PLANMECA

Planmeca Compact™ i Classic
without delivery arm

user's manual

EN

30032906

Table of contents

1 Introduction

The Planmeca dental unit is an electrically controlled dental device that consists of a patient chair, cuspidor, suction arm, operating light and a monitor. The Planmeca dental unit is meant to be used for dental treatment by dental care professionals.

This manual describes the Planmeca dental unit and how to use it. Depending on the configuration of your dental unit, this manual may contain parts that do not apply to your dental unit. Please read this manual carefully before using the unit.

NOTE
The use of the Planmeca dental unit is allowed only under the supervision of dental care professionals.

NOTE
This manual is valid for software revision 7.12.5 or later.

NOTE
In error situations, this manual is the primary source of information.

NOTE
For information on OEM products, please refer to OEM documentation.

This Planmeca dental unit fulfils the requirements of Directives 93/42/EEC (MDD), RoHS, REACH and WEEE.

All button illustrations indicate that the button on the control panel should be pressed. Pressing a button will either switch a function on or off, depending on the original setting, or change the value.

The settings and values shown in this manual are only examples and should not be interpreted as recommended values unless otherwise stated.

2   Associated documentation

This Planmeca dental unit is delivered with the following manuals and diagrams:

- User's manual

  For dental care professionals. Describes the dental unit and its different parts as well as instructs how to operate and clean the dental unit.

- Installation manual

  For service personnel. Describes how to install the dental unit.

  NOTE

  Use the installation template (included in delivery) to position the unit correctly.

- Technical manual

  For service personnel. Gives instructions for service situations.

- Wiring diagrams (10030500)

- Pneumatic diagrams (30014222)

- User's manual for optional WEK water disinfection system

  For dental care professionals. Gives instructions for use and maintenance.

Planmeca Romexis software is delivered with the following manuals:

- Planmeca Romexis user's manual

  For dental care professionals. Describes how to monitor and control the activities as well as gather data related to dental treatments.

- Planmeca Romexis quick installation guide

  For service personnel. Describes how to install Planmeca Romexis software.

- Planmeca Romexis technical manual

  For service personnel. Gives instructions for service situations.

The Planmeca Solanna or Planmeca Solanna Vision operating light is delivered with the following manuals:

- User's manual

  For dental care professionals. Describes the operating light and instructs how to operate and clean it.

- Installation and technical manual

  For service personnel. Describes how to install the operating light to the ceiling or wall, and gives instructions for service situations.

  The operating light's installation to the dental unit is described in the dental unit's installation manual.

The intraoral X-ray unit Planmeca ProX can be installed to the Planmeca dental unit. Planmeca ProX is delivered with the following manuals:

- User's manual

  For dental/health care professionals. Describes the intraoral X-ray unit and its different parts as well as instructs how to operate and clean the X-ray unit.

- Installation manual

  For service personnel. Describes how to install the intraoral X-ray unit.

- Technical manual

  For service personnel. Gives instructions for service situations.

The Planmeca ProSensor sensor is delivered with the following manuals:

- User's manual

  For dental care professionals. Describes the sensor that is intended to be used for capturing digital intraoral X-ray images and instructs how to use it.

- Installation manual

  For service personnel. Describes how to install the sensor.

Before using surface disinfectants, upholstery disinfectants, dental unit water and waterline disinfectants, or suction disinfectants, read the disinfectant's material safety data sheet and the document *Planmeca approved disinfectants* (30007097). The document can be found in the Planmeca Material bank.

Before using an instrument, read the instrument's user's manual.

For a full list of accessories, refer to the Planmeca product price list.

3 Training

A hands-on user's training is given in connection with the installation of this device.

4   Registering your product

About this task

Before you start using your Planmeca product, you must register it to activate the warranty.

Navigate to the registration website www.planmeca.com/register/ in your Internet browser and follow the instructions on the website.

5 Annual maintenance

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

In the annual maintenance, the service technician replaces all parts specified by the maintenance kit. These include, but are not limited to, parts in contact with air, water and suction systems. In addition, the service technician checks and services all dental unit parts suspect to wear and tear in normal use. These include parts in the cuspidor, patient chair, suction arm and operating light. Also, the mechanical stability and electrical safety inspection is performed.

The default maintenance interval is 365 days.

A help message will remind you about the annual maintenance well in advance.

6 Symbols on product labels

CE 0598   Fulfils the requirements of Directive 93/42/EEC.

EAC   Certification mark of the Eurasian Customs Union.

MD   Medical Device

   Date of manufacture (Standard ISO 7000).

SGS   SGS listing marking according to US and Canadian standards (ANSI/AAMI ES60601-1 and CAN/CSA C22.2 No. 60601- 1).

   Type B applied part (Standard IEC 60417).

   Type BF applied part for specified dental instruments (Standard IEC 60417).

~   Alternating current (Standard IEC 60417)

   On/Off switch (Standard IEC 60417).

i   Consult electronic instructions for use (Standard ISO 7000-1641).

   Refer to instruction manual/booklet (Standard ISO 7010).

!   General warning (Standard ISO 7010).

   Warning, crushing hazard: hand (Standard ISO 7010).

Warning, hot surface (Standard ISO 7010).

Warning: Electricity (Standard ISO 7010).

To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

Health hazard (acc. to EC regulation no. 1272/2008).

Do not put fingers inside mechanical parts.

Strong magnet. Remove the tray mounting arm when treating patients who have a cardiac pacemaker. (Standard ISO 7010.)

IPX1   Protected against dripping water (Standard IEC 60529).

Disposable item. Do not reuse (Standard ISO 7000).

STERILE   Sterilised using steam or dry heat (Standard ISO 7000).

Separate collection for electrical and electronic equipment according to Directive 2012/19/EU (WEEE).

Protective earth (ground) (Standard IEC 60417).

Radio certification label (Japanese Radio Law).

Turn the main switch off
before servicing the unit

LBL-G-012
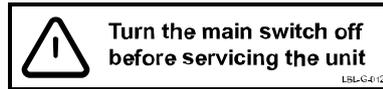
Note that the mains voltage is always present at the mains terminal under the cover, when the unit is switched on. Do NOT open the cover. (Standard IEC 60601-1.)

7 For your safety

7.1 Safety precautions

WARNING

No modification of this dental unit is allowed.

WARNING

Only instruments or equipment approved by Planmeca may be connected to this dental unit.

WARNING

Do not simultaneously touch the patient and the PC.

WARNING

Do not simultaneously touch the patient and the USB ports, or any electrical connectors of external instrument modules.

WARNING

Do not touch the patient when opening the cuspidor door or when the cuspidor door is open.

WARNING

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

WARNING

The patient must not be in contact with instruments when the patient is resuscitated with a defibrillator.

WARNING

The worm screw securing nut (1) in the chair lift motor must always be attached to the worm screw and must not be removed. If the securing nut is faulty or displaced, immediately stop using the dental unit and contact your Planmeca dealer.

CAUTION

A faulty or broken dental unit must not be used.

CAUTION

Do not perform other maintenance procedures than those instructed in this manual.

CAUTION

When servicing the unit, always switch the unit off.

CAUTION

Do not connect a multiple portable socket-outlet or extension cord to the system.

CAUTION

Guide the patient to sit on the chair. Make sure no one sits on the legrest, the backrest or any other part of the dental unit.

CAUTION

When the patient is in the chair, ensure that the patient's arms and legs are resting on the chair.

CAUTION

Do not allow the patient to grab the operating light or its arm when getting seated or getting up from the patient chair.

CAUTION

Instrument hoses have a limited lifespan and should be replaced after 5 years of use.

CAUTION

The dental unit must not be used simultaneously with the intraoral X-ray unit Planmeca ProX.

CAUTION

The light source of the operating light may cause retinal injury if viewed upon directly.

Protect the patient's and dental treatment staff's eyes with protective glasses that block high-energy visible light (HEV light), or limit the direct exposure to 4 minutes.

CAUTION

Switch off the unit before using an electrosurgical knife.

CAUTION

The use of the electrosurgical knife may affect the function of an implanted pacemaker or defibrillator. Please refer to the manufacturer's own documentation.

CAUTION

Do not use the scaler or the polymerisation light on patients with cardiac pacemakers. The instrument can cause disturbance on the pacemaker's function.

CAUTION

Electromagnetic interference between the equipment and other devices can occur in very extreme conditions. Do not use the equipment in close conjunction with sensitive devices, or devices creating high electromagnetic disturbances.

CAUTION

Do not use the equipment in close conjunction with anaesthetic gas or in highly oxygenated environments (oxygen content >25%).

CAUTION

Before using the dental unit, ensure that the instruments have been properly flushed and that the suction tubes as well as the dental unit's waterlines have been cleaned as instructed in this manual.

CAUTION

If the drain is blocked, the dental unit might overflow with contaminated water and excessive water could flow onto the floor. Shut down the unit and contact your property's caretaker and your Planmeca dealer.

CAUTION

When a water leak is detected, error E90 is displayed. Turn off the clinic's main water tap and contact your Planmeca dealer.

CAUTION

In extreme operating conditions the temperature of the chair lift and backrest motors might rise significantly. DO NOT TOUCH THE MOTORS!

CAUTION

In extreme operating conditions the surface temperature of the seat upholstery may rise to 44°C (111°F). When applying maximum allowed load on the patient chair in hot climate conditions, ensure sufficient time for the seat upholstery to cool down.

NOTE

Before switching on the dental unit, make sure that the main water feed, air pressure and suction motor are turned on.

NOTE

National regulations concerning the quality of dental water and dental air must be followed when using the Planmeca dental unit.

NOTE

The water used by the dental unit instruments and cup fill are to be used for rinsing only. For more information, please contact your Planmeca dealer.

NOTE

The main water feed must be turned off when the dental unit is not in use.

NOTE

If your dental unit is not equipped with an internal water/waterline cleaning system, you must connect the dental unit to an external water/waterline cleaning system.

NOTE

The user must monitor the microbial load of the water used by the dental unit.

NOTE

The air used by the dental unit instruments must be dry, clean and oil-free.

NOTE

Never place heavy objects or containers of liquid on any part of the unit or hang objects from the unit's arm structures.

NOTE

Care should be taken when other movable equipment is used in conjunction with the dental unit.

NOTE

The dental unit shall only be connected to a trusted private network (and not, for example, the Internet).

NOTE

EMC requirements have to be considered, and the equipment must be installed and put into service according to the specific EMC information provided in the accompanying documents.

NOTE

Portable and mobile RF communications equipment can affect the dental unit.

NOTE

External equipment intended for connection to signal input, signal output or other connectors, shall comply with relevant IEC standard (e.g. IEC 60950 for IT equipment and the IEC 60601 series for medical electrical equipment). In addition, all such combinations - systems - shall comply with the IEC 60601-1 standard. Equipment not complying to IEC 60601-1 shall be kept outside the patient area.

patient area.svg
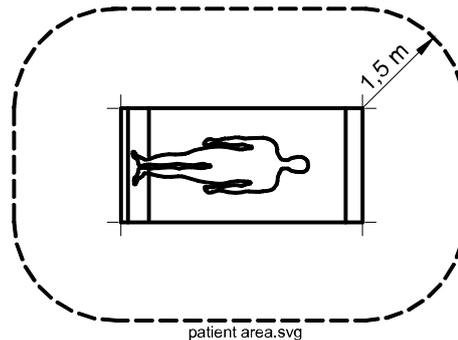
Any person who connects external equipment to signal input, signal output or other connectors has formed a system and is therefore responsible for the system to comply with the requirements of IEC 60601-1. If in doubt, contact a qualified technician or your local representative.

7.2 Safety switches

Care should be taken when driving the patient chair from one position to another. Obstructions in the patient chair's line of movement activate safety switches that stop the motorised movements. The safety switches and their functions are described below.

1. Backrest

   An obstruction between the backrest and the floor when driving down the chair and/or the backrest stops downwards chair and backrest movements. Remove the obstruction to resume normal operation.

2. Chair bottom and lift adapter

   An obstruction between the chair and the floor stops downwards chair and backrest movements. Remove the obstruction to resume normal operation.

3. Legrest

   The position of the legrest is identified as 'locked' or 'unlocked' (= hangs freely). Based on this information, the chair can be driven lower when it is locked.

4. Bowl

   The bowl is above the patient chair and stops upward chair movements. Move the bowl into home position to resume normal operation.

5. Cuspidor door

   The patient chair up/down movement is inhibited when the cuspidor door is open. Also, the operation of instruments is inhibited. Close the door to resume normal operation.

COI_EMS_safetyswitches.eps
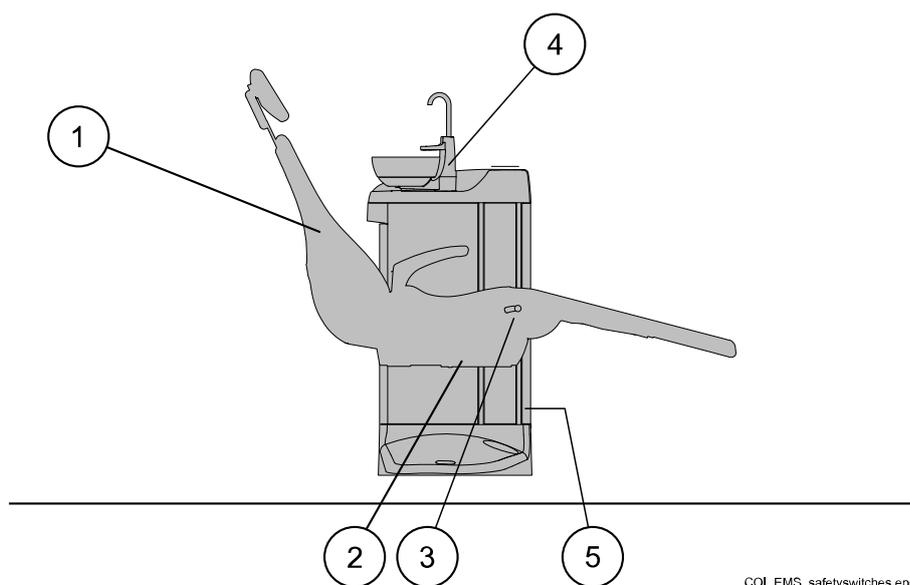
7.3 Stopping chair movements quickly

The chair movements can be stopped quickly by:

• touching the chair buttons on the control panel,

• kicking safety switch number 2 on the chair bottom,

7.4 Reporting serious incidents

Serious incidents that have occurred in relation to the device must be reported to the manufacturer and the local competent authority.

8 Planmeca Compact i dental unit

8.1 Main parts
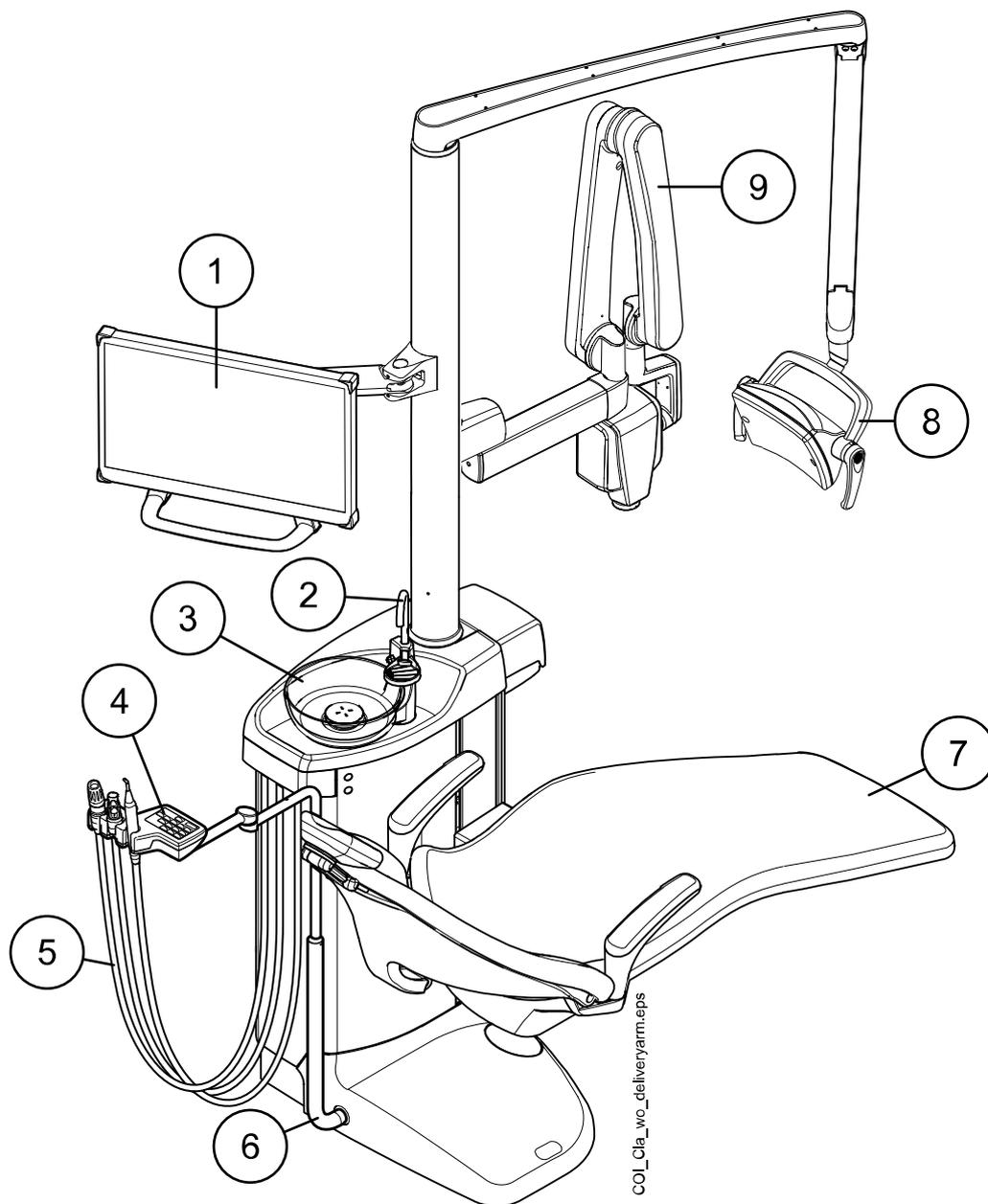
1   Monitor
2   Cup fill tube
3   Bowl
4   Suction holder with control panel
5   Suction tubes
6   Suction arm
7   Patient chair
8   Operating light
9   ProX X-ray unit

8.2 Detachable parts

The following detachable component is marked with a manufacturer trademark. Do not perform dental treatment when it is detached.
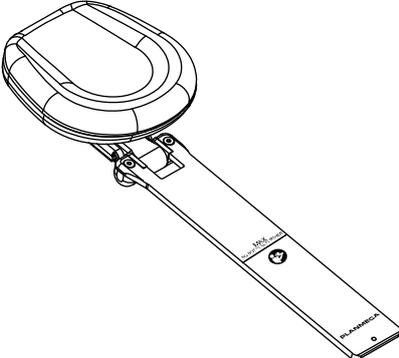
	Headrest

The following detachable components are not critical to operation. The user can perform dental treatment even if a wrong, similar part is fitted.
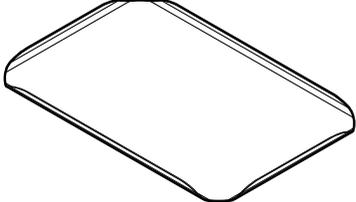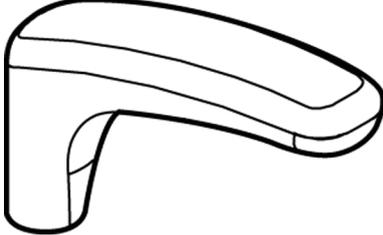
	Column tray
	Armrests
	Instrument flushing holder
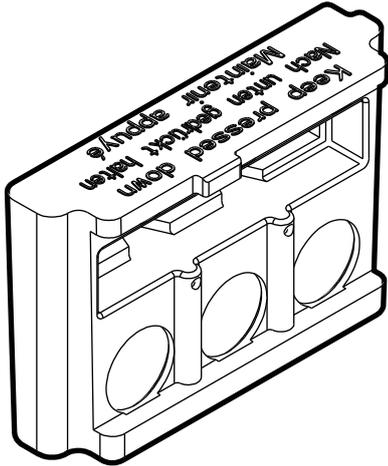
	Suction tube cleaning holder
	Cup fill tube
	Bowl, filter and filter cap
	Disposable filters
	Side cover plate for cuspidor
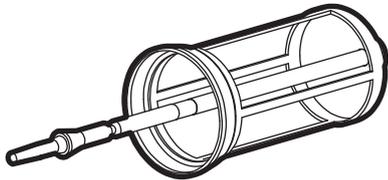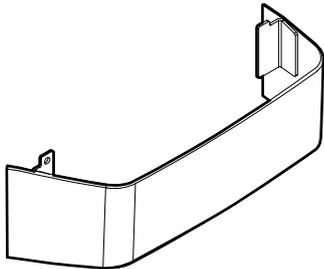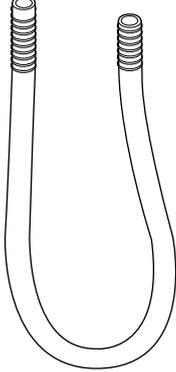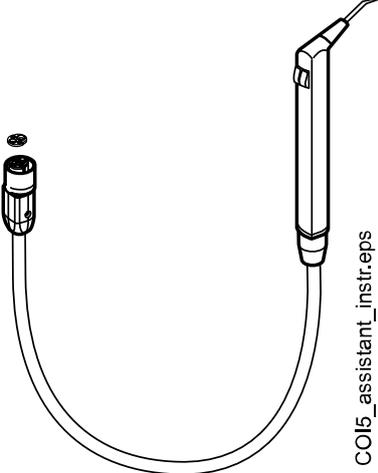
	Suction tubes
	Assistant's instruments and hoses
	Adapter for DCI syringe
	Foot cover
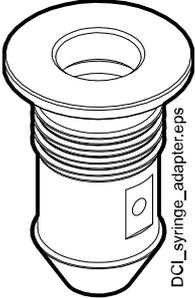
8.3 Applied parts

Applied parts are parts of the dental unit that in normal treatment situations come into contact with the patient.

The applied parts of this dental unit include the assistant's instruments, the patient chair with upholstery, and the armrests.

8.4 Bowl

CAUTION

Do not allow the patient to grab the bowl when getting seated or getting up from the patient chair.

NOTE

Always place the bowl in home position.

NOTE

Make sure that the bowl is not above the patient chair when you drive the chair upward.

The glass bowl is attached to the top of the cuspidor.

It can be rotated 110° around its axis according to the figure below.
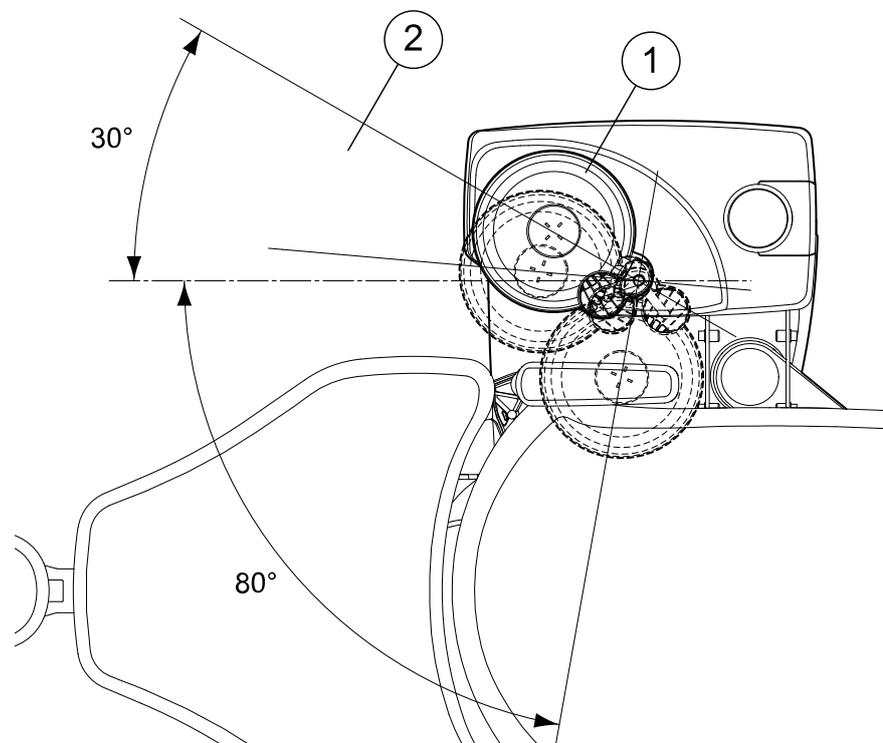
1 Home position
2 To avoid a collision between the patient chair and the bowl when driving the chair upward, position the bowl within this area.

If the bowl assembly for some reason comes off the cuspidor, you can put it back as follows:

1. Place the ring to the underside of the bowl assembly

   This is shown by item 1 in the picture below.

2. Make sure that the peg goes into the slot as shown in the picture below.
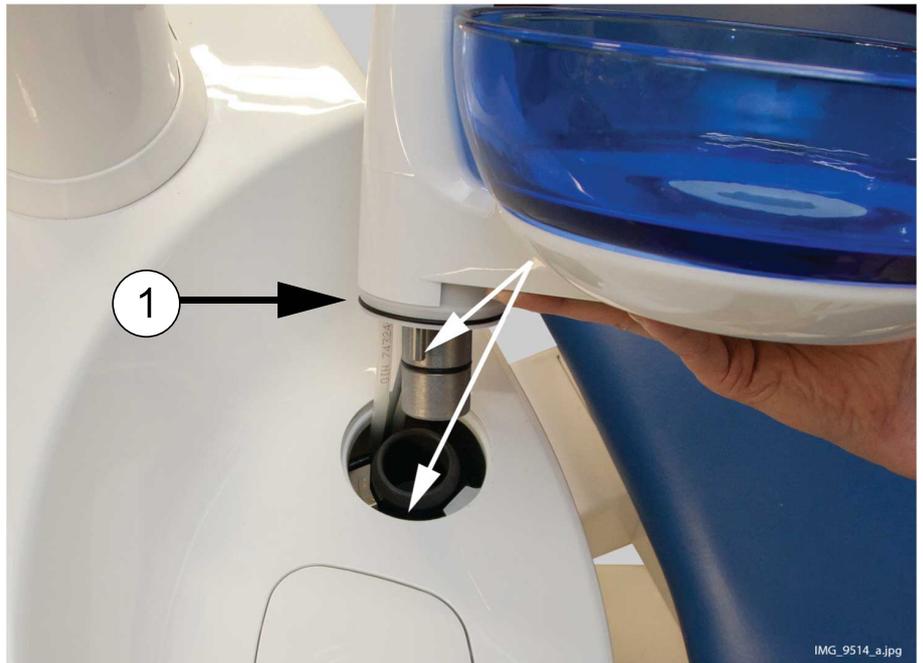
3. Push the bowl downwards at the same time making sure that no cables are squeezed.

