ACCUVAC Pro/ ACCUVAC Lite

Suction Device

Instructions for Use

WEINMANN
medical technology

Designed by:

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CE 0124

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1 Introduction

1.1 Intended use

ACCUVAC Pro/ACCUVAC Lite is a suction device for suctioning the upper and lower airways (oral cavity, nasopharynx, and bronchial system). It can be used in medical applications for the temporary and spontaneous suction of secretions, blood, and bodily fluids as well as low-viscosity, viscous, and solid food particles. In addition, the device can also be used to deflate vacuum mattresses and vacuum splints.

Using the negative pressure generated by a vacuum pump, the device removes bodily secretions and collects them in a container system temporarily. The device may only be used on a patient for a short period of time (< 60 minutes).

The device is intended for use in clinics, practices, emergency medicine, care scenarios, and the home as well as use outdoors and during transport. It must only be used by persons who possess a medical qualification and have received training in the suction technique. No special training on the device itself is required.

The device is not suitable for certain applications (see "1.4 Contraindications", page 7).

The device is an active device and not a sterile device. The device and accessories can be reused to some extent (see "5 Hygienic preparation", page 72).

1.2 Function

1.2.1 Device

The device is operated with a battery or an external 12 V DC power source (12 V connection line or power supply unit/charger). During suction, a vacuum pump in the device generates a vacuum in the hoses and the container system. This vacuum sucks the suction material (e.g., secretions, blood, bodily fluids, or food particles) into the container system. The vacuum can be regulated.

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1.2.2 Reusable container system

The reusable container system is stored on the side of the device in the reusable container system holder and is connected directly to the device inlet. The suction material is conveyed to the reusable secretion container via a reusable suction hose. A float ball and a hydrophobic bacteria filter in the lid of the secretion container prevent bacteria and the suction material from entering the device. The float ball floats on the surface of the suction material until it blocks the outlet. The hydrophobic bacteria filter also filters contaminated air and seals off the pores if they become wetted with droplets.

1.2.3 Disposable container system

The disposable container system is stored on the side of the device in the disposable container system holder and is connected to the device inlet via the vacuum hose. The disposable container system contains a Serres® suction bag with integrated bacteria filter, which prevents the suction material from entering the device. The suction material is conveyed to the Serres® suction bag via a disposable suction hose. The disposable suction hose and Serres® suction bag are single-use devices and should be disposed of after use.

1.3 Operator and user qualification

The device must only be used by persons who possess a medical qualification and have received training in the suction technique. No special training on the device itself is required. Familiarize yourself with the device by reading the instructions for use. Observe all national requirements and guidelines.

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1.4 Contraindications

Contraindications are:

- Long-term endoscopic applications
- Suctions in medical areas where potential equalization is required (e.g., cardiac surgery)
- Applications in non-medical fields
- Suction of flammable, caustic, or explosive substances
- Suction in areas where there is a risk of explosion
- Operation when carrying out drainages in the low-vacuum range (e.g., thoracic drains or wound drains)

1.5 Side effects

The following complications may arise during suction:

- Nasopharyngeal bleeding
- Vocal chord injuries
- Tracheal injuries
- Hypoxemia
- Cardiovascular instability
- Bradycardia, arrhythmia, and asystole (provoked by vagus nerve stimulation)
- Tachycardia (provoked by stress)
- Gagging, nausea, vomiting, and coughing
- Hospital-acquired infection (HAI) of the airways
- Episodes in patients with frequent cramps

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2 Safety

2.1 Safety information

Read these instructions for use carefully. They form part of the device described and must be available at all times. Familiarize yourself with the device before use by reading these instructions for use.

Only use the device for the intended use (see "1.1 Intended use", page 5).

For your own safety and that of your patients, and in accordance with the requirements of Directive 93/42/EEC, please observe the following safety instructions.

Never operate the device if it displays obvious safety defects. Test the device at regular intervals to ensure it is safe and working correctly.

2.1.1 Qualification

Warning **Risk of injury due to lack of knowledge and failure to follow procedure!**

The use of the device by users without medical qualifications and training in suction and/or the failure to follow procedure can result in serious injury to or death of the patient.

⇒ Only use the device if the user has a medical qualification and is familiar with suction and the operation of the device.

⇒ Observe national and regional provisions and organizational procedure on suction.

