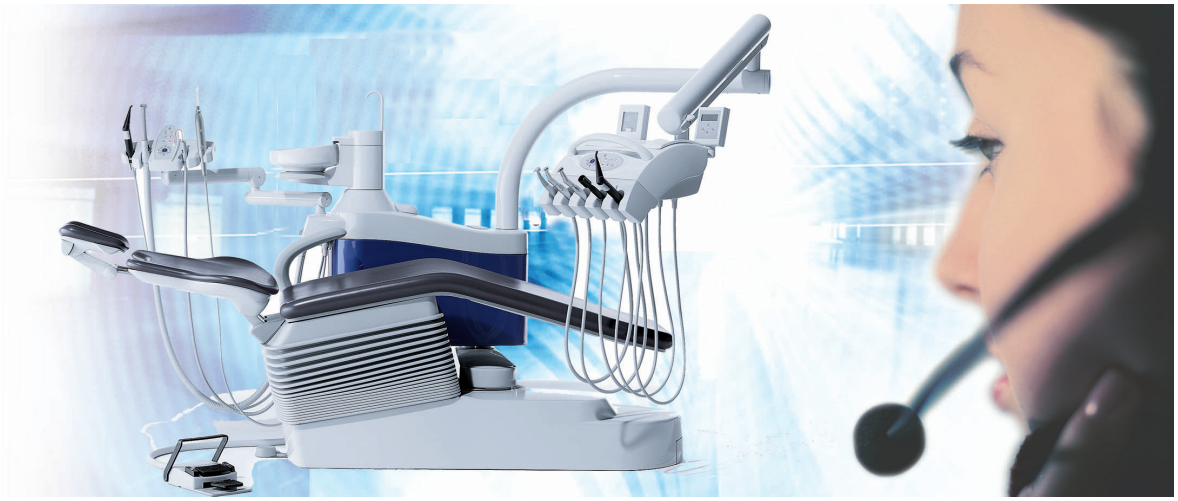
Instructions for use
Status 1080 TM



Always be on the safe side.

KaVo. Dental Excellence.

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1 User instructions

1.1 User guide

Requirement
Read these instructions prior to first use to avoid misuse and prevent damage.

1.1.1 Abbreviations

Abbre-viation	Explanation
GA	Instructions for use
PA	Care instructions
REC	Assembly instructions
TA	Technician's instructions
STK	Safety checks
IEC	International Electrotechnical Commission
RA	Repair instructions
EMC	Electromagnetic compatibility

1.1.2 Symbols

	See the section Safety/Warning Symbols
	Important information for users and technicians
CE	CE mark (Communauté Européenne). A product with this mark meets the requirements of the applicable EU directive.
▶	Action required

1.1.3 Target group

This document is for dentists and office personnel.

1.2 Service

Service hotline:
+49 (0) 7351 56-2500
Service.Einrichtungen@kavo.com
Please indicate the product serial number in all requests.
Additional information can be obtained at: www.kavo.comAdditional information can be obtained at: www.kavo.com

1.3 Warranty terms and conditions

KaVo provides the end customer with a warranty that the product cited in the hand-over certificate will function properly and guarantees zero defects in the material or

processing for a period of 12 months from data of purchase, subject to the following conditions:
Upon justified complaints of flaws or a short delivery, KaVo will make good its warranty by replacing the product free of cost or repairing it according to the customer's wishes. Other claims of any nature whatsoever, in particular with respect to compensation, are excluded. In the event of default and gross negligence or intent, this shall only apply in the absence of mandatory legal regulations to the contrary.
KaVo cannot be held liable for defects and their consequences due to natural wear, improper cleaning or maintenance, non-compliance with operating, maintenance or connection instructions, calcination or corrosion, contaminated air or water supplies or chemical or electrical factors deemed abnormal or impermissible in accordance with factory specifications.
The warranty does not usually cover bulbs, glassware, rubber parts and the colourfastness of plastics.
Defects or their consequences that can be attributed to interventions on or changes made to the product by the customer or a third party are excluded from the warranty.
Claims from this warranty can only be asserted when the transfer form (copy) belonging to the product has been sent to KaVo, and the original can be presented by the operator or user.

1.4 Transportation and storage

1.4.1 Currently valid packaging regulations

Note
Only valid for the Federal Republic of Germany.

Properly dispose of and recycle the sales packaging, in accordance with the relevant packaging regulations, through waste management businesses or recycling companies that run a comprehensive return system. KaVo has licensed its sales packaging in accordance with this directive. Please conform with the regional, public waste-disposal system regulations.

1.4.2 Damage in transit

In Germany

If the packaging is visibly damaged on delivery, please proceed as follows:
1. The recipient of the package must record the loss or damage on the delivery receipt. The recipient and the representative of the shipping company must sign this delivery receipt.
2. Leave the product and packaging in the condition in which you received it.
3. Do not use the product.
4. Report the damage to the shipping company.
5. Report the damage to KaVo.
6. You must contact KaVo before returning a damaged product.
7. Send the signed delivery receipt to KaVo.

If the product is damaged but there was no discernable damage to the packaging upon delivery, proceed as follows:
1. Report the damage to the shipping company immediately and no later than 7 days after delivery.
2. Report the damage to KaVo.
3. Leave the product and packaging in the condition in which you received it.
4. Do not use a damaged product.

Note

Failure on the part of the recipient to comply with any of the above obligations will mean that the damage will be considered to have arisen following delivery (in accordance with ADSp. Art. 28).

Outside Germany

Note

KaVo is not liable for damage arising from transportation.
Immediately inspect the delivery after receipt!

If the packaging is visibly damaged on delivery, please proceed as follows:
1. The recipient of the package must record the loss or damage on the delivery receipt. The recipient and the representative of the shipping company must sign this delivery receipt.
   Without this evidence, the recipient will not be able to assert a claim for damages against the shipping company.
2. Leave the product and packaging in the condition in which you received it.
3. Do not use the product.

If the product is damaged but there was no discernable damage to the packaging upon delivery, proceed as follows:
1. Report the damage immediately or at least 7 days after the delivery to the delivery company.
2. Leave the product and packaging in the condition in which you received it.
3. Do not use a damaged product.

Note

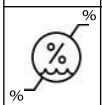
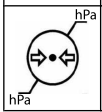
Failure on the part of the recipient to comply with any of the above obligations will mean that the damage will be considered to have arisen following delivery (in accordance with CMR law, Chapter 5, Art. 30).

1.4.3 Information on the packaging: Storage and transportation

Note

Please keep the packaging in case you need to return the product for servicing or repair.

The symbols printed on the outside are for transportation and storage, and have the following meaning:

	Transport upright with the arrows pointing upwards
	Fragile - protect against impact.
	Protect from moisture.
	Permissible stacking load
	Temperature range
	Humidity
	Air pressure

2 Safety

2.1 Description of safety instructions

2.1.1 Warning symbol

	Warning symbol

2.1.2 Description of danger levels

The safety instructions cited herein with the three levels of danger will help avert property damage and injury.

	⚠ CAUTION CAUTION indicates a hazardous situation that can cause damage to property, or mild or moderate physical harm.

	⚠ WARNING WARNING indicates a hazardous situation that can cause death or serious injury.

	⚠ DANGER DANGER indicates the maximum hazard level. indicates a hazardous situation that can directly cause death or serious injury.

2.1.3 Structure

	⚠ DANGER **The introduction describes the type and source of the danger.** This section illustrates the potential consequences of non-observance. ▸ The optional step covers necessary measures for avoiding hazards.

2.2 Purpose – Proper use

2.2.1 General information

The user must ensure that that the unit works properly and is in a satisfactory condition before each use.

The KaVo Status 1080 TM equipment system is a dental treatment unit in accordance with ISO 7494, with a dental chair in accordance with ISO 6875. This KaVo

product is only designed for use in dentistry and may only be used by trained medical personnel. Any other type of use is not allowed.
Proper use also includes observing all notes from the instructions for use together with carrying out all inspection and maintenance work.

The overarching guidelines and/or national laws, national regulations and the rules of technology applicable to medical devices for start-up and use of the KaVo product for the intended purpose are to be applied and complied with.

Responsibility is accepted for the safety, reliability and performance of the components supplied by KaVo provided:
- installation, expansions, adjustments, changes or repairs are carried out by technicians trained by KaVo or third parties authorised by KaVo, or by the personnel of authorised distributors.
- The device must be operated in accordance with the instructions for use, care and installation.
- The IT components supplied by the operator meet the technical requirements in these instruction for use for hardware and software, and they are installed and set up according to the descriptions of these components.
- During maintenance, observe all the requirements of VDE 0751-1, "Repeated tests and test before startup of electronic medical devices and systems - general guidelines".

Users have a duty to:
- Only use equipment that is operating correctly
- to protect himself, the patient and third parties from danger.
- to avoid contamination from the product

During use, national legal regulations must be observed, in particular:
- the applicable health and safety regulations
- the applicable accident prevention regulations

To guarantee constant readiness for use and maintenance of value of the KaVo product, the recommended annual servicing must be done.
The safety checks (SC) must be done at 2-year intervals.

Authorized to repair and service the KaVo product:
- Technicians with appropriate product training from KaVo branches
- Technicians of authorized dealers specially trained by KaVo

In Germany, operators, equipment managers and users are obliged to operate their equipment in accordance with the MPG regulations.
The services encompass all the test tasks required in accordance with § 6 of the medical devices operator ordinance (Medizinprodukte-Betreiberverordnung, MPBetreibV).

Note

The product must be cleaned and serviced according to instructions if it is not to be used for a long period.

Note

Only those accessories may be used that are approved for the device.

Information on electromagnetic compatibility

Note

Based on EN 60601-1-2 concerning the electromagnetic compatibility of electro-medical devices, we need to point out that:
• medical electrical devices are subject to special measures regarding electromagnetic compatibility and must be operated in accordance with KaVo assembly instructions.
• portable and mobile high-frequency communications devices can influence medical electronics.

Note

KaVo cannot guarantee that accessories, lines and transformers not delivered by KaVo will correspond with EMC requirements of EN 60601-1-2.

Disposal

Note

Any waste which is generated must be recycled or disposed of in a manner which is safe both for people and for the environment. This must be done in strict compliance with all applicable national regulations.
Questions on proper disposal of the KaVo product can be answered by the KaVo branch.

Disposal of electronic and electrical devices

Note

According to EC directive 2002/96 concerning used electrical and electronic devices, this product is subject to the cited directive and must be disposed of accordingly within Europe.
Before disassembling / disposing of the product, it must be completely processed (disinfected, sterilized) according to the section "Preparation methods"
Additional information can be obtained from KaVo (www.kavo.com) or your dental supplier.

For final disposal, contact:

Germany

To return an electrical device, proceed as follows:

1. At the homepage www.enretec.de of enretec GmbH, you can download a form for a disposal request under the menu item `eom`, or you can use it as an online request.
2. Fill out the request with the corresponding information, and send it as an online request or by fax (+49(0)3304 3919 590) to enretec GmbH.
   The following avenues are also available for questions and for initiating a disposal request:
   Telephone: +49 (0) 3304 3919 500
   E-mail: pickup@eomRECYCLING.com and
   Post: enretec GmbH, eomRECYCLING Department
   Kanalstraße 17
   16727 Velten
3. Your**movable**device will be picked up in your practice, and your**permanently installed**unit will be picked up at the curb at your address on the agreed deadline. The owner or user of the device will bear the costs for disassembly, transportation and packaging.

International (EU)

For country-specific information on disposal, contact your dental supplier.

2.2.2 Product-specific

Use and target group

KaVo Status 1080 TM is used for the dental treatment of children and adults.

The device may only be used by medical professionals.

For technician jobs that require greater pressure than when working in the oral cavity such as grinding prostheses, etc., a special technician's machine must be used. The bearings of these machines are correspondingly stronger.

2.3 Safety instructions

2.3.1 General

The KaVo product is not permitted to be used in areas subject an explosion hazard.

⚠ CAUTION

Premature wear and malfunctions from improper servicing and care.
Reduced production time.

- ▸ Perform regular proper care and maintenance.

⚠ CAUTION

Insufficient hygiene.
Transmission of pathogens.

- To maintain the hygienic system, observe the care and servicing instructions.

⚠ WARNING

Injury or damage from damaged functional parts.
When functional parts are damaged, it can cause additional damage or personal injury.

- When functional parts are damaged, stop working and eliminate the damage or contact a service technician.
- Check the electrode lines and accessories for damage to the insulation.

⚠ CAUTION

Risks from electromagnetic fields.
The functions of implanted systems (such as pacemakers) can be influenced by electromagnetic fields.

- Ask patients before treatment!

⚠ CAUTION

Malfunctions due to electromagnetic fields.
The product meets the applicable requirements regarding electromagnetic fields. Given the complex interactions between equipment and cell phones, the product may be influenced by a cell phone that is in use.

- Do not use cell phones in medical offices, hospitals, or laboratories.
- Put electronic devices such as e.g. computer storage media, hearing aids etc. down during operation!

2.3.2 Product specific

⚠ CAUTION

Moving the dentist's unit or assistant's unit.
The patient or treatment personnel may be injured or crushed.

- Be aware of the patient and practice personnel when moving the dentist's unit or assistant's unit.

⚠ CAUTION

Danger of crushing during automatic chair movement.
The patient or treatment personnel can be clamped.

- Monitor the patient and treatment personnel when changing the chair position.

⚠ CAUTION

Germ formation.
Infections.

- Before starting, rinse all the water drain lines without instruments.
- Before startup and after the device has not been used for a while (weekends, holidays, vacations, etc.), rinse or purge the air and water lines.
- Thoroughly disinfect.
- Actuate the tumbler filler several times.

⚠ CAUTION

Third party device connection kit (optional): Hazard of reinfection from standing water.
Infections.
When a water-using unit is connected to the third-party connection kit, always perform the following tasks on the device:

- Before starting, rinse all the water drain lines without instruments (if applicable).
- Before startup and after the device has not been used for a while (weekends, holidays, vacations, etc.), rinse or purge the air and water lines.
- Make sure that the water-using unit is resistant to H_2O_2 since the water is sterilised with OXYGENAL 6 (at a concentration up to 0.02%).

⚠ CAUTION

Damage to the instrument hoses from stickers.
Instrument hoses can explode.

- Do not affix stickers or adhesive tape.

⚠ CAUTION

Long stay in the patient chair.
Decubitus formation.

- Take precautions against the formation of decubitus in long treatments.

⚠ WARNING

Injury or infection hazard from laid down instruments.
Given the arrangement of the instruments, injury or infections in the hand and underarm can arise when reaching for the tray holder or operating device. Increased risk of infection from diseased patients.

- Be aware of the arrangement of the instruments when accessing the tray holder or operating device.

⚠ CAUTION

Danger of injury from tipping the treatment unit.
Injury to the patient and user.

- Do not support yourself on the swinging arm.
- Do not sit on the head or foot end of the patient chair when it is in a horizontal position.

⚠ CAUTION

Danger of injury from overload.
The patient chair can collapse.

- Do not subject the patient chair to a load above its limit (135 kg).

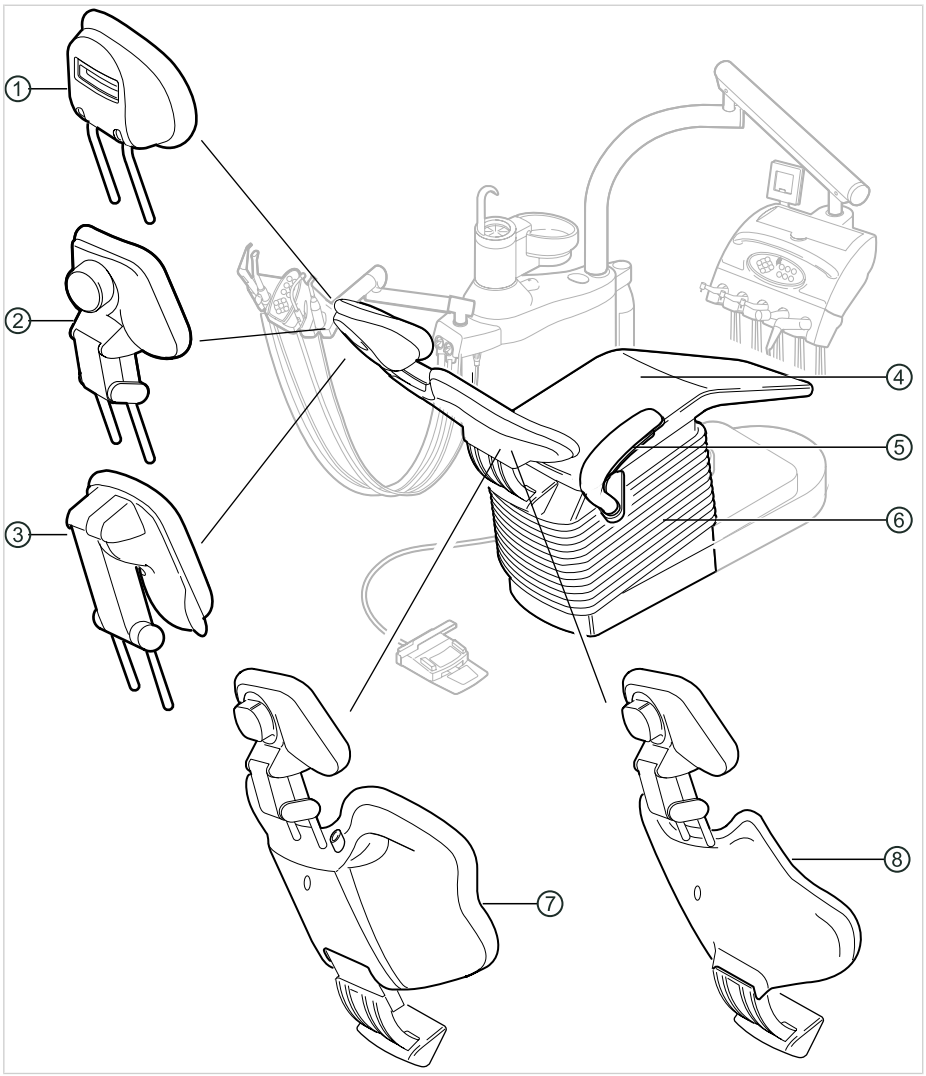
⚠ CAUTION

Hair may become caught in the patient's chair when the headrest is moved.
Injuries.