4. Turn the bowl assembly into place. You will know that it is in place when you hear the clicking sound of the micro switch

8.5 Monitor

The monitor can be moved from its handle.

CAUTION
Do not allow the patient to grab the monitor handle or monitor arm when getting seated or getting up from the patient chair.

NOTE
Never spray water on the monitor.

For more information, see the monitor's user's manual.

8.6 Water and air quick-connectors

The water and air quick-connectors can be used with external devices. When you connect a device to the quick-connector, water/air flows to the device.

COI_CIa_air_water.eps
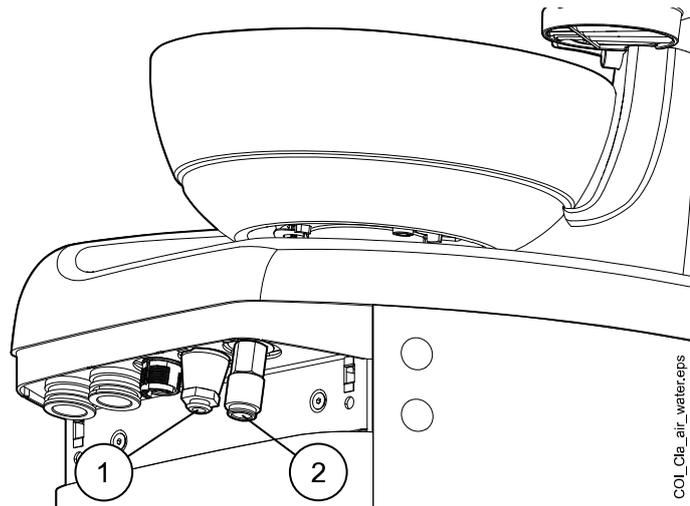
1 Water quick-connector

2 Air quick-connector

To avoid stagnant water inside the dental unit, regularly use enough water with external devices connected to the water quick-connector, as the quick-connector's waterline is not included in the dental unit's flushing and cleaning programs.

8.7 Planmeca ProX X-ray unit

The Planmeca ProX X-ray unit can be mounted to the dental unit pylon.

COI_ProX.eps
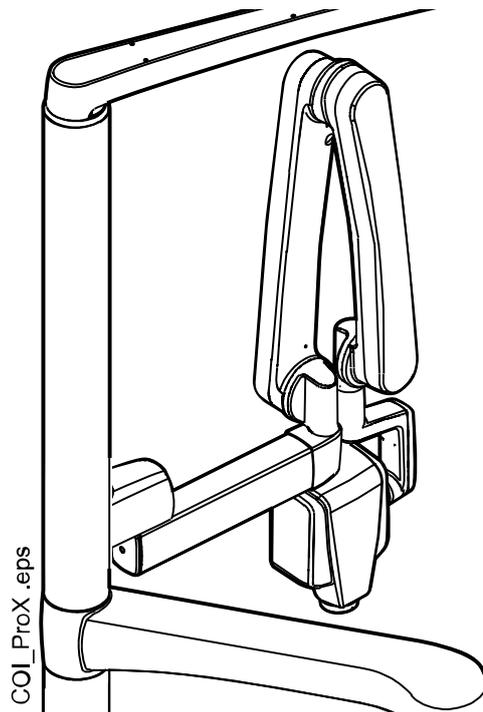
CAUTION
Drive the chair carefully when positioning the ProX X-ray unit.

CAUTION
Do not drive the chair during the exposure.

CAUTION
Do not touch the external PC and the patient at the same time.

CAUTION
Move the ProX X-ray unit behind the pylon when it is not being used.

For more information about Planmeca ProX, see Planmeca ProX User's Manual.

8.8 Trays

8.8.1 Column tray

The column tray is available for all dental units with a column.

The tray is attached to the mounting arm with a magnetic connector and can easily be attached and detached. You can rotate the table 180° to the desired position. The maximum load on the quick-connect tray is 2 kilograms (4.4 lbs).
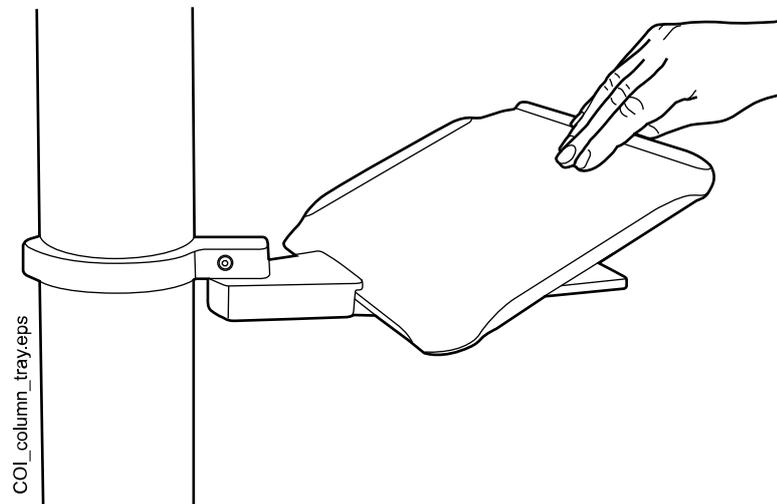
8.8.2 Cuspidor tray

CAUTION
Do not allow the patient to grab the tray when getting seated or getting up from the patient chair.

NOTE
Always place the tray in home position when it is not used.

NOTE
Make sure that the tray is not above the patient chair when you drive the chair upward.

A cuspidor tray can be installed to dental units without a bowl.

The tray assembly is attached to the top of the cuspidor. The tray is held in place with a magnetic connector and can easily be attached and detached. The maximum load on the tray is 2 kilograms (4.4 lbs) and it can be rotated as shown in the picture below.
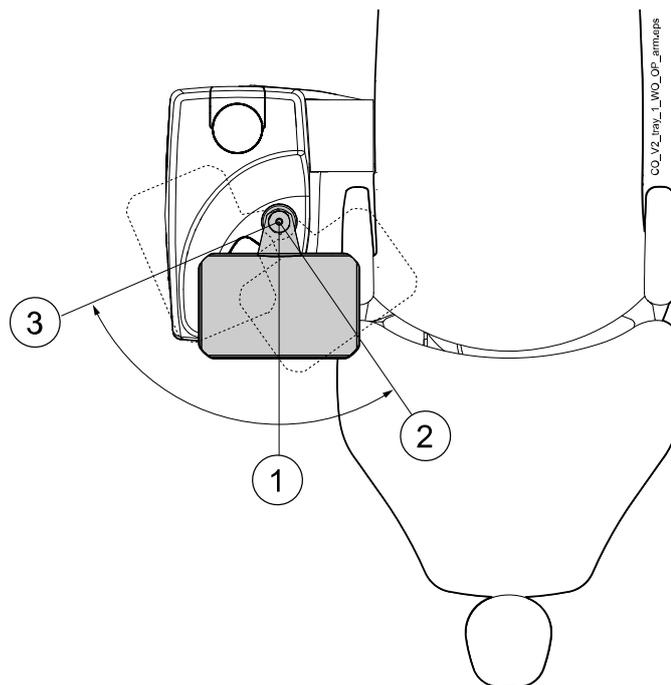
1 Installation position
2 Tray positioned above patient
3 Home position

If the tray assembly (1) for some reason comes off the cuspidor, you can put it back by placing it into the opening in the cuspidor top cover, at the same time making sure that the peg goes into the slot (2) in the opening. When the tray assembly is in place, place the tray (3) on the assembly.
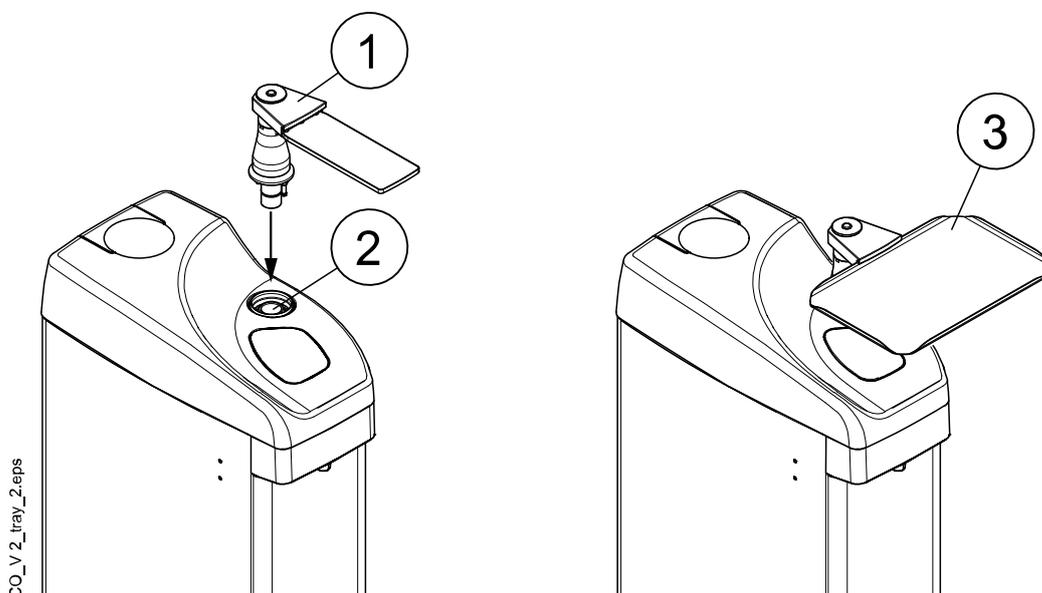
9 Operating light

CAUTION

Do not allow the patient to grab the operating light or its arm when getting seated or getting up from the patient chair.

NOTE

The light must be moved from the handles only. Do NOT move the light from the arm or from the light body.

You can operate the operating light either from the light itself or from the dental unit's control panel. It also features a "no touch" function, which means that you can operate the light by waving your hand in front of the sensor.

For information on how to operate the operating light, see section "Planmeca Solanna operating light" on page 42.

For instructions on how to program the operating light, see section "Planmeca Solanna operating light" on page 55.

10 Suction system

10.1 Suction arm

The suction arm is attached to the side of the unit base.

The suction holder has three openings, one for the high-power suction tube, one for the saliva suction tube and one for the assistant's syringe or polymerisation light.
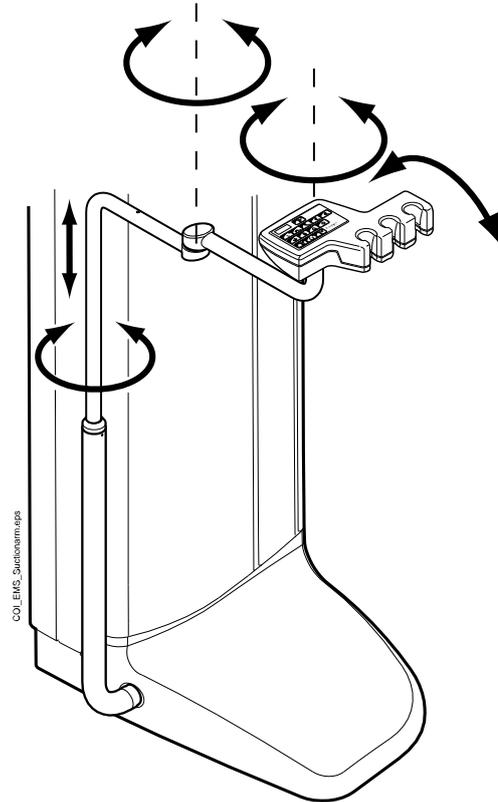
10.2 Removing and replacing suction tubes

Steps

1. To minimise contamination risk, perform suction cleaning.

    For instructions, see section "Suction cleaning" on page 62.

2. Remove the side cover plate by pulling it out from the cuspidor.

3. Detach the securing ring (1) from the suction tube.

    NOTE
    You can grease the securing ring with non-toxic vaseline to make it easier to remove.

4. Remove the suction tube (2) from the suction tube connector.

COI_Cla_attaching_suction.eps
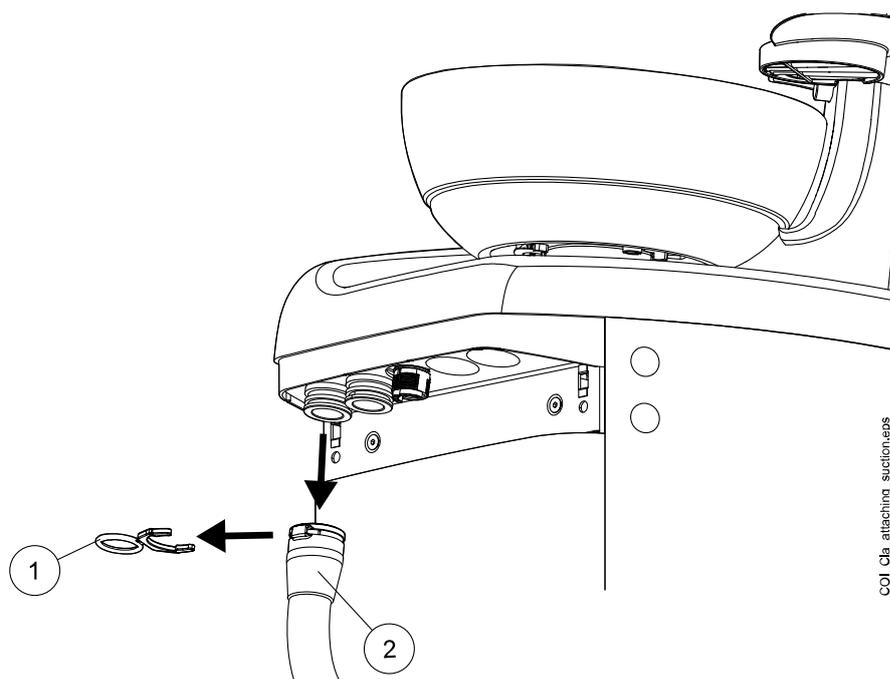
5. Replace the suction tubes in the reverse order.

11   Patient chair

CAUTION

Make sure no one sits on the legrest or the backrest.

CAUTION

The detachable foot cover is not intended to be in contact with bare skin.

NOTE

The patient chair can be equipped with a fixed or an automatic legrest.

NOTE

If, for example, the patient feels sick and starts to vomit while lying in the chair, you can raise the backrest quickly by pushing it up by hand from behind the backrest. Note, however, that the backrest does not stay up by itself but must be supported the whole time and lowered in a controlled manner.

NOTE

Dark coloured clothes may cause coloured stains on the bright coloured upholstery.

11.1 Automatic legrest

The automatic legrest can be moved synchronously to the movements of the backrest, that is, when you drive the backrest down, the automatic legrest is driven up. Use the chair movement buttons to drive the patient chair. Notice that the lever underneath the legrest has to be unlocked (moved to the right) in order to move the legrest with the backrest. Support the legrest with your other hand when locking or unlocking the lever.
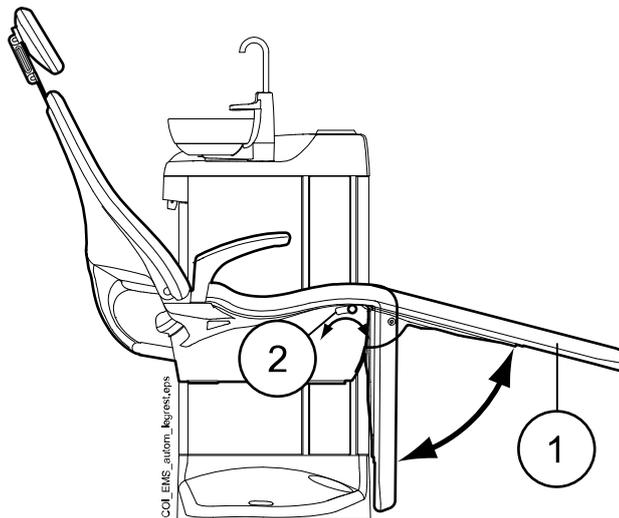
1. Automatic legrest
2. Lever

The automatic legrest can be locked approximately 18° from the horizontal position. To lock the legrest, the lever has to be moved to the left. Support the legrest with your other hand when locking or unlocking the lever. Notice that the backrest will move upward and downward when the legrest is locked.
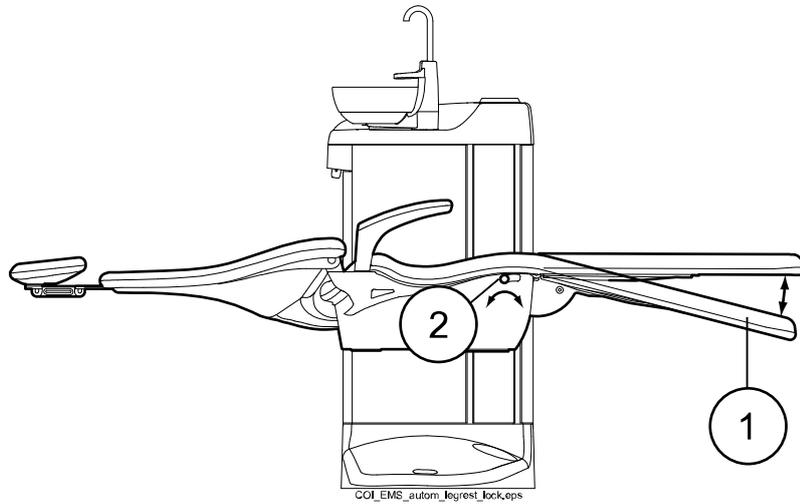
1. Approx. 18° from the horizontal position
2. Lever

11.2 Patient recognition

A sensor in the patient chair recognises if there is a patient in the chair and forwards information about this to Planmeca Romexis Clinic Management software.

11.3 Trendelenburg position

If required, the patient chair can be inclined from the horizontal position to the Trendelenburg position. In the Trendelenburg position the legrest is in the horizontal position and the backrest is driven -4° from the horizontal position.

To drive the patient chair to the Trendelenburg position, first drive the chair to horizontal position, lock the legrest manually by moving the lever underneath the legrest to the left, and press the **Backrest down** button until the backrest reaches a position of -4°.
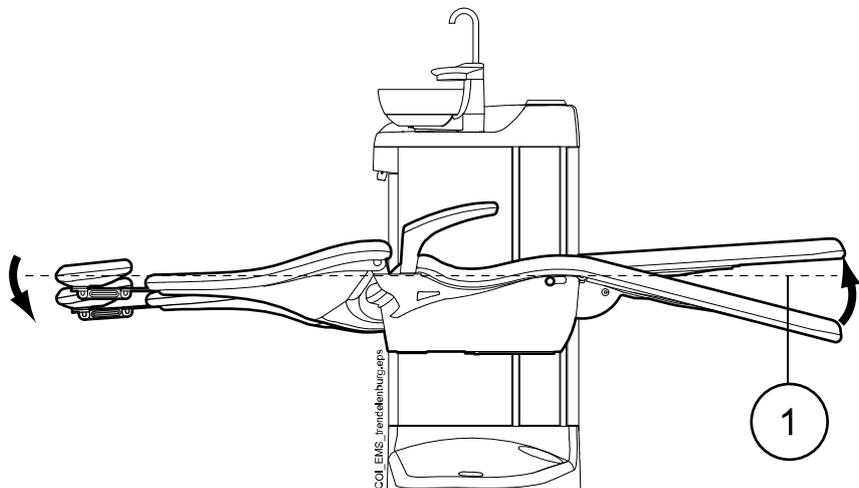
1. Horizontal position

11.4 Armrests

The right armrest can be moved 90° outwards. Before you move the armrest horizontally you must lift it slightly to unlock it. The armrest can be locked into the positions 1 and 3 presented below. The armrest can be removed when it is in position 2.

CU_i_armrests.svg
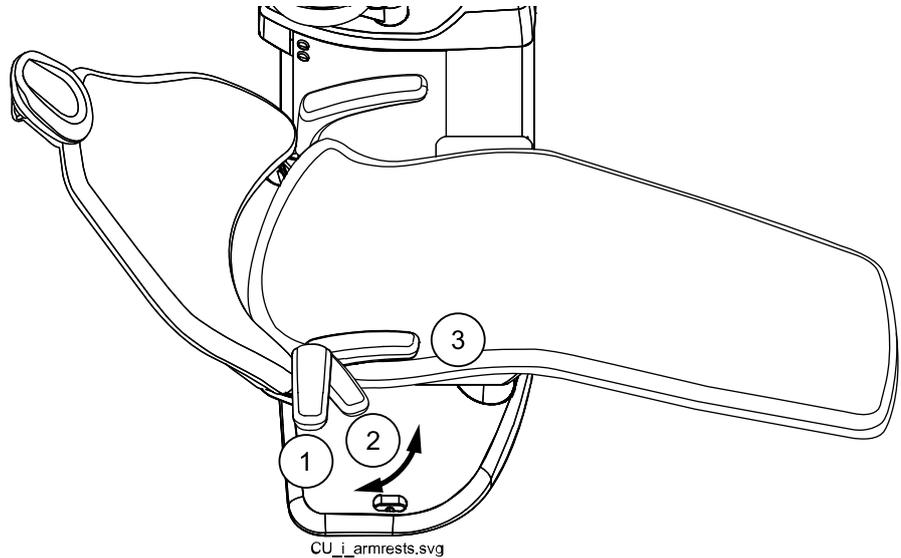
Surgical armrest

As an option, a surgical armrest is available. The patient's arm can be strapped to the armrest when, for example, infusing saline solution.

NOTE
Make sure that the patient does not lean on the armrest when getting in or out of the chair.

To move the armrest horizontally you must lift it slightly to unlock it.

To replace the right standard armrest with the surgical armrest you must first detach the standard armrest. To do so, lift the armrest slightly to unlock it and move the armrest to a 45° position. When the armrest is in a 45° angle, lift it straight up to remove it (1).

Once you have removed the standard armrest, place the surgical armrest on the spindle in a 45° angle, push the armrest down and rotate in either direction until it locks into place (2).

The surgical armrest is removed in the same way as the standard armrest.
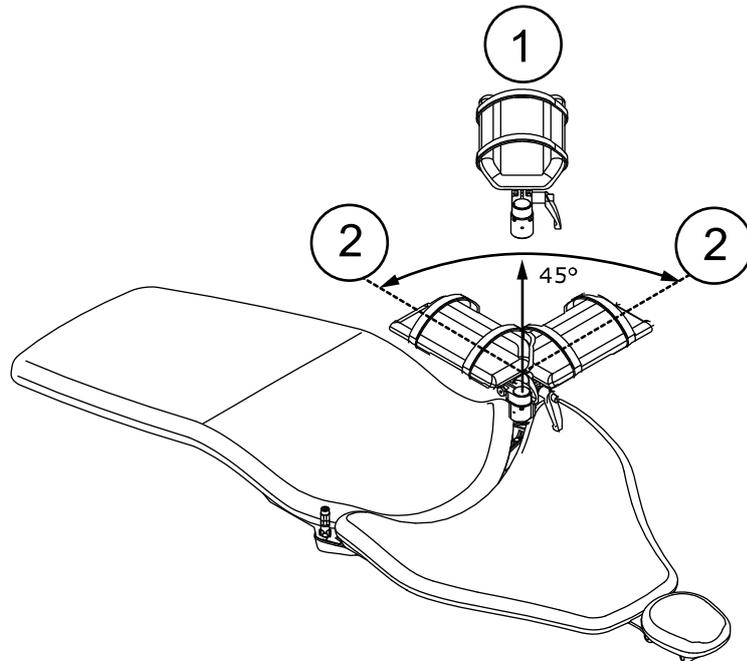
11.5 Manual headrest

11.5.1 Adjusting height of headrest

The height of the headrest can be adjusted by sliding it manually.
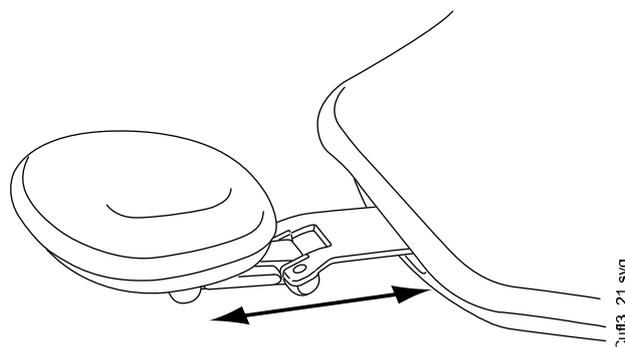
The headrest can only be pulled out as far as to the MAX mark.
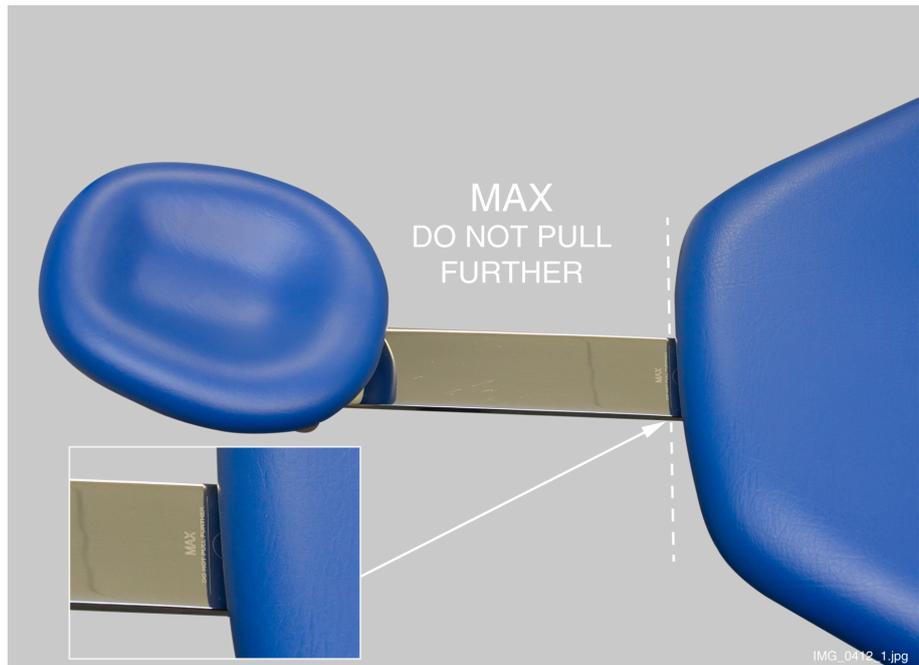
11.5.2 Adjusting headrest angle

To adjust the angle of the headrest, press the bar on the side of the headrest support to release the locking mechanism. Manually set the headrest to the required angle and release the bar. When adjusting, the headrest should be supported by hand.
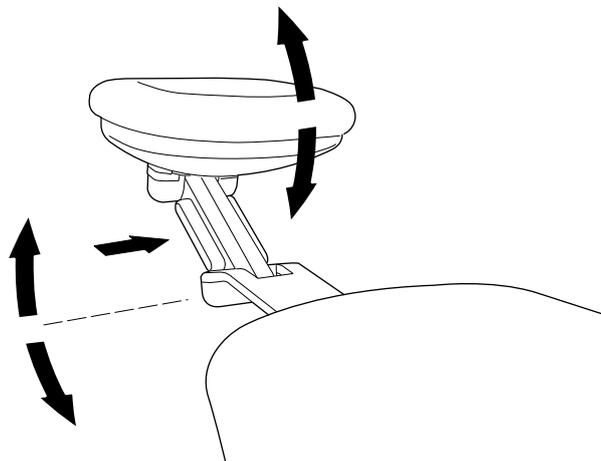
11.5.3 Adjusting headrest for children or short patients

The headrest can be turned around and repositioned for better head support for children or short patients.

