Mojave Mobile

EN-US

Installation and Operating Instructions

Rx Only

AIR TECHNIQUES equipped for life®

ATH7100005L29

ATH7100005

2011V004

EN-US

Contents

Important information

Product description

Installation

Usage

EN-US

Troubleshooting

Appendix

Important information

1 About this document

These installation and operating instructions are an integral part of the unit.

Air Techniques shall not be held liable and offers no guarantees of the safe and smooth operation of this unit if you fail to comply with notes and instructions contained in these Installation and Operating Instructions.

The German version of the installation and operating instructions is the original manual. All other languages are translations of the original manual. These installation and operating instructions apply to:

Mojave Mobile

Order number:

- VMA1 (ATH7100100)
- VMA1-S (ATH7100200)
- VM1 (ATH7200100)
- VM1-S (ATH7200200)

1.1 Warnings and symbols

Warnings

The warning notes in this document highlight possible injury to persons or damage to machinery.

They are marked with the following warning symbols:


General warning symbol


Warning – risk of dangerous electric voltages


Warning – hot surfaces


Warning - automatic start-up of the unit


Warning - biohazard

The warnings are structured as follows:

SIGNAL WORD

Description of type and source of danger

Here you will find the possible consequences of ignoring the warning

› Follow these measures to avoid the danger.

The signal word differentiates between different levels of danger:

- **DANGER**
  Direct danger of severe injury or death
- **WARNING**
  Possible danger of severe injury or death
- **CAUTION**
  Risk of minor injuries
- **NOTICE**
  Risk of extensive material/property damage

Miscellaneous symbols

These symbols are used in the document and on or in the unit:


Note, e.g. specific instructions regarding the efficient use of the unit.


Refer to Operating Instructions.


Disconnect all power from the unit.


Wear hand protection.


Wear eye protection.


Use a face mask.


Wear protective clothing.


Do not reuse


Do not climb onto the unit


Do not push or slide the unit.


Do not sit on the unit


Aspirate cold water


Device in operation


Operation of the unit is interrupted


Audible signal/melody is issued


Protective ground connection


Fuse


Type BF applied part

SN Serial number

REF Part number

MD Medical device

HIBC Health Industry Bar Code (HIBC)

CE xxxx CE labeling with the number of the notified body


Manufacturer

1.2 Copyright information

2 Safety

The unit has been developed and designed appropriately such that hazards are largely excluded if the unit is used in accordance with its Normal Use.
Therefore, please note the following.
Despite this, the following residual risks can remain:

- Personal injury due to incorrect use/misuse
- Personal injury due to mechanical effects
- Personal injury due to electric shock
- Personal injury due to radiation
- Personal injury due to fire
- Personal injury due to thermal effects on the skin
- Personal injury due to lack of hygiene, e.g. infection

2.1 Intended use (FDA)

Indications for use

The moveable spray mist suction unit generates a vacuum and a volume flow for dental treatment.

Improper use

Any other usage or usage beyond this scope is deemed to be improper.
The manufacturer accepts no liability for damages resulting from this.
The operator/user bears all risks.

- Do not use this unit to aspirate flammable and explosive mixtures.
- Do not use the unit as a vacuum cleaner.
- Do not use any chlorine-containing or foaming chemicals.
- Operation of the unit in operating theaters or explosion hazard areas is not permissible.

2.2 General safety information

The sale or prescription of this device by a medical practitioner is subject to the restrictions of the applicable Federal Acts. The device may be used only under permanent supervision by a dentist or licensed medical practitioner.

$\mathbf{Rx}_{\text{Only}}$ Caution: Federal law restricts this device to sale by or on the order of a Doctor.

› Comply with the guidelines, laws, rules and regulations applicable at the site of operation when you use this unit.

- Prior to each use, check the function and proper condition of the device.
- Do not convert or modify the unit.
- Comply with the Installation and Operating Instructions.
- Make the Installation and Operating Instructions always available to the operator in the vicinity of the device.

2.3 Specialist personnel

Operation

Persons operating the unit must ensure safe and correct handling based on their training and knowledge.

- Instruct or have every user instructed in handling the unit.

Installation and repairs

- All installation, resetting, alteration, expansion, and repair work must be carried out either by Air Techniques personnel or by a suitably qualified person approved by Air Techniques.

2.4 Notification requirement of serious incidents

The operator/patient has to report any serious incident related the product to the manufacturer and the competent authority of the Member State, in which the operator and/or patient is established/resident.

2.5 Only use genuine parts

- Only use accessories and optional items that have been recommended or specifically approved by Dürr Dental.
- Only use original working parts and spare parts.

2.6 Protection from electric shock

- Comply with all relevant electrical safety regulations when you work with this unit.
- Never touch the patient and unshielded plug connections of the device at the same time.
- Replace any damaged cables or plugs immediately.

Comply with the EMC rules concerning medical devices

The unit meets the requirements according to IEC 60601-1-2:2014.

- The unit is intended for use in professional healthcare facilities (in accordance with IEC 60601-1-2). If the unit is operated in any other environment, potential effects on the electromagnetic compatibility must be taken into account.
- Do not use the device near HF surgical devices and MRI equipment.
- Keep a minimum distance of 30 cm between the device and other electronical devices.
- Note that cable lengths and cable extensions have effects on electromagnetic compatibility.
- No maintenance measures are required to maintain the basic EMC safety.

NOTICE

Negative effects on the EMC due to non-authorized accessories

- Only use accessories that have been specified or approved by Dürr Dental.
- The use of any other accessories may result in increased electromagnetic interference emissions or the unit having reduced electromagnetic immunity, leading to an faulty operation mode.

NOTICE

Erroneous operation mode due to use immediately adjacent to other devices or with other stacked devices

- Do not stack the unit together with other devices.
- If this is unavoidable, the unit and other devices should be monitored in order to ensure that they are working correctly.

NOTICE

Reduced performance features due to insufficient distance between unit and mobile HF communication devices

- Keep at least 30 cm distance between the unit (including parts and cables of the unit) and mobile HF communication devices (wireless units) (including their accessories such as antenna cables and external antennas).

EN-US

2.7 Essential performance characteristics

The unit does not have any essential performance characteristics as set out in IEC 60601-1 section 4.3.

2.8 Transport

Only the original packaging ensures optimum protection for the unit during transport.
If necessary, the original packaging for this unit can be ordered from Air Techniques.

Air Techniques cannot be held responsible for any damage resulting from transport in unsuitable packaging, even during the warranty period.

› Only transport the unit in its original packaging.
› Keep all packaging away from children.

2.9 Disposal

The unit may be contaminated. Instruct the disposal company to take the relevant safety precautions.

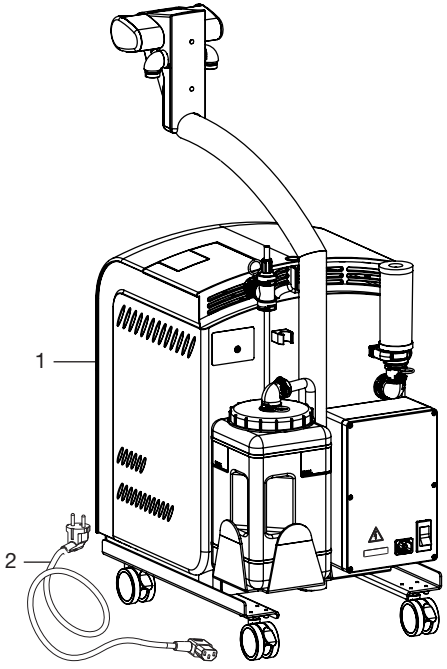
› Decontaminate potentially contaminated parts before disposal.
› Uncontaminated parts (e.g. electronics, plastic and metal parts, etc.) should be disposed of in accordance with the local waste disposal regulations.
› If you have any questions about the correct disposal of parts, please contact your dental trade supplier.

An overview of the waste keys for Dürr Dental products can be found in the download area at www.duerrdental.com (document no. P007100155).

Product description

EN-US

3 Overview



1 Mojave Mobile
2 Line Cord

3.1 Scope of delivery

The following items are included in the scope of delivery (possible variations due to country-specific requirements and/or import regulations):

Mojave Mobile ATH7100100 (VMA1)
Mojave Mobile ATH7100200 (VMA1-S)
Mojave Mobile ATH7200100 (VM1)
Mojave Mobile ATH7200200 (VM1-S)

- Monarch CleanStream Dispenser System
- Cannula set
- Prophylaxis cannula
- Disposable filter
- Rotary adaptor, grey
- Saliva ejector hose, grey
- Suction hose, grey
- Suction handpiece large, grey
- Suction handpiece small, grey
- Ball joint, grey
- Waste water hose
- Bacteria filter
- Disposable amalgam container (optional)
- Line Cord
- Spittoon (optional)

3.2 Optional items

The following optional items can be used with the device:

Spittoon 7068-003-05
Remote display (Display panel) . . . ATH7100016

3.3 Consumables

The following materials are consumed during operation of the device and must be re-ordered:

Monarch CleanStream Dispenser System ATH7100030
Monarch CleanStream Evacuation System Cleaner 57850
Monarch Enzymatic Cleaner H6201
Monarch Surface Disinfection Wipes H6186
Disposable filter for suction systems (12 pieces) 0725-041-00
Bacteria filter 7119100010
Prophylaxis Cannula d=16 mm, grey (4 pieces) 0700-058-50
Universal Cannula Protect d=16 mm, grey (5 pieces) 0700-059-50
Universal Cannula Protect d=16 mm, grey (20 pieces) 0700-059-00
Disposable amalgam container and Recycling Kit . . . . . MMREC
Disposable amalgam container . . . . . MMREP
Recycling Kit . . . . . MMKIT