- When moving the patient chair and headrest, be aware of the patient's hair and that of the practice personnel.

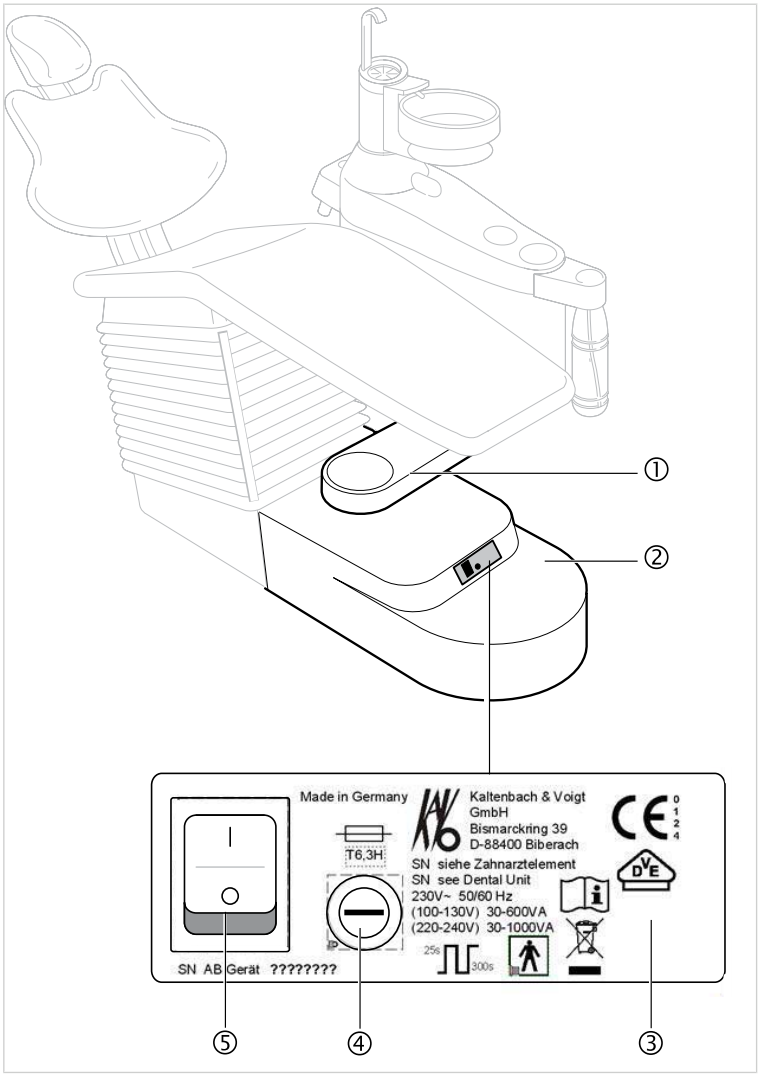
3 Product description

3.1 Treatment unit



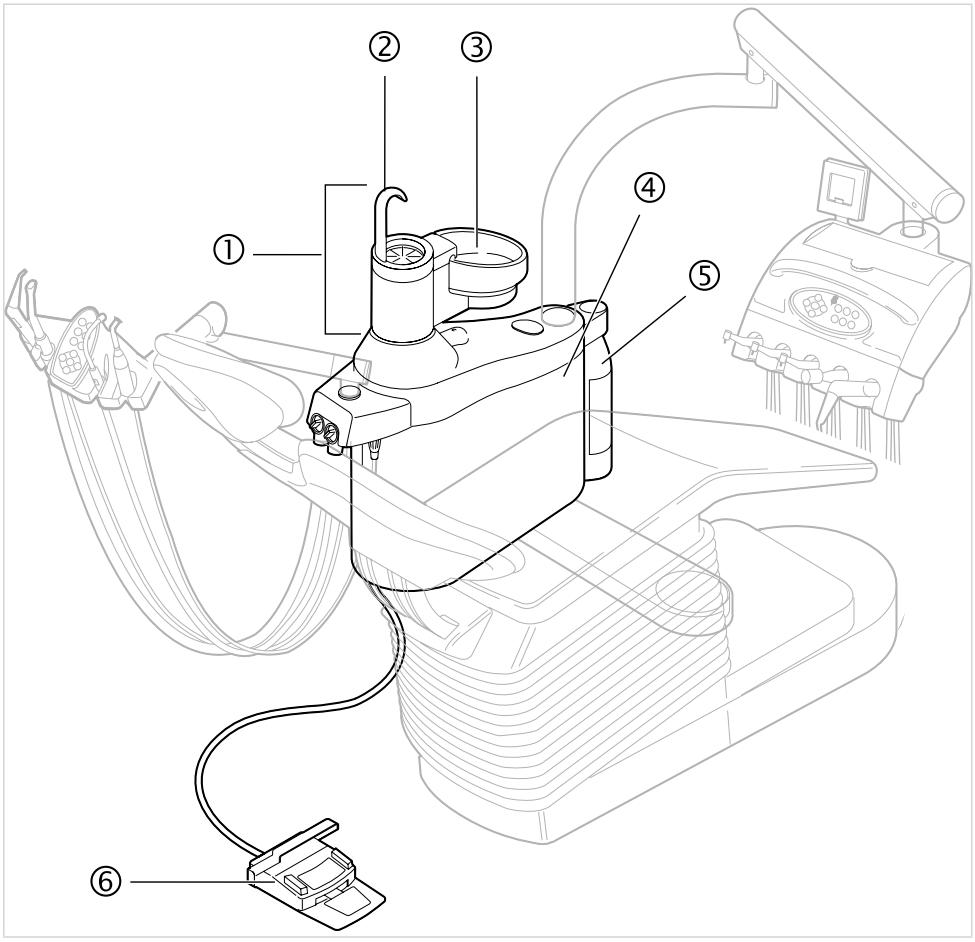
① Standard headrest
② SOMATIC headrest
③ 2-joint headrest
④ Bench
⑤ Armrest (supplementary equipment)
⑥ Basic chair
⑦ Comfort Backrest
⑧ Progress Backrest

3.2 Unit base



① Pivotable swing arm for holding the patient unit, device body and assistant unit
② Supply unit, customer connection of power, water, compressed air, wastewater and suction air
③ Rating plate
④ Main fuse
⑤ Main switch

3.3 Unit body with patient's part



① Patient's part

② Tumbler filler

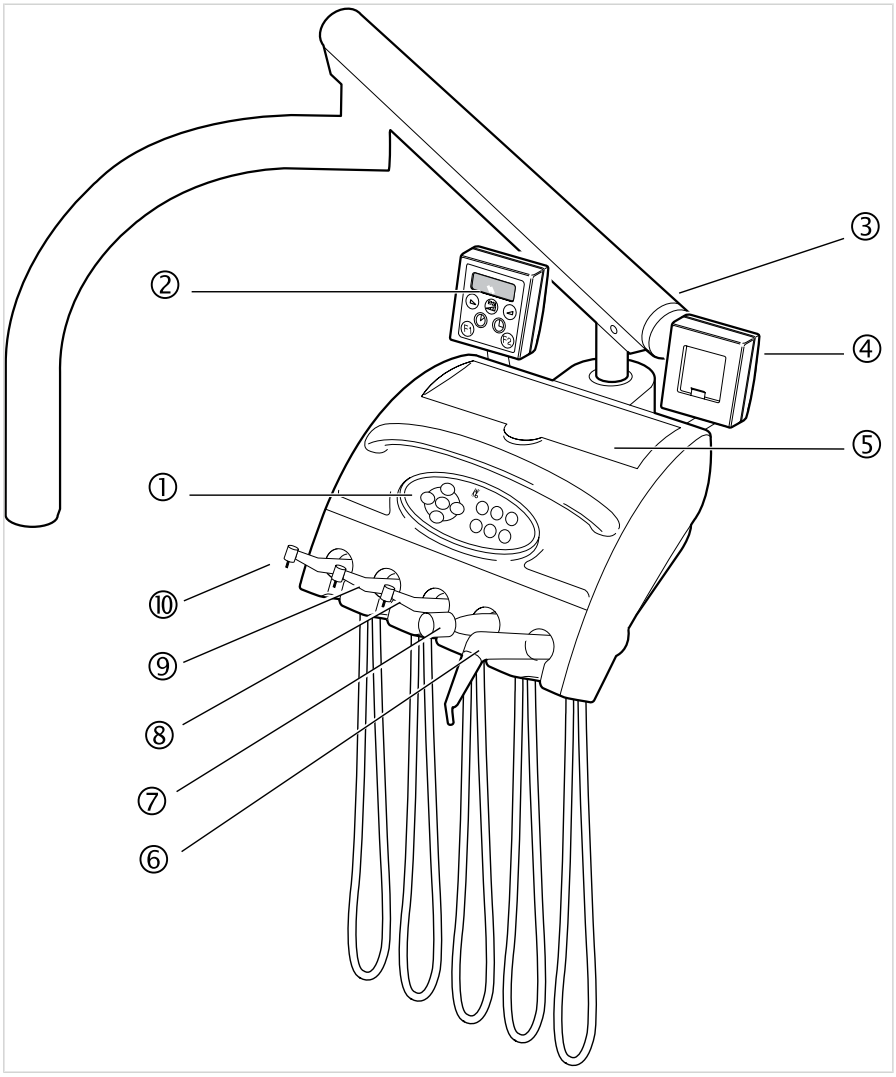
③ Spittoon

④ Unit body
The central control is housed in the unit body.

⑤ Pressurized water bottle (additional equipment)

⑥ Foot control

3.4 Dentist's unit



① Keypad and display panel

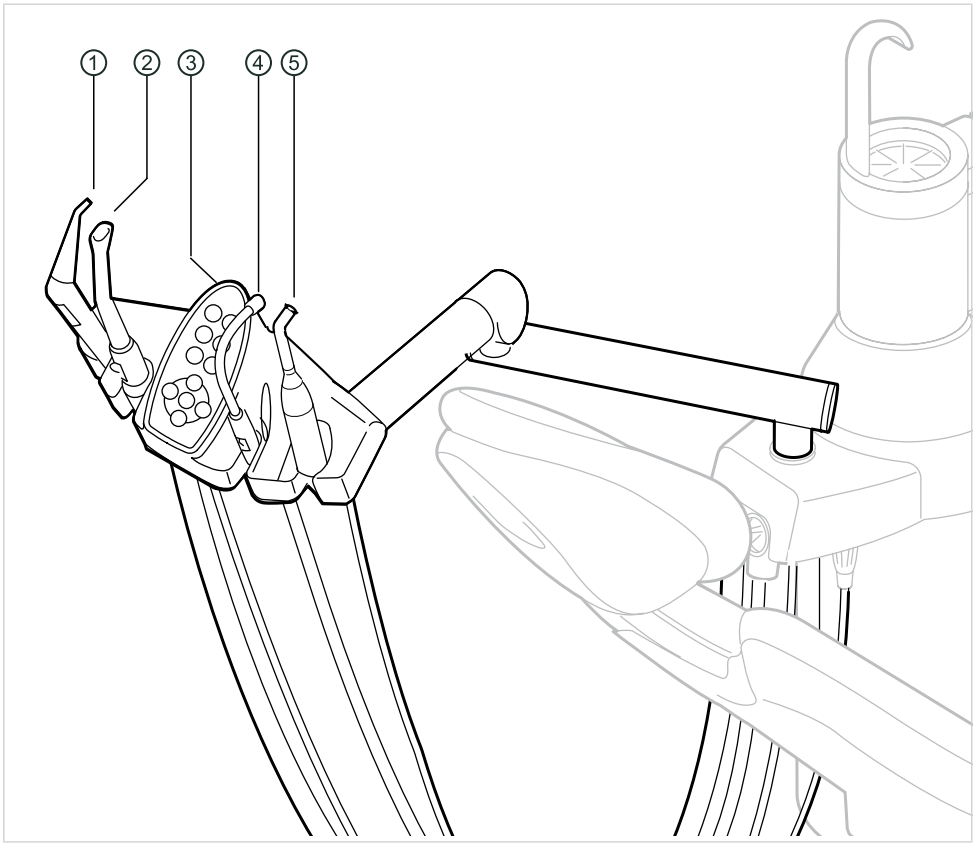
② Memospeed, Memodent
③ Locking brake

④ Small x-ray film viewer
⑤ Tray holder

⑥ Three-function or multi-function handpiece
⑦ PIEZOlux
⑧ Either INTRA Lux K 200 motor or INTRA Lux KL 701 motor
⑨ Instrumentation such as ⑧
⑩ Turbine

The arrangement of the instruments can be changed if desired.

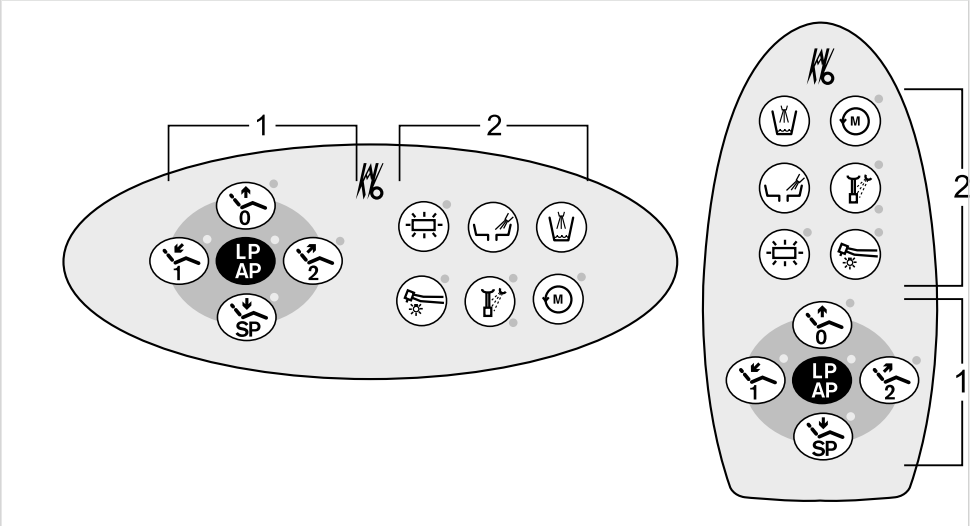
3.5 Assistant unit



① Three-function handpiece or multi-functional handpiece
② Spray mist suction
③ Key and display field
④ Saliva ejector
⑤ Satelec Mini LED

3.6 Keypads

The key fields on the dentist unit and assistant unit are the same.



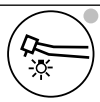
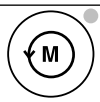
① Patient chair ② function keys

Group of keys for the patient chair

button	Designation	Display LED
0	Seat up/AP 0 (automatic position 0)	green
SP	Seat down/rinsing position	green
1	Backrest down/ AP 1 (automatic position 1)	green
2	Backrest up/ AP 2 (automatic position 2)	green
LP AP	Last position/automatic position	green

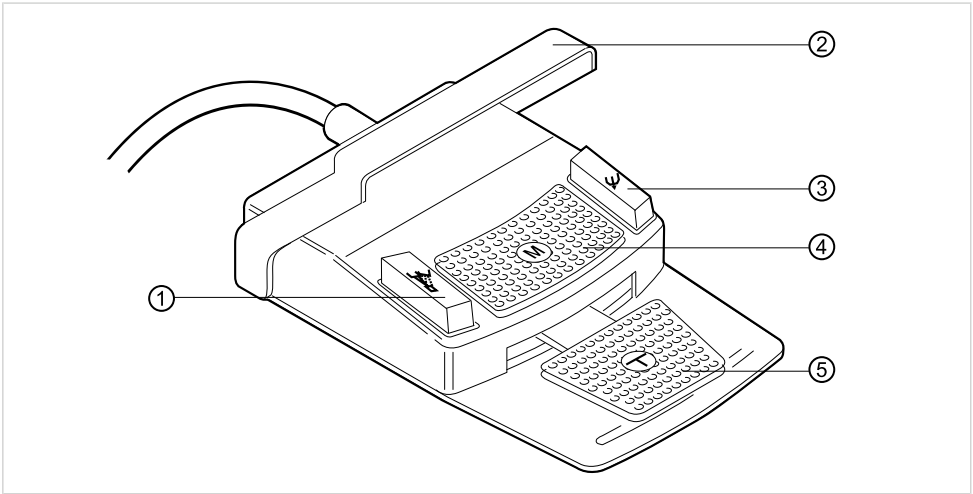
Group of function keys

Key	Designation	Display LED
	X-ray viewer	green
	Rinsing the spittoon	

Key	Designation	Display LED
	Tumbler filler	
	Cold light (on instruments)/ Treatment unit ON when the instruments are mounted	green
	Spray preselection (on removed instruments)	green/yellow
	Counterclockwise motor rotation	red

3.7 Footswitch

The footswitches of the foot control have two functions. The functions of the footswitches depend on if an instrument is mounted or removed.



Item	Designation	Function with a mounted instrument	Function with a removed instrument
①	Spray preselection/AP footswitch	Moves the patient chair into automatic position.	Sets the preset spray.
②	Stirrup switch	Turns on the safety shutoff.	Switches the foot buttons to the "Chair movement" function.
③	"Blown air/AP" footswitch	Moves the patient chair into automatic position.	Sets the preset blown air (chipblower).
④	Cross-switch: "Counterclockwise motor rotation"	Changes the position of the patient chair.	Selects the rotational direction of the motor (for the motor K200/KL 702/ COMFORTdrive 200XD)
⑤	"Instruments" foot-operated button	Generates a video freeze frame when the ERGOcom is installed.	Starts the motor and controls the speed/intensity of the instruments.

