (green, yellow, blue and orange) corresponds to the color code of the ultrasound power range selected.


The figures displayed indicate:

- power on, the number 88 indicates the correct operation of the segments of the display. Any other value signals a malfunction (see chapter "troubleshooting").
- In use, the ultrasound power level (1 to 10) for the range selected, controlled by the **- +** keys (Ref. 19).
- when programming:
 - the length of time of inactivity before the device enters standby mode;
 - for Suprasson® P Max Lux only, the length of time before the light is switched off on the Suprasson® Lux handpiece, when ultrasound is no longer in use.


The following figure shows an example of the display, from left to right, power on, in use (setting the ultrasound power level) and when programming (light time limit).



10. Water supply indicator

Lights when the  key is pressed (ref. 16), and indicates irrigation via the drinking water supply.

11. Irrigation kit indicator

Lights when the  key is pressed (ref. 17), and indicates irrigation via one of the two reservoirs.

12. Spray or dry mode indicator

Lights when the  key is pressed (ref. 18).

Sensitive control panel

Is set out as follows:

13. Ultrasound power range keys

Each yellow, green, blue and orange key corresponds to an ultrasound power range, from the weakest to the strongest as follows:


- Green background: low power (ref. 13a).
- Yellow background: intermediate power (ref. 13b).
- Blue background: high power (ref. 13c).
- Orange background: very high power (ref. 13d).

The range selected:

- a reminder is given by the color of the display backlighting.
- Is programmed in the factory at level 5 except for the orange key which is programmed at level 1 and uses irrigation from the water supply.

The range may also be selected with the multifunction foot control (see chapter on the multifunction foot control pedal).


14. Boost

Applies the power (value 10) of the selected range; the  lights up. A second press on the key exits the mode. This mode can also be accessed from the multifunction foot control (cannot be memorized and use must be occasional).


15. Memory key

Memorizes a power level for each of the four power ranges, with the exception of switching on irrigation and Boost.

16. Water supply key

Pressing this key selects drinking water (water supply) as the irrigation solution. The indicator lights up. Irrigation will only take place after the spray or dry  key (ref. 18) is pressed; the rate of flow may be set via the handpiece connector. The two keys 16 and 17 are mutually exclusive and may be memorized.

17. Irrigation kit key

Pressing this key selects the irrigation kit (optional). Irrigation will only take place after the spray or dry  key (ref. 18) is pressed.

The rate of flow may be adjusted via the control knob on the pump. The two keys 16 and 17 are mutually exclusive and may be memorized.

18. Spray or dry key

Switches irrigation on after keys 16 or 17 have been selected. The indicator (ref 12) lights up. A second press turns irrigation off.

19. The **- +** keys

Reduce (**-** key) or increase (**+** key) ultrasound power in the selected range. The values go from 1 to 10.

20. Button to enter or leave standby mode

This button is mainly used for leaving standby mode. The initialization sequence is started. *Only this button can be used to leave standby mode.*

1. Introduction

This button can also be used to put the device into standby mode, but the device goes into standby automatically after a set time (see § *Setting the standby delay of the device*).

Rear panel

Is set out as follows:

21. Team Up connector (optional)

Connection to an electro-analgesia device used during prophylactic treatment.

22. Compressed air supply (Suprasson® P Max Lux)

A rapid disconnection system with an automatic valve enables it to be connected to the compressed air supply.

23. Foot control connector

Connection for the single or multifunction foot control pedal.

24. Irrigation kit connector

Refer to kit instructions for details.

25. On/off button (O/I)

26. Air pressure adjustment (Suprasson® P Max Lux)

Adjustment is automatic via a pressure regulator integrated into the device.

27. Drinking water supply connector

Its rapid disconnection system with an automatic valve enables it to be connected to the supply. A removable filter is located on the water inlet pipe.

28. Fan

Do not obstruct the fan at the risk of causing severe damage to the device.

29. Power socket

Connection to mains electricity is by a standard connector conforming to IEC 60-320.

30. Fuse housing

Contains the device's fuses.

Suprasson® and Suprasson® Lux handpieces

Refer to the relevant instructions.

Multifunction foot control

31. Left pedal

Activates rinsing without ultrasound. When the irrigation kit is available, pressing the pedal initiates rinsing (syringe effect - with a flow rate of about 120 ml/min).

32. Connector

Connection of the device.

33. Range of functions

Each press selects one of the four power modes. The ultrasound power setting used will be the one memorized, or by default the factory setting, (the mid position value of 5, except for the top range which is set to 1). Check the display to view the function selected.

34. Boost

See notes relating to the key (ref. 14).

35. Irrigation

Irrigation selection on/off (ref. 18).

36. Right pedal

- Ultrasound function selected: activates ultrasound and associated functions that have been previously selected.