3.4 REF/Order number

Name	REF	Order number
Mojave Mobile	ATH7100100	VMA1
Mojave Mobile	ATH7100200	VMA1-S
Mojave Mobile	ATH7200100	VM1
Mojave Mobile	ATH7200200	VM1-S
Spittoon	7068-003-05	706800305
Remote display	ATH100016	ATH100016
Disposable filter for suction systems (12 pieces)	0725-041-00	072504100
Bacteria filter	7119100010	711900010
Monarch CleanStream Dispenser System	ATH7100030	57665
Monarch Surface Disinfection Wipes	H6186	H6186
Monarch Enzymatic Cleaner	H6201	H6201
Monarch CleanStream Evacuation System Cleaner		57850
Universal Cannula Protect d=16 mm, grey (5 pieces)	0700-059-50	070005950
Universal Cannula Protect d=16 mm, grey (20 pieces)	0700-059-00	070005900

Name	REF	Order number
Prophylaxis cannula d=16 mm, grey (4 pieces)	0700-058-50	070005850
Disposable amalgam container	7110-033-00	MMREP
Disposable amalgam container and Recycling Kit		MMREC
Recycling Kit		MMKIT

4 Technical data

Electrical data for the device		ATH7100100 ATH7100200	ATH7200100 ATH7200200
Nominal voltage	V AC	120	
Nominal current	A	7	
Frequency	Hz	60	
Type of protection		IP20	
Protection class		I	
Duty Cycle	%	100 (S1)	
Main plug		1/N/PE	

General technical data		Mojave Mobile
Dimensions (H x W x D)	mm	900 x 365 x 640
	in	35.43 x 14.37 x 25.20
Weight	kg	max. 43
	lb	max. 95
Water temperature	°C	max. 35
	°F	max. 95
Noise levels	dB(A)	52
Exhaust air connection		DürrConnect
Waste water connection		DürrConnect
Mesh size, sieve of the Combination Suction Unit	mm	3
	in	approx. 0.1
Noise level in accordance with ISO 3744		

Ambient conditions during storage and transport		
Temperature	°C	-10 to +60
	°F	+14 to +140
Relative humidity	%	max. 95

Ambient conditions during operation		
Temperature	°C	+10 to +40
	°F	+50 to +104
Relative humidity	%	< 70

Electromagnetic compatibility (EMC) Interference emission measurements	
Interference voltage at the power supply connection CISPR 11:2015/AMD1:2016	Group 1 Class B

Electromagnetic compatibility (EMC) Interference emission measurements	
Electromagnetic interference radiation CISPR 11:2015/AMD1:2016	Group 1 Class B
Intermittent interference voltage at the power supply connection CISPR 14-1:2016	Group 1 Class B
Emission of harmonics IEC 61000-3-2:2018	Compliant
Voltage changes, voltage fluctuations and flicker emissions IEC 61000-3-3:2013/AMD1:2017	Compliant

Electromagnetic compatibility (EMC) Interference immunity measurements on cover	
Immunity to interference by discharge of static electricity IEC 61000-4-2:2008 ±8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	Compliant
Immunity to interference by high-frequency electromagnetic fields IEC 61000-4-3:2006+A1:2007+A2:2010 3 V/m 80 MHz - 2.7 GHz 80% AM at 1 kHz	Compliant
Immunity to interference from power frequency magnetic fields IEC 61000-4-8:2009 30 A/m at 50 Hz	Compliant
Immunity to interference by near fields of wireless HF communication devices IEC 61000-4-3:2006+A1:2007+A2:2010	Compliant

Electromagnetic compatibility (EMC) Interference immunity measurements on supply input	
Immunity to interference by rapid transient bursts – AC voltage grid IEC 61000-4-4:2012 ± 2 kV 100 kHz repetition frequency	Compliant
Immunity to interference, surges IEC 61000-4-5:2014/AMD1:2017 ± 0.5 kV, ± 1 kV, L - N ± 0.5 kV, ± 1 kV, ± 2kV, L/N - PE	Compliant

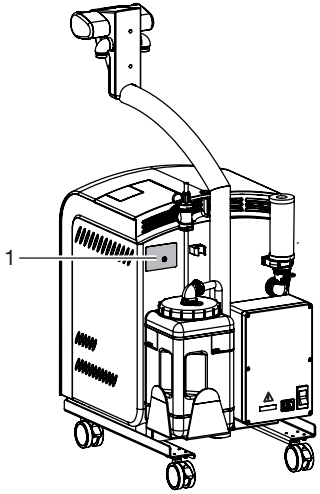
Electromagnetic compatibility (EMC) Interference immunity measurements on supply input	
Immunity to interference, line-conducted disturbances induced by high-frequency fields – AC voltage grid IEC 61000-4-6:2013 3 V 0.15 - 80 MHz 6 V ISM frequency bands 6.765 - 6.795 MHz 13.553 - 13.567 MHz 26.957 - 27.283 MHz 40.66 - 40.70 MHz 80% AM at 1 kHz	Compliant
Immunity to interference due to voltage dips, short interruptions and voltage fluctuations IEC 61000-4-11:2004/AMD1:2017	Compliant

Immunity levels with respect to near fields of wireless HF communication devices		
Radio service	**Frequency band MHz**	**Test Level V/m**
TETRA 400	380 - 390	27
GMRS 460 FRS 460	430 - 470	28
LTE band 13, 17	704 - 787	9
GSM 800/900 TETRA 800 iDEN 820 CDMA 850 LTE band 5	800 - 960	28
GSM 1800 CDMA 1900 GSM 1900 DECT LTE bands 1, 3, 4, 25 UMTS	1700 - 1990	28
Bluetooth WLAN 802.11 b/g/n RFID 2450 LTE band 7	2400 - 2570	28
WLAN 802.11 a/n	5100 - 5800	9

4.1 Model identification plate

Mojave Mobile

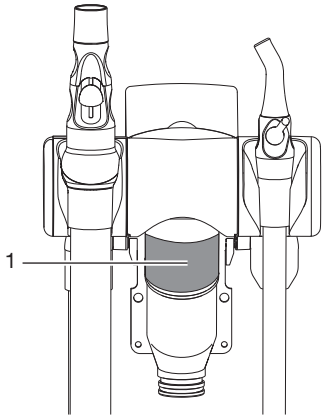
The type plate is located on the rear of the unit.



1 Type plate

Hose manifold

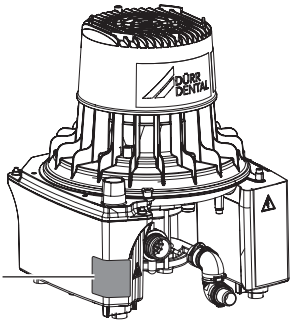
The type plate of the hose manifold is located under the filter element cover.



1 Type plate

VS 300 S

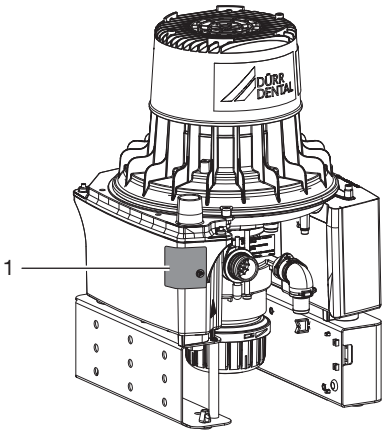
The type plate is located on the noise reduction hood.



1 Type plate

VSA 300 S

The type plate is located on the noise reduction hood.



1 Type plate

4.2 Conformity assessment

This device has been subjected to conformity acceptance testing in accordance with the current relevant guidelines of the European Union. This equipment conforms to all relevant requirements.

4.3 Classification

VS 300 S / VSA 300 S

Classification	
Medical Device (FDA) Class	I

EN-US

Classification	
Medical Device Class	IIa

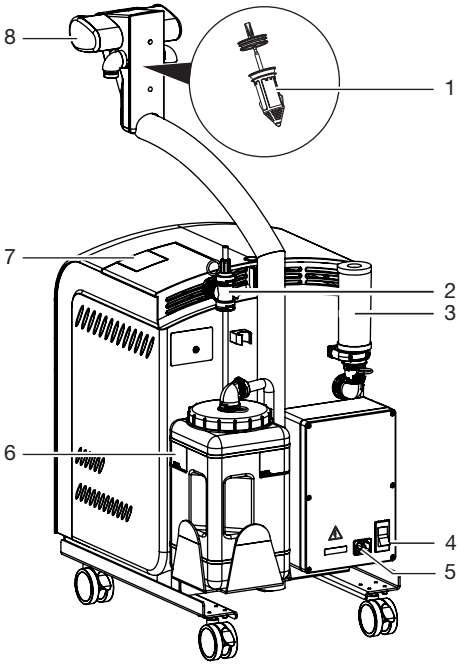
4.4 Approvals

VSA 300 S

Separation method compliant with	
ISO 11143 standard	Type 1

Centre of Competence in Civil Engineering, Berlin	
Test number	Z-64.1-15

5 Function



1 Disposable filter
2 Rinsing tube
3 Bacteria filter
4 On/off switch
5 Mains AC power connection
6 Fluid container
7 Display panel (optional)
8 Hose manifold

The mobile treatment unit is used to aspirate spray mist, fluids and particles during dental treatment.
The unit is optionally available with amalgam separation. The fluid-air mixture flows through the disposable filter in the hose manifold and is aspirated to the combination suction unit. In the combination suction unit, the fluid is separated from the air and is then transported either to the fluid container or directly through a waste water hose into the waste water outlet. The exhaust air is passed through the bacteria filter or, as an option for a fixed system installation, via an exhaust air hose. Once the maximum filling level has been reached, the fluid container must be emptied.

Units with amalgam separation have a display panel displaying the filling level of the amalgam collecting container integrated in the cover of the mobile treatment unit.