Pull the headrest out. Turn it around so that the cushion faces backward and push the headrest back into the chair.
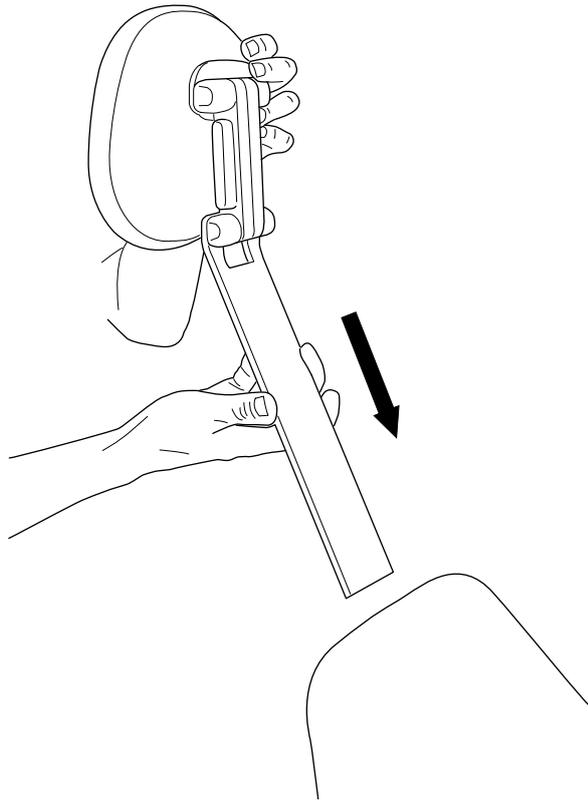
Turn the cushion around (180° counter-clockwise).
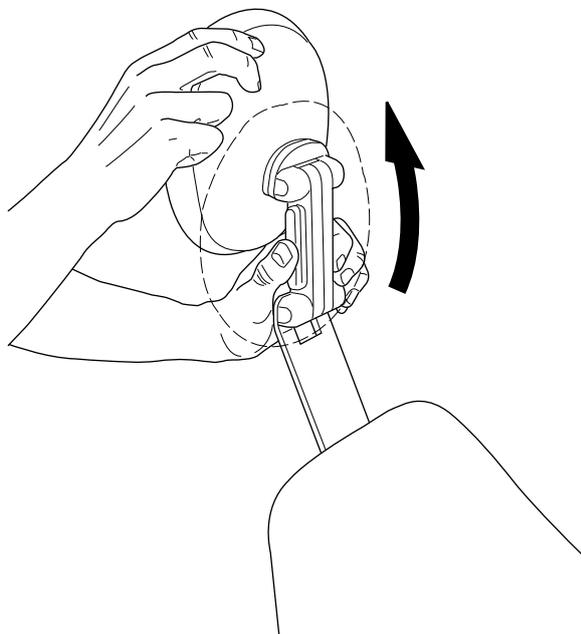
Press the bar on the side of the headrest support to release the locking mechanism and position the headrest at the top of the chair.
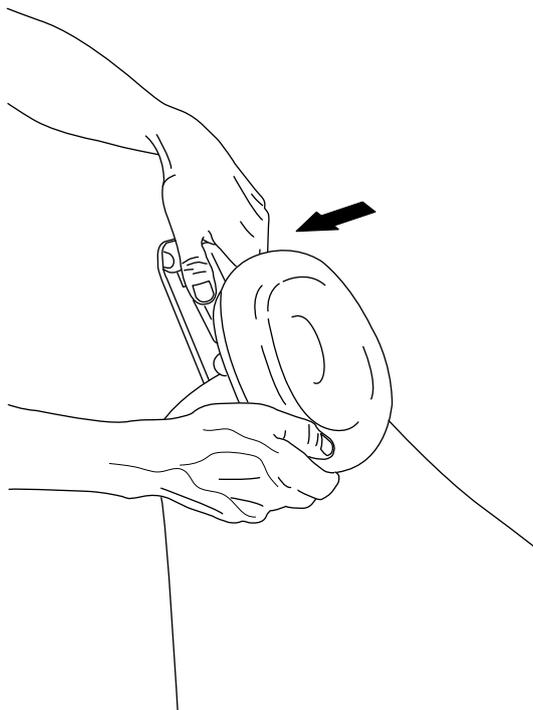
The headrest is now repositioned. To adjust the angle of the headrest, press the locking bar. Manually set the headrest into the required position and release the bar. When adjusting, support the headrest with your other hand.
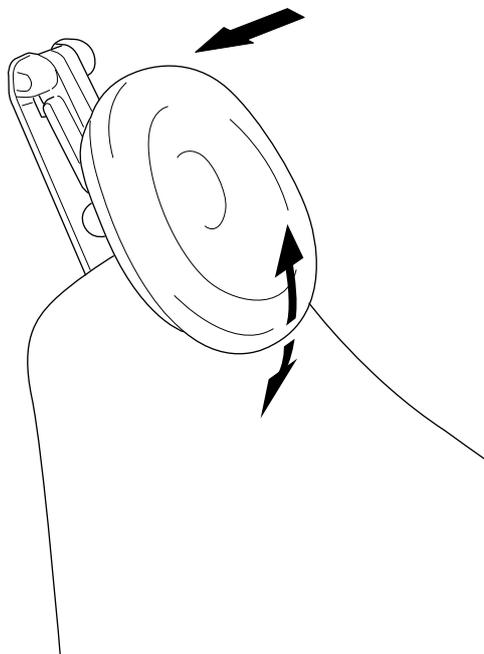
12   Control panel
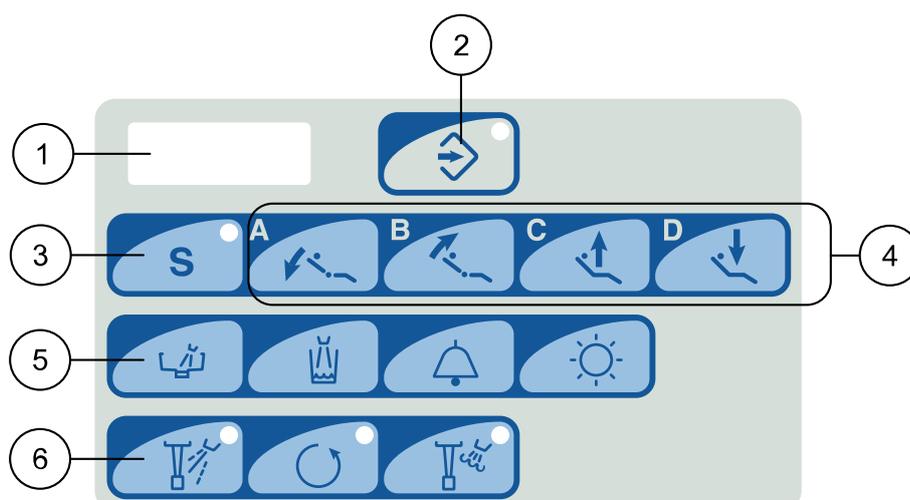
1 Display
2 Program button with indicator light
3 Rinsing position button with indicator light
4 Chair buttons
5 Dental unit buttons
6 N/A (instrument buttons with indicator lights)

The control panel is located on the suction arm. You can use it to control and program the dental unit and the chair.

The indicator light on the **Program** button shows when the unit is in the programming mode.

The indicator light on the **Rinsing position** button shows when the chair is in the rinsing position.

The instrument buttons are not in use. If you press them, help message H 15 is displayed, indicating that the dental unit does not have this function.

In case of malfunction, an error code or a help message is displayed, see section "Help and error messages" on page 84.

13 Switching unit on and off

The on/off switch (1) is located at the rear of the unit base. Press the switch to turn the unit on. Press the switch again to turn the unit off.

Switch on_off, facelift_a.svg
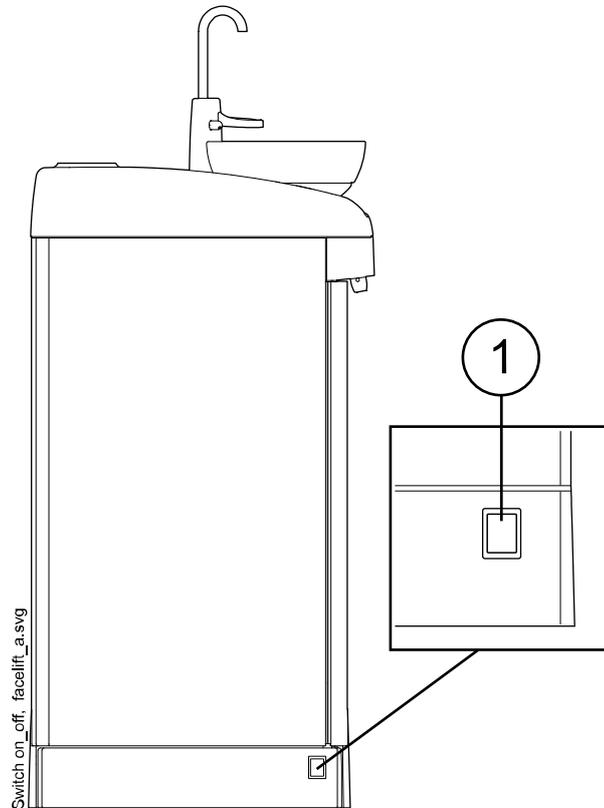
When the unit is switched on, the on/off switch light is on.

The control panel briefly shows the software version number.

14   Operating patient chair

14.1 Manual operation

CAUTION

When driving the backrest up, make sure that the patient's hand or arm does not get squeezed between the armrest and the backrest.

To drive the backrest down, press the **Backrest down** button until the chair reaches the required position.
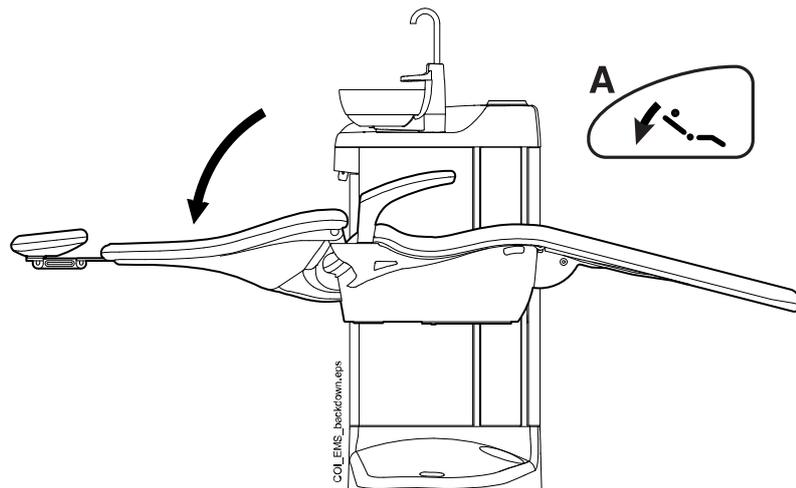
NOTE

If the chair is equipped with an optional automatic legrest, the legrest position is adjusted simultaneously with the backrest position.

To drive the backrest up, press the **Backrest up** button until the chair reaches the required position.
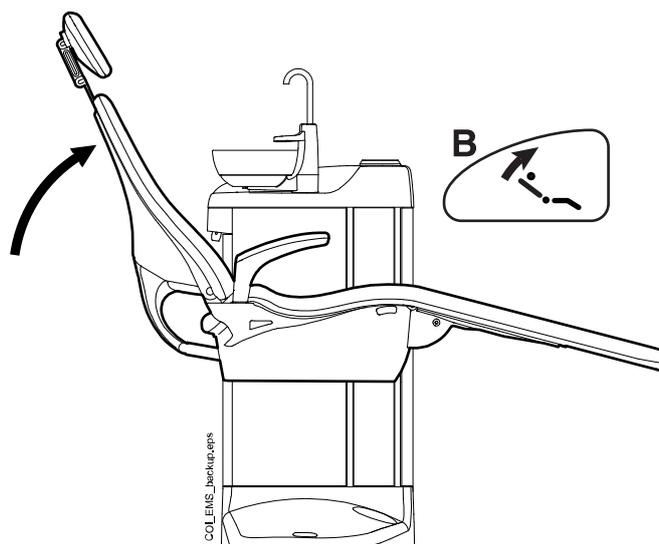
To drive the chair up, press the **Chair up** button until the chair reaches the required position.
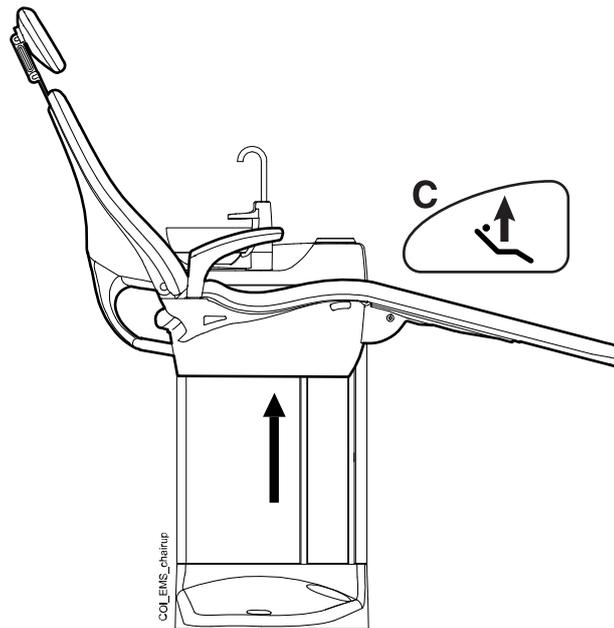
NOTE
Make sure that the bowl or cuspidor tray is not above the patient chair when driving the chair up.

To drive the chair down, press the **Chair down** button until the chair reaches the required position.
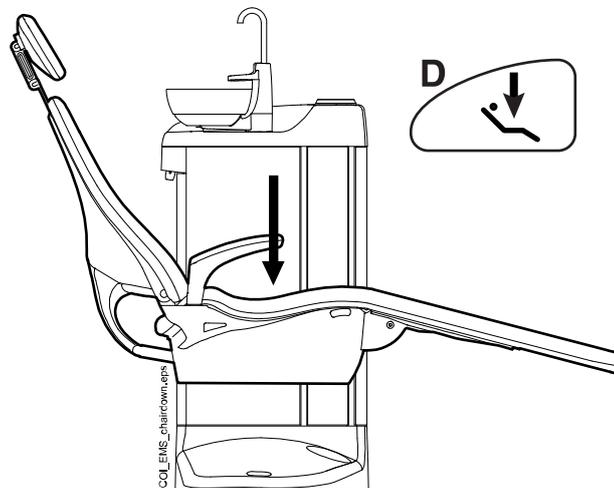
NOTE
If your chair is equipped with an optional automatic legrest, the lowest possible position of the chair depends for safety reasons on the legrest position.

14.2 Automatic operation

14.2.1 Overview

Automatic chair positions can be stored into memory.

For more information on how to store the automatic positions, see section "Automatic chair positions" on page 52.

When automatic positions have been stored into memory you can select an automatic position from the control panel and the chair automatically drives to the selected position. When the chair has reached its preprogrammed position, the position can be adjusted. To adjust the position manually, use the chair positioning buttons on the control panel in a non-automatic mode (see section "Manual operation" on page 37).

You can program the operating light to be on or off in preprogrammed positions. The light goes off when the chair begins to move to a position where the light has been programmed to be off, but goes on only after the chair has reached the programmed position, where the light has been programmed to be on. The operating light intensity can also be programmed to a certain value.

14.2.2 Selecting automatic position

To move the chair to a preprogrammed position, press briefly the corresponding chair position button.

14.2.3 Selecting rinsing position

Press **Rinsing position** to move the chair to the preprogrammed rinsing position. The indicator light flashes throughout the movement. Filling the cup starts automatically and the bowl is rinsed.

When the chair stops in the rinsing position, the indicator light remains on.

When you press **Rinsing position** again, the chair will return to the previous working position. Bowl rinsing starts automatically. The indicator light flashes throughout the movement.

For information on how to program the rinsing position, see section "Automatic chair positions" on page 52.

NOTE

If you press the Rinsing position button for longer than 1 second when moving the chair to the rinsing position, you will enter the position normally, but when the chair stops in the rinsing position, the indicator light goes off and the chair does not remember its previous position.

NOTE

If you press and hold the Rinsing position button when the chair is in the rinsing position, the indicator light goes off, and the chair will forget the previous position (the return function is inactivated).

NOTE

The unit can be set up so that the Rinsing position indicator light goes off and the previous position is not stored when you are driving from the rinsing position to a preprogrammed position. Next time you press Rinsing position, the chair will move to the rinsing position. Contact your dental unit dealer.

NOTE

Automatic cup fill and bowl rinse functions when the dental unit reaches the rinsing position are configurable; contact your dental unit dealer.

NOTE

The water in the dental unit is intended for rinsing only, not for drinking.

14.2.4 Stopping chair movements

To stop the chair from moving before it reaches the preprogrammed position, press any chair button on the control panel.

The chair movement stops also when the stop plate is pushed or when the backrest is pressed upward. The chair can be driven normally after the possible obstruction has been removed.

1 Stop plate
2 Backrest
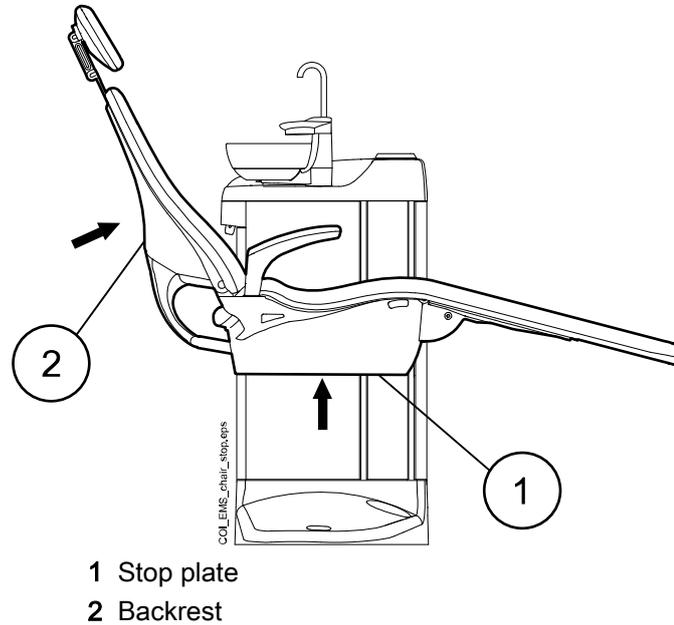
15   Operating dental unit

15.1 Cup fill

NOTE

By default, the cup fill is not activated unless the cup is positioned in its place under the cup fill tube. To change this setting, contact your dental unit dealer.

NOTE

The water in the dental unit is intended for rinsing only, not for drinking.

Press **Cup fill** and the unit will automatically fill the cup and then rinse the bowl. Cup filling can be stopped before it stops automatically by pressing **Cup fill** again.

If **Cup fill** is pressed and held for longer than 1 second, water flows for as long as the button is pressed, and the bowl is not rinsed.

The flow rate of the cup fill can be adjusted by turning the black knob inside the unit, see section "Adjusting cup fill and bowl rinse flow rates" on page 53.

The duration of the cup fill can be programmed, see section "Duration of cup filling" on page 53.

Patient's cup fill button (optional)

The patient can fill the cup by pressing the patient's cup fill button on the cuspidor. The water flows for as long as the button is pressed.
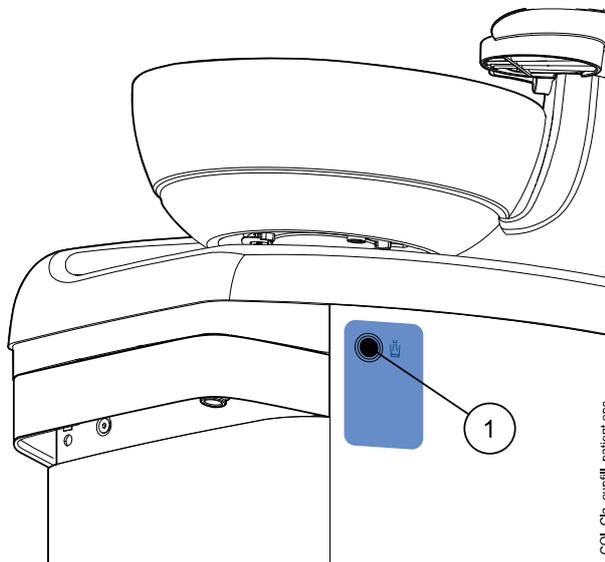
1 Patient's cup fill button

15.2 Bowl rinse

Press **Bowl rinse** to rinse the bowl. Bowl rinsing can be stopped before it stops automatically by pressing **Bowl rinse** again.

The flow rate of the bowl rinse can be adjusted by turning the black knob inside the unit, see section "Adjusting cup fill and bowl rinse flow rates" on page 53.

The duration of bowl rinsing can be programmed, see section "Duration of bowl rinsing" on page 54.

15.3 Door open / assistant call

If you have installed a door opening device or assistant call, you may activate these from the control panel.
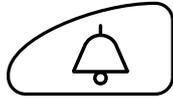
Press **Door open / assistant call** to activate the function. You will hear a short signal tone when the function starts.

Press **Door open / assistant call** for longer than 0.5 seconds to continue the function until the button is released.

The duration of the signal can be programmed, see section "Duration of door open / assistant call" on page 54.

15.4 Planmeca Solanna operating light

CAUTION

Do not allow the patient to grab the operating light or its arm when getting seated or getting up from the patient chair.

NOTE

The light must be moved from the handles only. Do NOT move the light from the arm or from the light body.

NOTE

The light beam may speed up the hardening of some filling materials. Move the light so that the light beam is not directed towards the filling material or turn on the operating light's composite mode.

NOTE

To be able to use the operating light hands-free with the gesture sensor, the sensor must be enabled by a Planmeca authorised service technician.

NOTE

The sensor detects your hand movement at an approximate distance of 3 - 18 cm (1.2 - 7.1 in.) from the infrared sensor.

15.4.1 Indicator lights

The indicator lights on the operating light's handle buttons indicate the current state of the operating light.
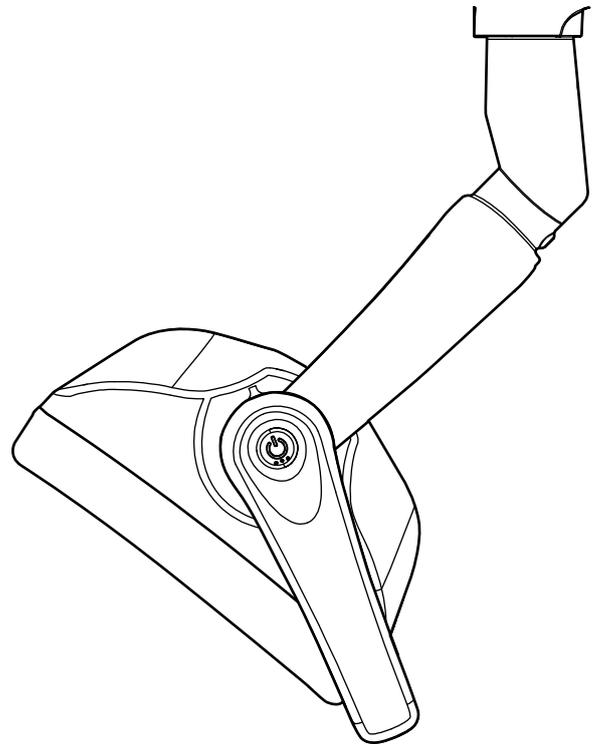
Indicator lights

Colour	Meaning
White	The operating light is on and the colour temperature is neutral.
Light blue	The operating light is on and the colour temperature is cool.
Peach	The operating light is on and the colour temperature is warm.