2.1.2 How to use the device

Warning **Risk of explosion or fire from using the device in explosive atmospheres or areas enriched with oxygen!**

Sparks caused by the vacuum pump in the device can ignite gas mixtures and consequently injure the patient and user and damage the device.

⇒ Do not operate the device in explosive atmospheres or areas enriched with oxygen.

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Risk of injury from damaged device or power-supplying accessories!
A damaged device or damaged power-supplying accessories can trigger an electric shock and injure the patient or user.
⇒ Check the device and power-supplying accessories for damage before every use.
⇒ Replace damaged parts.
⇒ Do not use damaged devices or accessories.
⇒ If the device fails the function check: Do not use the device.
⇒ If the device is dropped or falls: Do not use the damaged device.

Risk of injury due to long hoses and power cord!
Children can strangle themselves with long hoses.
⇒ Keep hoses and power cord out of the reach of children.

Risk of injury from swallowable small parts!
Children can inhale small parts and injure themselves.
⇒ Keep swallowable small parts out of the reach of children.

Risk of injury due to inaccessible device!
During use, the device requires the intervention of the user. An inaccessible device may delay treatment and result in injury to the patient.
⇒ Position the device so that displays are clearly visible during use.
⇒ Keep the device accessible at all times.

Risk of injury due to reuse of disposable items!
Disposable items are intended for single use. Disposable items which are reused may be contaminated and/or impaired in their function and therefore cause injury to the patient.
⇒ Do not reuse disposable items.

Risk of injury due to missing, flat, or defective battery!
A missing, flat, or defective battery inhibits the therapy and can injure the patient.
⇒ Only operate the device with a charged battery.

Risk of injury from unapproved accessories!
Accessories which are not approved can interfere with the functioning of the device and injure the patient.
⇒ Only use accessories from WEINMANN Emergency.

Caution **Risk of injury due to liquids in the device!**
Liquids in the device can trigger an electric shock and consequently injure the patient and user and damage the device.
⇒ Disconnect the device from the power supply before starting the hygienic preparation.

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⇒ Do not immerse the device in liquids.
⇒ If liquids have entered the device: Contact a technician authorized by WEINMANN Emergency.
⇒ Do not rinse off the device and power-supplying accessories under running water.
⇒ Do not wipe the device and power-supplying accessories with a wet cloth.
⇒ Do not immerse the device and power-supplying accessories in disinfectant.

Risk of injury due to interference caused by electric and magnetic fields!

Electric and magnetic fields may interfere with the functioning of the device and injure the patient.

⇒ Maintain separation distances between the device and mobile telephones, radio units and X-ray apparatus.
⇒ Do not use the device in the vicinity of MRI devices.

Notice **Material damage due to operation of the device following transport at temperatures outside of the specified transport temperatures!**

Operating the device directly after transport at temperatures outside of the specified transport temperatures can damage the device.

⇒ Store the device at operating temperature for 6 hours before using it.

Material damage if the battery is not handled properly!

Failure to handle the battery properly can destroy it.

⇒ Charge battery in good time.
⇒ Always charge battery for storage.

2.1.3 Safe use of the power supply

Warning **Risk of injury if the power supply unit/charger is used in damp or electrically conductive surroundings!**

Using the device in damp or electrically conductive surroundings may result in an electric shock and injure the patient and user.

⇒ Only use the power supply unit/charger in a dry place.
⇒ Only use the power supply unit/charger in surroundings that are not electrically conductive.

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Risk of injury if the power supply unit/charger is not handled properly!

Failure to handle the power supply unit/charger properly can result in an electric shock and injure the user.

⇒ Observe the general safety provisions for working with electrical equipment.

⇒ Always hold the plug of the power plug and not the cable to pull it out of the socket.

⇒ Only ever use an undamaged power supply unit/charger.

⇒ Only have the power supply unit/charger repaired by WEINMANN Emergency or a technician authorized by WEINMANN Emergency.

Treatment prevented by defective power-supplying accessories!

Defective power-supplying accessories prevent the battery from charging and thus impair the operational readiness of the device.

⇒ Inspect the power-supplying accessories regularly.

Caution **Risk of injury due to trailing power cord!**

A trailing power cord is a trip hazard, which may cause injury and interrupt operation of the device being used.