3.8 Technical Data

Drilling template and setup plan

Drilling template (paper) (**Mat. no. 1.000.3001**)	Page 001
Drilling template (sheet metal)**Mat. no.). 10.002492**	
Layout plan (**Mat. no. 1.000.3001**)	Sheet 002

Electrical system

Electrical lead	3 x 1.5 mm^2
Free end above the floor	1 000 mm
Input voltage	100/110/120/130/220/230/240 V AC
Frequency	50 Hz
Input voltage set by the manufacturer	See rating plate
Max. power consumption (including the KAVOLUX 1410) at 100 to 130 V	30 to 600 VA
Max. power consumption (including the KAVOLUX 1410) at 220 to 240 V	30 to 1,000 VA
Customer fuse protection	Automat C16 or screw-plug fuse 10 A
Protective conductor above floor	see DIN VDE 0100-710, 1,000 mm
Heat emission at 100 to 130 V	97 to 2,106 kJ/h
Heat emission at 220 to 240 V	97 to 3,240 kJ/h
Mark of approval	CE / DVGW / VDE
Footswitch	IPX1 (moisture protection)

Water supply

Note

If the water is very hard (above 12 dH), a water softening device must be fitted in the ion-exchange process.
Insufficient water hardness (below 8.4 dH) can promote the formation of algae.

National water regulations apply to the compact water block kit. The following also applies: DIN EN 1717.
According to DIN EN 1717, each unit that is not listed by the DVGW in last the provided with an upstream type AA, AB or AD a safety device. (The DVGW water block kit and DVGW water bottle are certified; see the following list.)
When creating a water connection, prevent brackish water pools with standing water (also in the house plumbing).

You can find additional information at www.dvgw.de

Free drainage according to DVGW certificate DW-0402 BL 0465	DVGW water block, DVGW water bottle
Water quality	Tap water
Water hardness	1.5 to 2.14 mmol/l ≙ 8.4 to 12 dH
pH	7.2 to 7.8
Customer water filtration	80 µm
Water connection	R 1/2
Water connection above floor	min. 40 mm, max. 75 mm
Water inlet pressure	2.0 to 6.0 bar
Water outlet pressure	5 l/min
Diameter of the drain connection	40 mm
Drainage connection above floor	20 mm
Outflow quantity	max. 5 l/min
Slope of water drain pipe	From the unit, at least 10 mm per meter

Air supply

Air requirements according to DIN EN 7494-2	Dry, oil-free, dirt-free, non-contaminated
Air inlet pressure	5.2 to 7 bar
Air consumption	max. 80 Nl/min.
Customer air filtration	50 µm
Air connection	R 1/2
Air connection above the floor	min. 40 mm, max. 75 mm
Diameter of the suction connection	40 mm
Suction connection above floor	20 mm
Suction vacuum	static at the device inlet: max. 180 mbar, dynamic: >45 mbar, recommended: 60 mbar
Suction vacuum flow	500 Nl/min.

The values apply to the KaVo measuring set (**Mat. no. 0.411.8500**)

Operating environment

Floor quality	The quality of the floor must comply with the load bearing capacity for buildings DIN 1055 page 3 and the pressure resistance must correspond to DIN 18560 T 1.
Permissible to a maximum	2 000 m above sea level
Ambient temperature	+10 to +40°C
Relative humidity	30 to 75%
Air pressure	700 to 1,060 hPa

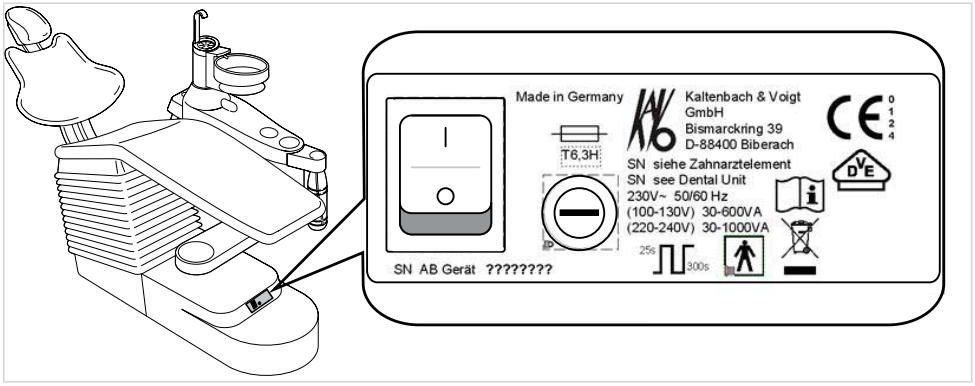
Transportation and storage conditions

Ambient temperature	-20 to +55°C
Relative humidity	5% to 95% non-condensing
Air pressure	700 to 1,060 hPa

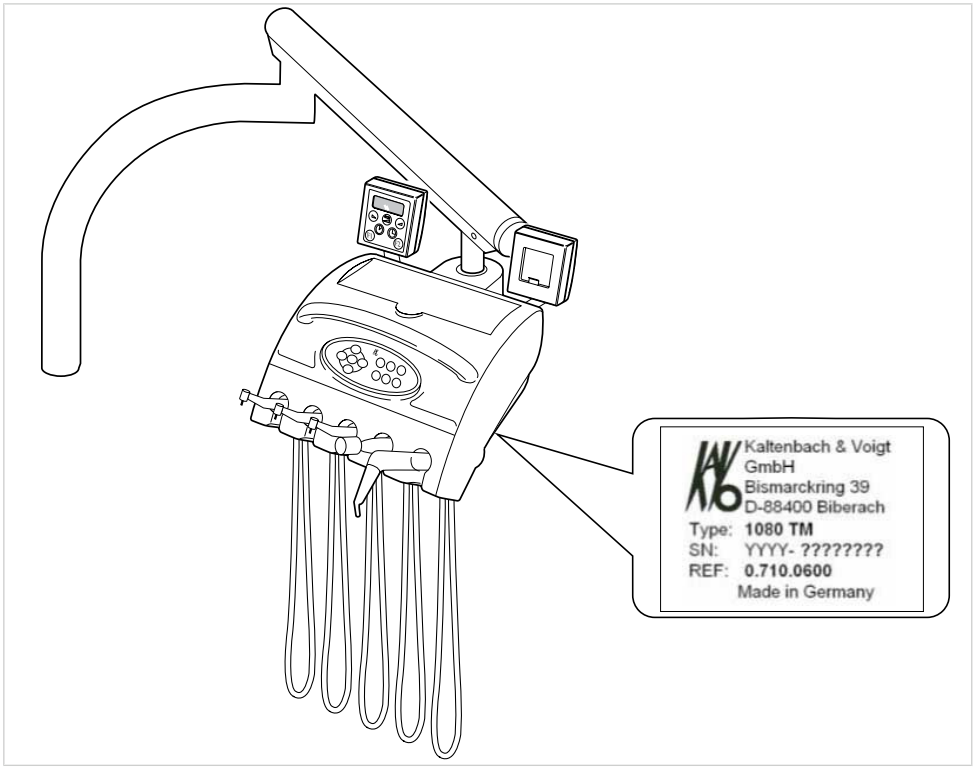
Weight

Treatment unit	282 kg gross ,242 kg net

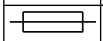
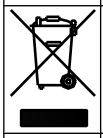
3.9 Rating and name plates



Rating plate



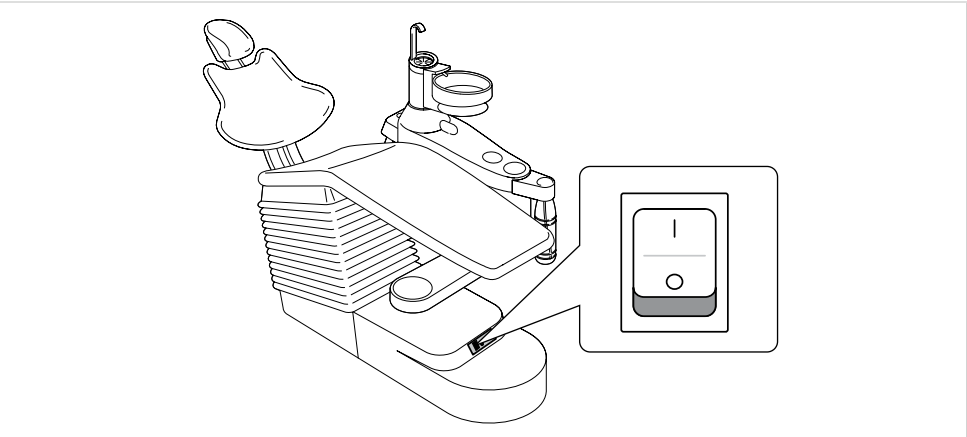
Name plate

SN	serial number
	Read and note the content of accompanying documents.
	Classification The handpieces are type BF application parts The patient chair is a type B application part
	Mode: Operating time of the patient chair: 25 seconds Pause time of the patient chair: 300 seconds (The permissible operating times correspond to dental practice).
	Fuse rating: 100 V~ to 130 V~ = T10H 220 V~ to 240 V~ = T6.3H
	For disposal information, see also: Purpose - proper use
	CE mark according to EC Directive 93/42 for medical devices
	VDE mark
	DVGW ID (Deutscher Verein des Gas- und Wasserfaches e.V.) (depending on the equipment)

4 Operation

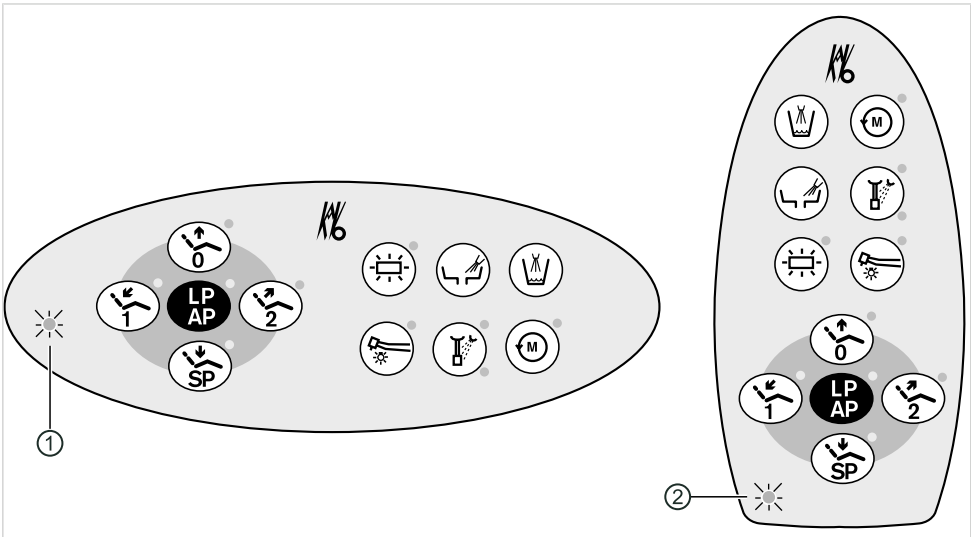
4.1 Switching the device on and off

The main switch has the following tasks:
- Plug in or disconnect all the pins of the unit's plug into the customer's power supply.
- The customer's compressed air and water supplies are connected and disconnected using the solenoid valves installed in the device.



▸ Switch the device on at the main switch.

When the device is ready for use, the LEDs in ① and ② are lit.



Note

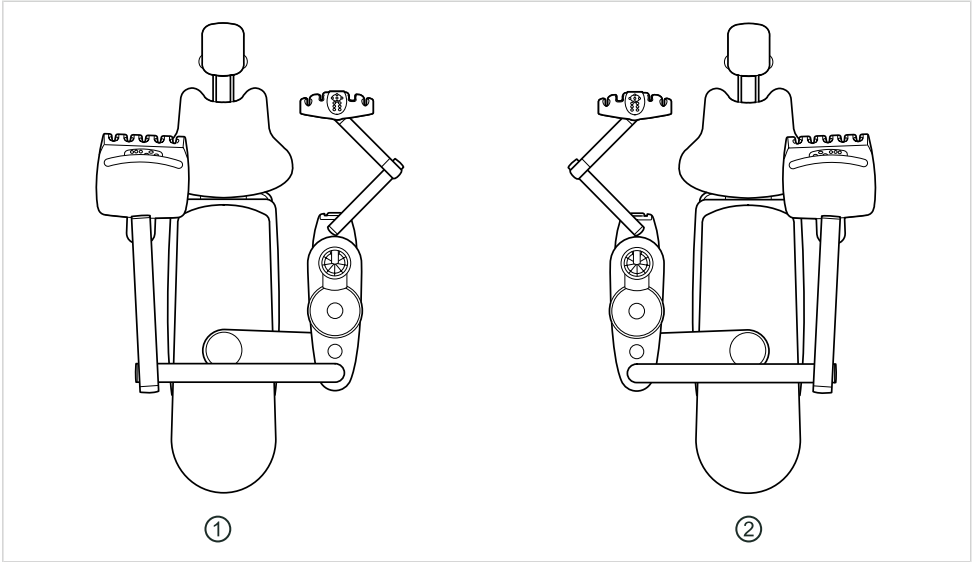
To prevent water damage, the main switch must be turned off before leaving the dental practice.

4.2 Converting from right handed to left handed

⚠ CAUTION

Collision and damage to the unit.

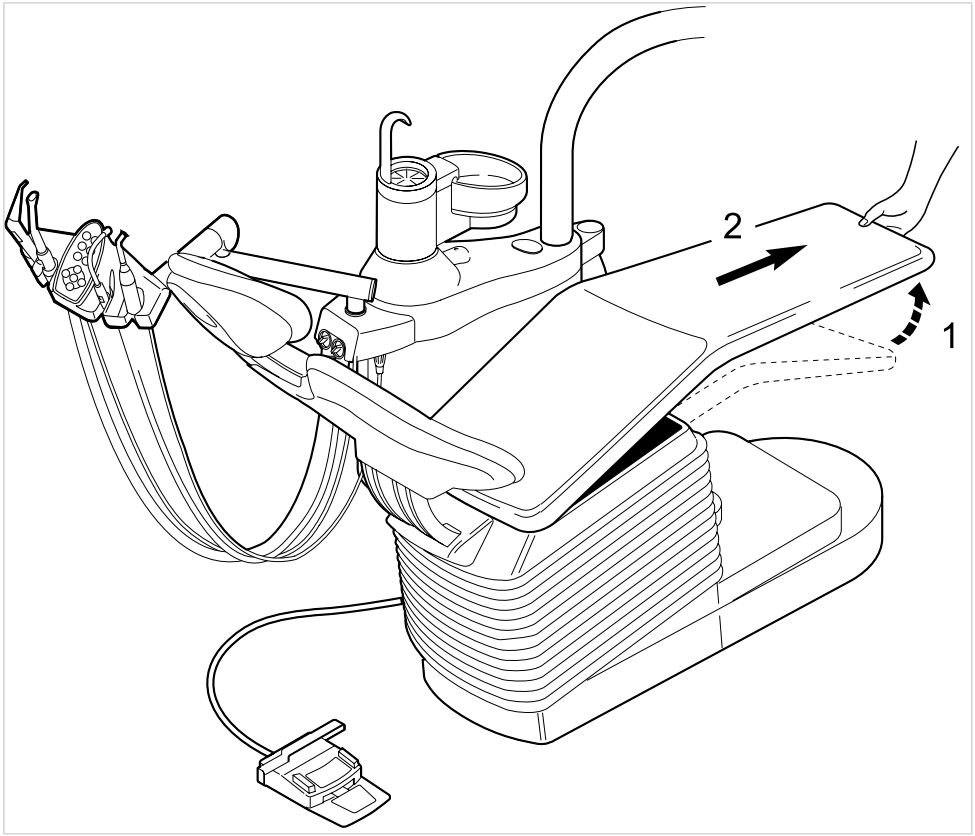
- Ensure sufficient space for swinging.
- Turn off the device before conversion.



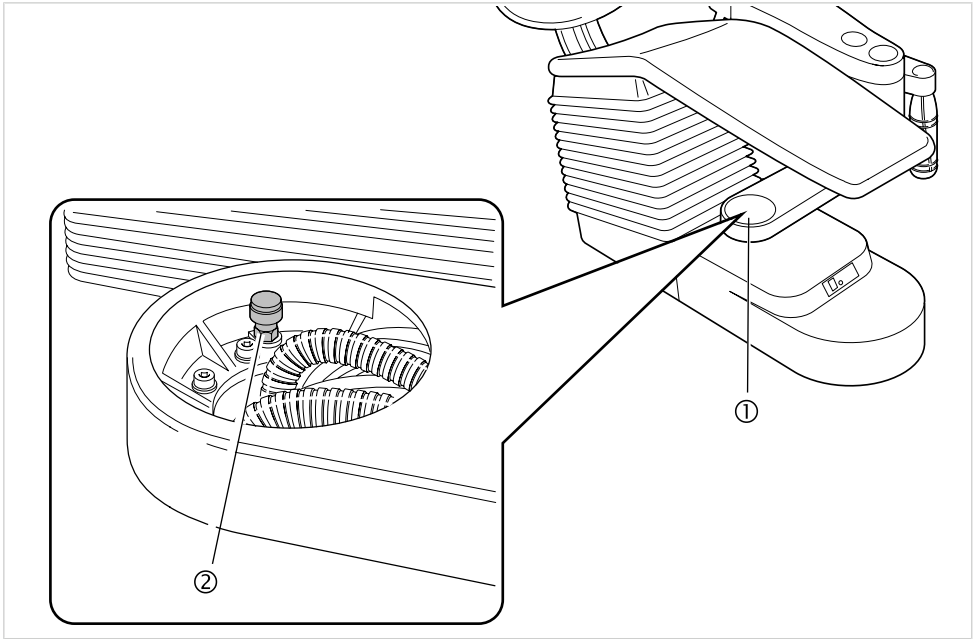
① Right handed model

② Left handed model

- Remove the seat.



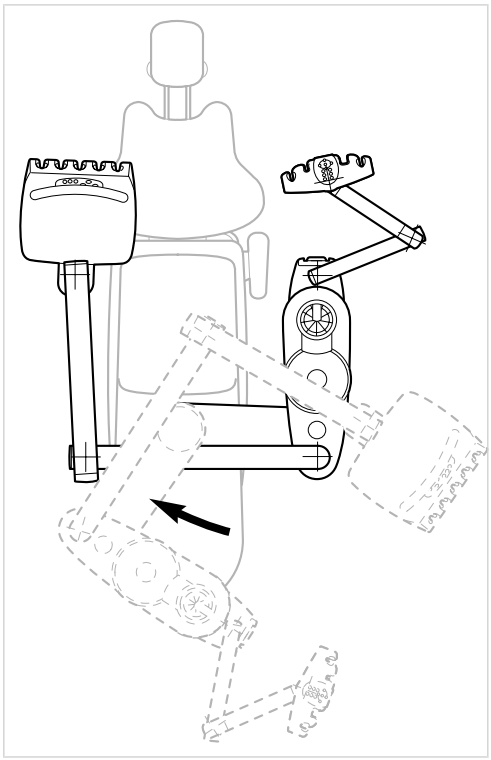
- Carefully place the foot control in the spittoon bowl.
- Use protective base.