Indicator lights

Colour	Meaning
Orange	The composite mode is on.
Green	The operating light is off.
Yellow	When the indicator light blinks yellow, the operating light is not functioning properly and full luminosity can not be reached. You can also hear a warning sound. Please contact your dental unit dealer.

15.4.2 Switching operating light on/off

From operating light

From one handle

Briefly press the handle button on either handle to switch the light on. Press the handle button a second time to switch the light off.

You will hear a clicking sound when you press the button.
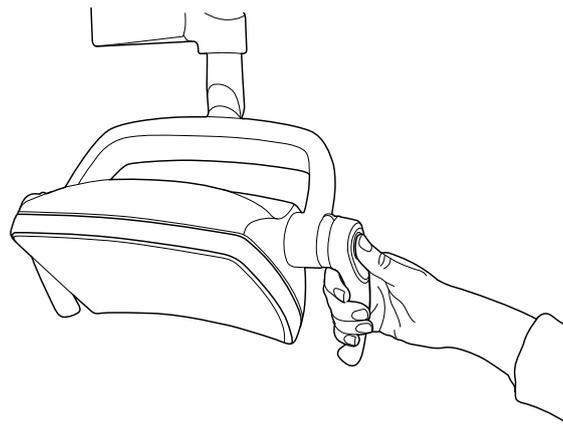
Hands-free with sensor

Wave your hand shortly in front of the sensor to switch on/off the operating light. The light will switch on/off **after** you have moved your hand away from the sensor activation area.

You will hear a clicking sound when you wave your hand in front of the sensor.
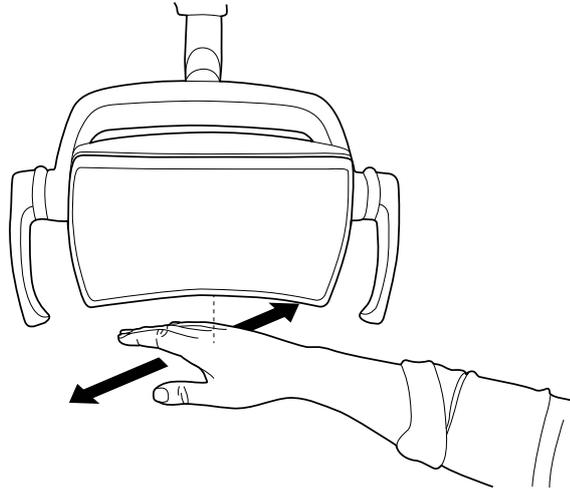
From dental unit

Press **Operating light** to switch the operating light on or off.

15.4.3 Switching composite mode on/off

The composite mode allows you to work with composite materials with minimal risk of pre-polymerisation caused by the operating light.

From operating light

From one handle

Press twice the handle button on either handle to switch to composite mode. Press the handle button twice again to switch the composite mode off.

You will hear a clicking sound each time you press the button.
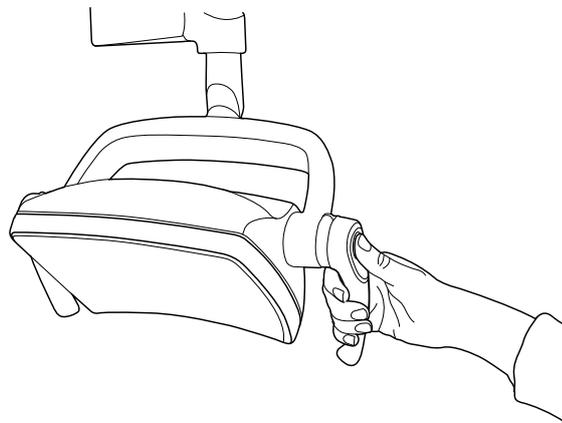
Hands-free with sensor

Wave your hand twice in front of the sensor to switch the composite mode on/off.

The light will switch to composite mode after you have moved your hand away from the sensor activation area for the second time.

You will hear a clicking sound each time you wave your hand in front of the sensor.
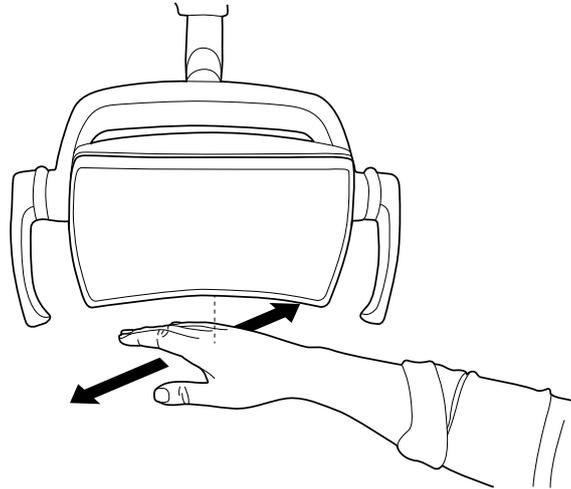
15.4.4 Adjusting intensity of operating light

The intensity adjustment range is from 30% to 100%.

Each time you adjust the intensity, the direction of the adjustment (increase/decrease) changes. Thus, if you first increase the intensity, the intensity will be decreased the next time you adjust it.

You will hear short successive clicking sounds while the intensity is being adjusted and a long signal tone when the maximum/minimum intensity is reached.

The operating light intensity can also be programmed, see section "Intensity" on page 55.

NOTE
The operating light intensity will decrease to 30% of the maximum intensity when the chair is moving.

From operating light

From one handle

Press and hold the handle button on either handle to adjust the intensity of the operating light. The intensity increases/decreases for as long as you press the button.
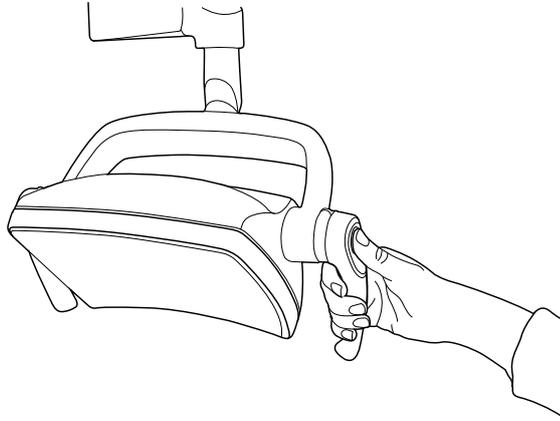
Hands-free with sensor

Once the operation light is lit, keep your hand longer in front of the sensor to adjust the intensity of the light.
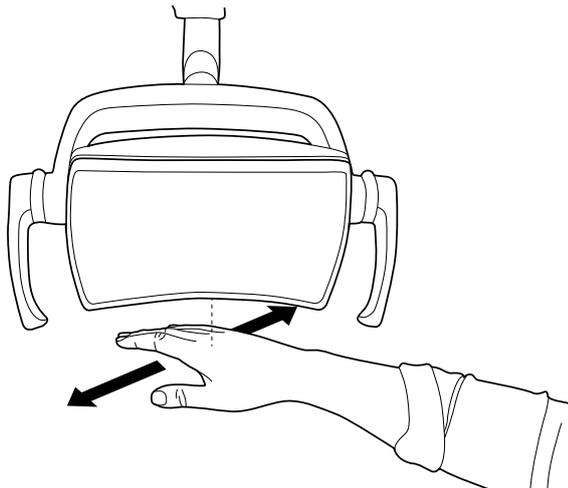
NOTE

If the operating light is installed to another manufacturer's dental unit, the intensity adjustment can be done only from the operating light.

From dental unit
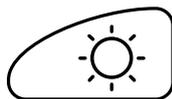
Press and hold the **Operating light** button to adjust the operating light intensity.

After one second, the intensity will increase until you release the button/knob. When you press and hold the button/knob again, the intensity will start to decrease.

The intensity starts to decrease/increase after the maximum/minimum value has been reached. When the limit value is reached, you will hear a short signal tone.

15.4.5 Adjusting intensity of operating light in composite mode

The intensity adjustment range is from 30% to 100%.

Each time you adjust the intensity, the direction of the adjustment (increase/decrease) changes. Thus, if you first increase the intensity, the intensity will be decreased the next time you adjust it.

You will hear short successive clicking sounds while the intensity is being adjusted and a long signal tone when the maximum/minimum intensity is reached.

The operating light intensity can also be programmed, see section "Intensity" on page 55.

From operating light

From one handle

Press and hold the handle button on either handle to adjust the intensity of the operating light. The intensity increases/decreases for as long as you press the button.
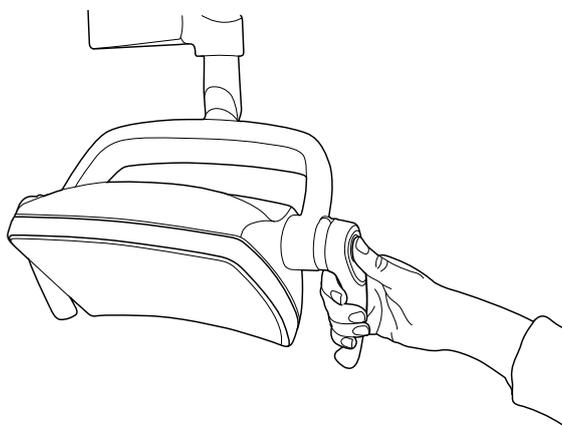
Hands-free with sensor

Once the operation light is lit, keep your hand longer in front of the sensor to adjust the intensity of the light.
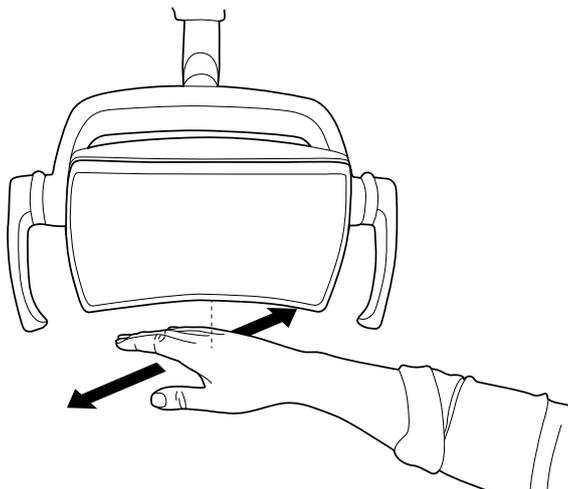
NOTE
If the operating light is installed to another manufacturer's dental unit, the intensity adjustment can be done only from the operating light.

15.4.6 Changing light tone of operating light

The white light tone of the operating light can be warm, neutral or cool.

From operating light

From both handles

When the light is on (and composite mode off), press and hold both handle buttons simultaneously to toggle between the three colour temperatures warm, neutral and cool.

You will hear a signal tone when you toggle the colour temperature from the handle buttons.
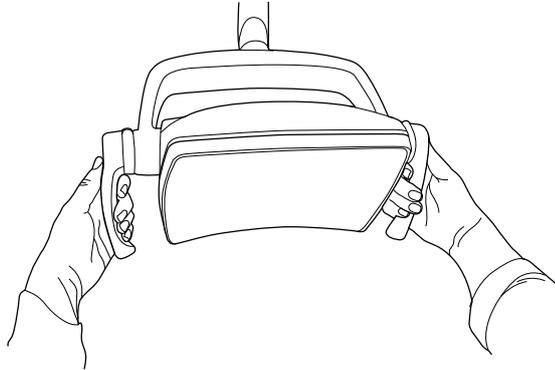
From dental unit

You can change the light tone in the programming window, see section "White light tone" on page 56.

16 Operating suction handpieces

16.1 Saliva and high-volume suction

When a saliva or high-volume suction handpiece is lifted from its holder, the suction will automatically start. When the handpieces are returned, the suction will stop.

When you are using the suction handpiece, the suction can be controlled by sliding the adjuster up or down.
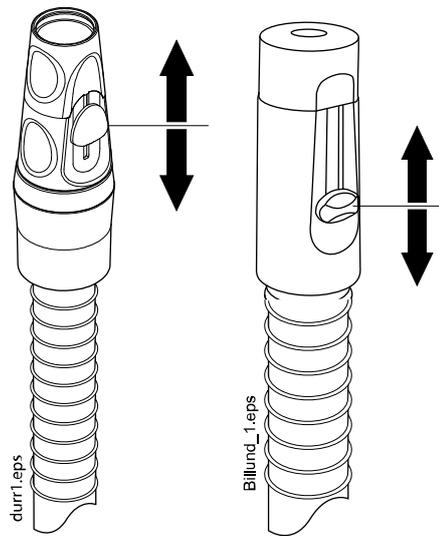
16.2 Tilting high-volume suction

When you lift the suction handpiece from its holder, the weight of the suction tube will cause the end of the handpiece to "tilt" slightly. This action opens the handpiece valve allowing the suction to start.
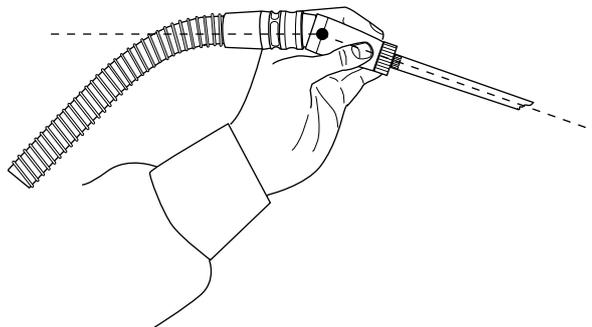
You can stop the suction temporarily by "straightening" the suction handpiece with your thumb and forefinger.

If you temporarily put the suction handpiece down during dental treatment, the suction will automatically stop as the force of the suction will straighten the handpiece.
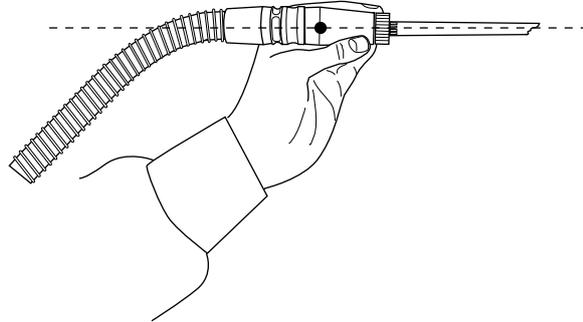
17 Programming

17.1 Introduction

NOTE

To check a function setting without programming it, press Program and the button of the desired function. The setting is shown on the display. Press Program again to close the programming function without changing the setting.

Most of the programming follows the same pattern:
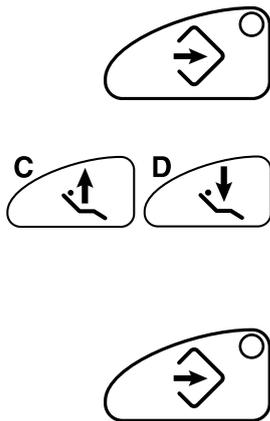
1. Press **Program** to activate the programming mode.

   The indicator light is lit.

2. Select the desired function from the control panel.

3. Change the setting of the function with the **Chair up/down** buttons. To increase the parameter value, press the **Chair up** button. To decrease the parameter value, press the **Chair down** button. If the button is pressed for longer than 0.4 seconds, the value will change as long as the button is pushed.

4. Press **Program** to store the new setting into memory.

NOTE

If you interrupt programming for over 90 seconds, the unit automatically exits the programming mode without storing the new settings.

17.2 Automatic chair positions

About this task

NOTE

The chair height cannot be programmed near the upper limit. The help code H 8 is displayed if the chair position is not allowed. When needed, the upper limit can be altered. Contact your dental unit dealer.

Steps

1. Move the chair to the required position by using the chair movement buttons on the control panel.

   For instructions, see section "Manual operation" on page 37.

2. If you want the operating light or its composite mode to be on (off) in this position, turn it on (off).

3. Adjust the intensity of the operating light and/or its composite mode as described in section "Intensity" on page 55.

4. Press **Program**.
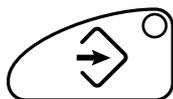
5. Press the desired chair position where to store the chair's position (**rinsing position**, **A**, **B**, **C** or **D**).

The chair position is displayed on the control panel.

6. Press **Program** to confirm that you want to save the current position as an automatic position.

17.3 Bowl rinse and cup fill

17.3.1 Adjusting cup fill and bowl rinse flow rates

The flow rates of the bowl flush and cup fill can be adjusted with the two black knobs located inside the dental unit.
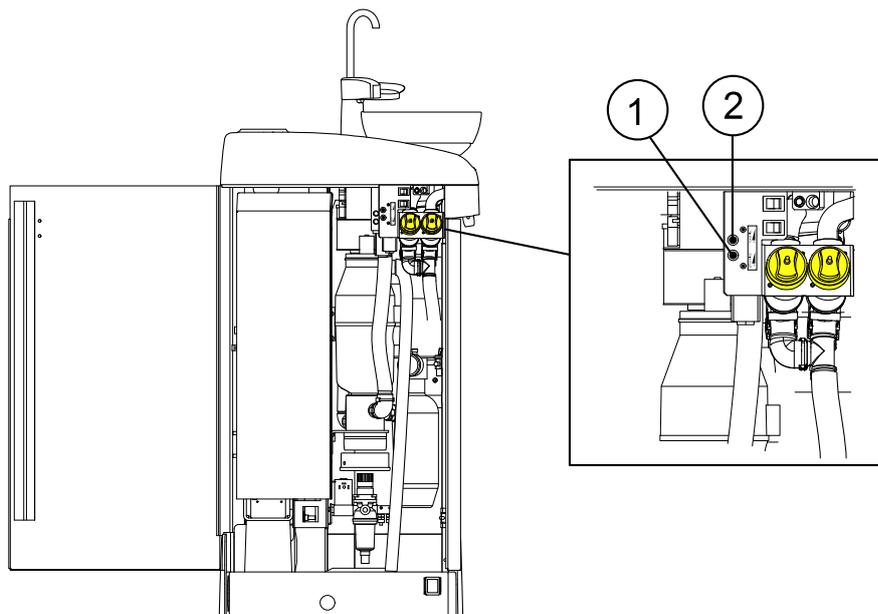
1. Adjustment knob for bowl flush
2. Adjustment knob for cup fill

When you have adjusted the flow rates, you might need to adjust the duration of the bowl rinse and cup fill. For instructions, see sections "Duration of bowl rinsing" on page 54 and "Duration of cup filling" on page 53.

17.3.2 Duration of cup filling

About this task

NOTE
By default, the cup fill is not activated unless the cup is positioned in its place under the cup fill tube. To change this setting, contact your dental unit dealer.

NOTE
The water in the dental unit is intended for rinsing only, not for drinking.

Steps
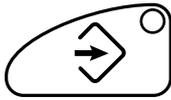
1. Press **Program**.

2. Press **Cup fill**.

3. Adjust the duration of the cup filling with the **Chair up/down** buttons.

   The letter 'c' on the control panel indicates that the duration of the cup filling is adjusted.

   The minimum value is 2 seconds and the maximum is 15 seconds. The duration is adjusted in steps of 0.5 seconds.
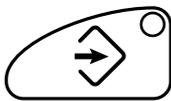
4. Press **Program**.

17.3.3 Duration of bowl rinsing

Steps
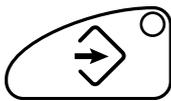
1. Press **Program**.

2. Press **Bowl rinse**.

3. Adjust the duration of the bowl rinsing with the **Chair up/down** buttons.

   The letter 'b' on the control panel indicates that the duration of the bowl rinsing is adjusted.

   The minimum value is 5 seconds and the maximum 240 seconds, and it is adjusted in steps of 5.

4. Press **Program**.

17.4 Duration of door open / assistant call

Steps
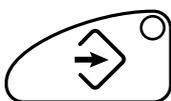
1. Press **Program**.

2. Press **Door open / assistant call**.

3. Adjust the door open / assistant call time with the **Chair up/down** buttons.

    The door open / assistant call time is displayed on the control panel.

    The minimum value is 0 seconds, the maximum 250 seconds. The value is adjusted in steps of 1 in value range 0 - 30, and in steps of 5 in value range 30 - 250. The default value is 5.

4. Press **Program**.
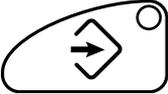
17.5 Planmeca Solanna operating light

17.5.1 Intensity

About this task

NOTE
The light intensity can also be adjusted from the operating light, see sections "Adjusting intensity of operating light" on page 46 and "Adjusting intensity of operating light in composite mode" on page 47.

Steps

1. Press **Program**.

2. Press **Operating light**.
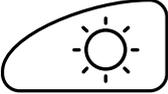
3. Adjust the intensity of the operating light with the **Chair up/down** buttons.

    The operating light intensity is displayed on the control panel.

    A small circle in the top right corner of the display indicates that the intensity in the normal mode is adjusted, and a small circle in the lower right corner indicates that the intensity in the composite mode is adjusted.

    The minimum value is 30% of the maximum intensity and the maximum 100%, and the adjustment step is 5.

4. Change the mode in which the intensity is adjusted (normal mode / composite mode) by pressing **Operating light**.

5. Adjust the intensity.
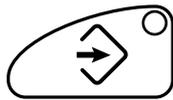
6. Press **Program**.

17.5.2 White light tone

About this task

Steps

1. Press **Program**.

2. Press **Operating light**.

3. Press chair position button **B**.

   The letter t and 1-3 horizontal lines appear on the display.

   The lines indicate the light tone.
   • One line = warm tone
   • Two lines = neutral tone
   • Three lines = cool tone

4. Change the intensity by pressing the chair position button **B** for one second. Every time you press the button, the tone changes. The number of horizontal lines changes accordingly.

5. Press **Program**.

17.5.3 Maximum brightness

Steps

1. Press **Program**.
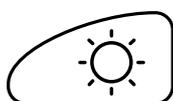
2. Press **Operating light**.

3. Press chair position button **A**.

The letter I and 1-3 horizontal lines appear on the display.

The lines indicate the maximum brightness of the operating light.

- One line = mild
- Two lines = strong
- Three lines = glaring

4. Change the maximum brightness by pressing the chair position button **A** for one second. Every time you press the button, the maximum brightness changes. The number of horizontal lines changes accordingly.

5. Press **Program**.

18 Flushing and cleaning programs

18.1 When to use cleaning programs

We recommend that you run the flushing and cleaning programs as follows:

Recommended flushing intervals

Cleaning program	When	Duration
Short flushing	After every patient	30 seconds / instrument (default; can be configured by a qualified Planmeca service technnician)
Long flushing	In the morning and after the working day	2 minutes (default; can be configured by a qualified Planmeca service technnician)
Suction cleaning	After the working day	6 - 8 minutes

18.2 Before you start

NOTE
Always feed cold water to the dental unit.

NOTE
The water in the dental unit is intended for rinsing only, not for drinking.

NOTE
The water tap must be closed when the dental unit is not in use.

NOTE
If disinfectant is splashed on the surfaces of the dental unit, remove the splashes instantly with water and mild soap to avoid stains.

Placing syringe in flushing holder

Each type of syringe has its dedicated place in the flushing holder. The picture below shows the syringe openings in the holder, but note that the picture is an example only and does not represent the actual holder.
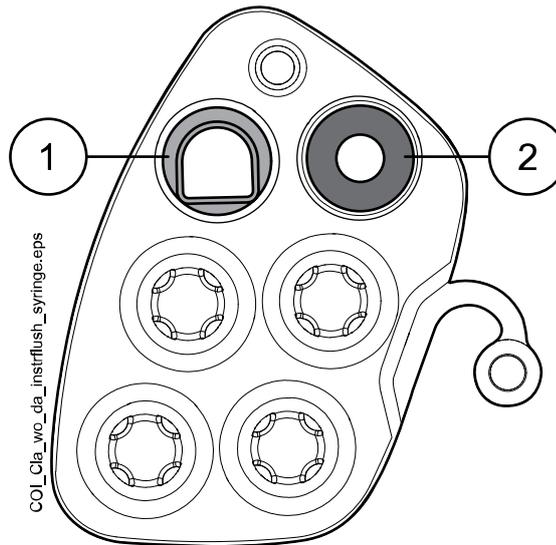
1 Luzzani Ergo syringe

Remove the metallic syringe cover and place the syringe in the flushing holder. Make sure you insert the syringe the right way so that it fits into the holder.

2 DCI syringe

Remove the syringe cover and place the syringe in the flushing holder. Lock the syringe into place with a rotating movement when the syringe is in the holder.

18.3 Short instrument flushing

About this task

NOTE
The duration of the short flushing cycle is configurable. Contact your Planmeca dealer.

NOTE
You can interrupt the flushing cycle by pressing Instrument spray. After the interruption, the dental unit can be used normally.

NOTE
You can flush the instrument hoses independently or at the same time as you clean the suction system by using OroCup.

Steps

1. Remove the cup from the cup holder. Turn the bowl away from above the flushing holder as shown in the figure. Turn also the cup fill tube

above the bowl as shown in the figure. Press the outer edge of the flushing holder cover (1) and remove the cover.
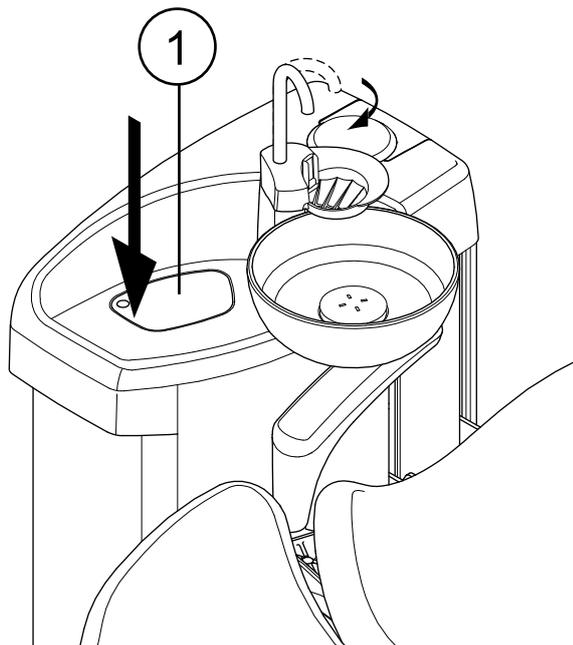
2. Remove the cover/handpiece of the assistant's syringe and clean it according to the manufacturer's instructions.