EN-US

Installation

6 Requirements

6.1 Installation/setup room

The room chosen for set up should fulfil the following requirements:

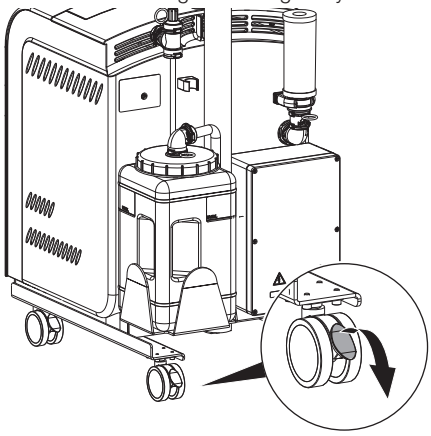
– Closed, dry room
– It should not be a room made for another purpose (e.g. boiler room or wet cell)
– Ambient conditions correspond to "4 Technical data".
– Do not cover cooling slots or openings if you install the unit in a housing and provide for sufficient clearance to the openings to permit sufficient cooling.

7 Installation

7.1 Setting up the unit

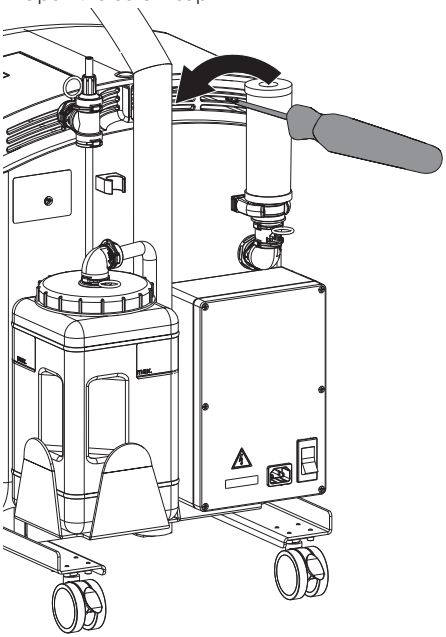
› Where a waste water connection is available, conduct the fluids directly via the waste water hose into the waste water outlet.

› Secure the unit against rolling away.

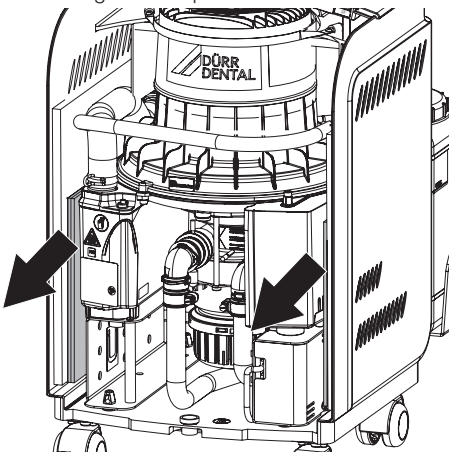


7.2 Remove the transport locks

› Open the screw cap.



› Remove the protective cover.
› Removing the transport locks.



› Fit the protective cover.

7.3 Electrical safety when making connections

DANGER

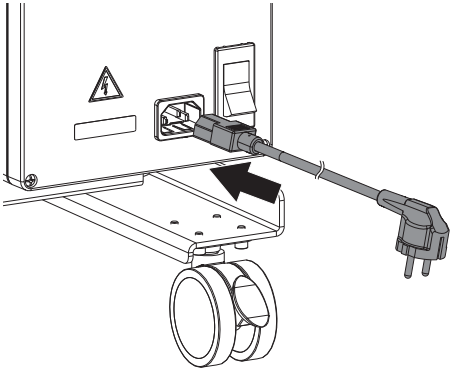
Electric shock due to missing protective earth

› Connect the unit to the protective earth (PE) connection.

› Connect the device to a correctly installed power outlet only.
› Do not place non-fixed multi-socket units on the floor. Comply with the requirements in section 16 of IEC 60601-1 (EN 60601-1).
› Do not operate any other systems using the same multiple socket.
› Make sure that none of the electrical cables leading to the unit are under any mechanical tension.
› Before initial start-up verify that the mains supply voltage and the voltage stated on the type plate match (see also "4. Technical data").

7.4 Connecting the unit to the mains supply

Requirements:
✓ There is a properly installed power outlet close to the unit (max. length of power cord 2.5 m / 98.42 in).
✓ Easily accessible power outlet.
✓ Mains voltage must match the information shown on the type plate.
› Plug the power cord connecting plug into the socket connection of the unit.

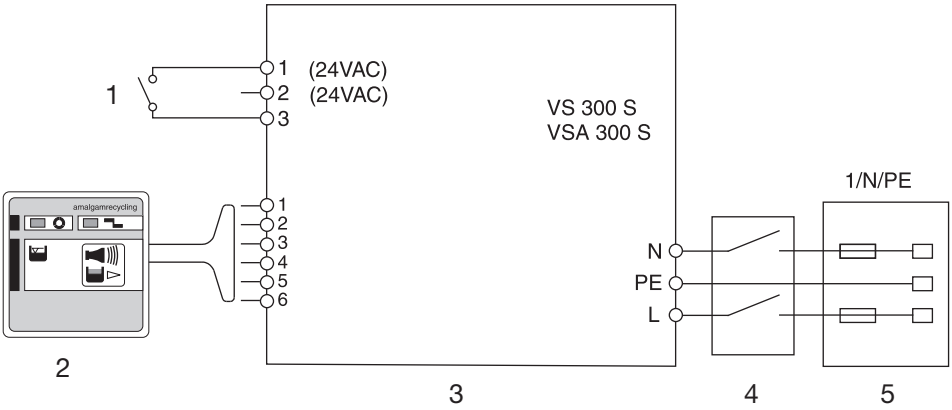


› Plug the mains plug into the power outlet.

EN-US

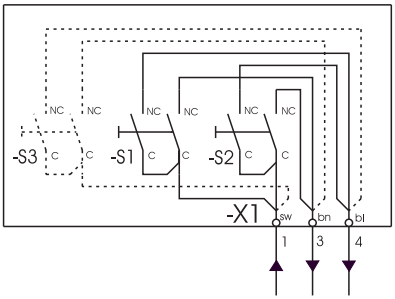
8 Electrical installation

8.1 Overview of connection



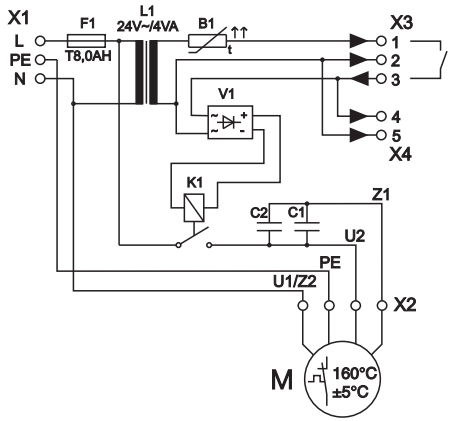
1 Hose manifold
2 Display panel VSA 300 S
3 Suction unit
4 On / off switch
5 Mains power connection with fuses

8.2 Hose manifold



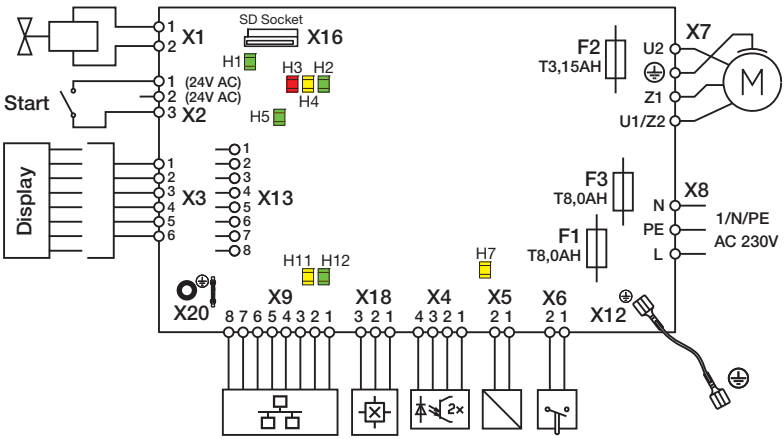
X Terminal strip
S Microswitch

8.3 VS 300 S



X1 Mains AC power connection
X2 Motor connection
X3 Control connection 24 V AC / max. 80 mA
X4 Control signal output 24 V AC / max. 20 mA

8.4 VSA 300 S



X1 Voltage supply for the rinsing unit
X2 24V output voltage and switching contact to suction unit in the treatment unit
X3 Display panel
X4 Sediment sensor light barriers
X5 Sediment sensor lifting magnet
X6 Collecting container safety switch
X7 Motor connection
X8 Mains AC power connection
X9 Network connection

X12 Ground contact to the housing of the unit
X13 Display panel
X16 SD card holder (for Micro SD)
X18 Connection of the hall sensor for speed monitoring
X20 Ground contact to the housing of the unit
F1 Main fuse
F2 Brake fuse
F3 Main fuse
H1 Rinsing unit
H2 Display green (as with display panel)
H3 Display red (as with display panel)
H4 Display yellow (as with display panel)
H5 Control signal of suction unit's switching contact in the treatment unit
H7 Sediment sensor lifting magnet
H11 Network
H12 Network

9 Description of the service program

Wear protective equipment to avoid any risk of infection (e.g. liquid-tight protective gloves, protective goggles, face mask)

The various functions of the unit can be checked with the aid of the service program.
The individual program steps are as follows:
– Display test
– Measurement of the sediment filling level
– Motor start and motor brake with speed check
– Input and output signals

Function of the service key:
– Pressing the service key twice calls up the next individual program steps.
– Pressing the service key once causes the present program step to be repeated.

A press of the service key is confirmed by an audible signal.

9.1 Service program ON/OFF

On
– Press and hold the service key and switch on the voltage supply to the unit.
– As soon as a signal melody can be heard, release the service key.
The green, yellow and orange LEDs on the display panel light up (display test) and the service program is activated.