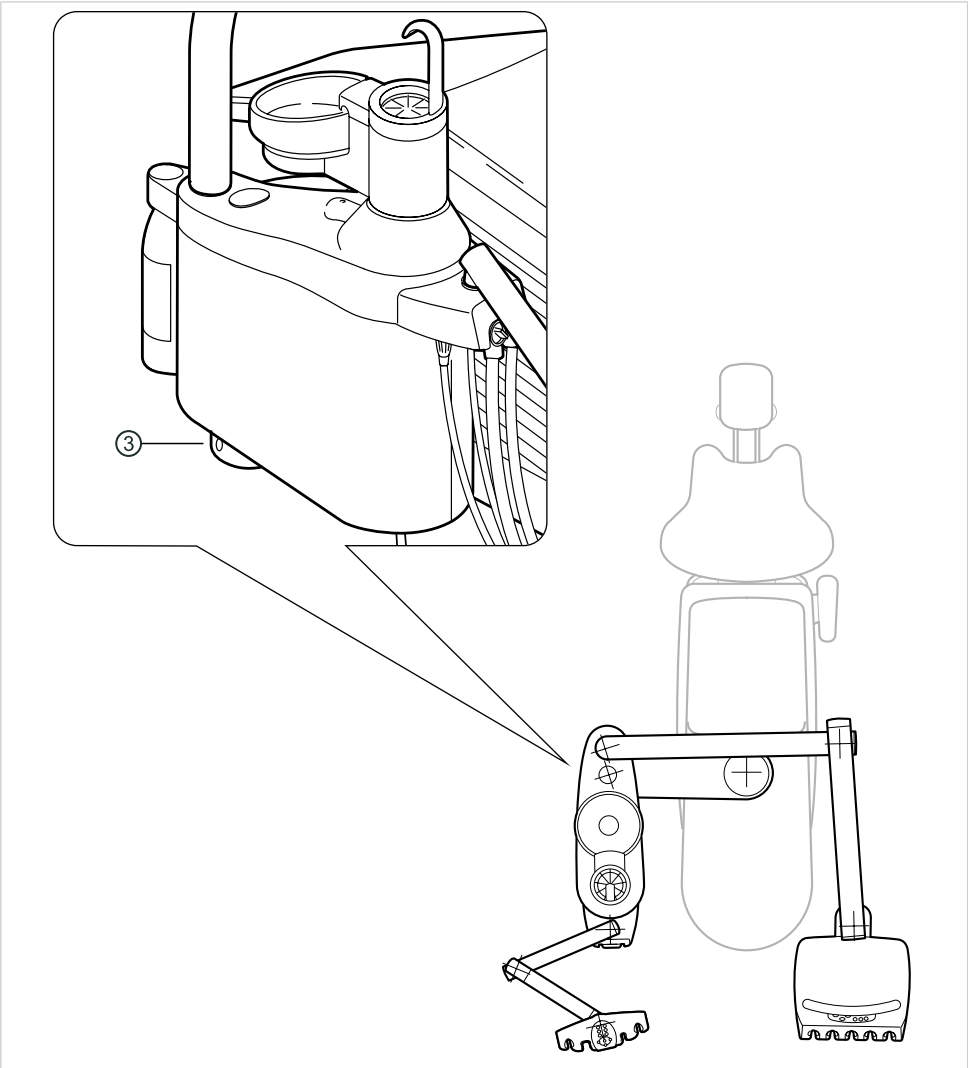
- Remove the cover ①.

- Lift the lock ② and simultaneously rotate the support arm toward the foot end.

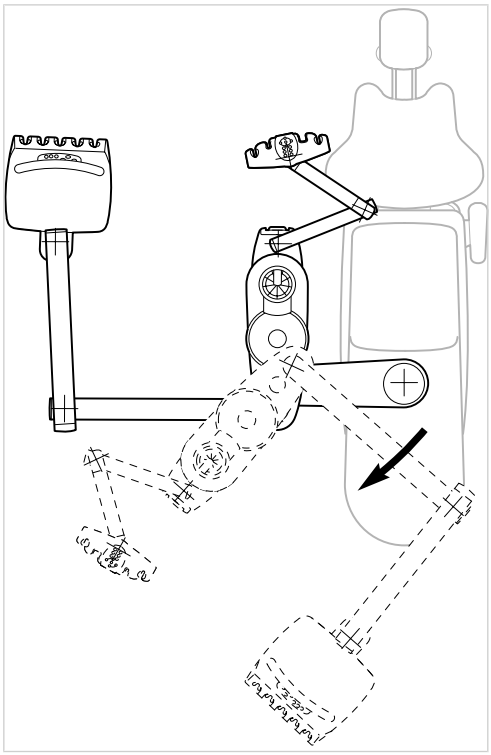
	**⚠ CAUTION** **Let the instrument hose hang on the patient chair or another object.** ▸ When swinging the dentist's unit and the articulation, make sure that the instrument hoses do not get caught.



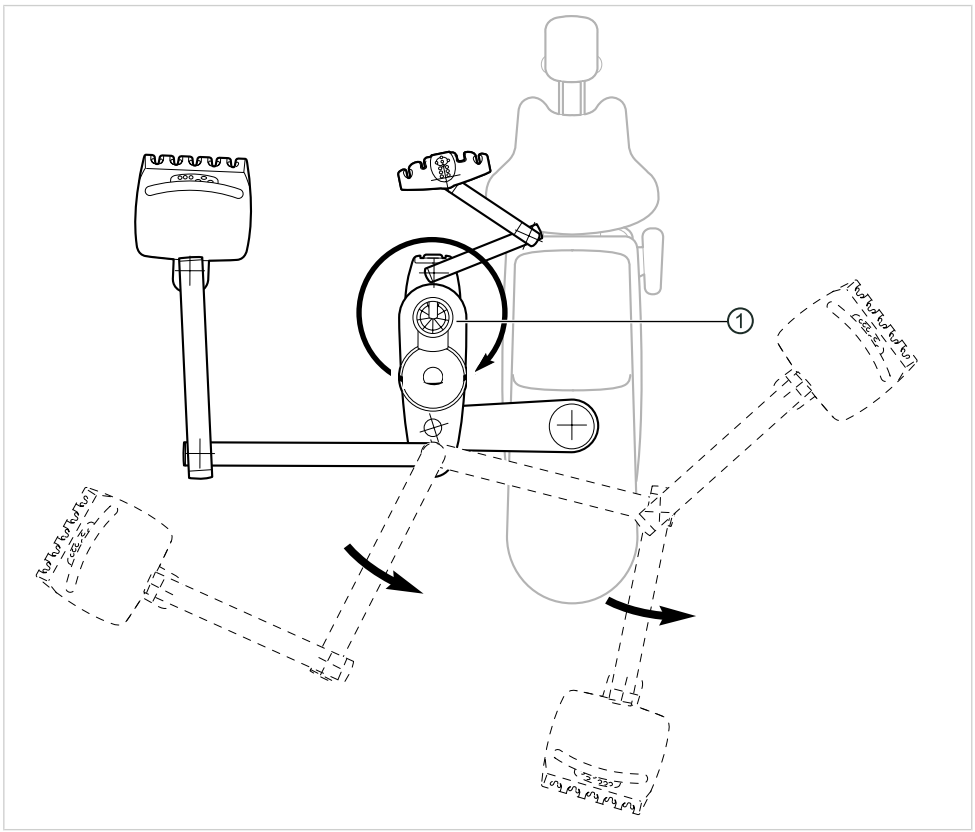
- Remove the lock ③, and simultaneously rotate the device body toward the backrest.



- The support arm and device body are fixed when they audibly lock in place.



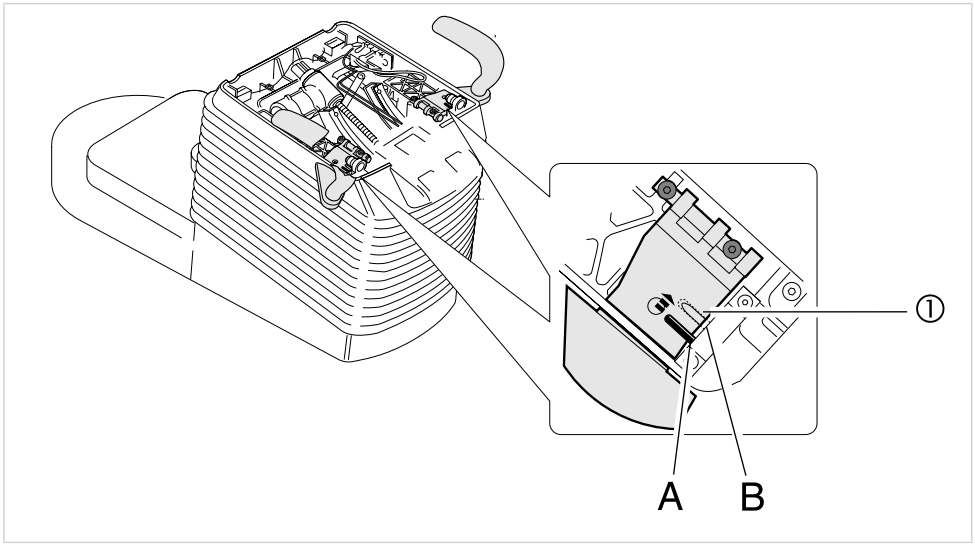
- Swing the dentist's unit into position, and rotate the patient's unit ① 360°.



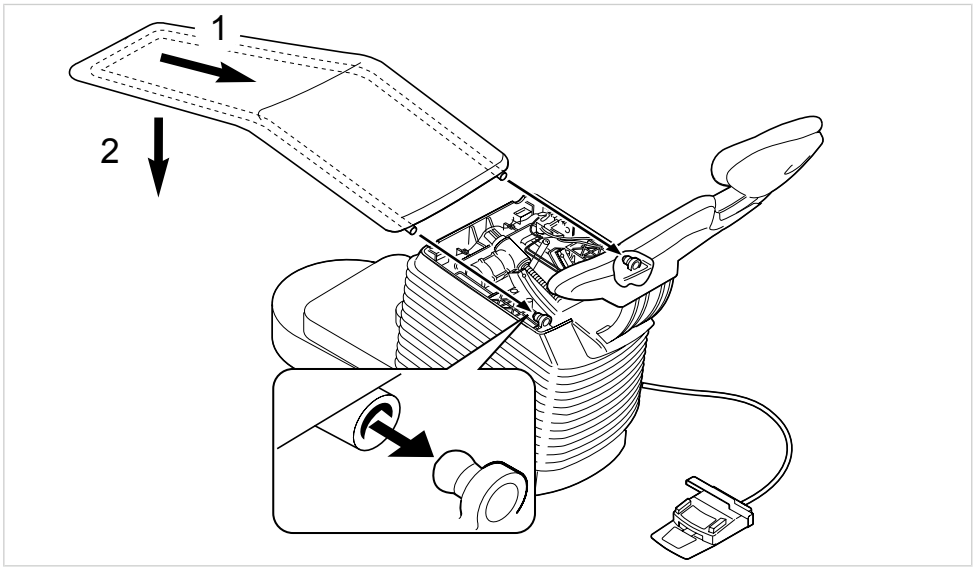
	**⚠ WARNING** **Safety lever not changed over.** Collision of the armrests with the device body. ▸ Change over the safety lever.

▸ Change over the safety lever ①.

Item**A**: The ability of the armrest to swing is blocked.
Item**B**: Swingable armrest.



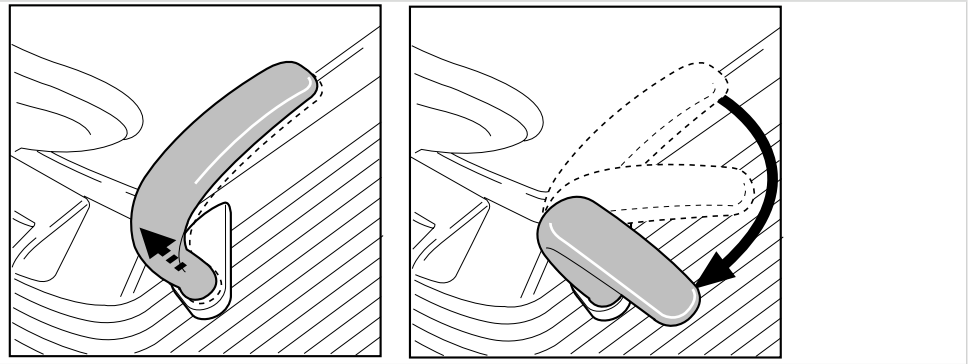
▸ Attach the seat in reverse order.



4.3 Adjusting the dental chair

4.3.1 Swing the armrest (extra)

To make it easier to get in and out, the armrest can be swung outward.



- ▸ Lift the armrest upward and swing it outward.
- ▸ Swing the arm rest back until it locks in place.

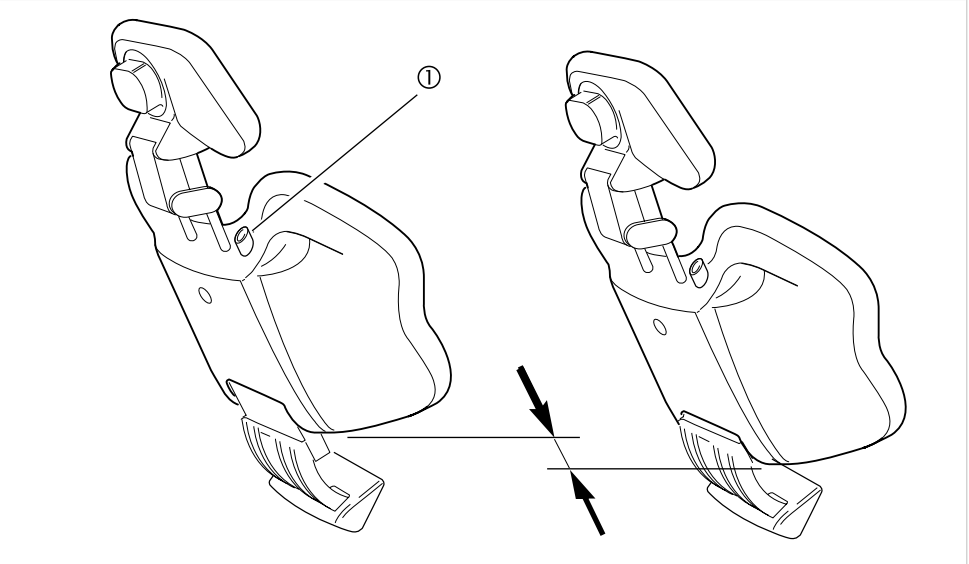
⚠ WARNING

The armrest is not fixed on the device body side.
The armrest unintentionally swings out and collides with the device body.

- ▸ Make sure that the safety lever is in position A.

4.3.2 Adjusting the backrest

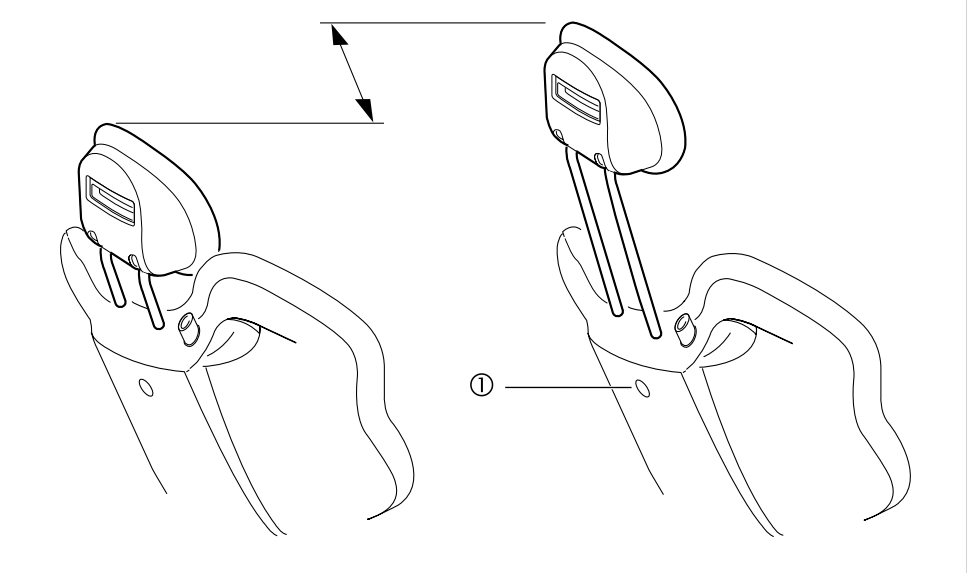
- ▸ Press the button ① and adjust the height of the backrest.



4.3.3 Adjust head rest

Standard headrest

	**⚠ CAUTION** **Adjusting the headrest.** Injury of neck muscles. ▸ Make sure that the patient is aware of the headrest setting. ▸ Patients need to raise their head slightly during adjustment.



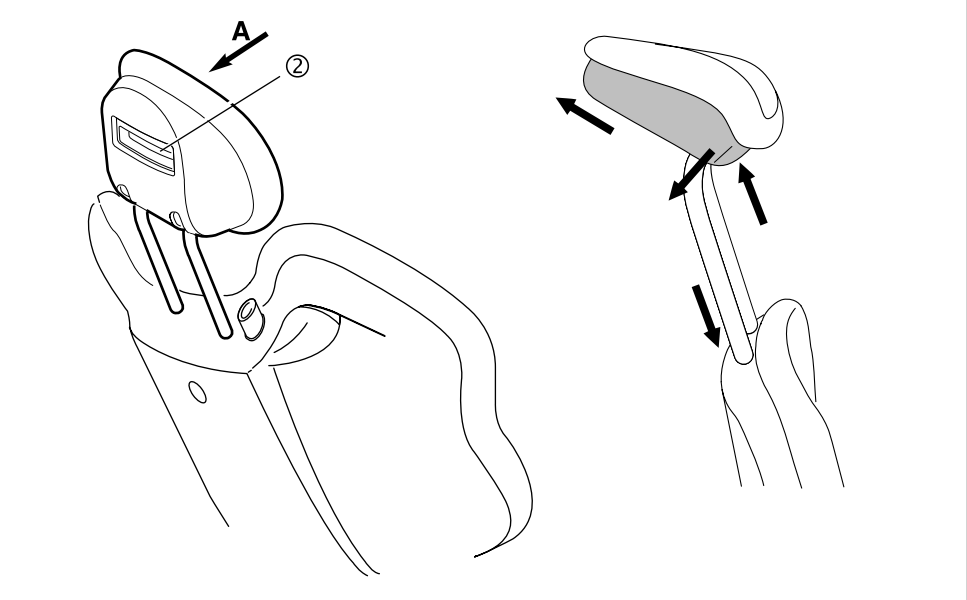
Adjust the brake for the lengthwise headrest shift

- Remove the cover ①.
- Adjust the braking force with hexagon socket screw WAF 3 mm.
- Remount the cover ①.