3. Place the assistant's syringe into the correct slot in the instrument flushing holder.

4. Start the short flushing cycle by pressing **Instrument spray** (you will hear a signal tone) and holding it for 3 seconds.
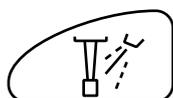
    Release the button when you hear a second signal tone.

5. Once the flushing cycle is finished, H 36 is displayed. Remove the syringe from the flushing holder and return it to the suction holder.

    If H 36 is still displayed after returning the syringe, activate the syringe and then return it to the suction holder.

    If water flow was not detected for the syringe, H 36.1 is displayed. Run the syringe for a while with spray water to ensure that the flushing is sufficient.

    Press **Instrument spray** to view the instrument flushing results on the display. The bars on the display represent the instruments in the order they are placed in the instrument console. A full bar means that the instrument was flushed successfully and a half bar that the flushing for that instrument failed.

18.4 Long instrument flushing

About this task

NOTE
The duration of the long flushing cycle is configurable. Contact your Planmeca dealer.

NOTE

You can flush the instrument hoses independently or at the same time as you clean the suction system by using OroCup.

NOTE

You can interrupt the flushing cycle by pressing Instrument spray. After the interruption, the dental unit can be used normally.

Steps

1. Remove the cup from the cup holder. Turn the bowl away from above the flushing holder as shown in the figure. Turn also the cup fill tube above the bowl as shown in the figure. Press the outer edge of the flushing holder cover (1) and remove the cover.
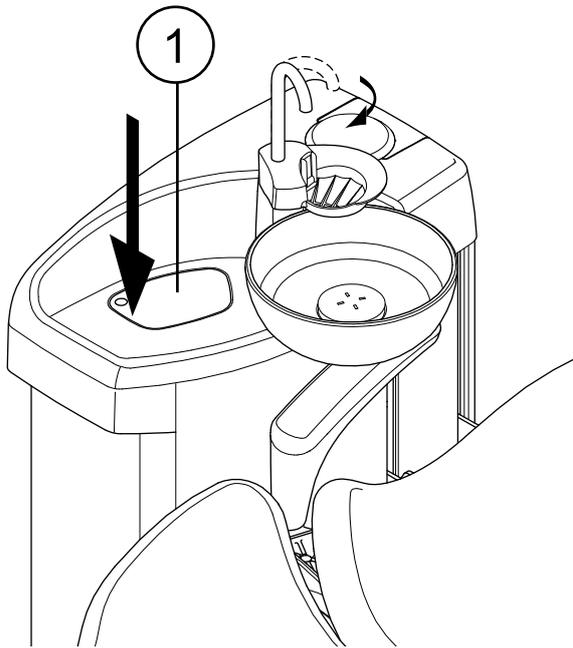
2. Remove the cover/handpiece of the assistant's syringe and clean it according to the manufacturer's instructions.

3. Place the assistant's syringe into the correct slot in the instrument flushing holder.

4. Start the long flushing cycle by pressing **Instrument spray** (you will hear a signal tone) and holding it for 6 seconds.

   Release the button when you have heard a second and a third signal tone.

   The system will first identify the instruments and then the assistant's syringe is flushed with air and water. The flushing time is displayed on the control panel. At the same time the cup fill tube and the bowl are flushed, too.

   NOTE

   Adjust the water flow of the cup fill tube so that the water does not splash into the bowl.

5. Once the flushing cycle is finished, H 36 is displayed. Remove the syringe from the flushing holder and return it to the suction holder.

If H 36 is still displayed after returning the syringe, activate the syringe and then return it to the suction holder.

If water flow was not detected for the syringe, H 36.1 is displayed. Run the syringe for a while with spray water to ensure that the flushing is sufficient.

Press **Instrument spray** to view the instrument flushing results on the display. The bars on the display represent the instruments in the order they are placed in the instrument console. A full bar means that the instrument was flushed successfully and a half bar that the flushing for that instrument failed.

What to do next

NOTE

After the flushing cycle, the unit should immediately be switched off. This procedure ensures that cool water remains in the pipelines of the unit, thus minimising the growth of biofilm.

NOTE

The dental unit can be configured to display help message H 99 if the unit has been switched off without performing long flushing after water has been used. When H 99 has been enabled, it can be displayed as a reminder only, or it can be set to disappear only after you have performed long flushing. To take help message H 99 into use, contact your Planmeca dealer.

18.5 Suction cleaning

About this task

NOTE

The Suction Tube Cleaning System (STCS) is an optional feature. If your dental unit does not have this feature, clean the suction tubes with OroCup as instructed in section "OroCup" on page 74.

Steps

1. Remove the suction handpieces from the suction tubes and clean them according to the manufacturer's instructions.

2. Open the suction cleaning cover.

3. Insert the suction tubes into the suction tube cleaning holder.

NOTE

Make sure that the suction tube cleaning holder itself is in place (i.e. pushed to the bottom of the suction cleaning unit. See step 6 for a picture of the unit).

NOTE

Make sure that a plug is inserted into each empty suction tube holder in the suction tube cleaning holder to prevent the concentrate from spilling.

4. Lift the dosing cubic from the suction cleaning unit and fill it with Planmeca approved suction disinfectant.

   The dosing scale indicates the required amount for 1 or 2 suction tubes.
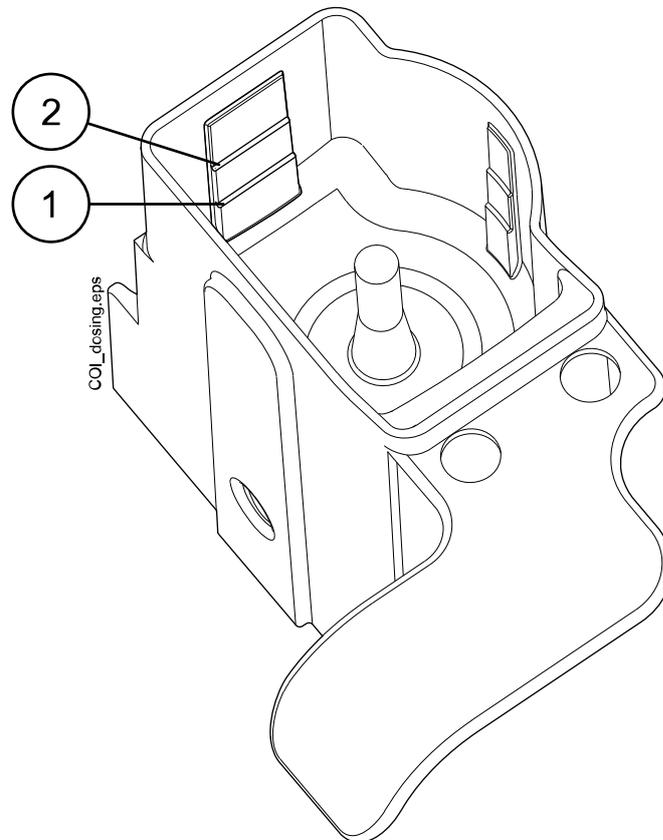
1 One suction tube

2 Two suction tubes

5. Place the dosing cubic back to the suction cleaning unit.

6. The green indicator light of the start button is on when the cleaning program can be started. Start the cleaning by pressing the green start button.

   The start button indicator light is flashing during the cleaning procedure and the control panel informs you about the progress of the procedure.

   The cleaning program can be interrupted by pressing the yellow cancel button. H 43 is displayed.

   After interrupting the cleaning program a final suction is performed automatically. After that you can start the cleaning program again by filling the dosing cubic and pressing the green start button. The program will start from the beginning.
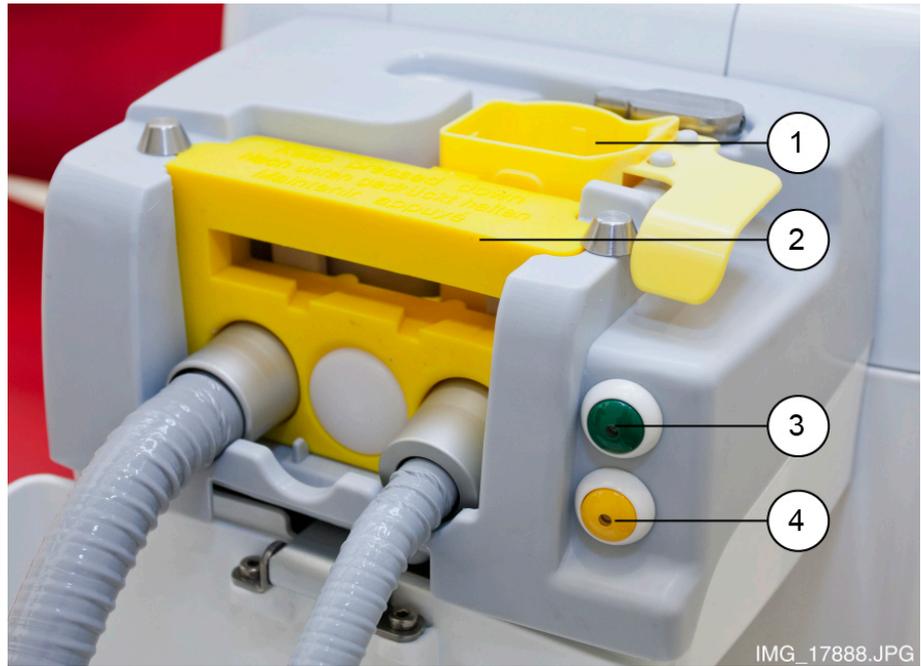
1. Dosing cubic
2. Suction tube cleaning holder
3. Start button (green)
4. Cancel button (yellow)

7. When the cleaning program is completed, help message H 42 is displayed. Return the suction tubes to the suction holder and close the suction cleaning cover.

8. If suction disinfectant is left in the dosing cubic after the cleaning cycle, clean the cubic under running water.

Results

The dental unit is now ready for normal operation.

NOTE

Before attaching the handpieces back on the suction tubes, wipe the identification bushings (1) with Planmeca approved surface disinfectant.
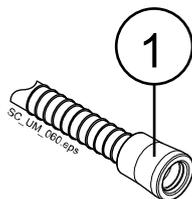
19   Cleaning and disinfection

19.1 Introduction

Planmeca approved surface disinfectants, upholstery disinfectants, dental unit water and waterline disinfectants, and suction disinfectants are listed in the document *Planmeca approved disinfectants* (30007097). The document can be found in the Planmeca Material bank at *www.planmeca.com*.

NOTE

Do not use cleaning agents in aerosol or spray form directly on any surfaces.

NOTE

Use a clean, damp cloth (but not wet) for cleaning.

NOTE

All parts must be cleaned before disinfecting or autoclaving them.

NOTE

If disinfectant or cleaning solution is splashed on the surfaces of the dental unit, remove the splashes instantly with water and mild soap to avoid stains.

NOTE

Always feed cold water to the dental unit.

NOTE

The water in the dental unit is intended for rinsing only, not for drinking.

NOTE

The water tap must be closed when the dental unit is not in use.

19.2 Dental unit surfaces

The table below lists when and how to clean the dental unit surfaces.

How to clean dental unit surfaces

When	Part	Cleaning agent	Additional cleaning method		
			Dish-washer (65°C)	Washer-disinfector (93°C)	Autoclave (134°C)
After every patient and after the working day	Metal parts of headrest	Planmeca approved surface disinfectant			
	Metal parts of armrests	Planmeca approved surface disinfectant			
	Front cover of operating light	Planmeca approved surface disinfectant			

How to clean dental unit surfaces

When	Part	Cleaning agent	Additional cleaning method		
			Dish-washer (65°C)	Washer-disinfector (93°C)	Autoclave (134°C)
	Handles of operating light	Planmeca approved surface disinfectant		X	X
	Instrument hoses	Planmeca approved surface disinfectant			
	Control panel	Planmeca approved surface disinfectant			
	Cup fill tube	Planmeca approved surface disinfectant			
	Bowl surfaces	Mild soap- and water solution Planmeca approved surface disinfectant	X		
	Bowl filter	Mild soap- and water solution	X	X	
	Cuspidor	Planmeca approved surface disinfectant			
	Trays	Planmeca approved surface disinfectant			
	Suction holder and suction arm	Planmeca approved surface disinfectant			
	Suction handpieces	Planmeca approved surface disinfectant		X	X
	Suction tubes	Planmeca approved surface disinfectant			
	Monitor	Planmeca approved surface disinfectant			
	Upholstery	Mild soap- and water solution			

How to clean dental unit surfaces

When	Part	Cleaning agent	Additional cleaning method		
			Dish-washer (65°C)	Washer-disinfector (93°C)	Autoclave (134°C)
After the working day	Upholstery	Planmeca approved upholstery disinfectant			
	Suction holder bushes and closing plates	Planmeca approved surface disinfectant		X	
Weekly	Upholstery	Planmeca approved upholstery treating agent. Wipe away any excess oil after treatment.			

19.3 Instruments

Clean and service the instruments according to the information supplied with the instrument.

19.4 Cuspidor

19.4.1 Bowl

NOTE

Do not pour anything into the bowl unless the unit is switched on and has air and water (that is, the compressor is switched on and the air- and waterlines are opened).

NOTE

Do not pour anything else than water and a suction line cleaning agent into the bowl. The water must be poured slowly into the bowl. The flow may not exceed 5 l/min.

NOTE

Do not empty the bowl filter to the drain!

NOTE

The bowl can be removed and washed in the dishwasher. The maximum washing temperature is 65°C. At higher temperatures the bowl may break. Avoid rapid temperature changes in the dishwasher and when the bowl is in use. When positioning the bowl into the dishwasher, make sure that the bowl does not press other objects in the machine.

Clean the bowl after every patient by pouring a few drops of Planmeca approved suction disinfectant into the bowl and using a soft brush. Rinse the bowl by pressing **Bowl rinse**. The outside of the bowl can be wiped clean with a damp cloth.

The bowl can also be removed and washed in the dishwasher if required. To remove the bowl, do as follows:

1. Turn the bowl and the cup fill tube away from above the cuspidor.
2. Remove the bowl filter parts and empty the bowl filter.
3. Push the bowl fastening clip carefully down and
4. rotate the bowl counter-clockwise.
5. Lift the bowl slightly upward and remove it by pulling it horizontally.
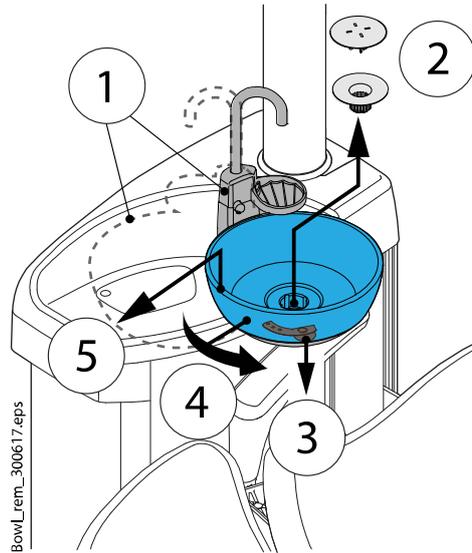
Replace the bowl in reverse order.

NOTE

The cover cap of the filter makes the removal of the filter easier, but the filter can also be used without the cover cap.

19.4.2 Instrument flushing holder

The instrument flushing holder can be lifted away from its position.
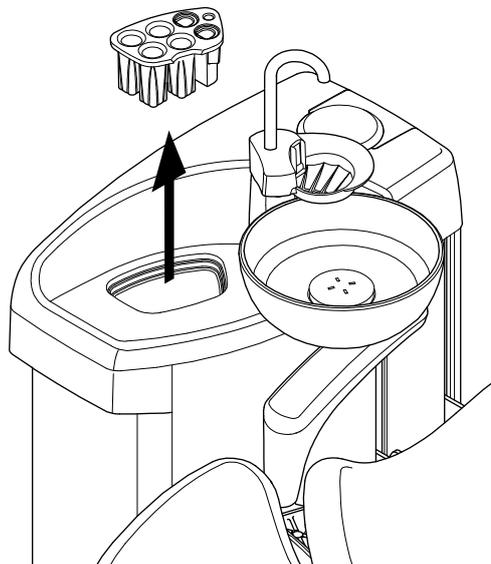
Disinfect the flushing holder once a month in a washer-disinfector at 93°C. After disinfection, it can optionally be autoclaved at 134°C.

Note that the flushing holder cover can not be autoclaved. Remove the cover before autoclaving the instrument flushing holder.

19.4.3 Suction tube cleaning holder

Disinfect the suction tube cleaning holder once a month in a washer-disinfector at 93°C.
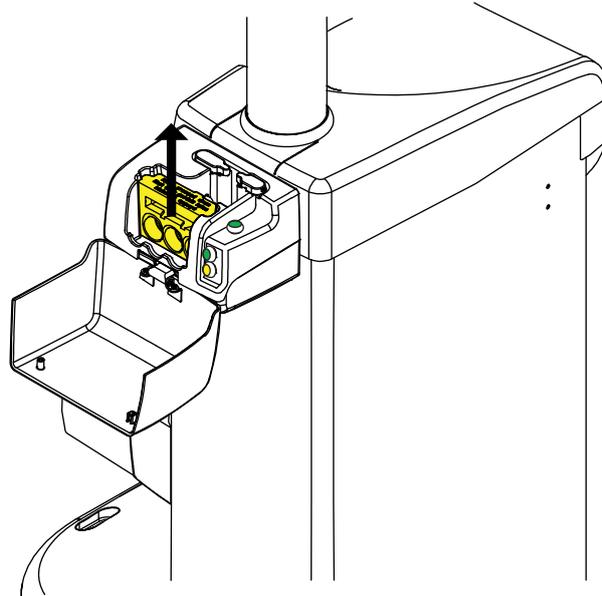
NOTE

When you place the suction tube cleaning holder back in the cuspidor after cleaning, make sure it is pushed firmly into its position in the cuspidor.

19.4.4 Disposable filters

Empty the disposable filters daily or when they are full. Replace them weekly.

NOTE

The disposable filters must be emptied/disposed into a separate amalgam container.

COI_disposable_filter.eps
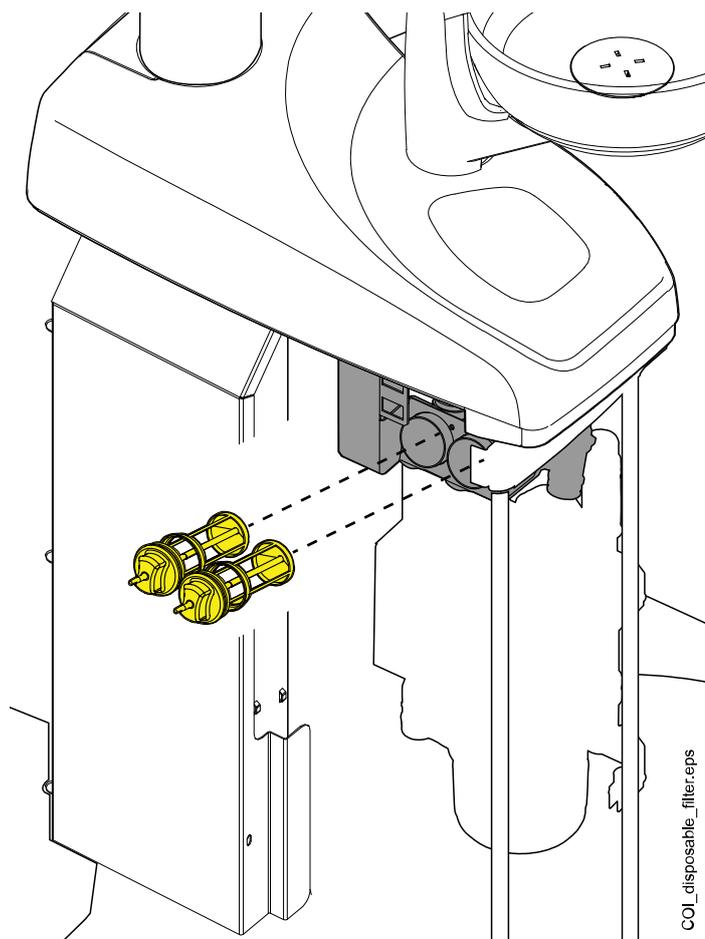
19.4.5 Spittoon valve coarse filter

If your dental unit is equipped with a VS/A compatible suction system, empty the spittoon valve coarse filter when it is full.

NOTE

Before emptying the spittoon valve coarse filter you must empty the bowl (spittoon) valve of any excess water by pressing the Program button for about 5 seconds until the suction starts. The valve will close automatically after about 15 seconds.

NOTE

The spittoon valve coarse filter must be emptied into a separate amalgam container.

When you have emptied the filter, make sure you place it properly back in its holder to prevent the water from leaking onto the floor.

When the filter is clogged, the dental unit will instruct you to empty the filter. In some error situations, the dental unit may also restrict the water flow to prevent leakage.
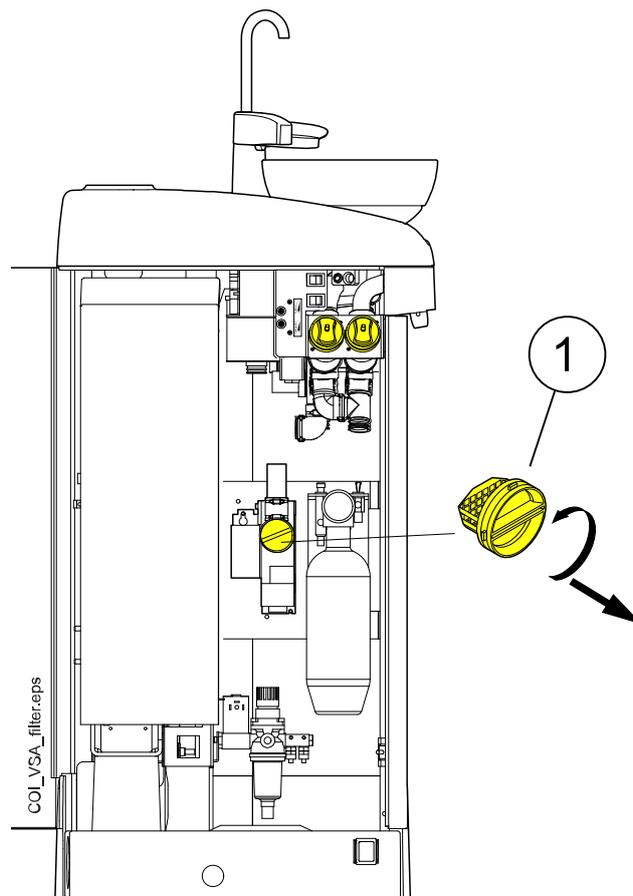
1 Spittoon valve coarse filter

19.4.6 Amalgam collector

CAUTION
Switch the unit off before removing the amalgam collector from the dental unit.

DÜRR CAS1 suction system

Replace the amalgam collector as soon as possible after help message H 1 is displayed, or at least before the next patient.

The degree of fullness of the amalgam collector can also be checked from the indicator light next to the collector on the Dürr CAS1 suction system.

Yellow indicator light	≥ 90 % full
Red indicator light	100 % full
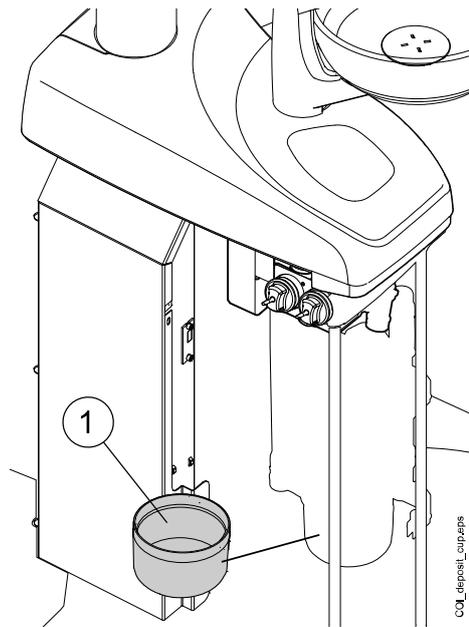
1 Amalgam collector

19.4.7 Deposit cup

CAUTION
Switch the unit off before removing the deposit cup from the dental unit.

DÜRR CS1 suction system

Check the deposit cup weekly and clean or replace it when it is 70% full.

Refer to the instructions supplied with the Dürr separator.

Wet suction system

Check the deposit cup weekly and clean or replace it when it is 70% full.

Microvac suction system

Check the deposit cup weekly and empty and clean it when it is 70% full.
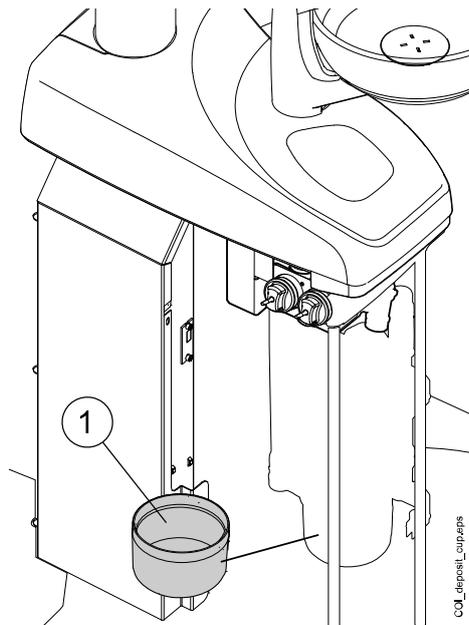
1 Deposit cup

19.4.8 Clean-water bottle

Use a bottle brush and a mild soap- and water solution to clean the clean-water bottle once a week.