Off
Switch off the main voltage supply to the unit.

9.2 Display test

The display test is activated as soon as the service program is started.
The LEDs on the display panel are being checked. All three LEDs must light up. There is also a signal melody that can be switched off by pressing the service key.

9.3 Measurement of the sediment filling level

While the service program is activated, the safety check for the collecting container is deactivated.

The measurement of the sediment filing level can be used to check the function of the sediment sensor and of the LEDs.

Every time the service key is pressed, the sediment filling level is checked. If a test container is used, the 95% and 100% filling level can be visualized on the display panel.

9.4 Motor start - motor brake

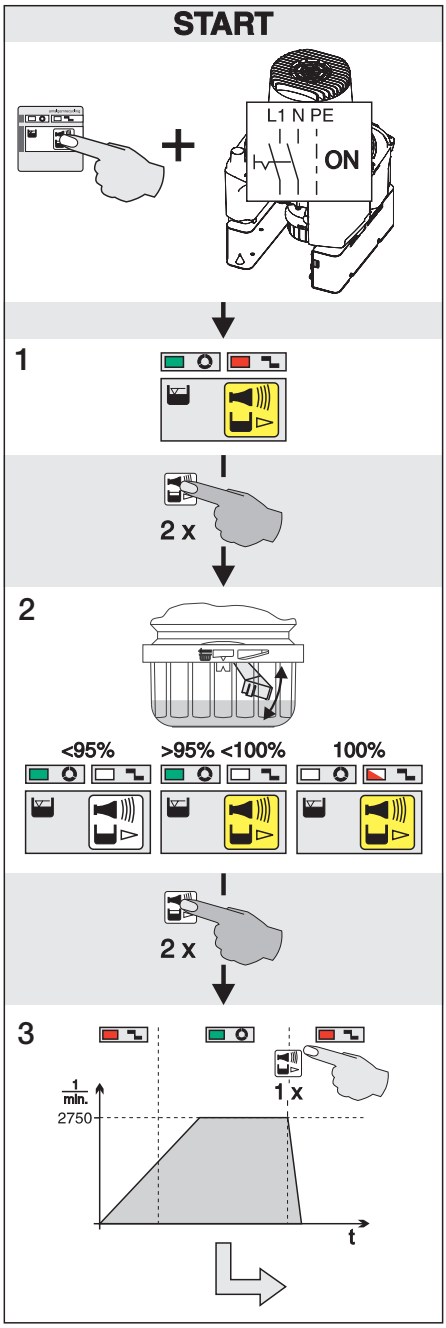
The drive motor starts up and is automatically braked after the lag time. If the service key is pressed before the end of the lag time, the motor is braked instantaneously.
This procedure can be repeated by pressing the service key 1x again.
As a result of the speed monitoring, the LED switches from orange to green on start-up and from green to orange during braking.

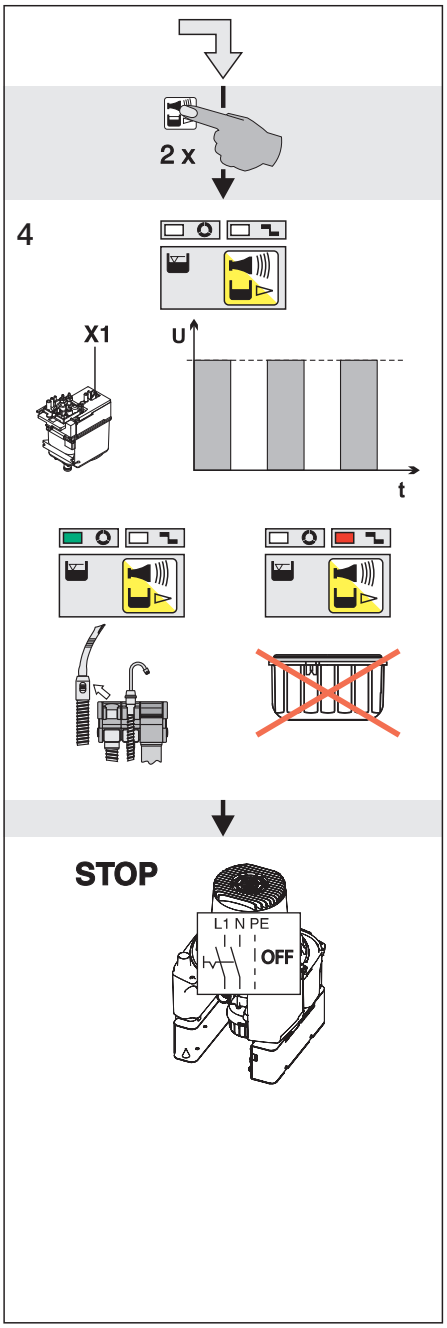
9.5 Input and output signals

– After activation of this program item, the yellow LED on the display panel flashes.
– A cycled DC voltage (approx. 22-30 V) can be measured on the rinsing unit connection (X1).
– Opening the collecting container causes the orange display to light up on the display panel.
– If a start signal is applied to socket X2 (suction hose being lifted out of the hose manifold) the green LED lights up on the display panel.

EN-US

10 Service program VSA 300 S





11 Commissioning and first start-up

NOTICE

Short circuit due to the build-up of condensation

› Do not switch on the unit until it has warmed up to room temperature and is dry.

In various countries medical devices and electrical equipment are subject to regular checks at set intervals. The owner must be instructed accordingly.

› Switch the device on.
› Carry out a function check of the device.
› Check all connections for absence of leakage.
› Carry out an electrical safety check in accordance with applicable national regulations (e.g. regulations concerning set up, operation and application of medical devices) and document the results as appropriate (e.g. in the technical log book).
› Carry out and document the instruction and handover for the unit.

A sample handover report is included in the attachment.

Two labels are included in the scope of delivery of the bacteria filter.

› Inscribe both labels.
› Apply the round label to the bacteria filter.
› Stick the rectangular label in the practice handbook.

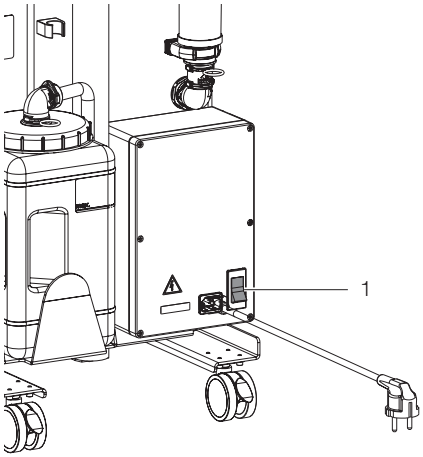
EN-US

Usage

12 Operation

12.1 Switching the unit on/off

› To use the unit, switch it on using the on/off switch.

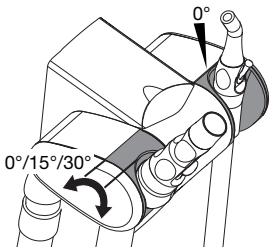


1 On/off switch

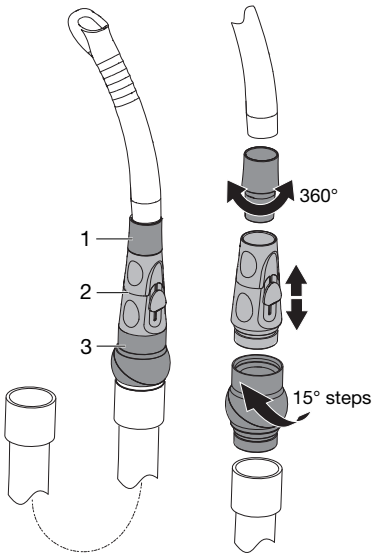
12.2 Tips on ease of operation

Adjustable inserts in the elements, depending on working mode

› Initial position 0°.
Turn the inserts to the desired position 0° / 15° / 30°.



Operation of the rotary adaptor, suction handpiece and ball joint



1 Rotary adaptor
2 Suction handpiece
3 Ball joint

› A rotary adaptor (1) can be attached to the large suction handpiece. This allows the cannula to be turned easily.

› The slider fitted in the large and small suction handpieces (2) can be used to control the flow rate or to switch off the suction flow while working.

› A ball joint (3) can be attached to the large suction handpiece.
The ball joint is can be rotated in steps of 15°. This allows the hose to be routed better and more conveniently.

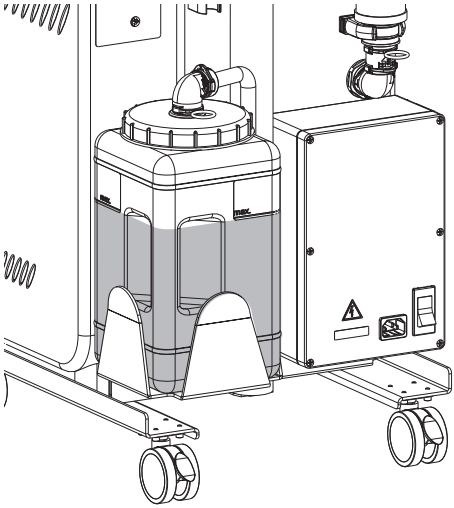
12.3 Suctioning of fluid

› Remove the hose from the hose manifold for suctioning.
The combined suction unit is started.

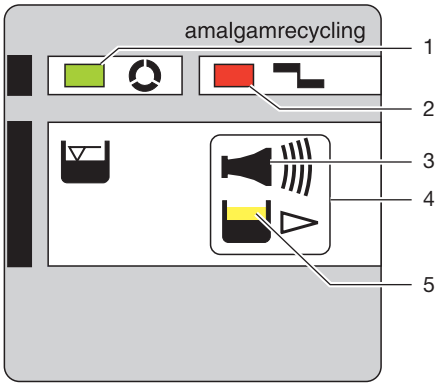
› Suction the fluid from the patient's mouth.
The fluid is collected in the fluid container.