Irrigation kit

It is fixed underneath the unit (ref. 39).

The pump (ref. 42) sends (ref. 43) the contents of the selected reservoir (ref. 38 and 41) to the Suprasson® handpiece (ref. 6) fitted with the Sterijoint.

It is possible to regulate the flow by turning the limiter located above the pump motor (ref. 40).

The selector (ref. 41) is used as follows:

- selector to the left : left reservoir.
- selector to the right: right reservoir.
- selector in the center: both reservoirs closed.

The two reservoirs (ref. 38) are independent and are fixed on either side of the pump. They can be sterilized in an autoclave.

The connector (ref. 37) links the irrigation kit to the device.

2. Installation

Recommendations

For your safety, connections (water, air and electricity) should be carried out by an approved installer of dental equipment. The device requires the following connections (see technical specifications chapter).

Carry out the connection to the drinking water supply using an automatic cutoff valve of the *Aquastop* type, or to the dental chair water supply.

Caution: always turn off the water supply when you leave the dental practice.

Setting up the equipment

- Position the device in the place where it is going to be used.
- Connect the foot control (rep 32) to the connector on the device (rep 23).
- Connect the optional equipment (*Team Up* ref. 21, irrigation kit ref. 24).
- Connect the water supply pipe with its filter to the connector located at the rear of the device (ref. 27).
- Connect the air supply pipe to the rear of the device (ref. 22) for *Suprasson® P Max Lux*.
- Plug in the power socket (ref. 29)
- Open the supply taps (water-air).

3. Starting and stopping the device


This device should only be used by professionals (dental practitioners and hygienists). Before being used for the first time it is:

- Imperative to clean, disinfect using alcohol or disinfectant dental wipes and/or sterilize the accessories (casing of the device, handpiece, tips, keys, etc.).
- Recommended that the accessories should be plugged in and the spray operated for a few minutes to rinse the device's internal water circuits.


Important: It is imperative that the water supply is turned off when leaving the dental practice.

Switching on the power

1. **Set the power switch to the on position (I) (rep. 25).**

The device automatically goes into standby mode: the green indicator  (ref. 8) on the front lights up. The device is in energy saving mode.

To operate

1. **Press the  (rep 20) key on the front of the device**

The initialization phase lasting a few seconds is launched. The information displayed is as follows (any other values indicate malfunction):



- Display: the figure 88 is displayed.
- Background color of the display: bluish-white.
- Indicators: they all light up.

At the end of the initialization phase, the display will show one of the following:

- By default, low power mode is at level 5 on a green background, no irrigation, water supply selected, light out in three seconds, (Suprasson® P Max Lux), enters standby mode automatically after nine minutes.
- Or the last configuration used.



The device is ready to use.

Entering standby mode

1. **Press the  (rep 20) key.**
 - The front panel goes out.
 - The device is in energy saving mode.
 - The  (rep. 8) indicator lights up.

Reminder: the device enters standby mode on its own after a predetermined time. See § *Setting the device's standby delay*.

Leaving standby mode



1. **Press the  key (rep. 20).**
The  (rep. 8) indicator goes out and the device returns to the configuration being used before entering standby.

Changing the delays

Delays refer to the time the light in the Suprasson® Lux handpiece stays on after ultrasound has been used, and the time taken before the device goes into standby mode after a period of inactivity.

Delay before the light goes out

This function only applies to the Suprasson® P Max Lux. It specifies the length of time before the light goes out after ultrasound has been used (three seconds by default). To change this setting:



1. **Put the device into standby ( key).**
2. **Press the boost and yellow keys together, then the  key while keeping the other keys depressed.**

The display will indicate "L" (Light) followed by a figure giving the current time delay in seconds.

3. **Release the keys.**
4. **Set the time with the + or - keys.**
The length of time can be set from 0 (L-) to nine seconds (L9). The new value comes into effect when the device is restarted.
Therefore a light out time delay of 7 seconds will be displayed at "L7".

Delay before the device enters standby mode

This setting specifies the length of time before the device enters standby mode. To change this setting:

1. **Put the device into standby ( key).**
2. **Press the yellow and blue keys together, then the  key, while keeping the other keys depressed.**
The display will indicate "A" (Stop) followed by a figure giving the current time delay in minutes.
3. **Release the keys.**
4. **Set the time with the + or - keys.**
The length of time can be set from no standby to 15 minutes. The new value comes into effect when the device is restarted.

"AC" indicates that standby mode will be activated after 12 minutes. The table below shows the value displayed according to the desired time delay in minutes.