To remove the clean-water bottle from the dental unit, first turn the Water bottle switch toward 'OFF'. Then, take a hold of the bottom of the bottle, turn the bottle slightly so that the pin moves along the groove and pull the bottle downwards.
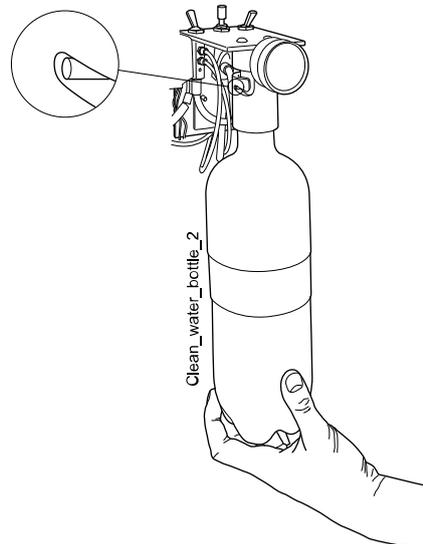
19.5 Suction system

NOTE
Dry the suction tube holders and the tube bushings properly after cleaning. Wet surfaces might disturb suction tube recognition.

19.5.1 In the morning

Steps

1. Rinse each suction tube with 0.5 litres of water by slowly aspirating water and air through the suction handpieces.
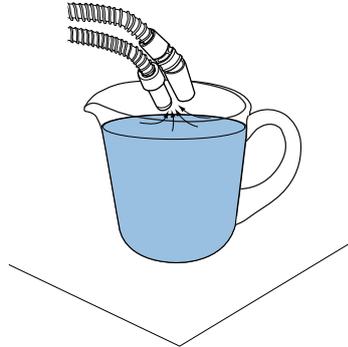
2. Wipe the suction handpieces with Planmeca approved surface disinfectant.

19.5.2 After each patient

Steps

1. Remove the used aspirating tips.

2. For hygienic and operational reasons, empty one glass of water (100 - 200 ml) with each suction tube by aspirating water and air through the suction handpiece. Do this even if only the saliva suction tube has been used.

3. Wipe the suction handpieces with Planmeca approved surface disinfectant.

4. Wipe the suction holder with Planmeca approved surface disinfectant.

Results

NOTE
Do not use a spray disinfection solution for the suction arms and holders.

19.5.3 After each working day

Disinfect the suction system either by running the optional suction cleaning program or by using OroCup. For information on the suction cleaning program, see section "Suction cleaning" on page 62. For information on how to use OroCup, see section "OroCup" on page 74.

The optional suction cleaning program takes 6 - 8 minutes to finish.

When the suction system has been rinsed, disinfect the suction handpieces in a washer-disinfector at 93°C, then optionally autoclave them at 134°C.

19.5.3.1 OroCup

About this task

The following describes how to disinfect the suction system with OroCup.

Steps

1. Mix the cleaning solution:

    Pour 20 ml Planmeca approved suction disinfectant into the rinsing bottle. Add 1 l water and shake well.

    ## NOTE
    ### Do not use dish washing detergents.

2. Place the rinsing bottle (for example OroCup) on a flat surface (table or floor).
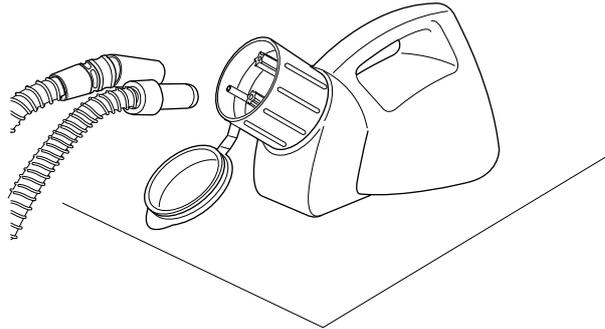
3. Remove the suction handpieces from their holders and push them onto the inserts inside the cap of the rinsing bottle. Allow the bottle to empty.

4. Return the suction tubes back to the holder right after OroCup has been emptied. Do not use suction only for air.

5. Replace the exchangeable parts (filters etc.) the next morning.

19.5.4 Weekly cleaning procedures

19.5.4.1 During working day

About this task

Clean the suction system with Dürr MD 555 cleaner 1 - 2 times a week to prevent the buildup of deposits in the suction system, especially if you are using dental air polishers.

This procedure is mandatory for dental units with a Dürr amalgam separator or Dürr VS/A separator.

For more information on Dürr MD 555 cleaner, please visit http://www.duerrdental.com.

Steps

1. Pour 50 ml of Dürr MD 555 cleaner into a rinsing bottle (for example OroCup). Add 1 l water and mix well.

2. Place the rinsing bottle on a flat surface (table or floor).
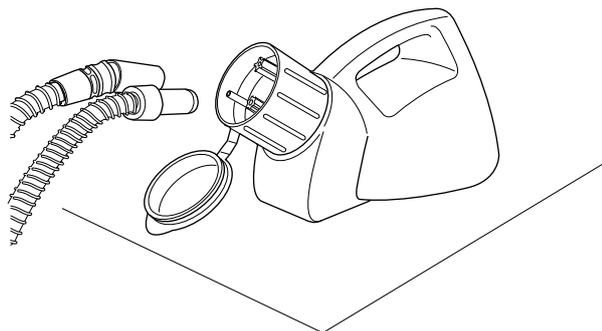
3. Remove the suction handpieces from their holders and push them onto the inserts inside the cap of the rinsing bottle.

4. Remove the suction handpieces from the rinsing bottle when there is 250 ml of the solution left in the bottle.

5. Return the suction handpieces immediately back to the holder. Do not use suction only for air.

6. Open the bowl valve to remove any excess water by pressing the **Program** button for about 5 seconds until the suction starts. The valve will close automatically after about 15 seconds.
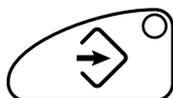
7. When the valve has closed, pour the 250 ml that is left of the solution into the bowl.

8. Let the solution affect for 30 - 120 minutes.

9. Rinse the bowl by pressing **Bowl rinse**.

10. Rinse the suction tubes by manually aspirating water through the suction handpieces.

19.5.4.2 After working day

About this task

If your dental unit is equipped with a Dürr amalgam separator or Dürr VS/A separator, you must clean the suction system with Planmeca approved suction disinfectant once a week.

Steps

1. Mix 5 ml of Planmeca approved suction disinfectant with 250 ml water and stir well.

2. Open the bowl valve to remove any excess water by pressing the **Program** button for about 5 seconds until the suction starts. The valve will close automatically after about 15 seconds.

3. When the valve has closed, pour the suction disinfectant solution into the bowl.

4. Let the solution affect overnight. Rinse the suction system the next morning with 2 l of water.

5. Rinse the bowl with water the next morning by pressing **Bowl rinse**.

19.5.5 Cleaning suction handpieces

The following explains how the suction handpieces can be disassembled for cleaning.

NOTE
We recommend that the suction handpieces be replaced once a year.

High-volume suction handpiece

Unscrew the handpiece from the suction tube for cleaning.

If necessary, the handpiece can be completely disassembled for more thorough cleaning. The handpiece parts can be disinfected in a washer-disinfector at 93°C, then optionally autoclaved at 134°C.
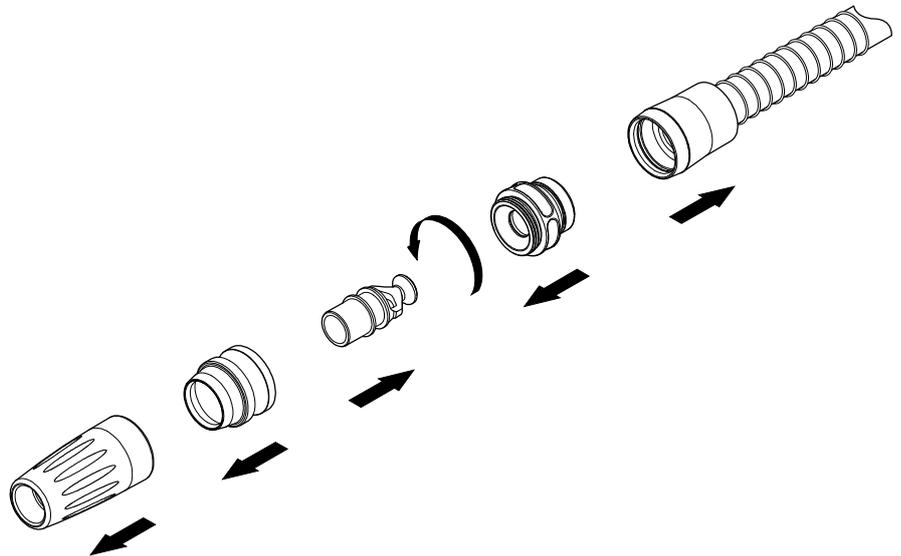
Saliva suction handpiece

The saliva suction handpiece can be disassembled for cleaning by pulling out the end of the handpiece and removing the core (2) and the adjuster (1). The handpiece parts can be disinfected in a washer-disinfector at 93°C, then optionally autoclaved at 134°C.

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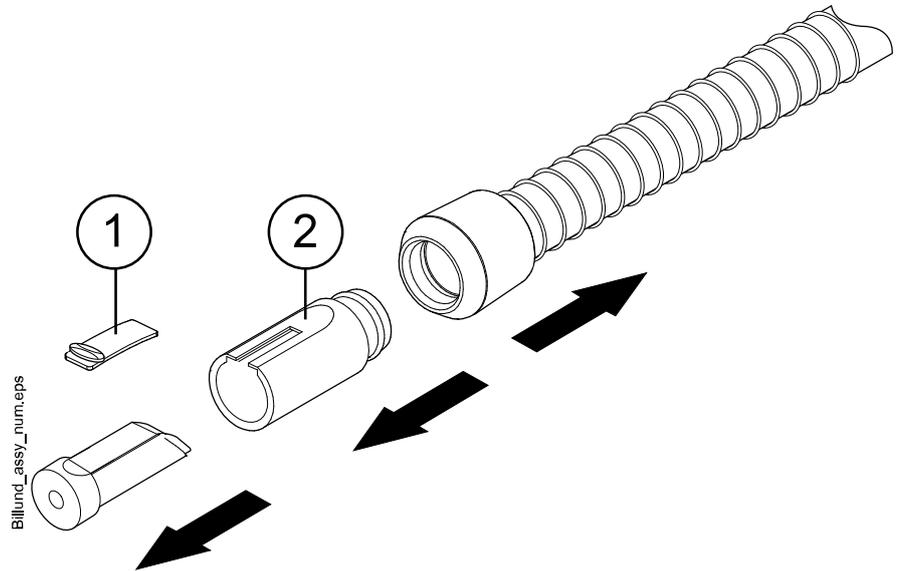
19.6 External PC

The external PC together with its mouse and keyboard can be wiped with a dry cloth, or according to the manufacturer's instructions.

CAUTION
When cleaning the external PC, always disconnect the PC from the mains electricity supply.

20 Clean Water System

20.1 Introduction

In the Clean Water System (CWS), the water that is used for the assistant's syringe comes from a clean-water bottle installed to the dental unit. CWS can be used, for example, when the domestic water is of poor quality, the waterline system does not generate enough pressure, or if its use is required by legislation.
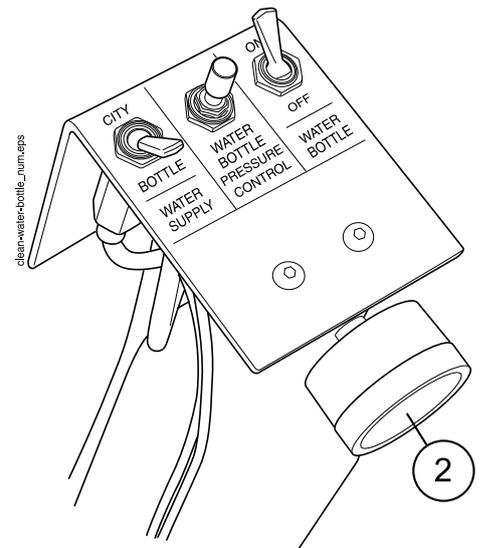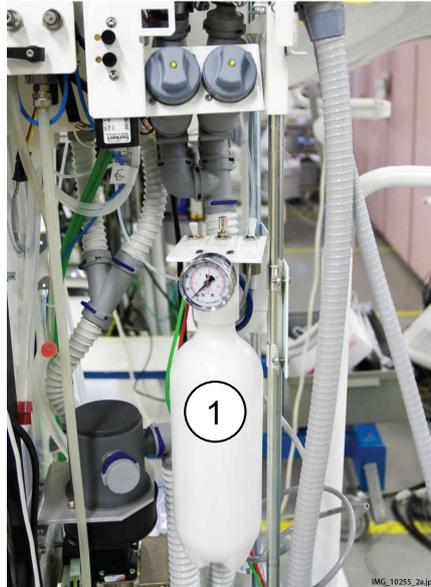
1. Clean-water bottle
2. Pressure monitor

The switches on the clean-water bottle assembly let you control the water supply.
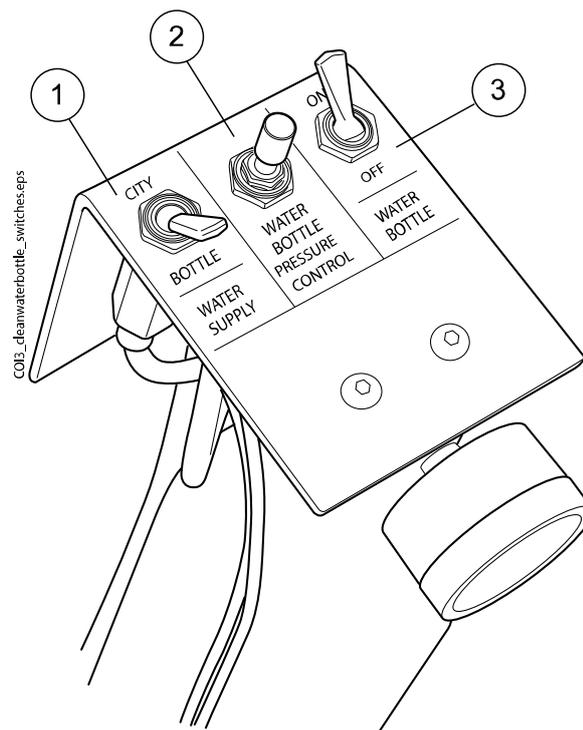
1. Water supply

   Lets you select the water supply for your dental unit. Turn the switch toward 'CITY' to select domestic water, and toward 'BOTTLE' to select the clean-water bottle.

2. Water bottle pressure control

   The pressure in the water bottle can be adjusted by turning the knob. The pressure can be checked from the pressure monitor and should be between 2.5 and 2.8 bar.

3. Water bottle

   When the clean-water bottle is used (water supply -switch turned toward 'BOTTLE'), the water bottle -switch lets you turn the bottle on or off.

   When the switch is toward 'ON', the pressure is maintained in the bottle, and the bottle can be used.

   When the switch is toward 'OFF', you can detach the bottle, for example, for cleaning. Allow a few seconds for the pressure to drop before unscrewing the bottle.

20.2 Waterline cleaning

The waterlines of the dental unit should be cleaned once a week with a Planmeca approved waterline disinfectant. The solution is left in the unit overnight and the waterlines of the unit are flushed with water the next morning. The disinfectant should not be left in the waterlines for longer than one night.

CAUTION

Only Planmeca Planosil, Planmeca PlanPure or Alpro Bilpron disinfectant must be used. Planmeca does not guarantee the suitability of and is not liable for damages caused by other disinfectants.

NOTE

To avoid stains, possible disinfectant splashes should be wiped away immediately.

20.2.1 After the working day

About this task

NOTE

You can interrupt the flushing cycle by pressing Instrument spray. After the interruption, the dental unit can be used normally.

Steps

1. Open the dental unit door.

2. Remove the clean-water bottle.

    First, turn the Water bottle switch toward 'OFF'. Then, take a hold of the bottom of the bottle, turn the bottle slightly so that the pin moves along the groove and pull the bottle downwards.
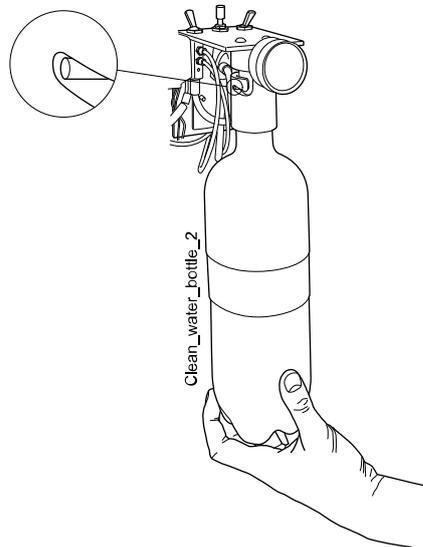
3. Empty the possible water from the clean-water bottle.

4. Fill the clean-water bottle with approx. 2 dl of Planmeca approved waterline disinfectant.

5. Place the clean-water bottle back in its place in the dental unit and close the unit door.

    NOTE
    Ensure that the water supply switch is turned toward 'BOTTLE' and that the water bottle switch is turned toward 'ON'.

6. Remove the cup from the cup holder. Turn the bowl away from above the flushing holder as shown in the figure. Turn also the cup fill tube

above the bowl as shown in the figure. Press the outer edge of the flushing holder cover (1) and remove the cover.
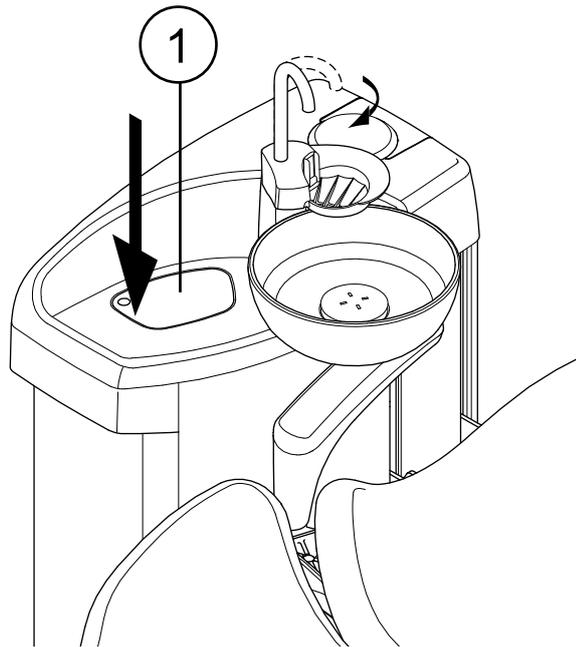
7. Remove the cover/handpiece of the assistant's syringe and clean it according to the manufacturer's instructions.

8. Place the assistant's syringe into the correct slot in the instrument flushing holder.

9. Start the short flushing cycle by pressing **Instrument spray** (you will hear a signal tone) and holding it for 3 seconds.

    Release the button when you hear a second signal tone.

10. Turn the unit off and let the disinfectant affect in the unit overnight.

20.2.2 In the morning

Steps

1. Open the dental unit door.

2. Remove the clean-water bottle.

   First, turn the Water bottle switch toward 'OFF'. Then, take a hold of the bottom of the bottle, turn the bottle slightly so that the pin moves along the groove and pull the bottle downwards.
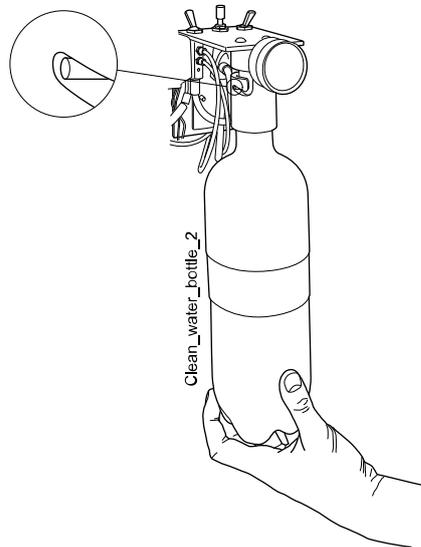

3. Rinse the clean-water bottle and fill it with clean water.

4. Place the clean-water bottle back in its place in the dental unit and close the unit door.

5. Start the short flushing cycle by pressing **Instrument spray** (you will hear a signal tone) and holding it for 3 seconds.

   Release the button when you hear a second signal tone.

6. Repeat the flushing sequence in step 5 at least three more times, or until the water is clean. If the clean-water bottle runs out of water, refill it.

   If the water quality of the domestic water is good, you can also use the domestic water mode when performing the flushing.

7. Remove the syringe from the flushing holder and return it to the suction holder.

Results

The dental unit is now ready for use.

21 Help and error messages

21.1 Overview

The dental unit displays two types of safety messages: help messages and error messages.

Help messages provide helpful information for the user. They are displayed, for example, if you are using the unit or instrument incorrectly, or if the function is not allowed for some reason. The help message disappears automatically when the situation is corrected.

Error messages warn of a fault in the dental unit and require actions from the user. To correct the error situation, and thus to close the error message, follow the instructions in the message.

21.2 Help messages in short form

NOTE
The WCS related help messages can be disabled. Contact your Planmeca dealer.

NOTE
The list may contain help messages related to features that are not part of your unit configuration.

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 1	Amalgam collector is 95% full.	Replace or empty the collector as soon as possible, or at least before the next patient. Pressing the program button allows to continue the operation until the collector is 100% (totally) full.
H 2	Amalgam collector is 100% full.	Replace or empty the collector immediately. The suction system cannot be used before the collector is emptied or replaced.
H 3	Patient chair cannot be driven down because safety switch is activated.	Check that the space under the seat is free and nothing is touching the plate at the bottom. The chair can be driven normally after the possible obstruction has been removed.
H 3.1	Move mannequin arm back to driving sector to enable height adjustment.	The mannequin arm must be horizontally positioned to the driving sector to enable driving the mannequin arm up/down. Otherwise there is a risk of colliding the mannequin arm with the table.
H 4	This left-hand instrument position allows only syringe.	The leftmost position in the console is reserved for the syringe only. Replace this instrument with a syringe. Place the other instrument to one of the four right-hand places.

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 5	This instrument position does not accept syringe.	Remove the syringe from this position and replace it with any other kind of instrument. The syringe must be placed in the leftmost place.
H 6	Patient chair cannot be driven when instrument is in use.	Stop the instrument (release the foot control pedal) to be able to run the chair.
H 7	Patient chair up/down movement is not allowed when cuspidor door is open.	Close the cuspidor door to be able to run the chair up/down or to a pre-programmed position.
H 8	Chair height can not be programmed this high in automatic positions for patient safety reasons.	Run the chair slightly down to be able to program this position into memory.
H 9	This scaler cannot currently be used with this unit.	This scaler needs a dedicated electronics that is not installed, or the scaler electronics installed is not compatible with this scaler.
H 10	Wait while configuring the dental instrument setup.	Wait a few seconds for the unit to check your instrument configuration, since it has changed.
H 11	Software download mode is on.	
H 12	Unit's internal error reporting is disabled.	The unit operates normally but no errors are reported (exhibition use). Use service mode n.15 to turn error reporting back on.
H 13	Instrument cannot run because of patient security violation.	Return the foot control pedal once to the middle position to start the instrument. Instruments do not start if the standard foot control pedal is already pushed to the right or left when the instrument is picked up from the instrument console.
H 14	This dental instrument is not recognised (new type of instrument).	To be able to operate this new instrument the MCB software must be updated.
H 14.1	Instrument presets are reset to defaults.	Instrument presets are faulty. Presets are reset to defaults.
H 15	This button has no function at the moment.	Instruments: Pick up a dental instrument before attempting to alter its settings; or if the instrument is selected, this function is not allowed with this instrument. Other buttons: the unit does not have this function.
H 16	Operating light is dimmed and polymerisation light can be used.	This feature enables easier work with composite materials, minimising the risk of operating light induced curing. This feature is triggered by picking up and returning the polymerisation light to its holder without starting it. The operating light returns to normal at the same instance any control is touched or another instrument selected. The feature can be disabled.

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 17	No syringe connected to instrument console.	The console syringe must be re-connected, otherwise there is an air-leak from the syringe quick-connector whenever an instrument or device that requires air pressure is used.
H 18	No instrument hose connected to this instrument place.	The instrument is picked up, but there is no hose connected at this location. Check that all hoses go to the right instrument arms.
H 19	No syringe connected to connector located on cuspidor.	The assistant's syringe must be re-connected, otherwise there is an air-leak from the assistant's syringe QC whenever an instrument or device that requires air pressure is used.
H 20	Wrong instrument is connected to syringe connector on cuspidor or assistant instrument configuration is wrong.	
H 21	Flow of both spray air and spray water are programmed to zero (no flow).	
H 22	Main air or water valve is set to be always closed in SM 12 (air) /13 (water).	This is a reminder that either of the main valves has been set to be always closed. The setting may be changed in service modes SM 12 (air) and SM 13 (water).
H 23	Automatic/manual chip blow cannot be used when sterile water function is selected.	
H 24	Programming of selected setting is disabled.	The programming of the selected setting is disabled.
H 25	Planmeca Compact e help message: Patient chair cannot be driven into automatic chair position.	
H 26	Drive chair upwards, then lower backrest. If patient chair is attached to unit, chair's automatic positions are not switched on.	Drive the chair upwards before lowering the backrest. If this help message is shown while the patient chair is attached to the unit, it means that you have forgotten to switch on the chair's automatic positions. To clear the message, put the operation mode switch on the cuspidor side of the chair base in the "AUTO" position (switch up).
H 27	Drive backrest upwards, then lower chair. If patient chair is attached to unit, chair's automatic positions are not switched on.	Drive the backrest upwards before lowering the chair. If this help message is shown while the patient chair is attached to the unit, it means that you have forgotten to switch on the chair's automatic positions. To clear the message, put the operation mode switch on the cuspidor side of the chair base in the "AUTO" position (switch up).
H 28	Planmeca Compact WE's help message.	Connect the lifter cable.