› After treatment, check the filling level of the fluid container.

› Once the maximum filling level has been reached, empty the fluid container.



13 Display panel (for VSA 300 S)



1 GREEN LED
2 RED LED
3 Audible signal/melody
4 Reset/service key
5 YELLOW LED

13.1 Ready for use

Green LED lights up

13.2 Amalgam collecting container is 95% full

Yellow LED lights up

Green LED lights up

Audible signal melody is issued

– At a filling level of 95%, the signal melody can be switched off by pressing the reset button. The device is then ready for use again.
– The yellow LED lights up as a reminder that the amalgam collecting container is due to be changed. The filling level display is repeated every time the unit is switched on with the main power switch.

We recommend replacing the amalgam collecting container at a filling level of 95 %.

13.3 Amalgam collecting container is 100% full

Yellow LED lights up

Red LED flashes

Audible signal melody is issued

– At a filling level of 100% the signal melody can no longer be switched off by pressing the reset button.
– The collecting container needs to be replaced.

Wear protective equipment to avoid any risk of infection (e.g. liquid-tight protective gloves, protective goggles, face mask)

– The separator will not be "ready for use" again until the amalgam collecting container has been replaced

13.4 No amalgam collecting container inserted

Red LED flashes

Audible signal

– Press the reset button briefly to switch off the audible signal.
– Switch off the unit.
– Insert the collecting container.
– Switch the device on.
– Green LED lights up – "Ready for use“

If this error message occurs when the collecting container is correctly inserted, this indicates that there is a technical defect – notify your Service Technician.

13.5 Motor fault

Red LED and

green LED flash alternately

Audible signal

Occurs during the start-up of the amalgam separator.

– Press the reset button briefly to switch off the audible signal.
– If the reset button is pressed for longer than 2 seconds the unit can be restarted.

If this problem happens again on the same day, the amalgam separator will no longer be operational - notify the service technician.

13.6 Brake monitoring

Red LED and

green LED flash alternately

Audible signal

Occurs upon braking action of amalgam separator.

– Press the reset button briefly to switch off the audible signal.
– The amalgam separator is still operational.

If this problem occurs on several consecutive days, the braking action must be checked by a service technician.

14 Disinfection and cleaning

NOTICE

Device malfunction or damage due to the use of incorrect media

Guarantee claims may become invalid as a result.

› Do not use any foaming agents such as household cleaning agents or instrument disinfectants.
› Do not use abrasive cleaners.
› Do not use agents containing chlorine.
› Do not use any solvents like acetone.

Air Techniques recommends for disinfection and cleaning:
– Monarch CleanStream Evacuation System Cleaner

Only these products have been tested by Air Techniques.

14.1 Fluid container

WARNING

Infection due to contaminated unit

› Clean and disinfect the suction system before working on the unit.
› Wear protective equipment during your work (e. g. impermeable gloves, protective goggles and mouth and nose protection).

NOTICE

Equipment damage from over-flowing fluid container

› Note the tank volume!
› Empty the fluid container before cleaning and disinfection and also during this process if necessary.

Amalgam aspirated during the treatment must be disposed of in accordance with national rules and regulations.

› Empty, clean and disinfect the fluid container on a daily basis,

14.2 After each treatment

› Aspirate a glass of cold water through the large and the small suction hoses. Do this even if only the small suction hose was actually used during treatment.

Suction through the large suction hose causes a large amount of air to be drawn up, which increases the cleaning effect considerably.

› Disinfect and clean the surface of the unit with a compatible surface disinfectant, e. g. Monarch Surface Disinfection Wipes, or a comparable product.

14.3 Daily after the end of treatment

After higher workloads, before the midday break and in the evening

The following are required for disinfection/cleaning:
✓ Non-foaming disinfectant/cleaning agent that is compatible with the materials.
✓ Care system, e.g. Monarch CleanStream Dispenser System
› For pre-cleaning, aspirate approx. 2 liters of water with the care system.
› Aspirate the disinfection/cleaning solution with the care system.

14.4 Once or twice a week before the midday break

Under harsher conditions (e.g. hard water or frequent use of prophy powders) 1x daily before the midday break

The following are required for cleaning:
✓ Special non-foaming detergent for suction units that is compatible with the materials.
✓ Care system e.g. Monarch CleanStream Dispenser System
› For pre-cleaning, aspirate approx. 2 liters of water with the care system.
› Aspirate a cleaning solution with the care system.

EN-US

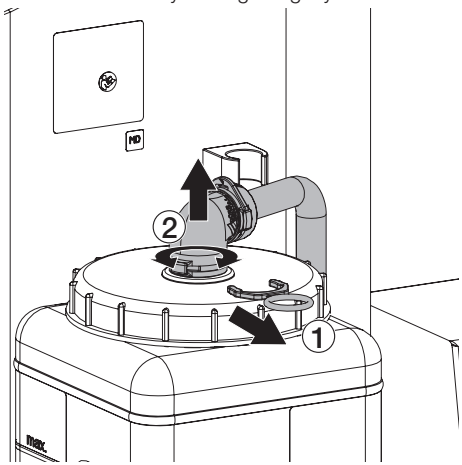
› Rinse with approx. 2 liters of water after the exposure time.

14.5 Weekly and before extended treatment pauses

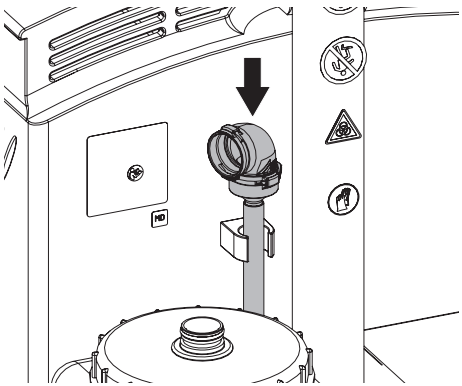
Rinse the unit at least weekly and before extended treatment pauses.

Wear protective equipment to avoid any risk of infection (e.g. liquid-tight protective gloves, protective goggles, face mask)

› Remove the yellow holding clip and disconnect the waste connection from the cover of the fluid container by turning it slightly.



› Hook the waste connection into the mount.

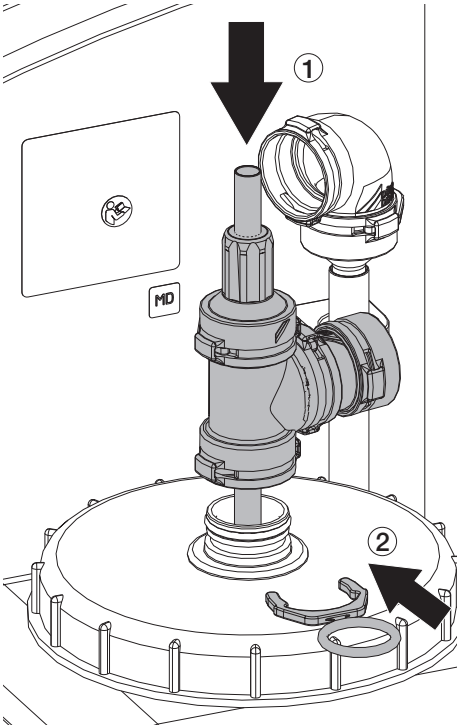


› Empty the fluid container and rinse it with water.

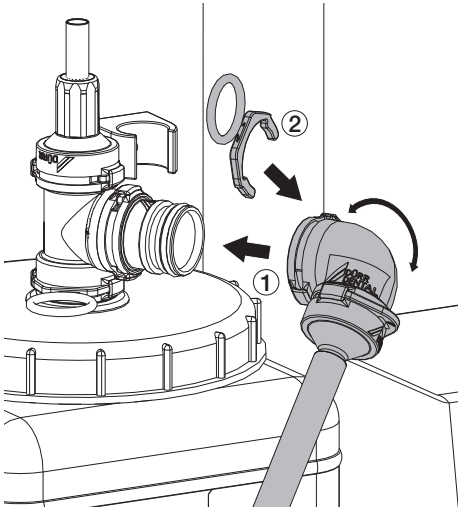
› Fill the fluid container to the maximum level with water.

› Add 60 ml Monarch CleanStream Evacuation System Cleaner to the water placed in the unit.

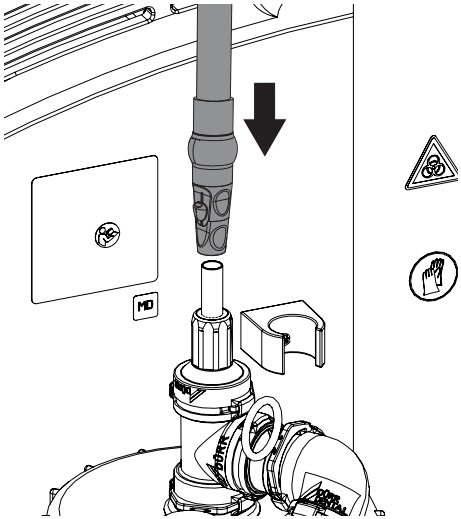
› Place the rinsing tube onto the connector in the cover of the fluid container and secure it with the clip.



› Connect the waste water connection to the rinsing tube.



› Switch the device on.
› Remove the cannula from the large suction handpiece.
› Place the large suction handpiece onto the rinsing tube.



› After approx. 20 min. slowly pull the suction handpiece
off the connection of the rinsing tube,
and hook it into the hose manifold.

› Remove the rinsing tube from the fluid container and clean and disinfect it using a suitable instrument disinfectant.
› Re-attach the waste water hose to the emptied and disinfected fluid container.

14.6 Surface of the unit

The surface of the unit must be cleaned and disinfected if it is contaminated or soiled. Use the following cleaning agent and disinfectant:
✓ Monarch Surface Disinfection Wipes

NOTICE

Liquid can cause damage to the unit

› Do not spray the unit with cleaning agents or disinfectants.
› Make sure that liquid penetrates into the unit.