Display	min	Display	min
A-	0 (*)	A8	8
A1	1	A9	9
A2	2	AA	10
A3	3	AB	11
A4	4	AC	12
A5	5	AD	13
A6	6	AE	14
A7	7	AF	15

(*) 0 = no standby

Switching off the device

1. **Set the on/off switch to the 0 position.**

4. Using ultrasound mode

Choosing the ultrasound power range

1. Select a power range by pressing one of the four keys (green, yellow, blue, orange) (ref. 13) on the control panel:
By default the display indicates the color of the range selected at power setting 5 (1 for high power) and irrigation from the water supply.
Reminder: the ultrasound power range may be selected with the multifunction foot control.

Setting ultrasound power

Incremental setting

1. Press the **+** key to increase ultrasound power or the **-** key to decrease it from 1 to 10, by steps of 1.

Setting the power to maximum (BOOST)

1. Press the **BOOST** key on the front of the unit (ref. 14) or the multifunction foot control (ref. 34) to set the power to maximum.
The indicator lights up (ref. 7) and the display indicates the value of 10 in the selected range.
To exit *Boost* mode, press the key on the front of the unit or press the multifunction foot control once more, or change the power range.

Spray or dry

1. Press the **⚡** key on the face of the unit. (ref. 18) or the multifunction foot control (ref. 35) to activate irrigation.
 - In water supply mode, controlling the water flow is via the connector ring on the Suprasson® handpiece (ref. 47).
 - In irrigation kit mode, controlling the water flow is via the flow limiter located on the pump (ref. 40).

Memorizing the ultrasound power level

1. Select the desired power range (ref. 13).
2. Change the power level with the **- +** keys (ref. 19).
3. Press the memory key **◆**. (ref. 15)
The power display shows "--" for one second to confirm memorization.

Recalling a level from memory

1. Press the key for the desired power range (ref. 13).
The memorized value is displayed.
Refer to the Tipbook for power settings of Satelec tips.

5. Maintenance

Cleaning and disinfecting the device

The casing of the Suprasson® P Max as well as the cords should be cleaned and disinfected every day, using alcohol or disinfectant dental wipes.

Cleaning, disinfecting and sterilization of ultrasound systems

In the rear of the handpiece an irrigation circuit waterproof o'ring (1.15x1) is accessible and visible thanks to a groove of the rear socket. This allows for easy replacement of the o'ring in the case of damage or wearing. You can replace it yourself or have it done. After a number of disconnections/connections and/or sterilizations, it is recommended to lubricate this o'ring with dental instrument quality lubricant to maintain its efficiency and avoid internal leakage.

Without an irrigation kit

Proceed as follows:

1. Separate the Suprasson® handpiece (ref. 45) from the cord (ref. 47) by pulling, without turning.
2. Unscrew the tip (ref. 44) from the Suprasson® handpiece.
3. Clean and sterilize the Suprasson® handpiece and tip after each use.

With an irrigation kit

It is imperative that all parts in contact with the solution should be carefully rinsed after treating each patient as follows:

1. Disconnect the irrigation line from the kit.
2. Immerse it in clean water.
3. Press the pedal for one minute to rinse the Sterijoint, the Suprasson® handpiece and the tip.

4. Disconnect the irrigation line from the Sterijoint, and discard.
5. Disconnect the Sterijoint unit (ref. 46), Suprasson® handpiece (ref. 47) and tip (ref. 44) from the cord.
6. Take out and empty the reservoirs.
7. Disinfect them.
8. Sterilize the reservoirs and the Sterijoint in an autoclave.
9. Clean the motor and peristaltic pump with alcohol every day.

Cleaning the filters

The water filter

Cleaning the water filter must be done in relation to the hardness index of the water.

1. Shut off the water at the tap on the water supply side and purge the circuit.
2. Set the on/off button to the "O" position and unplug the mains lead.
3. Unscrew the two parts of the filter (ref. 48 and 50) using two 10mm open-ended spanners.
4. Extract and replace the cartridge (ref. 49).
5. Reassemble by reversing the operation, retightening the two parts of the filter (ref. 48 and 50).

Air filter

Refer to water filter section above.

Replacing the fuses

Proceed as follows:

1. Set the on/off button to the "O" position (ref. 51) and unplug the mains lead (ref. 52).
2. Insert the end of a screwdriver (ref. 53) in the slot to open the protective cover.
3. Replace the fuses (ref. 54) with fuses of the same type and value.
4. Push the fuse holder back into its housing.

Fan

1. Check regularly that the fan is free from dust.
2. Clean if necessary by gentle blowing after having disconnected the mains supply.