Adjust the height

- Push in or pull out the headrest depending on the patient's size.

Swing the headrest



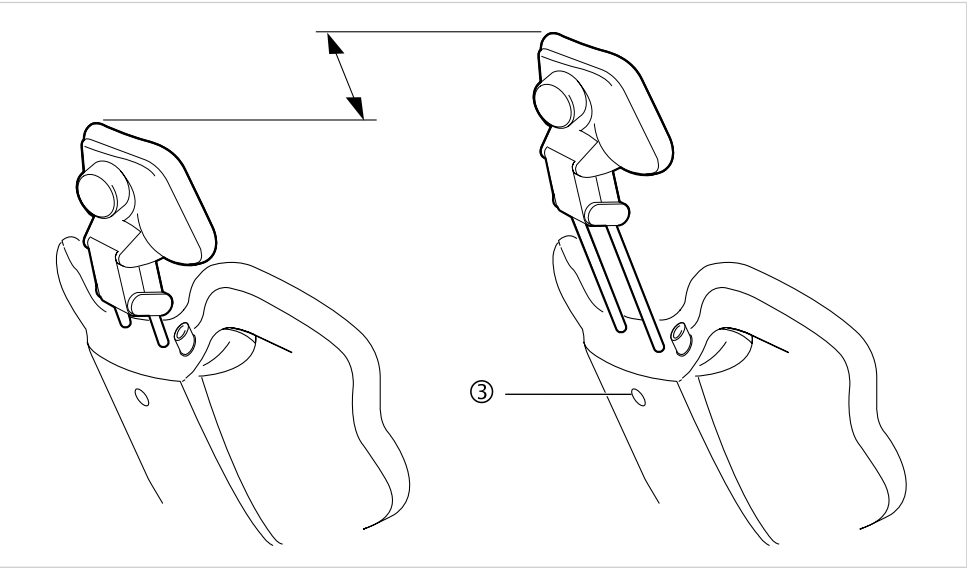
- Push the catch up ②, and swing the headrest into position.
- To lock the headrest, apply slight pressure (arrow**A**).

SOMATIC headrest

⚠ CAUTION

Adjusting the headrest.
Injury of neck muscles.

- Make sure that the patient is aware of the headrest setting.
- Patients need to raise their head slightly during adjustment.



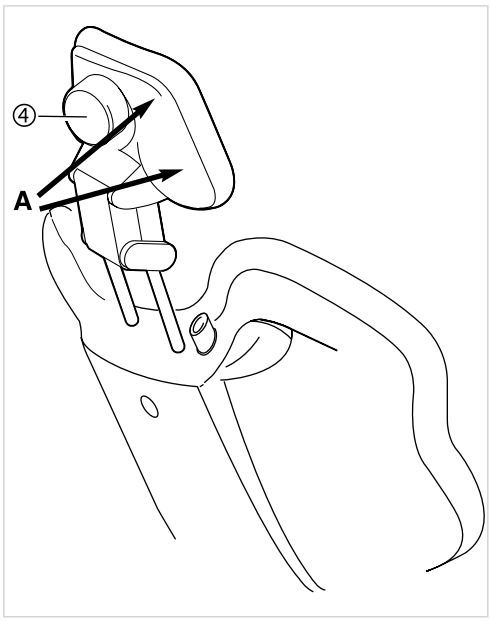
Adjust the brake for the lengthwise headrest shift

- Remove the cover ③.
- Adjust the braking force using hexagon socket screw WAF 3 mm.
- Remount the cover ③.

Adjust the height

- Push in or pull out the headrest depending on the patient's size.

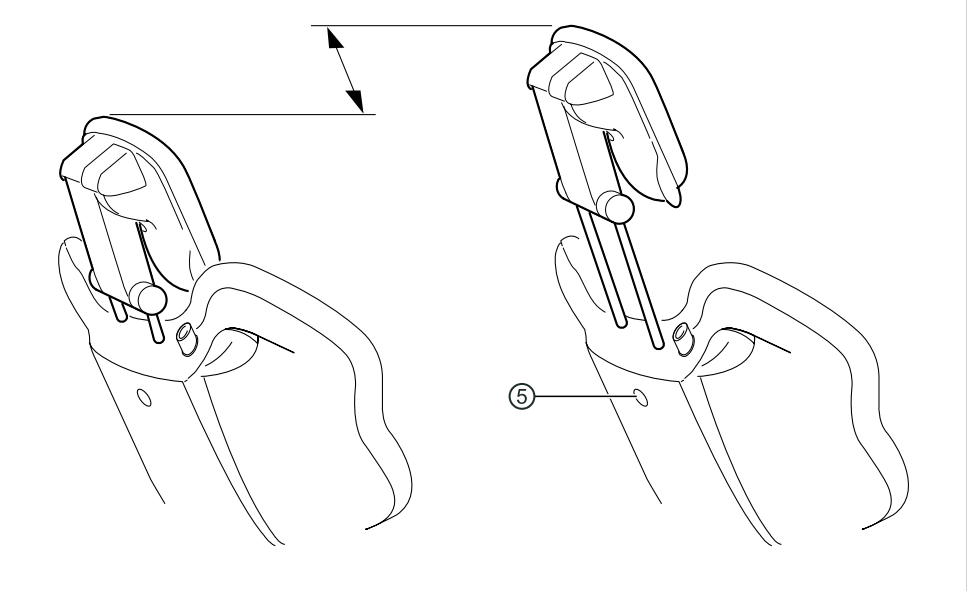
Swing the headrest



- Turn the knob ④ to the left or right, and swing the headrest into position.
- To lock the headrest, apply slight pressure (arrows**A**).

2-joint headrest

	**⚠ CAUTION** **Adjusting the headrest.** Injury of neck muscles. ▸ Make sure that the patient is aware of the headrest setting. ▸ Patients need to raise their head slightly during adjustment.



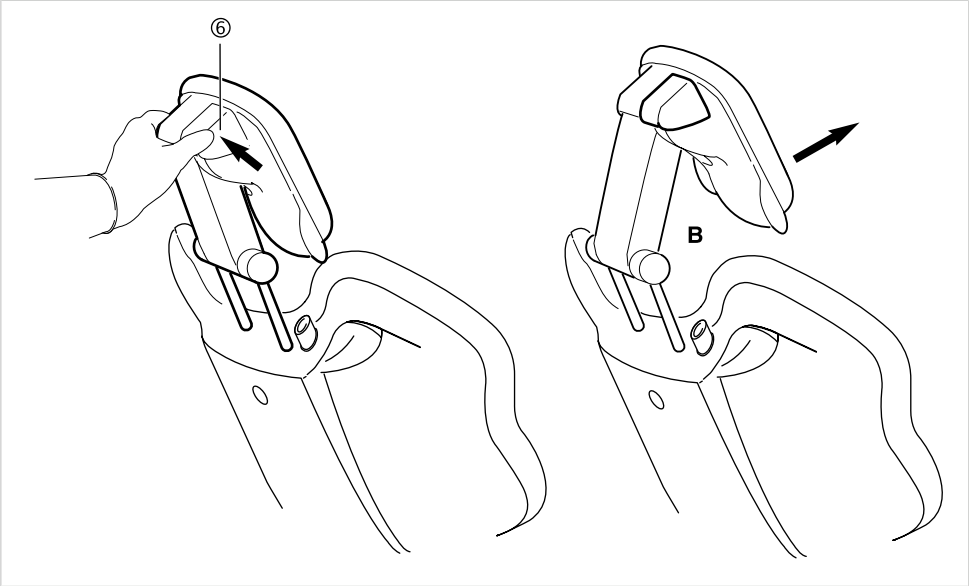
Adjust the brake for the lengthwise headrest shift

- ▸ Remove the cover ⑤.
- ▸ Adjust the braking force using hexagon socket screw WAF 3 mm.
- ▸ Remount the cover ⑤.

Adjust the height

- ▸ Push in or pull out the headrest depending on the patient's size.

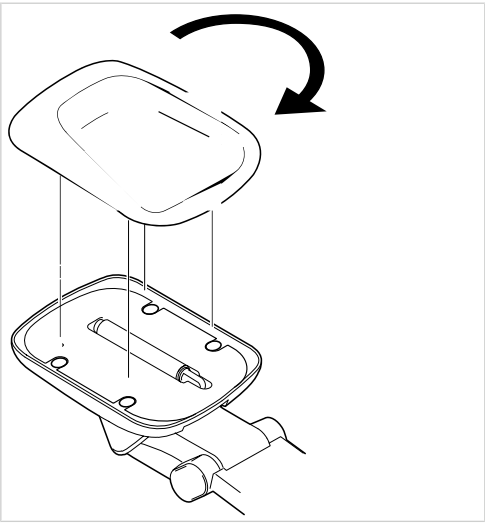
Swing the headrest



- Push the lock ⑥ together, and swing headrest into the desired position. When swinging the headrest back into position, make sure that there is nothing in area B.

4.3.4 Turning the head cushion

The head rest cushion is a rotating cushion. It can be turned to offer better neck support, for example when treating children.



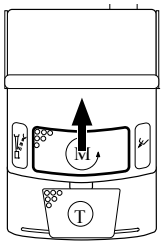
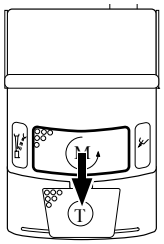
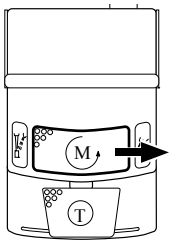
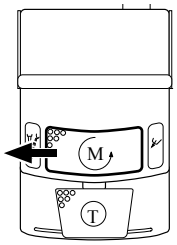
- Evenly pull the cushion up and rotate it 180°.
- Then mount and push the head cushion back on.

4.3.5 Adjust chair position

Gradually adjust the chair position

Note
The functions of the control keys on the dentist unit and assistant unit are the same.

The chair position can be selectively adjusted with:
- Keys on the control unit
- Cross switch on the foot control

Dentist unit key	Cross-switch: "Counter-clockwise motor rotation"	function
		The seat moves upward.
		The seat moves down.
		The backrest moves upward.
		The backrest moves downward.

- ▸ Press the desired button, or press the cross switch in the desired direction.

  The seat/backrest moves in the desired direction.

Note

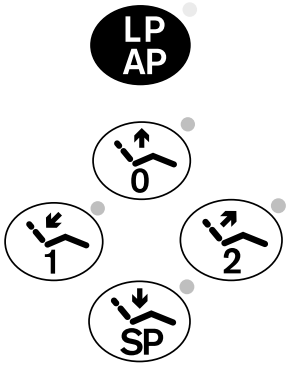
The seat and backrest can be moved at the same time. When the operating voltage for the patient chair is below 200 V, the movements in the automatic program can only be sequential.

Save the chair position

The chair positions can be saved and retrieved at any time by the press of a button. Win the position is retrieved, the chair automatically moves to the saved position (the so-called "automatic position," or "AP" for short).
The four chair positions can be saved on the control panel. Two of the positions can be saved with the foot control.
It is for example recommendable to save the sitting down and getting up position using the "AP 0" key and the rinsing position with the "SP" key.

- Move the chair into the position that is to be saved.
- Briefly press the LP/AP button.

  The LEDs of the buttons "AP 0", " AP 1", " AP 2" and "SP" flash for about four seconds.



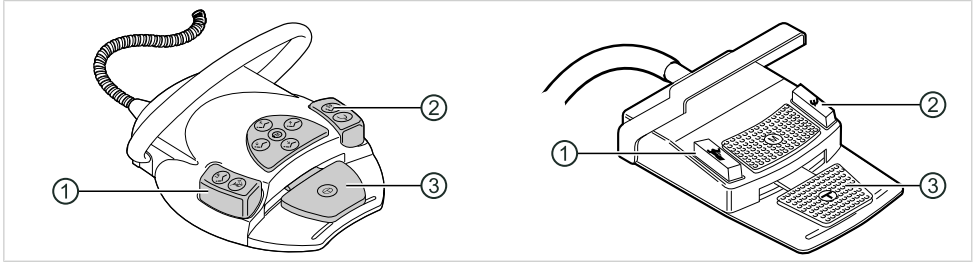
- During these four seconds, press the "AP 0", " AP 1", " AP 2" or "SP" buttons until you hear a beep.

  The chair position is saved on the button.

Note

The automatic position "Last position" is saved on the "LP" button. Press the "LP" button for the chair to automatically move to the last position before the rinsing position. The "LP" button cannot be saved with another automatic position.

Save with foot control



① Spray preselection/AP footswitch
② Blown air/AP footswitch
③ Foot pedal

The chair positions can be saved on two footswitches; the standard setting is as follows:
- "Spray default" footswitch: "LP" automatic position (last position)
- "Blown air" footswitch: "SP" automatic position (rinsing position)

The footswitch assignment can be changed.

- ▸ Press the "AP 0", " AP 1", " AP 2" or "SP" buttons on the control element until you hear a beep.
- ▸ Simultaneously press the foot pedal and the "Preselected spray" or "Blown air" foot switch.

The selected automatic position is saved on the footswitch.

Retrieve the saved chair position

The saved positions of the chair (so-called automatic positions) can be retrieved with the press of a button. Four automatic positions can be retrieved with the controls on the dentist's unit and assistant's unit, and two automatic positions can be retrieved with the foot control.

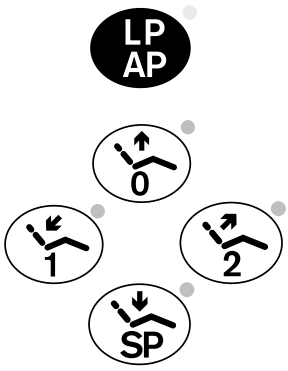
See also: Save the chair position, Page 39

⚠ CAUTION

Danger of crushing during automatic chair movement.
The patient or treatment personnel can be clamped.

- ▸ Monitor the patient and treatment personnel when changing the chair position.

Retrieve the chair positions using the control element



- ▸ Briefly press the LP/AP button.

  The LEDs of the buttons "AP 0", " AP 1", " AP 2" and "SP" flash for about four seconds.

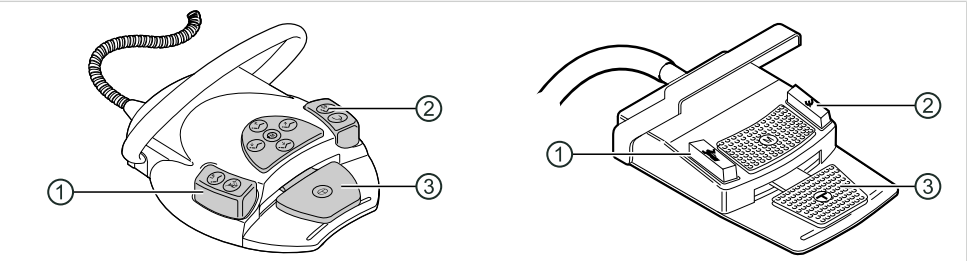
- ▸ During these four seconds, briefly press the "AP 0", " AP 1", " AP 2" or "SP" buttons.

  The chair moves into the automatic position.

Retrieve the chair positions using the foot control

Note

If an instrument is removed, the chair functions of the foot control are blocked. The blocking can be removed by briefly pressing the stirrup switch. The functions are then available.

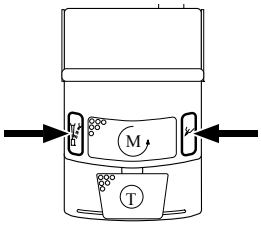


① Spray preselection/AP footswitch
② Blown air/AP footswitch
③ Foot pedal

The chair positions can be retrieved with two footswitches; the standard setting is as follows:

- "Spray default" footswitch: "LP" automatic position (last position)
- "Blown air" footswitch: "SP" automatic position (rinsing position)

Move the chair when the instrument is mounted



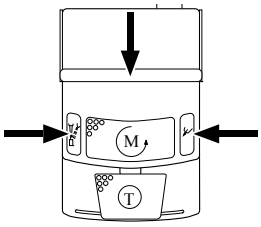
- Press the "Preselected spray" or "Blown air" foot switch.

The chair moves into the automatic position.

Move the chair when the instrument is mounted

Note

If an instrument is removed, the chair functions of the foot control are blocked. The blocking can be removed by briefly pressing the stirrup switch. The functions are then available.



- Press the stirrup switch and then the "Preselected spray" or "Blown air" foot switch.

The chair moves into the automatic position.

You can also use the cross switch.

Lock the chair functions when the instrument is removed

- Press the foot pedal.

  The chair functions are locked when an instrument is removed.

4.3.6 Safety shut-off

To prevent collisions arising from the movement of the patient chair, safety shutoff switches are installed to protect the patient and practice personnel from injury and the treatment unit from damage.

⚠ CAUTION

Despite the safety shutoff, collisions with the patient chair can occur when the assistant's unit is in certain positions.
Damage to the assistant element and patient chair.