› Remove any soiling with a soft, damp, lint-free cloth.
› Disinfect the surfaces with a disinfection wipe. Alternatively, use a quick-acting surface disinfectant on a soft, lint-free cloth. Comply with the operating instructions of the disinfectant.

EN-US

15 Processing of the suction handpiece

15.1 Risk analysis and classification

A risk analysis and classification of medical devices that are common in dentistry must be performed before they are reprocessed by the operator. Comply with all national directives, standards and specifications such as e. g. the "Recommendations of the Commission for Hospital Hygiene and Infection Prevention".
Accessories of the medical device are also subject to reprocessing.
Classification recommendation given Intended Use of the product: **semi-critical B**
Semi-critical medical product:
A medical product which comes into contact with mucous membrane or pathologically changed skin.
The operator is responsible for correct classification of the medical products, defining the reprocessing steps and performing the reprocessing.

15.2 Reprocessing procedures

Perform the reprocessing procedure after each patient treatment and according to the reprocessing procedure established by ISO 17664.

Important information!

The reprocessing instructions in accordance with ISO 17664 have been independently tested by the manufacturer for the preparation of the device and its components for their reuse.

The person conducing the reprocessing is responsible for ensuring that the reprocessing is performed using equipment, materials and personnel that attains the desired results. This requires validation and routine monitoring of the reprocessing process. Any deviation from the instructions described herein by the staff reprocessing the equipment could lead to lower effectiveness and possible negative consequences: these lie solely with the staff responsible.
Frequent reprocessing has little effect on the components of the device. The end of the product life cycle is mainly influenced by the amount of wear and tear or damage resulting from its use.

The use of soiled, contaminated and damaged components is at the sole responsibility of the person performing the reprocessing and the operator.

The reprocessing method was validated as follows:

- **Pre-cleaning**
  - Monarch Surface Disinfection Wipes
- **Manual cleaning**
  - Monarch Enzymatic Cleaner
  - Cleaning brush
- **Automatic cleaning and disinfection**
  Was performed in accordance with ISO 15883 with tested efficacy.
  - Cleaning agent: Neodisher MediClean Forte
  - RDG: PG 8535 (Miele)
  - Programs: "Cleaning without neutralization" and "THERMAL DES"
- **Steam sterilization**
  Sterilization type: Dynamic-Air-Removal Steam Sterilization Cycles
  - Pre-vacuum: 3 x
  - Sterilization temperature: at least 270 °F
  - Sterilization time: 2 minutes (half-cycle)
  - Drying time: min. 20 minutes
- **Cleaning brush**
  Cleaning brush with nylon bristles, double-sided
  - Number of brush heads: 2
  - Brush material: nylon
  - Brush head length: 1 and 1.4 in
  - Bristle length: 0.2 and 0.4 in

  Example: Interlock cleaning brush, double-sided, green REF 09098

General information

› Comply with all national directives, standards and specifications for the cleaning, disinfection and sterilization of medical devices as well as the specific specifications for dental practices and clinics.

› When selecting the cleaning and disinfectant agents to be used, the information provided (see above) must be followed.

› Comply with the concentrations, temperatures, residence times and post-rinsing specifications issued by the manufacturer of the cleaning agent and disinfectant.

› Only use cleaning agents that are non-fixing and aldehyde-free and display material compatibility with the product.

› Only use disinfectants that are aldehyde-free and display material compatibility with the product.

› Only use freshly-produced solutions.

› Only use distilled or de-ionized water with a low bacterial count (at least drinking water quality) that is free from facultatively pathogenic micro-organisms (e.g. Legionella bacteria).

› Use clean, dry, oil- and particle-free compressed air.

15.3 Preparation at the operating location


Wear hand protection.


Wear eye protection.


Use a mask.


Wear protective clothing.

WARNING

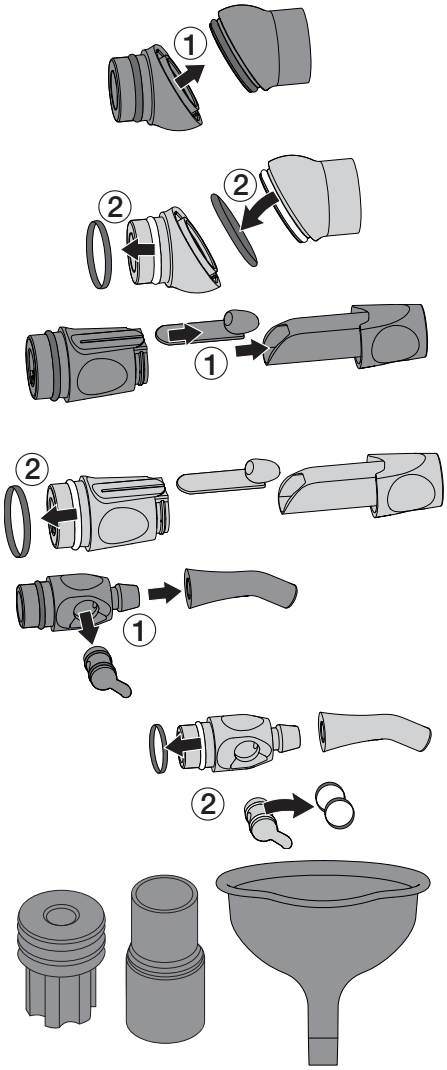
Risk of infection from contaminated products

Risk of cross contamination

› Reprocess the product correctly and promptly before its first use and after every subsequent use.

› Directly after the treatment, aspirate at least 200 ml cold water.

› Disassemble the ball joint and suction handpieces and remove the O-rings.



› Wipe down the exterior surfaces of all components completely with cleaning wipes to remove coarse organic and inorganic soiling:
1 Cleaning wipe for the small components, e. g. the individual parts of suction handpieces and
2 Cleaning wipes for larger components, e. g. the funnel.

› Note the action time of the cleaning agent.

› Protect the unit from contamination when transporting it from the treatment chair to the reprocessing location.

15.4 Clean manually, perform a final rinse, dry

Cleaning agents or combined cleaning and disinfection agents with the following properties must be used for manual cleaning:

– only cleaning and disinfection products approved by Air Techniques
– no aggressive or abrasive cleaning agents

For further information, see "General information".

Cleaning

› Place the individual components in a cleaning and disinfection bath (non-fixing/aldehyde-free, see "General information") making sure that all parts are covered.
› Note the action times of the cleaning agents and disinfectants (see "General information")
› If you notice any further contamination, wipe it off completely with a hygienic brush below the surface of the ready-to-use solution.

Final rinse

After the action time prescribed by the manufacturer has expired:

› Rinse all components with water for at least 1 minute (temperature < 95°F).

Drying

› If necessary, re-dry at a clean location using a hygienic, lint-free cloth.
› Blow dry the components with compressed air in a clean location.

15.5 Automatic cleaning, intermediate rinsing, disinfection, final rinse, drying

Selection of the washer-disinfector

Automatic cleaning and disinfection requires a washer-disinfector with the following properties and validated processes:

– Corresponds to and tested in accordance with ANSI/AAMI ST15883-1
– Certified program for thermal disinfection (A_0 value ≥ 3000 or at least 5 minutes at 382 °F)

Program is suitable for the components and includes sufficient rinsing cycles.

For more information: "General information".

Selection of the machine cleaning agents and disinfectants

The following properties are required:
– Material compatibility with the product
– Compliance with the washer-disinfector manufacturer's specifications

For further information, see "General information".

Automatic cleaning and disinfecting

When arranging the parts in the washer-disinfector, make sure there are no areas missed by rinsing.

› Place components in the baskets for small parts.

15.6 Check for function

› After the end of the cleaning and disinfection cycle, check the components for any residual soiling and residual moisture. If necessary, repeat the cycle.
› If necessary, replace any damaged parts.
› The components should be packaged as soon as possible after drying and checking.

15.7 Steam sterilization

WARNING

Health risk due to improper sterilization

If the sterilization is not performed correctly, it may not be effective. The use of insufficiently sterilized instruments can be a health risk to the patient.

› Only steam sterilization is permissible.
› Comply with all process parameters.
› Comply with the manufacturer's instructions regarding the use of the steam sterilizer.
› Do not use any other procedures.

NOTICE

Damage to equipment due to improper sterilization

Product damage may be caused if the sterilization process is not performed correctly.

› Comply with the manufacturer's instructions regarding the use of the steam sterilizer.
› Comply with all process parameters.

Process parameters
Sterilization type: Dynamic-Air-Removal Steam Sterilization Cycles
Min. temperature: 270 °F
Holding time: 4 min
Drying time: 20 - 30 min

Wear hand protection.

› Prior to use, subject the products to steam sterilization in a steam sterilizer at 270 °F for 4 minutes with 20 -30 minutes drying time.

15.8 Issue clearance for the parts for sterilization

The reprocessing of the medical device ends with the documented clearance for storage and renewed use.

› Document the release of the medical device after reprocessing.

15.9 Storage

› Store the product protected against contamination.
› Shelf life is determined and identified per instruction for use of sterilization packaging used.

EN-US

16 Reprocessing of the cannula

16.1 Risk analysis and classification

A risk analysis and classification of medical devices that are common in dentistry must be performed before they are reprocessed by the operator. Comply with all national directives, standards and specifications such as e. g. the "Recommendations of the Commission for Hospital Hygiene and Infection Prevention".
Accessories of the medical device are also subject to reprocessing.
Classification recommendation given Intended Use of the product: **semi-critical B**
Semi-critical medical product:
A medical product which comes into contact with mucous membrane or pathologically changed skin.
The operator is responsible for correct classification of the medical products, defining the reprocessing steps and performing the reprocessing.