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 29	Drive chair downwards, then lower backrest. If patient chair is attached to unit, chair's automatic positions are not switched on.	Drive the chair downwards before lowering the backrest. If this help message is shown while the patient chair is attached to the unit, it means that you have forgotten to switch on the chair's automatic positions. To clear the message, put the operation mode switch on the cuspidor side of the chair base in the "AUTO" position (switch up).
H 30	Close water tap. Fill container with disinfectant up to groove and attach to unit.	
H 31	Switch unit off, leave disinfectant in unit overnight (min. 8 h).	When unit is turned back on, disinfection procedure continues.
H31.1	Remove container, fill it up to groove with water and attach to unit.	
H31.2	Attach container filled with water.	
H 32	Container flushing completed.	Remove container from unit.
H 33	Open water tap.	
H 34	No instruments selected when starting instrument flushing or waterline cleaning.	Select at least one instrument and syringe (remove from holder, bend the instrument arms).
H 35	Instruments are locked for safety reasons.	Select instruments, place them in flushing holder, and press Instrument flushing button to start instrument flushing.
H35.1	Waterline cleaning cancelled or failed. Remove container.	Make sure water tap is open. Select instruments, place them in flushing holder and press Instrument flushing button to start instrument flushing.
H 36	Flushing ready. Return instruments to instrument console.	Also bend and release syringe's instrument arm once.
H36.1	Instrument flushing completed, but water flow was not detected for one or more instruments.	Run instruments for a while with spray water to ensure instrument flushing is sufficient.
H36.8	Low water pressure during final flushing.	Perform long instrument flushing to ensure instruments are flushed.
H 37	Waterline cleaning has been interrupted.	
H 38	Low water pressure during final rinsing.	When waterline cleaning is finished, perform long instrument flushing to ensure instruments are flushed.
H 39	Syringe misplaced or its flow not detected in waterline cleaning.	Return syringe to console. Then, select syringe (bend instrument arm) again and place it carefully in flushing holder.
H 40	Too many Bien-Air MX brushless micromotors.	A maximum of two is allowed.
H 41	Insert suction tubes to suction tube cleaning holder, add disinfectant and press green start button (upper button).	

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 41.1	Insert suction tubes to suction tube cleaning holder.	
H 41.2	Remove suction tubes from holder to start suction cleaning.	
H 42	Suction cleaning completed. Return suction tubes to suction holder and close suction cleaning cover.	
H 42.1	Suction cleaning completed. Return suction tubes to suction holder.	
H 43	Suction cleaning cancelled. Return suction tubes to suction holder.	
H 44	Incorrect suction tube amount detected. Return them to suction holder, place them back to suction tube cleaning holder and start cleaning.	
H 45	Set WMS to Domestic Water Supply -mode and wait until WMS bottle is full. Then start suction cleaning.	Suction cleaning can not be used when WMS is set to Bottled Water -mode.
H 46	Suction use is forbidden or there are no suction tubes in dental unit configuration.	The value of service mode n.83 is 0.
H 47	Suction disinfectant pressure is low. (In automatised suction cleaning: Fill suction disinfectant container).	
H 47.1	Suction disinfectant level low. Fill suction disinfectant container.	
H 47.2	Suction disinfectant container filled.	
H 48	WMS must be set to Bottled water off and Bottle on -modes before starting suction cleaning.	Bottled water off = domestic water is used Bottle on = bottle is used; domestic water is run through the bottle
H 50	No cup in cup holder. Sensor does not recognise cup when pressing cup fill button.	Place a cup on the cup holder. Or change the setting of service mode n 115.
H 51	Bowl or tray is above patient chair when driving chair up.	If the unit has a bowl or a tray, move it to the home position. If the unit has an OP delivery arm safety switch, check that the OP delivery arm is not blocking the chair movement.
H 52	Patient chair can not be driven upward because safety switch of side delivery arm is released.	
H 52.1	Mannequin arm can not be driven upward because safety switch under the table is released.	
H 53	Patient chair can not be driven downward because safety switch of side delivery arm is released.	

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 53.1	Mannequin arm can not be driven downward because safety switch of the arm is released.	
H 54	Cup is inserted in cup holder.	Remove the cup and make sure the cup fill tube is above the bowl.
H 55	Disinfectant container attached. To start waterline cleaning, select instruments and press Waterline cleaning button.	
H 57	Vision action failed. Select patient in Romexis.	Select patient in Planmeca Romexis before performing Solanna Vision action.
H 59	OTR torque calibration needed.	For the torque measurement result to be accurate, always perform calibration when changing the handpiece.
H 59.1	OTR torque calibration started.	Do not touch the file during calibration. The file runs with full speed during calibration.
H 59.2	OTR torque calibration cancelled.	
H 59.3	OTR torque calibration failed.	Try calibration again and ensure that nothing touches the file during calibration. If calibration still fails after multiple attempts, contact service.
H 59.4	OTR torque calibration performed successfully.	
H 59.5	OTR torque calibration interrupted.	
H 60	WMS: Container almost empty in Domestic water supply -mode.	Reduce water use for a moment.
H 61	WMS: Container almost empty in Bottled water -mode.	Reduce water use and fill the container as soon as possible.
H 62	WMS: Container switch is turned off.	Switch on the container switch.
H 63	Cuspidor door is open.	Close the door.
H 64	Fill container with disinfectant over upper sensor.	
H 65	Fill container with water over upper sensor.	
H 66	Wait 8 hours or switch unit off for the night.	
H 67	Instrument flush cancelled. Return instruments to instrument console.	
H 68	Romexis connection lost.	Make sure the Ethernet cable is attached and Romexis is running.
H 69	Unable to create a new user. Maximum amount of local users exceeded.	
H 70	Brushless micromotor is stuck or broken.	
H 71	Romexis user ID already in use.	Check the ID, select another one, or allow rebind in Romexis.
H 72	Incompatible Romexis version.	PlanID is not supported with this version of Romexis.

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 72.1	Incompatible Romexis version for current instrument	User settings for currently active instrument can not be used. Romexis version does not support user instrument settings or presets for currently active instrument. Check the instrument settings before using instrument and update Romexis.
H 73	Failed to copy user profile from Romexis.	
H 73.1	Failed to save user settings.	
H 74	PlanID reader missing.	PlanID reader is either missing or not functional.
H 75	Annual maintenance in <#> days.	Contact service for annual maintenance.
H 76	Annual maintenance performed.	
H 79.1	Serial number chip missing.	The serial number chip is missing. Contact service.
H 80	Headrest length safety feature activated when driving headrest. Check that nothing is blocking headrest movements.	Check that nothing is blocking the headrest movement. The headrest can be driven normally after the possible obstruction has been removed.
H80.1	Headrest length drive limit activated when driving headrest.	Check that nothing is blocking headrest movements. Faulty length motor, motor cable, non-lubricated slider rail or position potentiometer may cause this problem.
H 81	Headrest angle B safety feature activated when driving headrest. Check that nothing is blocking headrest movements.	Check that nothing is blocking the headrest movement. The headrest can be driven normally after the possible obstruction has been removed. Faulty angle B motor, motor cable or position sensor may cause this problem.
H81.1	Headrest angle A drive limit activated when driving headrest.	Check that nothing is blocking the headrest movement. Faulty angle A motor, motor cable or position sensor may cause this problem.
H 82	Connecting to wireless foot control was successful.	Connection was established with the requested foot control.
H 83	Foot control handle pressed down.	Release the foot control handle.
H 84	Connecting to wireless foot control failed.	Connection with the requested foot control could not be established. Make sure the foot control is active (connect to a charger, if possible), is in the vicinity of the unit, and try again.
H 85	Software update denied. Chair was moving or instrument was in use while starting software update.	The chair was moving or an instrument was in use while starting the software update.

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 86	Software update denied. Incorrect control panel type was detected while starting software update.	An incorrect control panel type was detected while starting the software update.
H 87	Software update halted. Activate the wireless foot control by pressing the handle.	Wireless foot control has to be activated before it can be updated.
H 88	Wireless foot control configuration was successful.	Wireless foot control channel and power settings were successfully changed.
H 89	Wireless foot control configuration failed.	Wireless foot control channel and power settings could not be changed. Make sure the foot control is active (connect to a charger, if possible), is in the vicinity of the unit, and try again.
H 90.1	Measure water chlorine level.	Run at least 50 ml of water from the syringe to the cup. Move the test strip back and forth in the water for 30 seconds. Compare the strip colour with the colour scheme. Select the chlorine level on the control panel according to the measurement. < 0.2 (LOW) 0.2 - 0.8 (OK) > 0.8 (HIGH) If the chlorine level is continuously too low, contact service.
H 90.2	ActiveAqua prefilter expired.	Switch off the dental unit. Replace the prefilter. After switching on the dental unit press the Reset prefilter button to confirm the prefilter replacement. To temporarily ignore this notification, select any instrument or press Cancel.
H 90.3	ActiveAqua water container is empty.	Water container fill is slow or the low level sensor does not sense water.
H 90.4	ActiveAqua water container overflow.	Check ActiveAqua level sensors and water container.
H 90.5	ActiveAqua annual maintenance overdue.	Annual ActiveAqua maintenance must be performed. Contact service.
H 90.6	Measured chlorine level low.	Normal use chlorine level increased by +15%.
H 90.7	Measured chlorine level OK.	No change to normal use chlorine level.
H 90.8	Measured chlorine level high.	Normal use chlorine level decreased by -5%.
H 91.1	ActiveAqua low prefilter waterflow. Prefilter may be clogged.	Too low recirculation flow detected in ActiveAqua water container. Prefilter may be clogged, other flow restriction may exist in water container recirculation line, or the water pump may be faulty.
H 91.2	ActiveAqua prefilter change confirmed.	

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
H 94	Clock calibration failed. Maximum calibration range exceeded.	
H 95	Patient chair automatic position cannot be reached because legrest is unlocked or armrests are blocking movement.	
H 96	PlanID tag already in use.	PlanID tag assigned to another user.
H 96.1	Different user already logged in.	The unit has rejected a login request because a different user is already logged in.
H 97	Failed to assign PlanID tag to user.	Check Romexis connection.
H 98	User not found.	User not found with this PlanID tag. Create a new user or select an existing Romexis user and assign the PlanID tag.
H 98.1	User login failed.	Retry login or reboot the unit. If problem persists, contact service.
H 98.2	RFID unknown.	The RFID is unknown to the system.
H 99	Unit has been switched off without performing long flushing after water has been used. Perform long flushing.	
HE200	Detected new software update. Confirm to install?	
HE201	Detected new software update SD-card. Confirm to install 5.3.0.9.R ?	
HE210	Software update. Installing to Control panel bootloader sw. DO NOT TURN POWER OFF.	Do not turn the power off while the software is being updated.
HE212	Software update. Installing to Control panel application sw. DO NOT TURN POWER OFF.	Do not turn the power off while the software is being updated.
HE214	Software update. Installing to Control panel application sw. DO NOT TURN POWER OFF.	Do not turn the power off while the software is being updated.
HE216	Software update. Downloading from server. DO NOT TURN POWER OFF.	Do not turn the power off while downloading software from the server.
HE218	Software update. Installing to Main PCB. DO NOT TURN POWER OFF.	Do not turn the power off while the software is being updated.
END	Flushing completed. Remove syringe from flushing holder and return it to console. If syringe is removed, return it to flushing holder.	
DOOR	Cuspidor door is open.	Close the door.
FC.LD	Move foot control pedal to leftmost position. Press pedal down and hold. While holding, push centre knob briefly in 'chair up' direction.	Move the foot control pedal to the leftmost position. Press the pedal down and hold. While holding, push the centre knob briefly in the 'chair up' direction.

Help messages

HELP CODE	MEANING	ACTION OR EXPLANATION
FC.LU	Move foot control pedal to leftmost position and hold. While holding, push centre knob briefly in 'chair up' direction.	Move the foot control pedal to the leftmost position and hold. While holding, push the centre knob briefly in the 'chair up' direction.
FC.CD	Press foot control pedal down and hold. While holding, push centre knob briefly in 'chair up' direction.	Press the foot control pedal down and hold. While holding, push the centre knob briefly in the 'chair up' direction.
FC.CU	Keep foot control pedal in rest position (centre). Push centre knob briefly in 'chair up' direction.	Keep the foot control pedal in the rest position (centre). Push the centre knob briefly in the 'chair up' direction.
FC.RD	Move foot control pedal to rightmost position. Press pedal down and hold. While holding, push centre knob briefly in 'chair up' direction.	Move the foot control pedal to the rightmost position. Press the pedal down and hold. While holding, push the centre knob briefly in the 'chair up' direction.
FC.RU	Move foot control pedal to rightmost position and hold. While holding, push centre knob briefly in 'chair up' direction.	Move the foot control pedal to the rightmost position and hold. While holding, push the centre knob briefly in the 'chair up' direction.
FC.--	To exit foot control calibration mode, press and hold down calibration switch for 4 seconds.	
H 7003	Control panel is temporarily disabled due to interference on touch screen.	Make sure the touch screen is clean and dry. If the problem continues, contact service.

21.3 Error messages in short form

21.3.1 General error messages

General error messages

ERROR CODE	EXPLANATION
E1.01	Main water valve short circuit. Disconnect valve and check if error disappears.
E1.02	Main air valve short circuit. Disconnect valve and check if error disappears.
E1.03	Bowl rinse valve short circuit. Disconnect valve and check if error disappears.
E1.04	Cup filling valve short circuit. Disconnect valve and check if error disappears.
E1.05	Water flush valve short circuit. Disconnect valve and check if error disappears.
E1.06	Separator pulse valve short circuit. Disconnect valve and check if error disappears.

General error messages

ERROR CODE	EXPLANATION
E1.07	Ejector valve short circuit.
	Disconnect valve and check if error disappears.
E1.08	Extra out 1 short circuit.
	Disconnect output and check if error disappears.
E1.09	Extra out 2 short circuit.
	Disconnect output and check if error disappears.
E1.10	Extra out 3 short circuit.
	Disconnect output and check if error disappears.
E1.11	Separator start signal / Microvac's start valve short circuit.
E1.12	Assistant syringe water valve short circuit.
	Disconnect valve and check if error disappears.
E1.13	Separator alarm reset signal short circuit.
	Disconnect output and check if error disappears.
E1.14	PLANET output (ELMP) short circuit.
	Disconnect output and check if error disappears.
E2.01	Incoming water valve open circuit.
	Error can be detected when circuit is dead.
E2.02	Incoming air valve open circuit.
	Error can be detected when circuit is dead.
E2.03	Bowl rinse valve open circuit.
	Error can be detected when circuit is dead.
E2.04	Cup filling valve open circuit.
	Error can be detected when circuit is dead.
E2.05	Main Control PCB output open circuit warning.
E2.06	Separator pulse valve open circuit.
	Error can be detected when circuit is dead.
E2.07	Main Control PCB output open circuit warning.
E2.08	Main Control PCB output open circuit warning.
E2.09	Main Control PCB output open circuit warning.
E2.10	Main Control PCB output open circuit warning.
E2.11	Separator start signal open circuit / Microvac valve open circuit.
E2.12	Assistant syringe water valve open circuit.
	Error can be detected when circuit is dead.
E2.13	Separator alarm reset signal open circuit.
	Error can be detected when circuit is dead.
E2.14	Main Control PCB output open circuit warning.
E2.15	Not used or not in the manuals.

General error messages

ERROR CODE	EXPLANATION
E3.1	Incoming air pressure compared to water pressure is too low. Ensure that air pressure main switch is on. If problem persists, contact service.
E3.2	Internal water pressure too low. Check dental unit's incoming water pressure. Ensure that dental unit inlet water tap is open.
E3.4	Internal air pressure (after regulator) is too low. Ensure that air pressure main switch is on. If problem persists, contact service.
E3.5	Internal air pressure (after pres. regulator) is too high. Check pressure regulator, pressure sensor and pressure block connector.
E3.6	Waterline cleaning feed pressure too low. Check and adjust waterline cleaning feed pressure. Replace waterline cleaning feed regulator if problem still exists.
E3.7	Waterline cleaning flush pressure too low. Check dental unit's incoming water pressure. Ensure that dental unit inlet water tap is open.
E4.1	Short circuit in cable from MCB to control panel / suction holder in branch 1.
E4.2	Short circuit in cable from MCB to control panel / suction holder in branch 2.
E4.3	Communication bus (CAN) is not operational or CAN devices are disconnected (foot control, operating light, motorised headrest, uWmc).
E4.4	Communication bus (Console CAN) is not operational.
E5	Unsupported device attached. Detach the device or contact service.
E6.01	Cuspidor up -safety circuit error.
E6.02	Cuspidor down -safety circuit error.
E6.03	Chair down -safety circuit error.
E6.04	Bowl up -safety circuit error.
E6.05	Bowl down -safety circuit error.
E6.07	Console up -safety circuit error.
E6.08	Console down -safety circuit error.
E6.09	Emergency stop -safety circuit error.

21.3.2 Power supply related error messages

⚠️ **WARNING**

If a fuse has blown, contact your Planmeca dealer. Fuses must be changed only by a qualified Planmeca service technician.

Power supply related error messages

ERROR CODE	EXPLANATION
E7	Power supply related error messages. IPS voltage failure on MCB.
E7.01	Instrument power supply overcurrent shutdown. Instrument power supply may be shortcircuited or selected instrument hose may be faulty.
E9	Internal operating voltage too low. Unit functionality may be limited.
E10	Internal operating voltage too high.
E11.1	OP-light fuse (F5) and/or Water heater fuse (F7) has blown on the MCB.
E11.2	Separator fuse (F6) and/or Syringe heater fuse (F8) has blown on the MCB.
E11.3	Either of the +24V electronics fuses (F9 or F10) has blown on the MCB.
E11.4	Rectifier D5 or D1 short circuit or either of the 24V electronics fuses (F3 or F4) has blown on the MCB. Chair, instrument and headrest control not allowed.
E11.5	Separator fuse (F5) has blown on the MCB.
E11.6	Water heater fuse (F6) has blown on the MCB.
E11.7	Syringe heater fuse (F7) has blown on the MCB.
E11.8	Polymerisation light fuse (F8) has blown on the MCB.
E12.1	SELV voltage too low. Unit functionality may be limited.
E12.2	SELV voltage too high.
E13	Mains frequency outside acceptable range.
E14	IPS temperature measurement sensor error.
E15	IPS heatsink is running too hot on MCB.
E16	Attached scaler electronics is of new type.
E16.1	New type of scaler electronics is attached to MCB. Update MCB software.
E16.2	New type of scaler electronics is attached to IMUX. Update MCB software.
E16.3	Scaler electronics slot does not match with scaler hose connection. Check scaler electronics connection.

Power supply related error messages

ERROR CODE	EXPLANATION
E16.4	Other instrument than scaler is connected to slot where scaler electronics is. Check scaler electronics connection.
E17	Power Supply related error messages.
E18	Power Supply related error messages.

21.3.3 Control panel related error messages

Control panel related error messages

ERROR CODE	EXPLANATION
E19.1	Control panel in branch 1 is of new type. Update MCB software.
E19.2	Control panel in branch 2 is of new type. Update MCB software.
E20.1	Control panel 1 button stuck. Control panel button is stuck during self test.
E20.2	Control panel 2 button stuck. Control panel button is stuck during self test.
E21	Control panel related error messages.
E22	Control panel related error messages.

21.3.4 Instrument related error messages

Instrument related error messages

ERROR CODE	EXPLANATION
E23	Polymerisation light bulb has blown or is not properly attached to socket.
E23.1	Instrument overtemperature error. Check the instrument handpiece and let the instrument cool down.
E23.2	Micromotor error; phase missing. Check that the micromotor and hose are connected properly.
E23.3	Instrument undervoltage error.
E23.4	Instrument power protection error.
E23.5	Instrument EEPROM error.
E23.6	Instrument overvoltage error.

Instrument related error messages

ERROR CODE	EXPLANATION
E23.7	Instrument data communication error. Check that instrument hose is properly connected. Do not unmount hose when instrument is selected.
E23.8	Apex locator / Morita micromotor PCB failure.
E23.9	Unable to save instrument settings to selected preset.
E25	Satelec mini LED polymerisation light requires newer IMUX PCB version.

21.3.5 Instrument multiplexer related error messages

Instrument multiplexer related error messages

ERROR CODE	EXPLANATION
E28.1	Reference resistor signal out of bounds when unit is switched on.
E28.2	Active instrument signal out of bounds. Error in hose identifcation system in IMUX. Ensure that the instrument's quick connector is properly attached.
E28.3	Syringe signal out of bounds. Error in hose identifcation system in IMUX. Ensure that the instrument's quick connector is properly attached.
E28.4	Reference resistor signal out of bounds when instrument is activated. Ensure that the instrument's quick connector is properly attached.
E28.5	Syringe signal changes during use (blinking). Error in hose identifcation system in IMUX. Ensure that the instrument's quick connector is properly attached.
E29	Voltage error in fibre light power supply in IMUX. If there is a problem with one instrument only, replace the hose. If the problem is with several instruments or the hose is ok, contact service.
E32.1	IMUX is not responding. IMUX cable disconnected or failure in cable or IMUX.
E32.2	IMUX software is not compatible (IMUX is of new type) with MCB software. Update MCB software.
E32.3	IMUX data error (cable short circuit).
E32.4	IMUX communication error.
E32.5	Wrong IMUX type or wrong unit type.
E33.1	Syringe select valve short circuit.
E33.2	Instrument 1 select valve short circuit.

Instrument multiplexer related error messages

ERROR CODE	EXPLANATION
E33.3	Instrument 2 select valve short circuit.
E33.4	Instrument 3 select valve short circuit.
E33.5	Instrument 4 select valve short circuit.
E33.6	Instrument multiplexer related error messages.
E33.7	Drive/Cooling air valve short circuit.
E33.8	Air coolant valve short circuit.
E33.9	Water coolant valve short circuit.
E34.1	Syringe select valve open circuit.
E34.2	Instrument 1 select valve open circuit.
E34.3	Instrument 2 select valve open circuit.
E34.4	Instrument 3 select valve open circuit.
E34.5	Instrument 4 select valve open circuit.
E34.6	Instrument multiplexer related error messages.
E34.7	Drive/Cooling air valve open circuit.
E34.8	Air coolant valve circuit.
E34.9	Water coolant valve circuit.
E35.1	Drive/Cooling air pressure sensor output below 0.2 V.
E35.2	Air coolant pressure sensor output below 0.2 V.
E35.3	Water coolant pressure sensor output below 0.2 V.
E35.4	Differential pressure sensor output below 0.2 V.
E36.1	Drive/Cooling air measurement over range. Check if micromotor handpiece has air- and waterlines. Check if instrument, handpiece or hose is blocked.
E36.2	Spray air measurement over range. Check if micromotor handpiece has air- and waterlines. Switch off spray water and air if there are no air- and waterlines in instrument or handpiece.
E36.3	Spray water measurement over range. Check if micromotor handpiece has air- and waterlines. Switch off spray water and air if there are no air- and waterlines in instrument or handpiece.
E36.4	Differential pressure sensor output above 5 V.
E37	Pressure sensor cable not properly attached to IMUX.
E39	Drive (cooling) air valve control servo cannot maintain pressure to instrument.
E42	Air coolant (spray air) control servo cannot maintain required pressure.
E45	Water coolant (spray water) control servo cannot maintain required pressure.

21.3.6 Suction holder related error messages

Suction holder related error messages

ERROR CODE	EXPLANATION
E47	Suction holder is of new type.
E47.1	Suction holder in branch 1 is of new type. Update MCB software.
E47.2	Suction holder in branch 2 is of new type. Update MCB software.
E48.1	No suction holders detected. Either the holder is missing or faulty, or the cable to the holder is loose or faulty.
E48.2	Suction holder related error messages.
E48.3	Suction holder related error messages.
E48.4	Suction holder related error messages.
E49.1	Suction holder PCB or its cable is faulty in branch 1. Either the holder is missing or faulty, or the cable to the holder is loose or faulty.
E49.2	Suction holder PCB or its cable is faulty in branch 2. Either the holder is missing or faulty, or the cable to the holder is loose or faulty.
E50	Unidentified STCS jumper configuration.
E50.1	Water management system (WMS) must be set to Bottle water off -mode when starting suction cleaning.
E50.2	Suction disinfectant pump is not running.

21.3.7 Foot control related error messages

Foot control related error messages

ERROR CODE	EXPLANATION
E51.1	Cable from foot control is loose or connected into wrong connector on MCB.
E51.2	Foot control is not responding. Ensure that the foot control cable is properly attached to the unit. If it is, contact service.
E51.3	Foot control pedal was pressed down when dental unit was switched on. Restart the unit without touching the foot control.
E51.4	Foot control pedal was not in home position when dental unit was switched on. Restart the unit without touching the foot control.

Foot control related error messages

ERROR CODE	EXPLANATION
E51.5	Foot control's chair control knob was not in home position when dental unit was switched on. Restart the unit without touching the foot control.
E51.6	Foot control left knob is either stuck or active at power-up or after pedal use.
E51.7	Foot control right knob is either stuck or active at power-up or after pedal use.
E52	Foot control is of new type, update MCB software. MCB software must be updated.
E52.1	Incompatible wireless foot control receiver software.
E52.2	Incompatible wireless foot control software.
E52.3	Incompatible foot control software.
E52.4	Incompatible ActiveAqua software
E53	Foot control data error (cable short circuit).
E54.0	Foot control error.
E54.1	Foot control EEPROM write failure.
E54.2	Foot control EEPROM read failure.
E54.3	Pedal too far from sensors, channel A.
E54.4	Pedal too far from sensors, channel B.
E54.5	Sensor plate is tilted too much to either side, checksum error.
E54.6	Sensor plate is too close to PCB, channel A.
E54.7	Sensor plate is too close to PCB, channel B.
E54.8	Foot control re-trigger error.
E54.9	Foot control calibration error.
E55	Wireless foot control connection lost.

21.3.8 Operating light related error messages

Operating light related error messages

ERROR CODE	EXPLANATION
E56	Operating light erroneously connected or short circuit in push button.
E57	Incompatible SingLED software.
E58	Operating light bulb burned out. Replace bulb.

21.3.9 Separator system related error messages

Separator system related error messages

ERROR CODE	EXPLANATION
E59.1	Separator reports functional error. Refer to Metasys separator documentation.
E59.2	Separator reports functional error. Refer to Dürr separator documentation.
E60	Separator is not responding or separator cable is faulty.
E61	Separator is flooded with too much water.
E62	Newly attached separator is of new type and cannot be controlled by MCB.
E63.1	Water management system (WMS) seems to be installed, although it should not be (according to service mode).
E63.2	No Water management system (WMS) is installed, although it should be according to service mode.