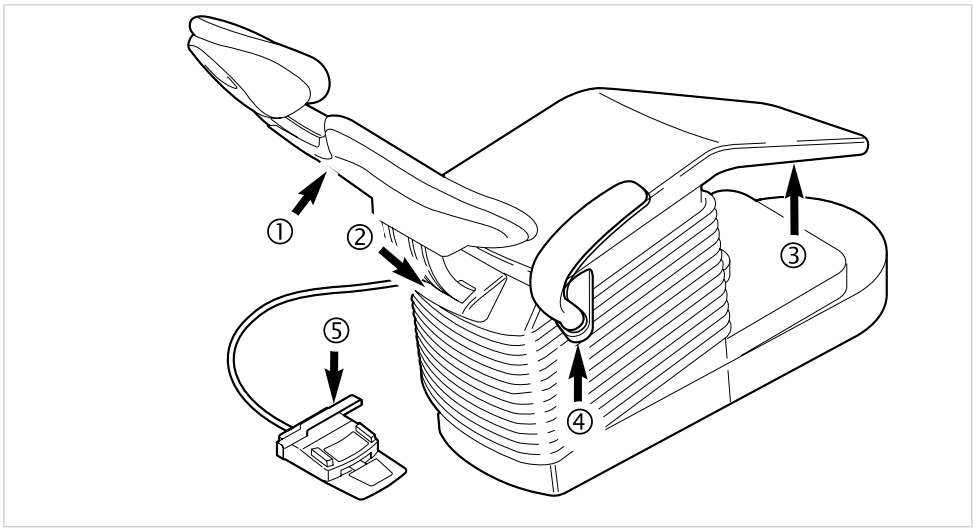
- Keep the assistant unit out of the range of movement of the patient chair.
- Always monitor the chair movement.

⚠ CAUTION

Pinching from the treatment chair.
The safety shutoff of the treatment chair is activated by lifting the respective component. Depending on the patient's body weight and the leverage, more force can be exerted on the object to be triggered than is necessary to trigger the switching function.

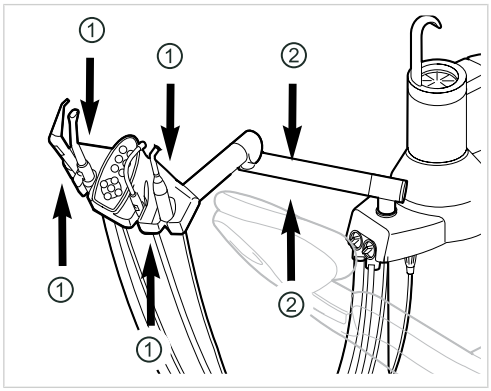
- The treatment personnel must move outside of the chair's swinging range whenever the chair moves.

The safety cut-offs can be found at the following places on the treatment unit.



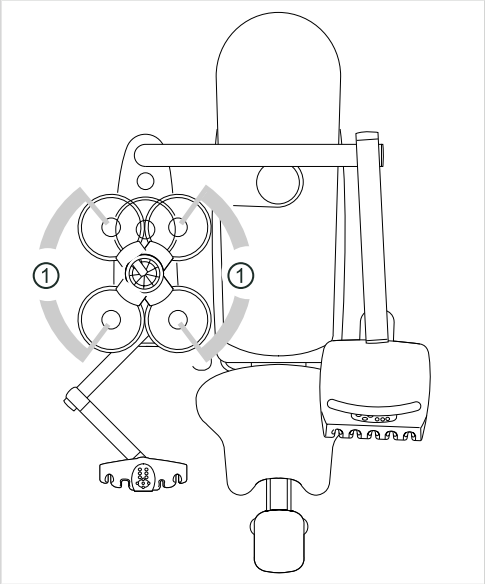
Check the patient chair and foot control safety shutoffs

① Backrest
② Cover on the curved segment of the backrest
③ Seat
④ Armrest
⑤ Bracket on foot control



Safety shut-off on the assistant unit

① Assistant unit
② Swinging arm



Safety shut-off on patient's part

① Patient's part pivoted over dental chair

The safety shutoff occurs went a movement angle has been exceeded, or part of the treatment unit collides with an object.

If a person or object actuates a safety shutoff, the chair immediately stops moving. The fact that the safety shutoff has been activated is displayed by the corresponding display flashing on the dentist's or assistant's unit.

Display LED	Safety shut-off
	Assistant unit
	Backrest Cover on the curved segment of the backrest Seat Armrest
	Footswitch
	Patient unit

Note

The chair's position cannot be changed when a safety shutoff is activated. Exception: The patient's unit safety switch only stops the upward movement of the patient chair. The upward and downward movements of the backrest and the upward movement of the patient's chair can be activated.

4.3.7 Special chair functions

Note

With operating voltages greater than 200 V, the spindle motors can operate simultaneously, i.e., the chair and backrest can move simultaneously in the automatic program.
With operating voltages under 200 V, the movements in the automatic program must be sequential due to the power consumption.
A service technician can perform the changeover.

Note

The lift and backrest motors have thermal fuses. The motors shut down at an operating temperature of 140 °C. The cooling phase lasts approx. 15 minutes. After the cooling phase is over, the lift and backrest motors are operable. Such temperatures are not reached in normal practice. The shutoff temperature can be reached when the motors are frequently actuated in presentations and events (approximately 8 complete movement cycles).

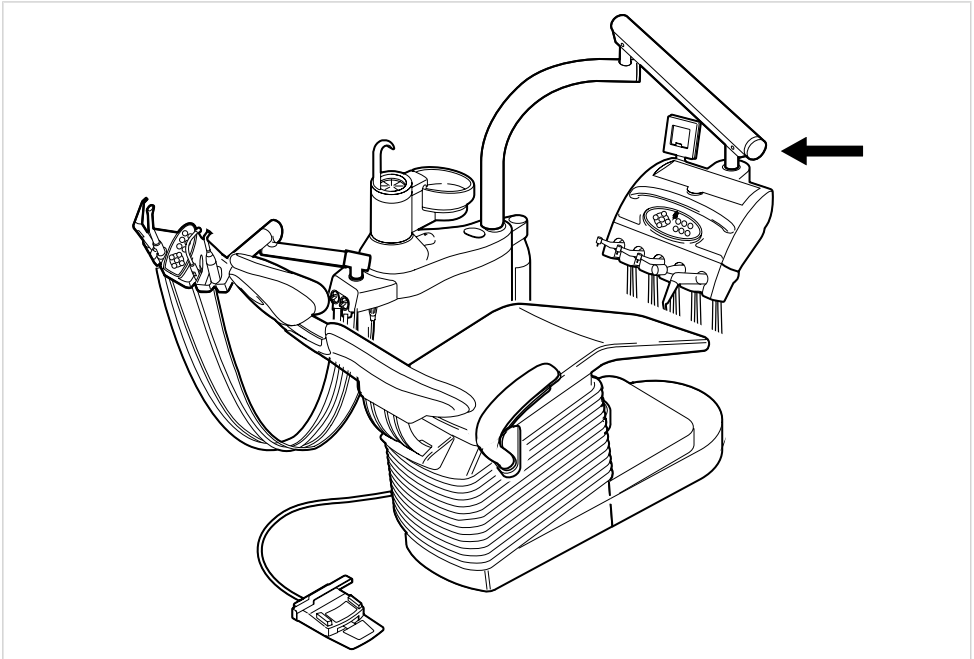
4.4 Moving dentist's unit

The swinging range of the dentist unit is limited by stops.

Note

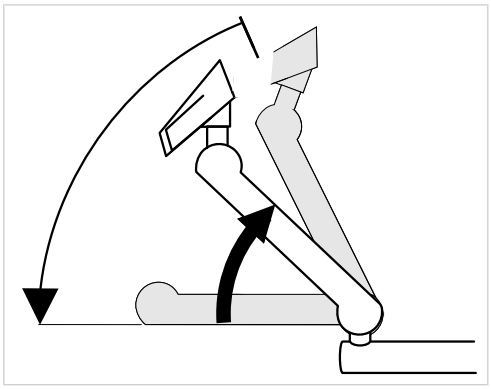
Do not pull the dentist unit by the instrument hose.

- To adjust the dentist unit height, release the brake, adjust the height, and reset the brake.



4.5 Adjust the height of the assistant unit

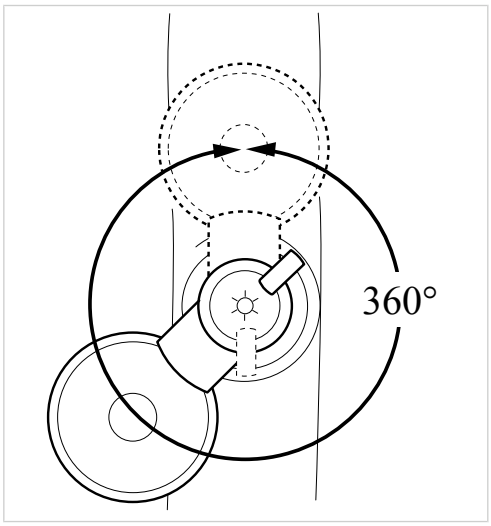
The assistant's unit can be positioned vertically in three levels.



- To set a higher level, pull the assistant unit upward gently until it audibly locks in place.
- To set a lower level, pull the assistant unit all the way up until the lock releases, and then lower the assistant unit.

4.6 Swing the patient unit by hand

The swinging range is about 360°C.



⚠ CAUTION

The left armrest can collide with the manually adjusted patient's unit when the chair moves.
Injury hazard.

- Each time before the chair is adjusted (automatic and manual), swing the manually adjusted patient's unit into resting position.

Note
When the patient unit is swung over the patient chair, the safety shutoff is activated.

4.7 Adjusting functions

4.7.1 Select memory level Dentist 1 or Dentist 2

Note
To individually adjust instruments for different types of treatment, two dentist levels can be selected.

- Set down the instruments.
- Hold down the foot pedal and press the stirrup switch.

Green LED comes on: Dentist level 1 is selected.
Yellow LED comes on: Dentist level 2 is selected.

4.7.2 Fill the tumbler and rinse the spittoon

The operation of the tumbler filler and bowl rising is the same for the dentist's unit and assistant's unit.

Adjust at the time for bowl rinsing and tumbler filling

Beeps sound when adjusting the time. Each beep corresponds to one second. The maximum time is 51 seconds.

- Press the button for filling the tumbler or rinsing the bowl and hold it until the desired number of beeps have sounded.

Filling the tumbler

- Press the "Tumbler filler" button.

The tumbler is filled.

- To stop filling before the set time, press the "Tumbler filler" button again.

Rinsing the spittoon

- Press the "Spittoon bowl" button.

The spittoon is rinsed.

- To stop rinsing before the set time, press the "Spittoon" button again.

4.7.3 Turn the x-ray image viewer on and off

- Press the "X-ray viewer" button.

4.7.4 Activate bell

- Press the "Preselected spray" key when the instrument is in the holder

The bell rings as long as the key is pressed

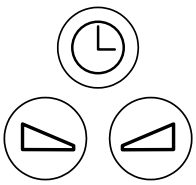
4.7.5 Switching treatment lamp on and off using cold light switch

The KAVOLUX 1410 treatment light can be turned on and off using the cold light key when a corresponding setting is made in service mode (group 9) and when a DCA relay is installed.

- Set down all the instruments.
- Press the "Cold light" button to turn the treatment light on or off.

4.7.6 Set the time and use the timer (only with Memospeed) - Set the time

Setting the timer



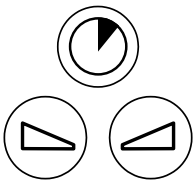
- Press the "Clock" button until you hear a beep.
- Press the "Increase value" or" Decrease value" button until the desired number of hours is displayed.
- Briefly press the "Clock" button, and set the minutes by pressing the "Reduce value" and "Increase value" buttons.
- Press the Clock" button again to set the seconds in the same manner.
- Then press the "Clock" button until you hear a beep.

The time is now saved.

Using the timer

Setting the timer

The minimum timer time is 30 seconds, and the maximum timer time is 8 minutes.



- Press the "Timer" button until you hear a beep.
- Press the "Increase value" or" Decrease value" button until the desired timer time is displayed.
- Press the "Timer" button again until you hear a beep.

  The timer time is now saved.

Starting the timer

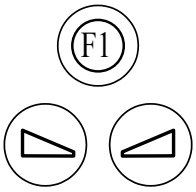
- Press the "Timer" button.

The set timer time runs. A tone sounds after the timer time is over.

4.7.7 Use the function keys (only with the Memospeed)

From the 14 functions, you can select two that can be retrieved using the function keys.

Select and save the function



- Press "F1" or "F2" until you hear a tone.

  The programming mode is started.
- Press the "Increase value" or" Decrease value" button until the desired function is displayed.
- Press the "F1" or "F2" button again until you hear a tone.

  The function is saved on the button.

Calling up a function

Requirement
A function has been saved for the "F1" or "F2" key.

- Briefly press the "F1" or "F2" button.

  These saved function is triggered.

4.8 Using instruments

The following sections describe the use and setting of the instruments.
A distinction is drawn between operation with and without the installed Memospeed.
The instruments are prevented from simultaneous use by software that determines when they are mounted.
To make use easier, specific instrument settings can be saved.

Holder logic

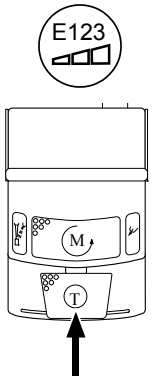
Only the instrument that was first removed is operable with the exception of the triple function handpiece. All other instruments do not work; the drill bits or PIEZOlux tips of these instruments can be changed.

4.8.1 Save instrument-specific settings

The following settings can be individually:saved for the instruments:

Instrument	Setting
Turbine	cooling condition cold light intensity
INTRA LUX Motor K 701 and INTRA LUX Motor KL 200	cooling condition cold light intensity Direction of motor rotation
PIEZOlux	cooling condition cold light intensity
Multifunctional handpiece	cold light intensity

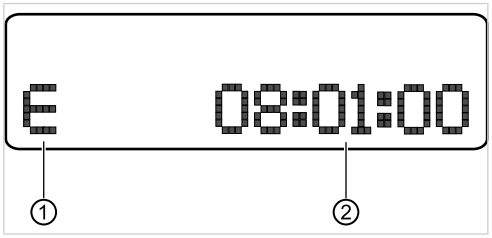
4.8.2 Select a memory level with the Memospeed



- Press the "Preselect level" several times until the desired level is displayed.

or

- Press the foot pedal several times when the instrument is mounted until the desired level is displayed.



Memospeed Display

① Level display ② Time

If stored values are changed during operation, these changed values will be lost when the unit is switched off and back on again. Only permanently stored values remain intact.

4.8.3 Operating turbine

Note
Follow the instructions for use and assembly in the instrument packaging.

The following settings can be changed:
- Speed
- cold light intensity

Setting turbine with Memospeed

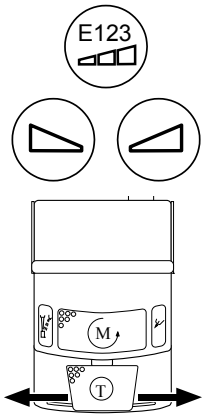
- Take turbine out of rack.

Setting the speed

Note
The speed can be set at level E only with the foot pedal.

Two modes are available:
- Manual mode: The speed can be adjusted gradually using the foot pedal. Speed: 160,000 RPM (left stop) to 300,000 RPM (right stop)

- "Maximum" mode: The speed remains at the maximum level independent of the foot pedal setting.

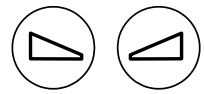


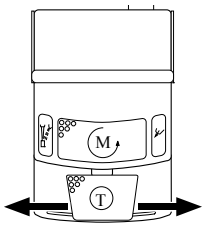
- Press the "Level selection" button until you hear a beep.
- To switch between maximum and minimum mode, press the "Increase value" or "Reduce value" button.
- To reduce or increase the speed in manual mode, move the foot pedal to the left or right.

Setting cold light intensity

The cold light intensity can be set in 10 levels.

- Press the "Level selection" button.

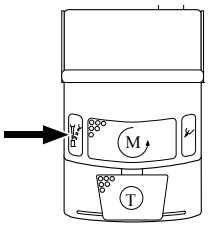




- Set the desired intensity from 1 to 10 by pressing the "Reduce value" or "Increase value" buttons, or by moving the foot pedal to the left or right.

Setting the cooling level

- Press the "Preselected spray" button.



or

- "Preselected spray" footswitch.

Two LEDs shine when the spray cooling level is activated.

Storing values

- Press the "Level selection" button until you hear a beep.

The set values are saved for the set memory level and the set dentist level.

4.8.4 Using the INTRA Lux Motor K 200 and INTRA Lux Motor KL 701

Note
Follow the instructions for use and assembly in the instrument packaging.

The following settings can be changed:
- Direction of motor rotation
- Speed
- cold light intensity

Note
The direction of motor rotation and the speed are set using the keys on the control element or the foot control.

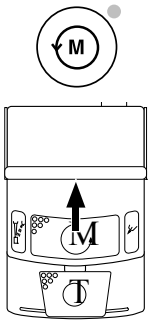
Note
The minimum and maximum speed depends on the motor and the attached handpiece or contra-angle handpiece.
The speed cannot be stored.

Note
The motor mode is equivalent to 2 minutes operating time and 5 minutes pause. This represents the possible maximum load of the motor (full load at maximum speed).
In practice, pulse loads lasting seconds or pause times lasting seconds or minutes are realistic given that the maximum possible motor current is not normally reached. This equates to the dentist's normal way of working.

Setting the rotational direction of the motor

Note
Only change the rotary direction of the motor when the motor is not running.

- Remove the motor from the holder.



- Press the "counter-clockwise motor" button.

or

- Press the "Counterclockwise motor rotation" cross-switch.

The LED shines when CCW motor rotation is set.

Storing values

- Press the "LP/AP" button until you hear a beep.

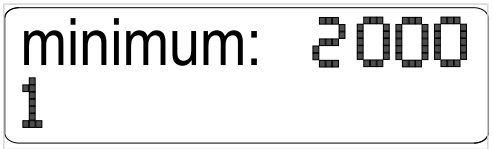
Adjust the speed and cold light intensity

Setting the speed

	K 200 motor	KL 701 motor
Minimum	400 rpm	2,000 rpm
Maximum	2900 rpm	2900 rpm

- Press the "Level selection" button until you hear a beep.

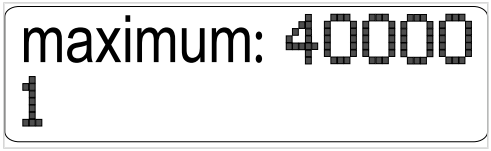
  The display switches to the setting menu for minimum.