16.2 Reprocessing procedures

Perform the reprocessing procedure after each patient treatment and according to the reprocessing procedure:
– Pre-cleaning in accordance with AAMI TIR 30.
– Steam sterilization in accordance with ANSI/AAMI/ISO 17665-1, Annex D and ANSI/AAMI/ISO 14937, Annex D.

Important information!

The reprocessing instructions in accordance with FDA Guidance "Reprocessing Medical Devices in Health Care Settings - Validation Methods and Labeling" have been independently tested by the manufacturer for the preparation of the device and its components for their reuse.

The person conducting the reprocessing is responsible for ensuring that the reprocessing is performed using equipment, materials and personnel that attains the desired results. This requires validation and routine monitoring of the reprocessing process. Any negative consequences resulting from deviation from these instructions by the person conducting the reprocessing are the responsibility of the member of staff performing the reprocessing.
Frequent reprocessing has little effect on the components of the device. The end of the product life cycle is mainly influenced by the amount of wear and tear or damage resulting from its use.

The use of soiled, contaminated and damaged components is at the sole responsibility of the person performing the reprocessing and the operator.

The reprocessing method was validated as follows:

- **Pre-cleaning**
  - Monarch Surface Disinfection Wipes
- **Manual cleaning**
  - Monarch Enzymatic Cleaner
  - Cleaning brush
- **Automatic cleaning and disinfection**
  Was performed in accordance with ISO 15883 with tested efficacy.
  - Cleaning agent: Neodisher MediClean Forte
  - RDG: PG 8535 (Miele)
  - Programs: "Cleaning without neutralization" and "THERMAL DES"
- **Steam sterilization**
  Sterilization type: Dynamic-Air-Removal Steam Sterilization Cycles
  - Pre-vacuum: 3 x
  - Sterilization temperature: at least 270 °F
  - Sterilization time: 2 minutes (half-cycle)
  - Drying time: min. 20 minutes
- **Cleaning brush**
  Cleaning brush with nylon bristles, double-sided
  - Number of brush heads: 2
  - Brush material: nylon
  - Brush head length: 1 and 1.4 in
  - Bristle length: 0.2 and 0.4 in

  Example: Interlock cleaning brush, double-sided, green REF 09098

General information

› Comply with all national directives, standards and specifications for the cleaning, disinfection and sterilization of medical devices as well as the specific specifications for dental practices and clinics.
› When selecting the cleaning and disinfectant agents to be used, the information provided (see above) must be followed.
› Comply with the concentrations, temperatures, residence times and post-rinsing specifications issued by the manufacturer of the cleaning agent and disinfectant.
› Only use cleaning agents that are non-fixing and aldehyde-free and display material compatibility with the product.
› Only use disinfectants that are aldehyde-free and display material compatibility with the product.
› Only use freshly-produced solutions.
› Only use distilled or de-ionized water with a low bacterial count (at least drinking water quality) that is free from facultatively pathogenic microorganisms (e.g. Legionella bacteria).
› Use clean, dry, oil- and particle-free compressed air.

16.3 Preparation at the operating location


Wear hand protection.


Wear eye protection.


Use a mask.


Wear protective clothing.

WARNING
Risk of infection from contaminated products
Risk of cross contamination
› Reprocess the product correctly and promptly before its first use and after every subsequent use.

› Directly after the treatment, aspirate at least 200 ml cold water.

› Wipe down the exterior surfaces of all components completely with two cleaning wipes to remove coarse organic and inorganic soiling.
› Note the action time of the cleaning agent.
› Protect the unit from contamination when transporting it from the treatment chair to the reprocessing location.

EN-US

16.4 Clean manually, perform a final rinse, dry

Cleaning agents or combined cleaning and disinfection agents with the following properties must be used for manual cleaning:
– only cleaning and disinfection products approved by Air Techniques
– no aggressive or abrasive cleaning agents

For further information, see "General information".

Cleaning

› Place the components in a cleaning and disinfection bath (non-fixing/aldehyde-free) making sure that all parts are covered.
› Note the action times of the cleaning agents and disinfectants.
› Brush all exterior and interior surfaces with a hygienic brush below the surface of the ready-to-use solution.

Final rinse

After the action time prescribed by the manufacturer has expired:
› Rinse all components with water for at least 1 minute (temperature < 95°F).

Drying

› If necessary, re-dry at a clean location using a hygienic, lint-free cloth.
› Blow dry the components with compressed air in a clean location.

16.5 Automatic cleaning, intermediate rinsing, disinfection, final rinse, drying

Selection of the washer-disinfector

Automatic cleaning and disinfection requires a washer-disinfector with the following properties and validated processes:
– Corresponds to and tested in accordance with ANSI/AAMI ST15883-1
– Certified program for thermal disinfection (A_0 value ≥ 3000 or at least 5 minutes at 382 °F)

Program is suitable for the components and includes sufficient rinsing cycles.
For more information: "General information".

Selection of the machine cleaning agents and disinfectants

The following properties are required:
– Material compatibility with the product
– Compliance with the washer-disinfector manufacturer's specifications

For further information, see "General information".

Automatic cleaning and disinfecting

When arranging the parts in the washer-disinfector, make sure there are no areas missed by rinsing.

› Place components in the baskets for small parts.

16.6 Check for function

› After the end of the cleaning and disinfection cycle, check the components for any residual soiling and residual moisture. If necessary, repeat the cycle.
› If necessary, replace any damaged parts.
› The components should be packaged as soon as possible after drying and checking.

16.7 Steam sterilization

WARNING

Health risk due to improper sterilization

If the sterilization is not performed correctly, it may not be effective. The use of insufficiently sterilized instruments can be a health risk to the patient.

› Only steam sterilization is permissible.
› Comply with all process parameters.
› Comply with the manufacturer‘s instructions regarding the use of the steam sterilizer.
› Do not use any other procedures.

NOTICE

Damage to equipment due to improper sterilization

Product damage may be caused if the sterilization process is not performed correctly.

› Comply with the manufacturer's instructions regarding the use of the steam sterilizer.
› Comply with all process parameters.

270 °F

Process parameters
Sterilization type: Dynamic-Air-Removal Steam Sterilization Cycles
Min. temperature: 270 °F
Holding time: 4 min
Drying time: 20 - 30 min

Wear hand protection.

› Prior to use, subject the products to steam sterilization in a steam sterilizer at 270 °F for 4 minutes with 20 -30 minutes drying time.

16.8 Storage

› Store the product protected against contamination.
› Shelf life is determined and identified per instruction for use of sterilization packaging used.

17 Replace the amalgam collecting container

WARNING

Contamination hazard if the amalgam collecting container is reused if the collecting container is not water-tight.

› Do not re-use the collecting container (disposable item).

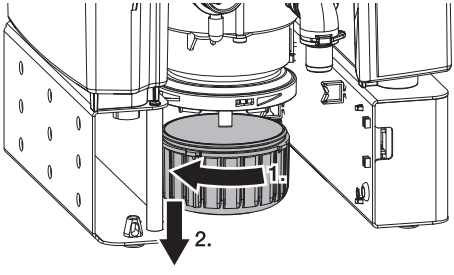
Wear protective equipment to avoid any risk of infection (e.g. liquid-tight protective gloves, protective goggles, face mask)

We recommend changing the amalgam collecting container only in the morning before you commence working. This prevents fluid from dripping out of the drum while it is being changed.

› Disconnect all power from the unit.
› Remove the full amalgam collecting container from the unit.
› Close and secure the full amalgam collecting container using the cap. Note the markings on the cap and on the collecting container.
› Place the securely closed amalgam collecting container into its original packaging and seal it.
› Insert a new amalgam collecting container in the unit and lock it in position with the vessel lift.

Only use original amalgam collecting container.

› Switch on the power supply. The unit is ready for use again.



17.1 Disposal of amalgam collecting container

The contents of the amalgam collecting container are contaminated with heavy metals and must not be disposed of as household waste or into the environment!

– Waste pick-up and disposal by a waste management company specialized in surgery waste.
– Waste pick-up and disposal by an approved waste management company.

18 Maintenance

All maintenance work must be performed by qualified personnel or a Service Technician.

WARNING

Infection due to contaminated unit

- Clean and disinfect the suction system before working on the unit.
- Wear protective equipment during your work (e. g. impermeable gloves, protective goggles and mouth and nose protection).

Prior to working on the unit or in case of danger, disconnect it from the mains.

18.1 Mojave Mobile

Maintenance interval	Maintenance work
Weekly	› Change the yellow disposable filter in the hose manifold.
According to need	› Change suction hoses › Grease O-rings
Annually	› Change exhaust air filter.

18.2 VS 300 S

Maintenance interval	Maintenance work
Every 4 weeks	› Check the protective strainer on the suction connection of the unit and clean or replace it according to need.
Annually	› Check the inlet and outlet hoses for signs of deposits/blockage or cracks and replace them where necessary. * › Check the outflow valve and replace it if necessary. *

* May be done by Service Technicians only

18.3 VSA 300 S

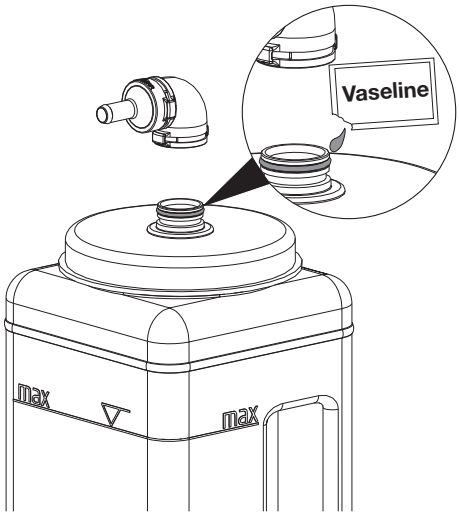
Maintenance interval	Maintenance work
Every 4 weeks	› Check the protective strainer on the suction connection of the unit and clean or replace it according to need.
Dependent upon the level of usage of the device	› Change the amalgam collecting container when a fill level of 95% or 100% is indicated on the display panel **Notes concerning prophy powders:** The amalgam separator is not functionally affected by conventional prophy powders. Under certain circumstances however, increased soiling of lines and hoses and a more frequent need to change the amalgam collecting container can be expected.