21.3.10 Patient chair related error messages

Patient chair related error messages

ERROR CODE	EXPLANATION
E64	Lift motor position potentiometer or its cable is faulty or disconnected.
E65	Lift motor does not run or no signal from position potentiometer.
E65.1	Lift motor does not run. EmeStop relay PCB/cables or position sensor/cable may be faulty.
E66	Lift motor or its position potentiometer cable has a wrong connection.
E67	Backrest position potentiometer or its cable is faulty or disconnected.
E68	Backrest motor does not run or no signal from position potentiometer.
E68.1	Backrest motor does not run. EmeStop relay PCB/ cables or position sensor/ cable may be faulty.
E69	Backrest motor or its position potentiometer cable has a wrong connection.
E70.1	Lift motor error.
E70.2	Backrest motor error.

21.3.11 Main CPU related error messages

Main CPU related error messages

ERROR CODE	EXPLANATION
E72.1	Program (Flash-EPROM) error. Main software is corrupted. Replace Flash- EPROM.
E72.2	Program (Flash-EPROM) error. Boot software is corrupted. Replace Flash- EPROM.
E72.3	Program (Flash-EPROM) error. Update MCB software.
E72.4	Data transfer error while updating main PCB SW from control panel memory device.
E73.1	EEPROM error, CPU EEPROM erase/program failure, replace CPU.
E73.2	CPU configuration register contents are wrong, replace CPU.
E73.3	CPU EEPROM checksum error.
E73.4	CPU EEPROM checksum programmed. Replace CPU if error occurs often.
E75.1	CPU error, WD reset.
E75.2	Illegal OP-code.
E75.3	Illegal vector.
E75.6	Mains voltage failure.
E75.7	Clock monitor reset.
E76	Main PCB hardware test failed.
E76.1	Unknown PCB version. Software upgrade required.
E79	IMUX water pressure cannot be released during waterline cleaning cycle.
E79.1	IMUX water pressure rose during waterline cleaning cycle when pressure rise was not expected.

21.3.12 Headrest related error messages

Headrest related error messages

ERROR CODE	EXPLANATION
E80.1	Motorised headrest is not found (according to service mode configuration).
E80.2	Motorised headrest is found, but is not set in service mode configuration.
E80.3	Headrest joystick (dentist side) stuck or cable broken.
E80.4	Headrest joystick (assistant side) stuck or cable broken.
E80.5	Motorised headrest motor A potentiometer or cable is faulty or disconnected.

Headrest related error messages

ERROR CODE	EXPLANATION
E80.6	Motorised headrest motor B potentiometer or cable is faulty or disconnected.
E80.7	Motorised headrest length potentiometer or cable is faulty or disconnected.
E81	Motorised headrest communication error (may be too old or wrong software or loose cables or short circuit).
E81.1	Motorised headrest communication error.
E82	Headrest software is incompatible with MCB software. Headrest or MCB software should be upgraded.
E82.1	Headrest software is incompatible with MCB software. Headrest or MCB software should be upgraded.
E82.2	Incompatible headrest software.

21.3.13 Water leak related error messages

Water leak related error messages

ERROR CODE	EXPLANATION
E90	Water leak detected. Main water valve is closed.
E90.1	Water leak detected. Water use allowed temporarily.

21.3.14 Maintenance related errors

Maintenance related errors

ERROR CODE	EXPLANATION
E91	Annual maintenance overdue. Annual maintenance should have been performed <x> days ago.

21.3.15 Software upgrade error messages

Software upgrade error messages

ERROR CODE	EXPLANATION
E99	Software upgrade failure. Retry upgrade.
E99.1	MCB software upgrade failure. Retry upgrade.

Software upgrade error messages

ERROR CODE	EXPLANATION
E99.2	IMUX software upgrade failure. Retry upgrade.
E99.3	Control panel software upgrade failure. Retry upgrade.
E99.4	Operating light software upgrade failure. Retry upgrade.
E99.5	Motorised headrest software upgrade failure. Retry upgrade.
E99.6	Foot control software upgrade failure. Retry upgrade.
E99.7	Wireless foot control software upgrade failure. Retry upgrade.
E99.8	Wireless foot control receiver software upgrade failure. Retry upgrade.
E99.9	PlanID reader software upgrade failure. Retry upgrade.

21.3.16 Error messages generated by control panel

Error messages generated by control panel

ERROR CODE	EXPLANATION
EP19.3	Control panel version mismatch.
EP19.5	Control panel software upgrade has failed or memory card is faulty.
EP21.1	Control panel display is faulty.
EP21.2	Control panel data error.
EP21.5	Unable to read Main PCB software version.
EP21.6	Control panel software not installed or software error. Insert software update SD-card or contact service.
EP21.7	Touch panel is not working.

22 Consumables

Consumables are detachable parts of the dental unit that the user can change.

Suction handpieces

Part		Order number	Material
	Billund saliva suction handpiece assembly	10039175	PP, POM, stainless steel
	Dürr saliva suction handpiece assembly	10039173	PSU, PP, POM, stainless steel
	Billund high-volume suction handpiece assembly	10039176	PP, POM, stainless steel
	Dürr high-volume suction handpiece assembly	10039172	PSU, PP, POM, stainless steel
	Tilting high-volume suction handpiece assembly	10022870	PSU, PP, POM, stainless steel

Infection control parts

Part		Order number	Material
	Dürr disposable filter 0725-041-00, 1 piece Dürr disposable filter 0725-041-00, 12 pcs NOTE! 2 filters needed Filters retain solid particles with a diameter of ≥ 2 mm	00221013 10005741	PP PP
	Handle of Planmeca Solanna operating light, 1 piece NOTE! 2 handles needed	30005173	Silicone rubber
	Silicone mat for tray, size 1	10029421	Silicone rubber

Infection control parts

Part		Order number	Material
	Silicone mat for tray, size 2	10029413	Silicone rubber
	Cover cap for bowl filter	10005746	PSU
	Bowl filter Filter retains solid particles with a diameter of >= 1.9 mm	10005329	PSU
	Extension for cup fill tube	10005343	
	Instrument flushing holder for dental units with Luzzani Ergo syringe	10005269	Silicone rubber
	Adapter for DCI syringe	10005801	Aluminium
	Amalgam collector, Dürr	10013485	PBT

Infection control parts

Part		Order number	Material
	Dürr OroCup	00004883	PE
	Foot cover for Comfy upholstery	02500000	PVC
	Foot cover for Ultra Relax upholstery	10009142	PVC
	Foot cover for Ultra Relax upholstery with automatic legrest	10030201	PVC

Disinfectants

Part		Order number	Contents
	Planmeca Planosil, 2 x 5 kg	10011547	Water, hydrogen peroxide solution and silver

Disinfectants

Part		Order number	Contents
	Planmeca PlanPure, 1 litre, 6-pack	10038303	Mixture of propylene glycol, parabens, biguanides and complexing agents in aqueous solution
	Green and Clean WK solution, 4 x 750 ml	10035933	Water, hydrogen peroxide solution and silver

23 Disposal

In order to reduce the environmental load over the product's entire lifecycle, Planmeca products are designed to be as safe as possible to dispose of. Planmeca products fulfil the requirements of Directives RoHS, REACH and WEEE.

Disposal of obsolete units is the responsibility of the waste possessor. The risks involved and the necessary precautions must be taken into account when handling waste products.

Parts which can be recycled should always be taken to the appropriate processing centres, after hazardous waste has been removed. All parts and components containing hazardous materials must be disposed of in accordance with waste legislation and instructions issued by the local environmental authorities.

The following parts contain hazardous waste:

- Amalgam separators in dental units, including filters and amalgam collector /deposit cup (amalgam)

Batteries must be disposed of following the requirements of Directive 2006/66/EEC and in accordance with waste legislation and instructions issued by the local environmental authorities.

The following parts contain batteries:

- Circuit boards (may contain)

24 Technical information

24.1 Technical specifications

Original manufacturer	
PLANMECA Oy, Asentajankatu 6, 00880 Helsinki, FINLAND	
Phone: +358 20 7795 500, fax: +358 20 7795 555, www.planmeca.com	
Colours	
Painted parts:	RAL-9016
Upholstery colours:	Please consult your dealer for availability
Mechanical dimensions	
Installed:	(H x D x W) 1210 mm x 963 mm x 1990 mm (see template for details)
Weight	
140 kg (308 lbs)	
Maximum allowed load on patient seat	
Maximum allowed patient weight 185 kg (407 lbs) and accessories load of 15 kg (33 lbs)	
Environmental conditions	
Transportation conditions	
Temperatures:	-20°C to +60°C (-4°F to +140°F)
Relative humidity:	5% RH to 95% RH; non-condensing humidity
Air pressure:	700 hPa to 1060 hPa (10 psi to 15 psi)
Storage conditions	
Temperatures:	-5°C to +60°C (+23°F to +140°F)
Relative humidity:	5% RH to 95% RH; non-condensing humidity
Air pressure:	700 hPa to 1060 hPa (10 psi to 15 psi)
If the unit has been stored at temperatures below +10 °C (+50 °F) for more than a few hours, time must be allowed for the unit to reach room temperature in the original packing before connecting the unit to the mains voltage.	
Operating conditions	
Temperatures:	+15°C to +35°C (+59°F to +95°F)
Relative humidity:	5% RH to 95% RH; non-condensing humidity
Air pressure:	800 hPa to 1060 hPa (12 psi to 15 psi)
Altitude:	< 2000 m (less than 1.25 miles)
Mains voltage and frequency	
Mains voltage setting:	100V~ 115V~ 220-240V~
Mains frequency:	50 or 60 Hz
Fuse rating and type	

F1, F2 = Schurter 0001.1014 10A/250V/FAST ACTING/HIGH BR CAP. (100V, 115V)	
F1, F2 = Bussmann S501-10-R 10A 250V FAST ACTING/HIGH BR CAP. (100V, 115V)	
F1, F2 = Schurter 0001.1012 6.3A/250V/FAST ACTING/HIGH BR CAP. (220V – 240V)	
F1, F2 = Bussmann S501-6.3-R 6.3A 250V FAST ACTING/HIGH BR CAP. (220V- 240V)	
F3, F4 = 4A/250V/Fast act./High br. cap, Schurter 0001.1010 OR Bussmann S501-4-R	
F5 = 8A/250V/Fast act./High br. cap, Schurter 0001.1013 OR Bussmann S501-8-R	
F6 - F8 = 6.3A/250V/Fast act./High br. cap, Schurter 0001.1012 OR Bussmann S501-6.3-R	
Power consumption	
Idle unit:	≈ 60 VA (unit not in use, OP-light turned on)
Typical average:	≈ 350 VA (during patient treatment)
Maximum:	1450 VA (at maximum rated mains voltage, both chair motors running)
Electrical classification	
Class I	
Operation of chair lift and backrest motors	
Intermittent operation, ED 6%, 25 sec "ON", 400 sec. "OFF"	
Water supply	
Pressure range:	min. 300kPa (44 psi), max. 900 kPa (130 psi)
	In dental units with Planmeca WEK water disinfection system, the pressure range must be 300 - 600 kPa (44 – 87 psi).
	In dental units with Planmeca Patrol by BWT water filtration system, the pressure range must be 300 - 800 kPa (44 – 116 psi).
Flow rate:	≥ 4 l / min (maximum consumption at any instance)
Quality:	hardness; ≤ 8°dH
pH:	6.5 – 8.5
Connection:	1/4"
Backflow prevention:	The water supply line must be equipped with a backflow prevention valve according to local requirements. E.g. in most European countries according to EN1717 standard, BA Type backflow preventer.
	In dental units with Planmeca WEK water disinfection system, a backflow prevention valve is not needed as they are separated from mains water with an AB type air gap.
Air supply	
Pressure range:	min. 550 kPa (80 psi), max. 900 kPa (130 psi)

Flow rate:	≥ 55 litres / minute (maximum consumption at any instance)
Humidity:	dew point not greater than −20 °C at atmospheric pressure
Quality:	medical grade, dry and oil-free
Oil contamination:	max. 0.5 mg/m^3
Particulate contamination:	≤ 100 particles per cubic meter for 1 μm to 5 μm particle size
Connection:	1/4"
Water and air filters	
Water filter:	25 μm (internal), 5 μm (external suggested)
Air filter:	25 μm (internal)
Replacement of water and air filters should be performed by qualified service technician according to the maintenance schedule.	
Suction connection	
Vacuum:	≥ 150 mbar
Flow rate:	≥ 550 l/ min
Connection:	Ø 50 / 46 mm
Type:	Medium volume
Class:	Wet or dry depending on installed options
Drain connection	
Capacity:	min. 10 l/min
Connection:	Ø 50 / 46 mm
Water and air quick-connectors (optional)	
Output pressure:	water 2.8 bar, air 5.5 bar (regulated internal water and air pressure)

24.2 Instrument classifications

The electrical classification of the instrument is marked on the instrument hose as B. If there is no marking, no electricity flows through the instrument.

The following lists the instruments that are available for the Planmeca dental unit and their electrical classification type.

Instrument classifications

| Instrument	Type
DCI autoclavable 3-way syringe	B
Luzzani Ergo 3-way syringe	B
Luzzani Minibright 6-way syringe with LED	B
Planmeca Lumion Plus LED polymerisation light	B

24.3 Dimensions

24.3.1 Positioning of patient, dentist and assistant

The following picture shows an example of how to position the dentist and assistant during treatment.

The patient must always be positioned in the patient chair, with arms and legs resting on the upholstery. The dentist and assistant can move within the areas marked in the picture below.

NOTE
The following picture is an example only and presents one possible scenario. The actual positioning of dentist and assistant depends on the used working method, treatment situation, region etc. and can therefore not be explicitly stated in this manual.

D_N_area_wo_delarm_num.eps
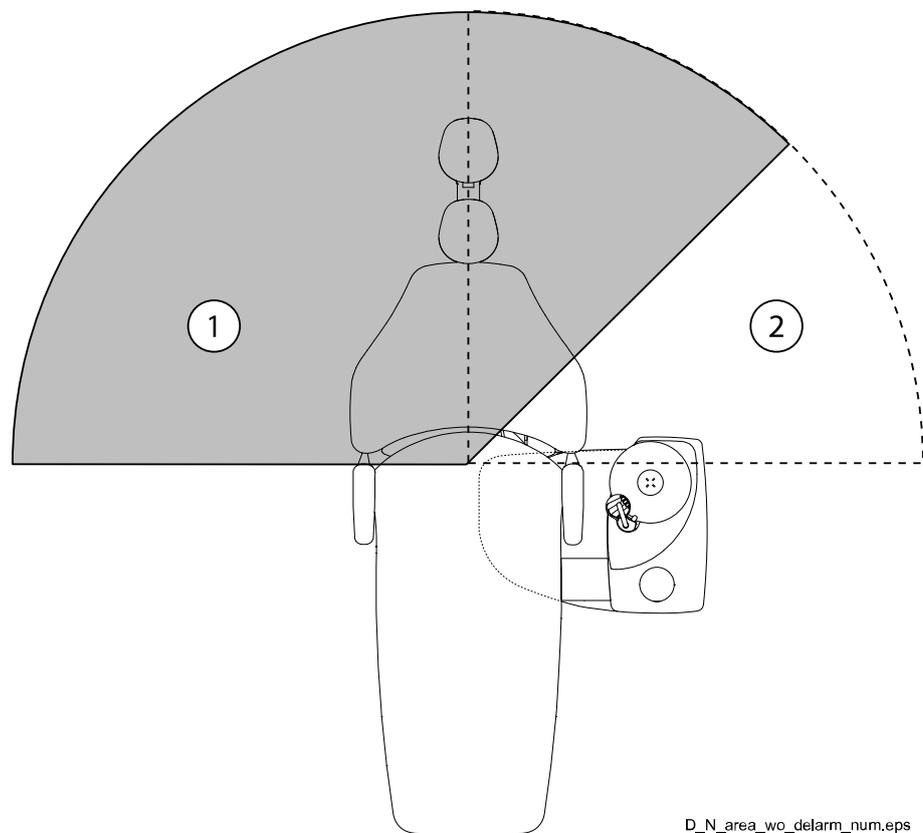
1. Dentist's area

2. Assistant's area

24.3.2 Patient area

The patient area is 1.5 m (59.1") in each direction from the dental unit.

The external PC, its keyboard and mouse must be located outside the patient area. The dentist, assistant and patient must not touch the equipment outside the patient area during treatment.

CAUTION
Use only Planmeca specified devices inside the patient area.

CAUTION
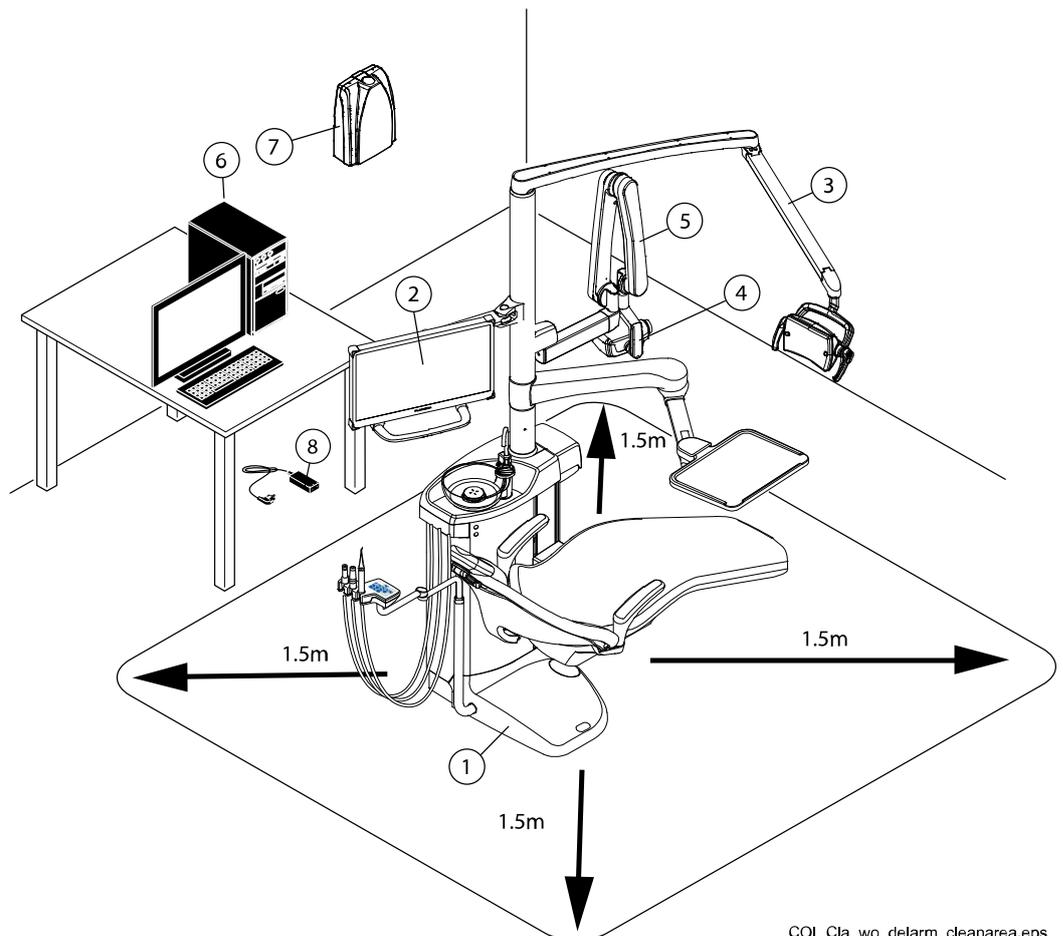The floor of the patient area must be dry.

NOTE
Connect only Planmeca specified devices to the dental unit.

NOTE
The external PC must be protectively earthed and IEC 60950 -approved (CE marked).

NOTE
The monitor must fulfil IEC 60601-1 ed.3 requirements.

COI_CIa_wo_delarm_cleanarea.eps

Inside patient area:	Outside patient area:
1. Dental unit	6. External PC
2. Monitor	7. Planmeca ProX generator assembly
3. Planmeca Solanna operating light	8. Planmeca ProSensor PoE port and power cable
4. Planmeca ProSensor control box	
5. Planmeca ProX X-ray tube head and arm assembly	

24.3.3 Planmeca Compact i dental unit without delivery arm
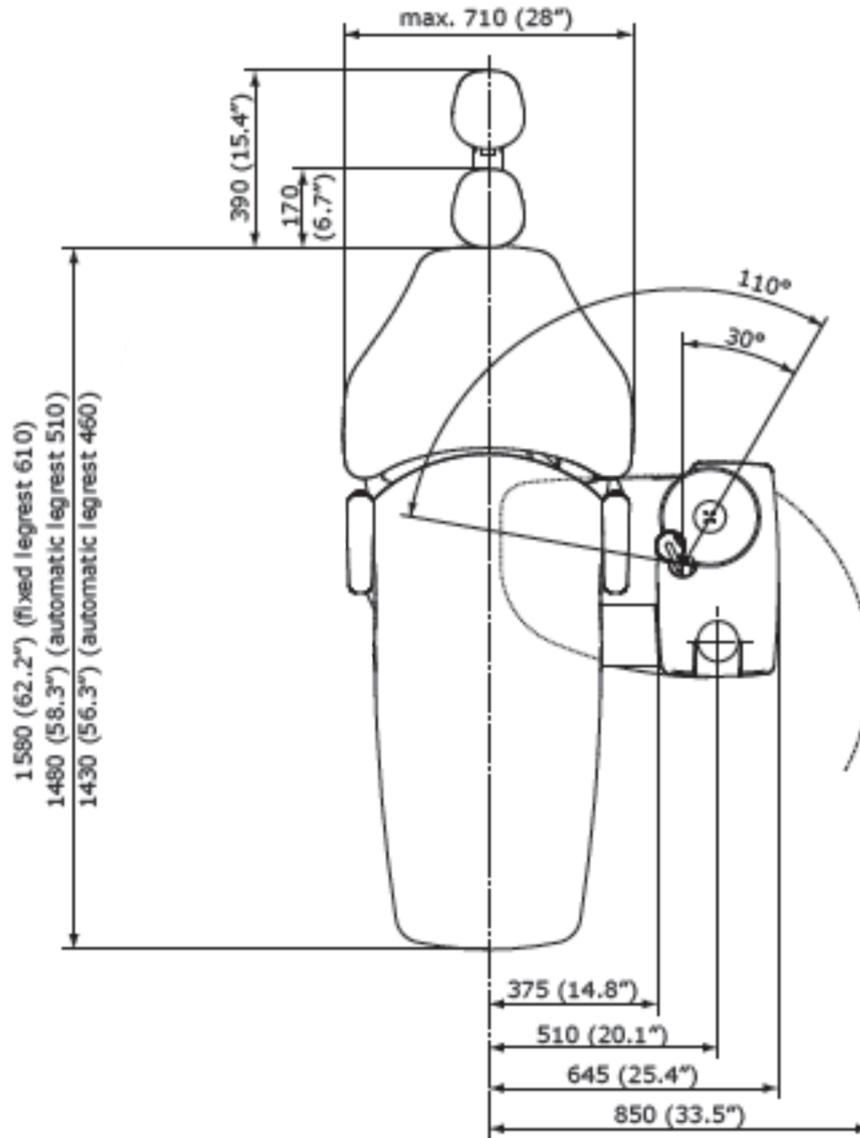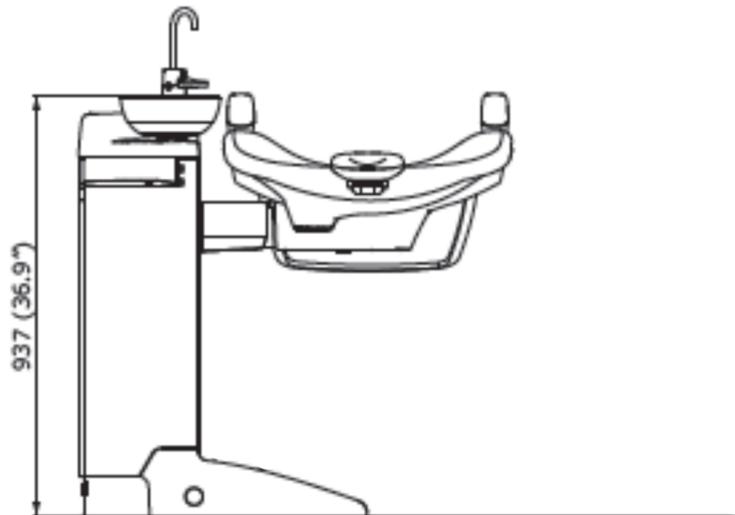
24.4 Planmeca Compact i dental unit water consumption

Part	Water consumption
Bowl	The flow rate is approx. 2.5 litres (0.66 gallons) per minute. The flow rate can be configured.
Cup fill	The cup filling is adjusted for the size of cup you use.
Syringe	The flow rate is approx. 0.1 litres (0.03 gallons) per minute.
Suction system	The flow rate is approx. 0.4 litres (0.11 gallons) / minute when the suction is on, and the amount depends on which suction system is used in the dental unit. The water flow keeps the suction system clean when in use.
Suction system cleaning cycle	Cleaning is done once a day and uses 2.5 litres (0.66 gallons) of water.

25 Planmeca as EU importer

Planmeca is the EU importer for the following manufacturers:

E.M.S Electro Medical Systems S.A

Rue Vuarpilliere 31, CH-1260 Nyon, Switzerland

EU authorised representative:

EMS France SARL

Route de Pontarlier 32, 39460 Foncine le Haut, France

J. Morita MFG. Corp.

680 Higashihama Minami-cho Fushimi-ku Kyoto 612-8533, Japan

EU authorised representative:

Medical Technology Promedt Consulting GmbH

Altenhofstrasse 80, 66386 St. Ingbert, Germany

Dental Components, LLC dba DCI International

305 North Springbrook Rd Newberg, Oregon 97132, USA

EU authorised representative:

Dental Components Europe (DCE)

56 Bis Avenue de la Lanterne, 06200 Nice, France

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