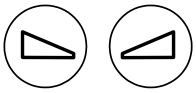


- Press the "Increase value" or" Decrease value" button until the desired value is displayed.

- Press the "Level selection" button.

The display switches to the setting menu for maximum.





- Press the "Increase value" or" Decrease value" button until the desired value is displayed.

- Press the "Preselect level" key.

  The display changes to the setting for the cold light intensity.

Setting cold light intensity

The cold light intensity is adjusted in the same manner as with the turbine.

See also: Setting cold light intensity, Page 52

The values are saved in same manner as with the turbine.

See also: Storing values, Page 53

4.8.5 Operating the PIEZOlux

⚠ CAUTION

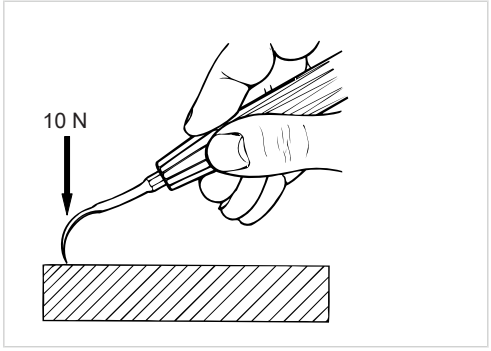
Danger of injury when the torque wrench is laid down.
The sharp-edged instrument insert can cause injury.

- Leave the torque wrench on the handpiece when it is not being used.

⚠ CAUTION

Danger of injury from a defective instrument insert.
Insert breaks off.

- Before each use, check the condition of the instrument insert and apply approximately 10 N (about 1 kg).



Note

The torque wrench is subject to natural wear and should be changed when it longer works properly. (**Mat. no. 1.000.4887**)

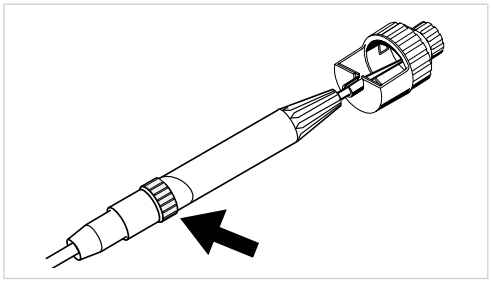
The following settings can be changed:
- Water emission
- Intensity
- Cold light

Attaching the instrument insert

- ▸ Screw in the instrument insert into the handpiece using the torque wrench that is provided as an accessory.
- ▸ Tighten the torque wrench until it slips.

  The maximum torque is reached.

Adjust the water emission



- ▸ Turn the ring on the handpiece.

Adjust the PIEZOlux without Memospeed

The cold light is set and saved as with the turbine.
The intensity is adjusted in the same manner as setting the speed of the turbine.

Adjust the PIEZOlux with Memospeed

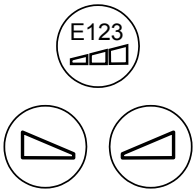
The cold light is set and saved as with the turbine.

Set intensity

Note

The intensity can be set in level E only with the foot pedal.

The intensity is set in steps of 0.25; the minimum intensity is 1, and the maximum is 10.



- Press the "Preselect level" button until you hear a tone.
- Press the "Increase value" or" Decrease value" button until the desired value is set.

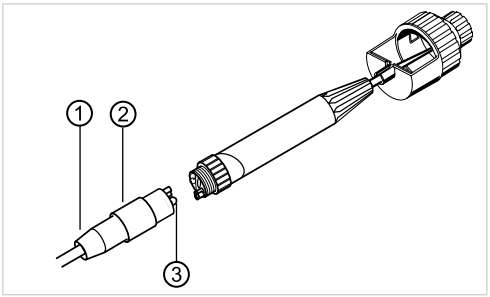
Changing the high-pressure lamp

⚠ CAUTION

Injury hazard from hot valve body.
Burns from contact.

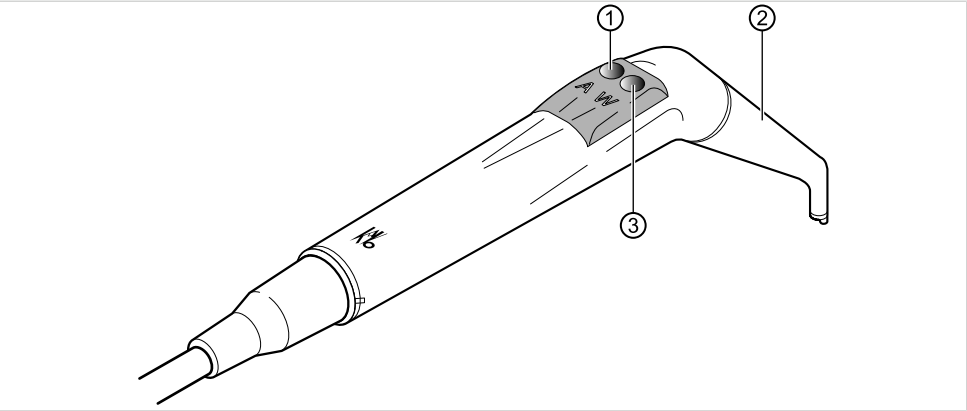
- Switch main device switch off.
- Let the lamp cool down after long use.

- Turn off the device.



- Screw the hose sleeve ① off the handpiece, and pull the handpiece off the hose coupling ②.
- Pull the high-pressure lamp ③ out of the socket.
- Insert the new high pressure lamp (**Mat. no. 1.002.2928**) into the socket, and make sure that the contacts are correctly positioned.
- Connect the handpiece to the hose coupling, and screw it on with the hose sleeve.

4.8.6 Operating three-function and multi-function handpiece



① "Air" button
② Cannula
③ "Water" button

	**⚠ CAUTION** **Danger of injury from cannulas that are worn or not locked into place.** Swallowing the cannula. ▸ Before each treatment, ensure that the cannula is locked into place and firmly seated. ▸ Only use original KaVo cannulas.

	**⚠ CAUTION** **Injury hazard from touching the cheek with the handpiece.** Irritation of the mucosa. ▸ Turn the handpiece cannula so that the mucosa is not touched.

Note
The cannulas can be rotated 360°..
The max. "on" time is 5 minutes with a resting time of 3 minutes.

- ▸ Remove the turbine from the holder.
- ▸ Check the passage of the media through the cannula before using it on the patient.
- ▸ Press the "Air" button ①; the exiting air flow can be gradually increased or decreased by applying more or less pressure on the "Air" button.

or

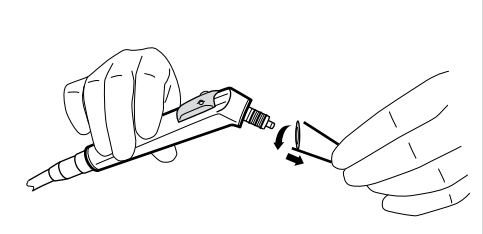
- ▸ Press the " Water" button ③; the exiting water jet can be gradually increased or decreased by applying more or less pressure on the "Water" button.

or

- ▸ Simultaneously press the "Air" button ① and "Water" button ③; the exiting spray can be gradually increased or decreased by applying more or less pressure on the button.
- ▸ Place the handpiece in the holder after use.

Removing the cannulas

- Remove the cannula with a slight amount of rotation while holding the handpiece on the grip sleeve.



Setting cold light intensity

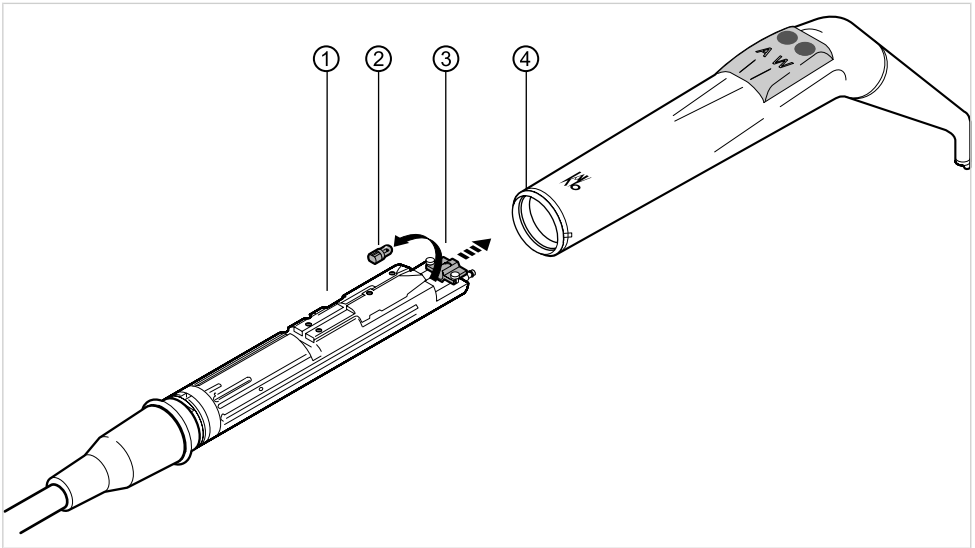
The cold light intensity is adjusted in the same manner as with the turbine.

Changing the high-pressure lamp

⚠ CAUTION

Injury hazard from hot valve body.
Burns from contact.

- Switch main device switch off.
- Let the lamp cool down after long use.



- Pull off the grip sleeve ④ together with the cannula from the valve body ①.
- Push the holder ③ forward, and pull the defective high-pressure bulb ② out of the socket.
- Insert the new high-pressure lamp (**Mat. no. 1.002.2928**).
  Check the position of the contacts.
- Pull back the holder ③ slightly.
- Push the grip sleeve and cannula on together until they audibly lock into place.

4.8.7 Setting the spray mist suction device and saliva ejector

⚠ CAUTION

Unintentionally activating the saliva ejector or spray fog suction.
Injury in the area of the mouth.

- ▸ When using the vacuum stop to interrupt suction, do not leave the saliva ejector or spray fog suction in the patient's mouth.

Adjusting the suction strength with the slide

- ▸ Remove the saliva ejector or spray mist suction device from the holder.

  The suction automatically turns on.

- ▸ To set the suction or block it, move the slides that are integrated in the conical pieces of the saliva ejector and spray fog suction.

Start stop the suction with the vacuum stop (extra)

- ▸ Remove the saliva ejector or spray mist suction device from the holder.

  The suction automatically turns on.

- ▸ To interrupt the suction, press and hold the "vacuum stop" button.

Assign the "Vacuum stop" key

- ▸ In service mode, (group 9), assign the "Vacuum stop" key.

The following assignments are possible:
- Simultaneously stop the spray mist suction device and saliva ejector
- Only stop the spray mist suction

5 Preparation methods DIN EN ISO 17664

Note

The preparation methods can be found in the care instructions.

6 Adaptable accessories and kits

6.1 Unit base

Designation	Description
DVGW water block	
Water block, compact	Without DVGW
Water bottle	DVGW
Intensive disinfection kit	
Steel support base	
Install cover, point 1057-66	

6.2 Patient chair

Designation	Description
Foot switch vacuum stop	This foot switch is mounted on the base of the patient's chair and briefly stops the suction when the suction hoses are removed.
Comfort backrest	The height of the backrest can be adjusted.
Progress backrest	Slim design, but not height-adjustable.
Standard headrest	
Somatic headrest	
Double-jointed headrest	
Armrest	The armrest can be swung to the side to make it easier for the patient to get in and out.

6.3 Patient unit with device body and assistant unit

Designation	Description
External equipment connections	To connect and supply third-party devices such as an airflow through the quick couplings.
Dürr CAS amalgam separator	Permitted amalgam separation systems with > 95% separation.
CS Dürr separation using a solid particle collector	Separation
Solids collector	
External suction	
Water jet pump	
Monitor holder	The monitor support is a swingable surface for a monitor directly on the treatment unit.
KAVOLUX 1410 B	The treatment unit can be equipped with a treatment light if desired that can be adapted to the device.
Satelec Mini LED	LED polymerisation light
Triple-function handpiece	Multi-function syringe cold without light.
Tray holder	For the small instrument tray.
Boiler	For tumbler filling.
Low-pressure regulator	

6.4 Dentist unit

Designation	Description
Multiflex LUX hose	For connecting the turbine and SONICflex.
LUX motor hose and INTRA K and INTRA KL motor electronics	For connecting the INTRA LUX motor K 200 and INTRA Lux motor KL 701.
Triple-function handpiece	
Standing triple-function handpiece	
PIEZOlux scaler	With a removable and sterilisable sleeve.
X-ray viewer	The 5 x 5 cm x-ray viewer is optionally adaptable to the left or right side of the dentist's unit.
Speed/timer	LCD display for the time, speed and timer.
Sprayer heater for instruments	
Tray holder for a standard tray/US tray	Optionally adaptable on the left or right.
Tray, small non-rusting (**Mat. no. 0.228.3016**)	
Standard tray (**Mat. no. 0.719.1070**)	
US tray (**Mat. no. 0.725.8152**)	

7 Troubleshooting

Note

In case of malfunctions, consult the separate instructions for the use and care of the individual instruments (such as the turbine, motor, camera, Satelec Mini LED, etc.).

Malfunction	Cause	Remedy
Nothing works.	Main switch is off.	▸ Turn on main switch.
	The main fuse is tripped.	▸ Unplug the unit from the mains. ▸ Check the main fuse, and change it as necessary. The main fuse is next to the main switch. ▸ Change the microfuse (**Mat. no. 0.223.2783**).
No cold light in the instruments.	Cold light not preselected.	▸ Preselect cold light.
	The high-pressure lamp in the instrument is defective.	▸ Replace the high-pressure lamp. (See the operating instructions for the instrument).
No spray in the instruments.	No spray preselected.	▸ Preselect spray.
	Close the ring for controlling the spray on the instruments.	▸ Open the ring for controlling the spray on the instruments.
	The main water valve in the office is closed.	▸ Open main valve.
	The compressor is not turned on.	▸ Turn on the compressor.
Turbine making loud running noises.	Turbine wheel faulty.	▸ Replace turbine wheels. Follow the operating instructions for the turbine.
Spray at the instruments is insufficient.	The spray nozzles are dirty/clogged.	▸ Clean the spray nozzles according to the accompanying instrument operating instructions.
Leaks in instruments.	O-rings damaged at multiflex or motor coupling.	▸ Replace O-rings.
Water in the return air filter.	O-rings damaged at multiflex coupling.	▸ Replace all O-rings in the multiflex coupling.
Suction hoses not drawing.	Slides on the bodies are closed.	▸ Open slide.

Malfunction	Cause	Remedy
	Sieves in suction connector blocked.	▸ Exchange the sieve.
	Foot switch for vacu-stop has been pressed.	▸ Release the foot switch.
	Suction machine not running.	▸ Turn on the suction machine. ▸ Check the suction machine fuse.
	The amalgam separator does not work correctly.	▸ See the operating instructions for the amalgam separators.
The signal sounds continuously, and the "Service" LED (yellow) flashes.	Warning about the amalgam separator.	▸ See the operating instructions for the amalgam separators.
The buzzer sounds every 10 seconds.	The Oxygenal container is empty.	▸ Fill the Oxygenal container. (See care instructions.)
A beep sounds ten times.	The Oxygenal container is too full.	▸ Stop filling the Oxygenal container.
The Satelec Mini LED does not work.	**See also:** Instructions for use for the Satelec Mini LED	**See also:** Instructions for use for the Satelec Mini LED
The patient chair does not move.	The safety shutoff is activated. (The LED on the control panel flashes.)	▸ Check the safety shutoff and eliminate the reason for the shutoff.
The patient chair does not move, or only moves upward slightly.	The spittoon is swung toward the patient chair (the safety shutoff is activated).	▸ Swing the spittoon bowl into resting position.
The "Device on" LED (green) flashes.	Internal error.	▸ Call a technician.
The "Service" LED (yellow) flashes.	Malfunction in the amalgam separator.	▸ Call a technician.
	Emergency shut off of the bowl valve (only when external suction is installed)	▸ Call a technician.
The buzzer sounds every second, and the "Device on" LED (green) and "Service" LED (yellow) alternately flash.	Leakage water in the base of the device (only when the DVGW water block is installed).	▸ Shut off the water supply. ▸ Call a technician.
The LEDs of the keys "AP 0", " AP 1", " AP 2" and "SP" flash for 10 seconds after the patient chair has been activated.	The position pickup is defective or is incorrectly addressed.	▸ Call a technician.

8 Carrying out safety checks

Note
The instructions in the "Safety" chapter must be followed.

According to VDE 0751-1
- Every two years according to IIa
- Device type II a (without HF)
- The device is firmly connected
- Type BF comment 2
- Measurement according to EUL/EPA

KaVo offers a medical device book for keeping an inventory and recording essential master data on the medical device. The medical device book is only required in Germany and is therefore only in German (**Mat. no. 0.789.0480**).

The following measurements must be documented, for example in the medical device book.