Maintenance interval	Maintenance work
Annually	› Check the inlet and outlet hoses for signs of deposits/blockage or cracks and replace them where necessary. * › Check the outflow valve and replace it if necessary. *

* May be done by Service Technicians only

18.4 Grease the seal

› Grease the seal if required.



Result:
Easy removal and insertion of rinsing tube and waste water connection.

18.5 Change the disposable filter

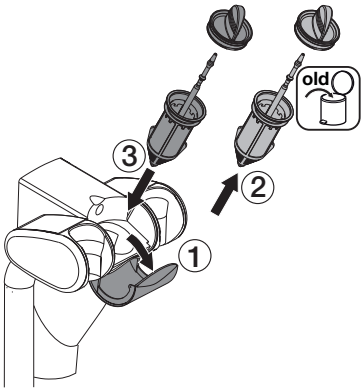
NOTICE

Faulty function when working without a disposable filter

Working without a disposable filter creates the risk that deposits or particles may accumulate in unsuitable locations within the hose manifold and impair the function.

› The yellow disposable filter must be inserted.

› Open the cover of the filter element and change the yellow disposable filter.

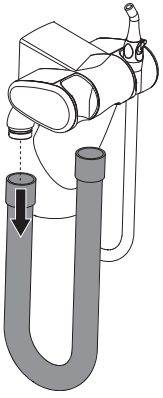


18.6 Changing the suction hose

The suction hoses are subject to wear and tear.

› Check the suction hoses regularly for kinks, change them according to need.

› Pull the suction hose off the hose manifold.



› Connect a new suction hose.

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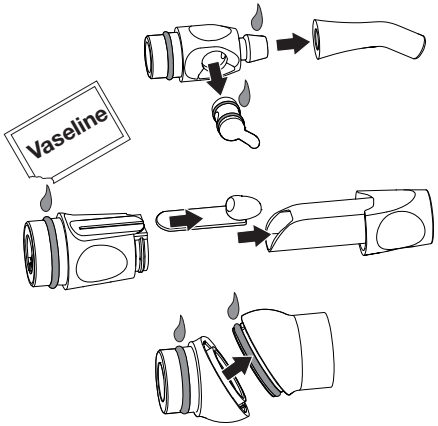
18.7 Lubricating the O-rings

The suction handpieces, suction hoses etc. are easier to handle when the O-rings are lubricated with Vaseline.

› Disassemble the suction handpieces regularly and lubricate the O-rings.



18.8 Cleaning the protective strainer

WARNING

Infection due to contaminated unit

› Clean and disinfect the suction system before working on the unit.

› Wear protective equipment during your work (e. g. impermeable gloves, protective goggles and mouth and nose protection).

› Pull the suction hose off the protective strainer.

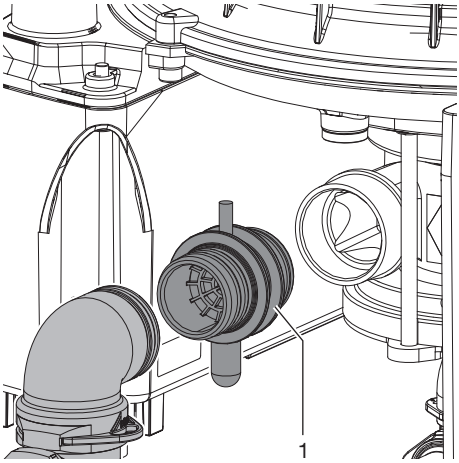
› Pull off any hoses connected to the connection piece on the protective strainer.

› Pull the protective strainer out of the connection piece on the separation housing.

› Clean the protective strainer.

› Push the protective strainer into the connection piece on the separation housing.

› Reconnect all hoses that have been pulled off.



1 Protective strainer

18.9 Replacing the bacteria filter

Two labels are included in the scope of delivery of the bacteria filter.

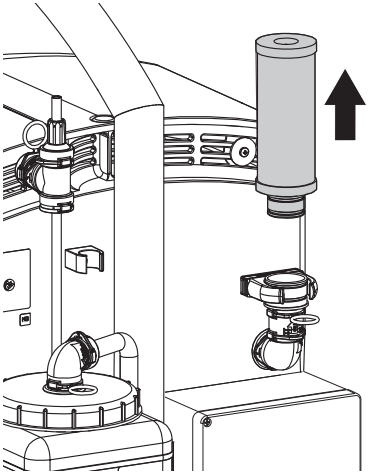
› Inscribe both labels.

› Apply the round label to the bacteria filter.

› Stick the rectangular label in the practice handbook.

Wear hand protection.

› Pull the bacteria filter off the connecting sleeve.



18.10 Tests

WARNING

Infection due to contaminated unit

- Clean and disinfect the suction system before working on the unit.
- Wear protective equipment during your work (e. g. impermeable gloves, protective goggles and mouth and nose protection).

In some countries the owner is required to keep an operating handbook. This operating handbook must document all maintenance work, service work, checks and amalgam disposal.

Annual inspection

This inspection should only be carried out by suitably trained staff.

Work steps to be performed:

- General functional check (e.g. suction, spittoon inlet)
- During the measurement of the sediment filling level, inspect the operability of the sediment sensor by eye.
- Service program

Inspection of the general operating condition every 5 years

This inspection must be carried out every 5 years (in accordance with the German Waste Water Regulations, Annex 50, Dental Treatment) by an inspector in accordance with national regulations.
For inspection, the following are required:

✓ Test vessel

✓ Measuring beaker

Work steps to be performed:

- Remove the collecting container. Here, the red LED on the display panel must flash and an audible signal must be issued.
- Insert the test vessel.
- Press the service key on the display panel.
- Aspirate approx. 1 L water.
- Once the device has switched off, remove the test vessel and measure the remaining amount of water.

The unit is working correctly if:

– there is a minimum content of 70 ml in the test vessel.

If there is less fluid, clean the centrifuge drum or check the operation of the unit.

EN-US

Troubleshooting

19 Tips for operators and service technicians

Any repairs above and beyond routine maintenance may only be done by suitably qualified personnel or by one of our service technicians.

WARNING

Infection due to contaminated unit

- Clean and disinfect the suction system before working on the unit.
- Wear protective equipment during your work (e. g. impermeable gloves, protective goggles and mouth and nose protection).

Prior to working on the unit or in case of danger, disconnect it from the mains.

Error	Possible cause	Remedy
Reduced suction performance	Disposable filter in the hose manifold is full	› Change the disposable filter.
	Blockage in the suction hose	› Remove and clean suction hose.
	Blockage in the suction handpiece	› Disassemble and clean the suction handpiece.
	Kink in the suction hose	› Change the suction hose.
	Selective membrane does not open completely	› Take out the filter cover. Remove dirt particles, e.g. using blunt tweezers or a jet of water. **Do not damage the selective membrane!**
No suction power	Suction handpiece slider is closed	› Open the handpiece slider.
	Suction unit does not work properly	› Check the function of the suction unit.
	Selective membrane does not open	› Take out the filter cover. Remove dirt particles, e.g. using blunt tweezers or a jet of water. **Do not damage the selective membrane!**
	Control hose of one element is kinked	› Check if the control hose is kinked, e.g. in element for large suction hose and filter element.

Error	Possible cause	Remedy
Device does not start-up	No mains voltage	› Check the mains supply voltage. * › Check the fuses and replace them, if necessary. *
	Undervoltage	› Measure the supply voltage; call an electrician if necessary. *
	No start signal	› Check the control voltage at the signal input. *
	Capacitor defective	› Measure capacitance and replace if necessary. *
	Turbine is blocked by solid particles or sticky soiling	› Disassemble the unit and clean the turbine and housing. *
	Control electronics defective	› Replace the electronics. *
Motor fault	Rotational speed sensor not working	› Check if the Hall sensor is correctly seated. * › Check the plug connections of the sensor cable. * › Check the magnets in the fan wheel. *
The unit generates unusual noises	Solid particles in the turbine chamber	› Disassemble the unit and clean the turbine and housing. *
Water leaking from the exhaust air connection	Membrane valve blocked	› Check the membrane valve at the waste water connection and clean or replace it according to need. *
	Foam inside the turbine due to use of incorrect cleaning and disinfectant agents	› Use non-foaming cleaning and disinfectant agents.
	Build-up of condensation in the exhaust air line	› Check the pipe system; avoid over-cooling. *
	Waste water line/siphon trap blocked	› Clean the waste water line/ siphon trap. *
Suction power too low	Protective strainer blocked	› Clean the protective strainer at the intake connection.
	Leak in the suction pipe	› Check and if necessary establish leak-tightness of suction pipe and connections. *
	Mechanical sluggishness of turbine caused by soiling	› Disassemble the unit and clean the turbine and housing. *

Error	Possible cause	Remedy

* May be done by Service Technicians only

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Appendix

20 Handover record

This document confirms that a qualified handover of the medical device has taken place and that appropriate instructions have been provided for it. This must be carried out by a qualified adviser for the medical device, who will instruct you in the proper handling and operation of the medical device.

Product name	Order number (REF)	Serial number (SN)

- ☐ Visual inspection of the packaging for any damage
- ☐ Unpacking the medical device and checking for damage
- ☐ Confirmation of the completeness of the delivery
- ☐ Instruction in the proper handling and operation of the medical device based on the operating instructions

Notes:

Name of person receiving instruction: **Signature:**

Name and address of the qualified adviser for the medical device:

Date of handover: **Signature of the qualified adviser for the medical device:**

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  - Amalgam Separator
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