6. Troubleshooting

Fault	Possible cause	Solution
Does not operate. (general)	Unplugged or defective mains cord.	Check and/or replace the mains cord.
	Fuses blown.	Replace the fuses.
	Defective wall power outlet.	Contact your electrician.
	Device switched off (0).	Set the switch to the on position (I).
	Foot control disconnected and/or defective.	Check and/or replace the foot control.
No water but ultrasound working.	No water in the water supply.	Contact your approved installer.
	Water inlet pipe not connected.	Connect the water inlet.
	Incorrect spray setting.	Adjust the setting.
	Handpiece and/or tip blocked.	Disconnect the handpiece and check if water is coming out of the cord: <ul style="list-style-type: none"> - if not, return the device to Satelec After Sales Service; - if it is, unscrew the tip from the handpiece, using the syringe blow air through the tip and the handpiece. If the problem persists, return to Satelec After Sales Service.
Water not atomized by the ultrasound.	Unsuitable treatment or tip, or selected ultrasound power too low.	Change the treatment or tip or adjust the ultrasound.
	Tip not tightened correctly.	Re-tighten the tip.
	Bent or worn tip.	Replace the tip.
	Incorrect use of the handpiece and/or the tip.	Refer to the instructions.
	Faulty contact between the handpiece and its connector.	Push the handpiece into the connector more firmly, without turning it.
	Water present in the handpiece connector.	Dry the connector. Where there are black marks between the pins of the connector and/or the contacts of the handpiece, return to Satelec After Sales Service.
Ultrasound too strong or too weak.	Power not set correctly in relation to treatment.	Adjust the power (see instructions).
	Tip not tightened correctly.	Re-tighten the tip.
	Bent or worn tip.	Replace the tip.
	Incorrect use of the handpiece and/or tip.	Refer to the instructions.

6. Troubleshooting

Fault	Possible Cause	Solution
No ultrasound	Tip not tightened correctly.	Re-tighten the tip.
	Defective handpiece.	Replace the handpiece.
	Oxidization and/or black marks on the pins of the connector.	Clean the contacts or replace the cord or return to Satelec After Sales Service.
	Cord cut.	Replace the cord or return to Satelec After Sales Service.
Water leaking from the handpiece connector.	Worn handpiece o'ring.	Replace the o'ring.
Leaking from the end of the tip, pedal released.	Dirt in the water circuit (electric valve blocked open)	Clean the circuit and electric valve (check the electric valve is working properly) or return to Satelec After Sales Service.
No light with the Lux handpiece.	Blown bulb.	Replace the bulb.
	Incorrect use or setting of the mode.	Refer to the instructions.
	Electrical problem.	Return to Satelec After Sales Service.
Overheating of the Lux handpiece.	No air in the supply.	Contact your approved installer.
	Air inlet pipe not connected.	Connect the air inlet.
Energy saving mode not working properly.	Incorrect use or setting of the mode.	Refer to the instructions.
	Exiting from energy saving mode not possible.	Return to Satelec After Sales Service.
	Adjustment impossible.	Return to Satelec After Sales Service.

7. Technical specification

Electrical

Class 1 type BF device

Intermittent duty 10 min / 5 min

Information display: LCD digital display with colored backlighting.

Option selection: press buttons.

Halogen bulb: 3.5 V / 750 mA / 15 000 lux (Suprasson® P Max Lux only)

Light out delay: can be set between 0 and 9 seconds (Lux version only)

Mains power supply

- 110 to 150 V AC, 50/60 Hz
- 230 to 260 V AC, 50/60 Hz

Fuse protection: dimensions 5x20 mm, 0.5 A (230 V) or 1 A (115 V).

Power consumption: 55 VA

Insulation: 4kV (1 ms)

Factory configuration:

- Power 5 in all ranges
- Light out delay: after 3 mins (Suprasson® P Max Lux only)
- Standby: after 9 mins

Manufactured in accordance with current legislation

CEM: conforms to the general IEC 601-1 (= EN 60601-1) standard

Retention of the memorized configuration: 10 years at +25 °C

Mechanical

Water pressure at inlet: 1 to 5 bar (14 to 72 PSI)

Air pressure at inlet (Suprasson® P Max Lux): 4.5 to 6 bar (65 to 87 PSI)

Operational

Water flow rate at exit: 0 to 120 ml/min

Frequency of vibrations: 27 to 33 kHz

Peristaltic pump: adjustable from 5 to 40 ml/min (optional)

Syringe function: rate of flow from about 120 l/min (with the peristaltic pump)

Dimensions and use

Overall dimensions:

- Width: 250mm
- Height : 110mm
- Depth: 300mm


Weight: 2.7kg

Fixing: mount on a table


Operating temperature: +10 to +40 °C / 30 to 75% RH.

Storage/transport temperature: -40 to +70 °C / 10 to 100% RH

Symbols and markings

 Alternating current

 Type BF device

 Warning, please refer to the accompanying documentation.

Marking:

 0459

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