- Check the ratings of fuses that are accessible from outside.
- Visually inspect the medical device and accessories
- Protective conductor tests according to VDE 0751-1
- Leakage current measurements according to VDE 0751-1
- Medical device function test with reference to accompanying documentation

Note
The main switch of the device system must be turned on during measurement.
Examples of measuring tools are:
KaVo test cable (**Mat. no. 0.411.8811**)
EPA measuring line (**Mat. no. 1.001.9904**)

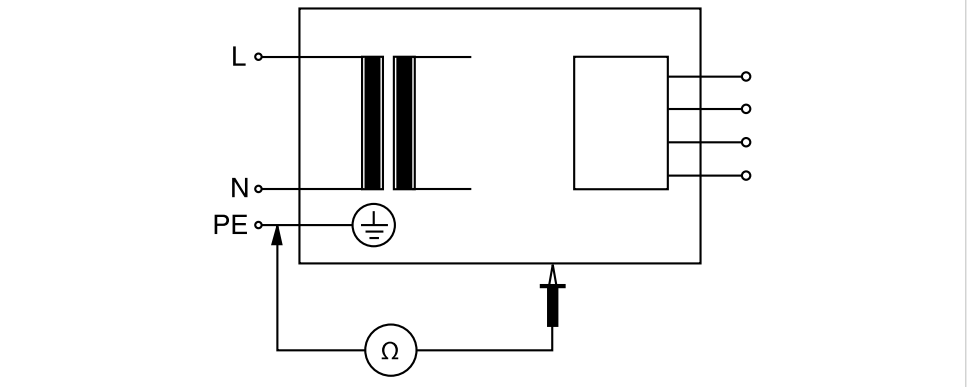
8.1 Measuring protective cable resistance

Threshold: < 0.3 Ω

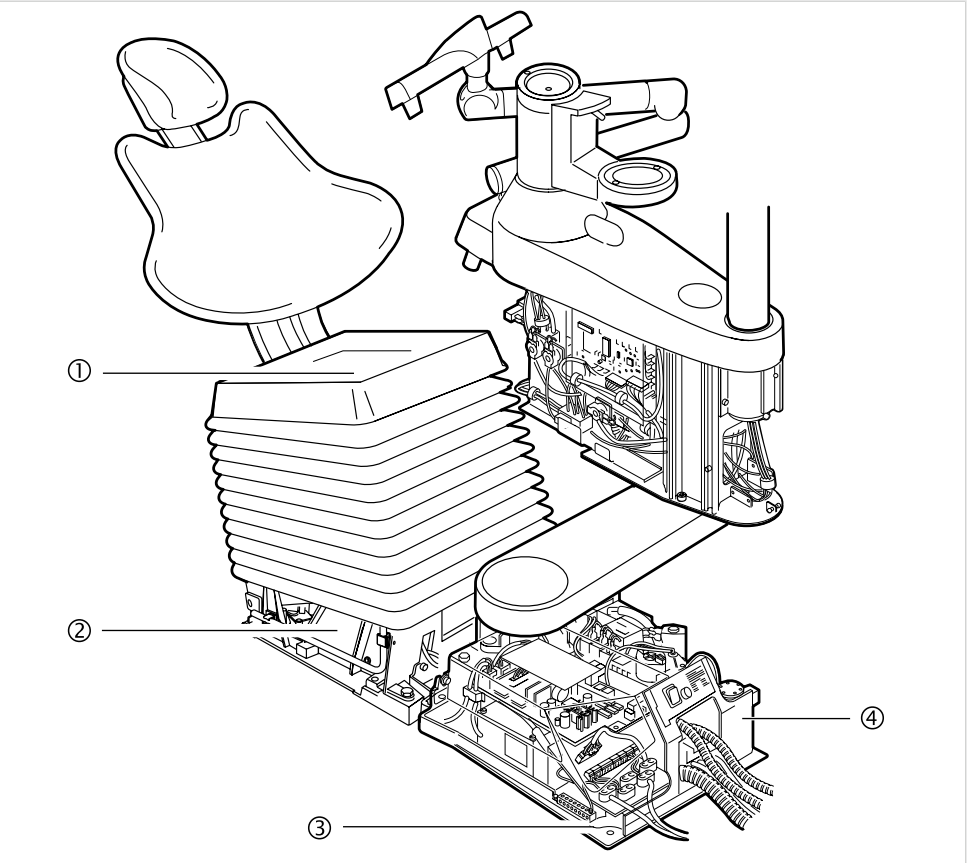
The resistance of the protective cable must be measured at the following devices:
- Base of unit
- Dental chair

Note

Take into account the additional measuring points of additional equipment such as connection to equipment by a different manufacturer, treatment lamps, multimedia system, etc.



- Raise the patient chair.
- Scan the following positions with the test tip.



Measuring points

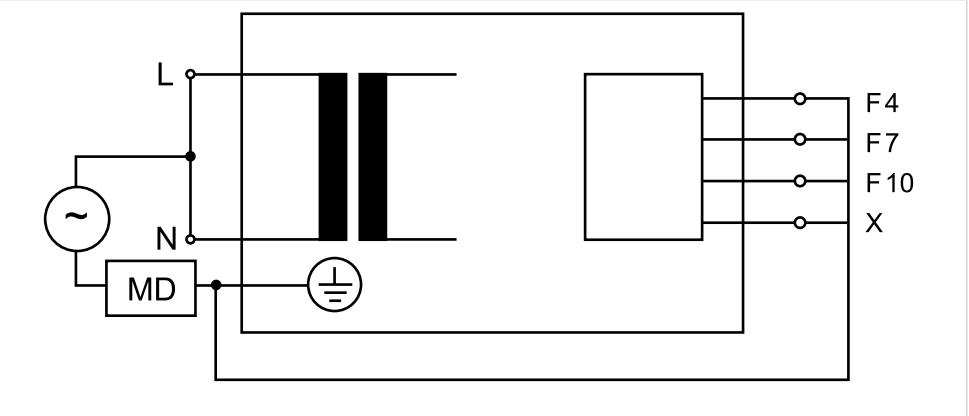
① Backrest spindle motor
② Lift spindle motor
③ Base plate
④ Main switch support plate

8.2 Measure equivalent unit leakage current

Threshold: < 10 mA

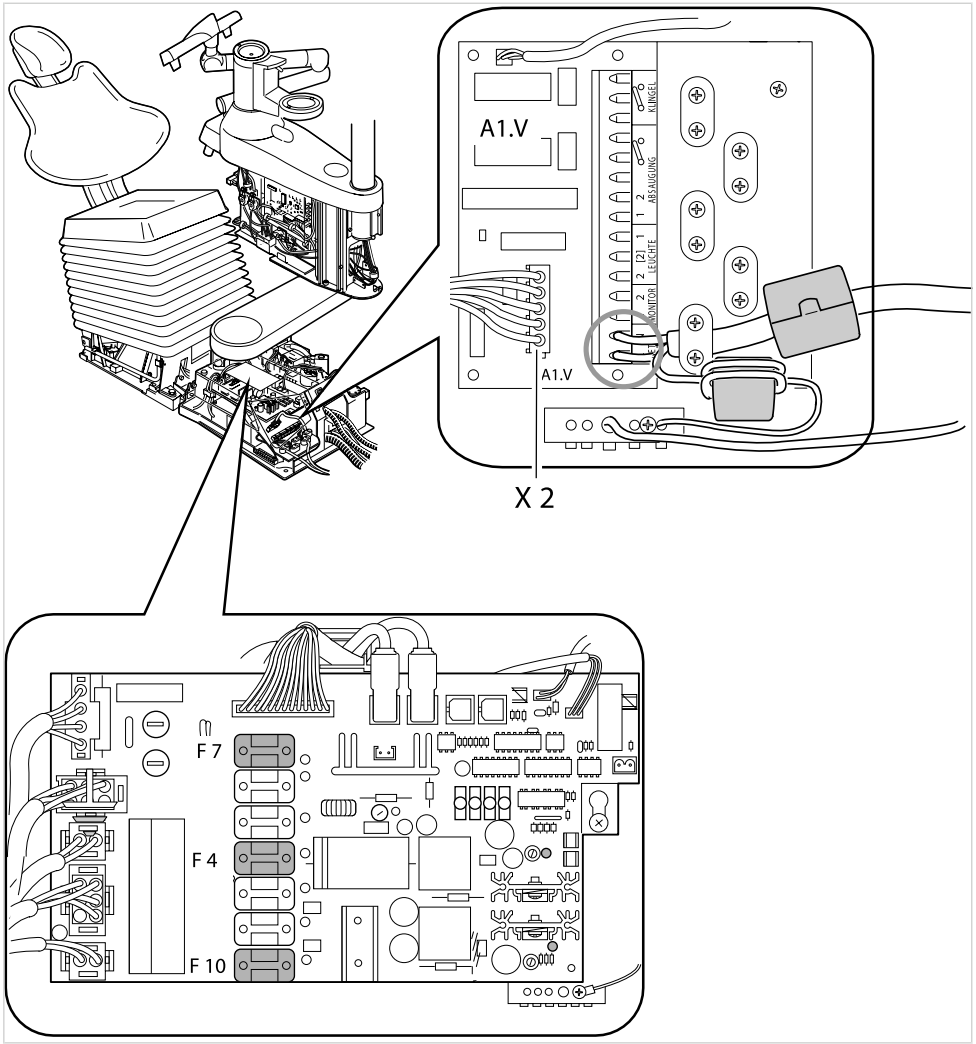
The equivalent unit leakage current (EUL) can be measured using an EPA measuring line (**Mat. no. 1.001.9904**) or at the falling measuring points on the patient chair:

- Fuses F4, F7 and F10 and X



Note

Take into account the additional measuring points of additional equipment such as connection to equipment by a different manufacturer, treatment lamps, multimedia system, etc.



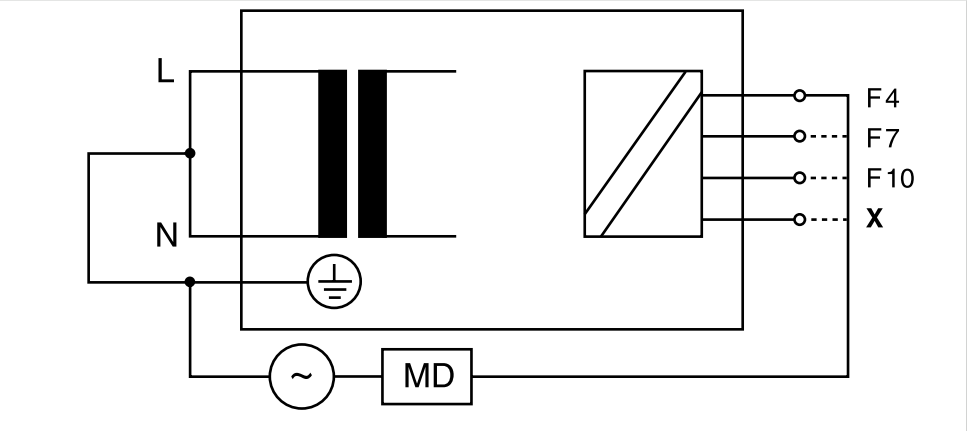
- Disconnect L + N at the device side from the mains, or connect measuring line **Mat. no. 0.411.8811** to X 2.
- Check the EUL at the measuring points or with an EPA measuring line **Mat. no. 1.001.9904**.

8.3 Measuring dummy patient leakage current

Threshold: < 5 mA

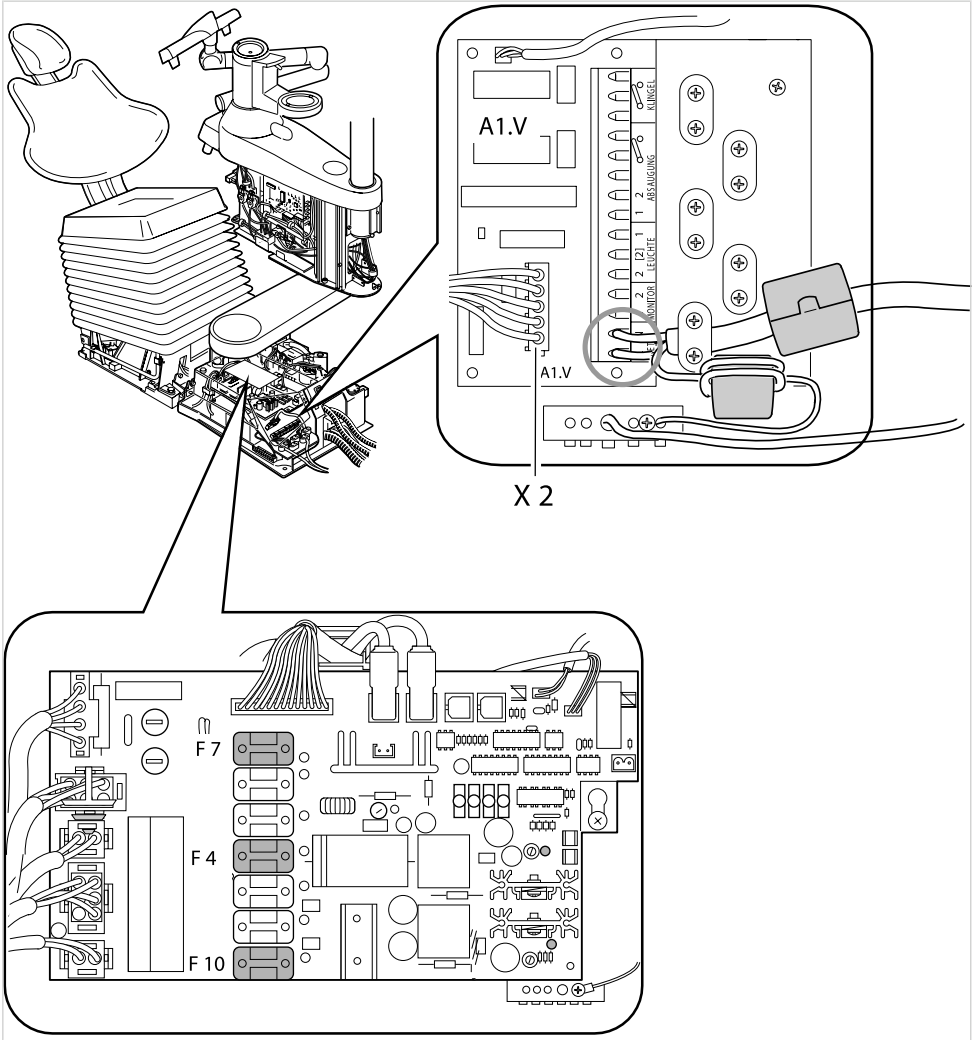
The equivalent unit leakage current (EUL) can be measured using an EPA measuring line (**Mat. no. 1.001.9904**) or at the falling measuring points on the patient chair:

- Fuses F4, F7 and F10 and X



Note

Take into account the additional measuring points of additional equipment such as connection to equipment by a different manufacturer, treatment lamps, multimedia system, etc.



- Disconnect L + N device-side from the mains.

- Check the EPA at the measuring points or with an EPA measuring line **Mat. no. 1.001.9904**.

9 Details about electromagnetic compatibility according to EN60601-1-2

9.1 Electromagnetic Transmissions

The Status 1080 TM treatment unit is for use in an environment like the one cited below. The customer or user of the Status 1080 TM should ensure that it is used in the correct environment.

Measurements of noise transmissions	Conformance	Electromagnetic environment - Guidelines
HF transmission according to CISPR 11	Group 1	The Status 1080 TM uses HF energy only for its internal operation. Its HF transmission is therefore very low, and it is improbable that neighbouring electronic devices will be disturbed.
HF transmission according to CISPR 11	Class B	The Status 1080 TM is for use in all facilities including residential ones, and facilities that are directly connected to a public power supply that also supplies residential buildings.
Transmissions of harmonics according to IEC 61000-3-2	Class A	The Status 1080 TM is for use in all facilities including residential ones, and facilities that are directly connected to a public power supply that also supplies residential buildings.
Transmission of voltage fluctuations or flicker according to IEC 61000-3-3	Conforms	The Status 1080 TM is for use in all facilities including residential ones, and facilities that are directly connected to a public power supply that also supplies residential buildings.

9.2 Resistance to electromagnetic interference

The Status 1080 TM treatment unit is for use in an environment like the one cited below. The customer or user of the Status 1080 TM should ensure that it is used in the correct environment.

Immunity tests	IEC 60601 test level	Conformance level	Electromagnetic environment - guidelines
Electrostatic discharge (ESD) according to IEC 61000-4-2	± 6 kV contact discharge ± 8 kV atmospheric discharge	± 2/4/6 kV contact discharge ± 2/4/8 kV atmospheric discharge	Floors should be made of wood or concrete or have ceramic tiles. When the floor is made of synthetic material, the relative humidity must be at least 30%.
Fast transient electrical disturbances/ Bursts according to IEC 61000-4-4	± 2 kV for power lines ± 1 kV for input and output lines	± 2 kV for power lines	The quality of the supply voltage should correspond to that of a typical business or hospital environment.

Immunity tests	IEC 60601 test level	Conformance level	Electromagnetic environment - guidelines
Surges according to IEC 61000-4-5	± 1 kV Push-pull voltage ± 2 kV common mode voltage	± 1 kV Push-pull voltage ± 2 kV common mode voltage	The quality of the supply voltage should correspond to that of a typical business or hospital environment.
Voltage interruptions, short-term interruptions and fluctuations of the supply voltage according to IEC 61000-4-11	< 5% U_T (>95% interruption) for 1/2 period 40 % U_T (60% interruption) for 5 periods 70 % U_T (30% interruption) for 25 periods < 5% U_T (>95% interruption) for 5 s (250 periods)	< 5% U_T (>95% interruption) for 1/2 period 40 % U_T (60% interruption) for 5 periods 70 % U_T (30% interruption) for 25 periods < 5% U_T (>95% interruption) for 5 s (250 periods)	The quality of the supply voltage should correspond to that of a typical business or hospital environment. When the user of the Status 1080 TM needs continued operation even when the power supply is interrupted, it is recommended to supply the Status 1080 TM from an uninterrupted power supply or a battery.
Magnetic field with a supply frequency (50/60 Hz) according to IEC 61000-4-8	3 A/m	3 A/m	Magnetic fields at the mains frequency should correspond to typical values in a business and hospital environment.

NOTE: V_T is the alternating mains voltage before the test level is used.

9.3 Recommended safe distance between portable and mobile HF telecommunications equipment and the treatment unit

The Status 1080 TM is intended for use in an electromagnetic environment in which HF disturbances are controlled. The customer or the user of the Status 1080 TM can help prevent electromagnetic disturbances by maintaining the minimum distance between portable and mobile HF telecommunications devices (transmitters) and the Status 1080 TM depending on the output of the communication device as indicated below.

Safe distance depending on the transmission frequency:

Rated power of the transmitter in W	150 kHz to 80 MHz $d=1.17\sqrt{P}$ m	80 MHz to 800 MHz $d=1.17\sqrt{P}$ m	800 MHz to 2.5 GHz $d=2.33\sqrt{P}$ m
0.01	0.1	0.1	0.2
0.1	0.4	0.4	0.7
1	1.2	1.2	2.3
10	3.7	3.7	7.4
100	11.7	11.7	23.3

For transmitters whose maximum rated power is not in the above table, the recommended safe distance d in meters (m) can be calculated using the equation for the respective gap, where P is the maximum rated power of the transmitter in Watts (W) according to the manufacturer's information.
NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not be applicable in every case. The spread of electromagnetic waves is absorbed and reflected by buildings, objects and people.

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