⇒ During line operation, position the power cord so that there is no danger of tripping over it.

⇒ During 12 V operation, position the power cord so that there is no danger of tripping over it.

Risk of injury due to inaccessible power plug!

An obstructed power plug cannot be pulled out in an emergency and can thus result in injury.

⇒ Keep the power plug and mains power supply accessible at all times.

Notice **Damaged electronics due to incorrect voltage or frequency of the power supply!**

Incorrect voltage or frequency of the power supply can damage the electronics of the device.

⇒ Only connect the device with the WM 2620 power supply unit/charger up to a mains power supply with the correct line voltage and frequency.

⇒ Only connect the device up to a 12 V DC power source with a WM 10650 12 V connection line.

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2.1.4 Suction

Warning **Risk of asphyxia if device is used which is not ready for use!**
Devices which are not ready for use impede suction and can result in serious injury to or death of the patient.
⇒ Keep an alternative suction possibility on hand at all times.
⇒ Ensure that the correct hoses in accordance with the manufacturer's specifications are used with the disposable container system.
⇒ Keep the device ready for use at all times.
⇒ Always store the device with the battery charged.
⇒ Perform a function check before and after every use.
⇒ If the device is not used: Perform a function check every 6 months.

Risk of asphyxia if the device fails or switches itself off during suction!
Devices which fail or switch themselves off impede suction and can result in serious injury to or death of the patient.
⇒ Keep an alternative suction possibility on hand at all times.
⇒ Do not use the device in short-term operation for longer than 60 minutes (ACCUVAC Pro) or 45 minutes (ACCUVAC Lite).
⇒ Check the battery status repeatedly and charge the battery if necessary.

Risk of injury due to vacuum which is too high!
Too high a vacuum can damage the patient's tissue.
⇒ Adapt the vacuum to suit the patient.
⇒ Observe the applicable guidelines.

Risk of infection due to contaminated parts and suction material!
The device, the components, and the accessories can be contaminated by the suction material and infect the patient or user with bacteria or viruses.
⇒ Always wear suitable gloves.
⇒ Do not sterilize the device.
⇒ Only use sterile packed articles if the packaging is undamaged.
⇒ Only use the reusable container system with a hydrophobic bacteria filter.

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Risk of explosion or fire from suction of explosive, flammable, or caustic gases or liquids!

Sparks caused by the vacuum pump in the device can ignite gas mixtures and liquids and consequently injure the patient and user.

⇒ Do not suction any explosive, flammable, or caustic gases or liquids.

⇒ Observe the intended use.

Caution **Risk of injury if disposable container system is not vertical during suction!**

If the disposable container system is not vertical during suction, the suction material can run into the integrated bacteria filter of the Serres® suction bag and block the bacteria filter. This reduces suction capacity and can result in injury to the patient.

⇒ Always stand the device with disposable container system upright on a steady surface for the suction.

⇒ If suction material enters the bacteria filter: Replace the Serres® suction bag.

Notice **Material damage if reusable container system is not vertical during suction!**

If the reusable container system is not kept vertical, the suction material can enter the device and damage the vacuum pump.

⇒ Always stand the device with reusable container system upright on a steady surface for the suction.

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2.2 General instructions

- If third-party items are used, malfunctions may occur and fitness for use may be restricted. Biocompatibility may also be compromised. Please note that in such cases, any warranty claim and liability will be voided if neither the accessories recommended in the instructions for use nor genuine replacement parts are used. Third-party items may increase the radiation output or reduce the interference immunity.
- Repairs, servicing, and maintenance should only be carried out by WEINMANN Emergency or by a technician expressly authorized by WEINMANN Emergency.
- The manufacturer guarantees the compatibility of the device with all approved components and accessories. Only have modifications to the unit carried out by WEINMANN Emergency or by a technician expressly authorized by WEINMANN Emergency. Do not use any articles from third parties.
- Any constructive changes made to the device may put the patient and the user at risk and are not permitted.
- Please observe the section on hygienic preparation in order to avoid infection or bacterial contamination (see "5 Hygienic preparation", page 72).
- Also observe the respective instructions for use for the components and the accessories.
- Observe the ambient conditions for operation, charging, transport, and storage of the device (see "11.1 Technical data", page 100).
- Always carry out a function check before using the device (see "6 Function check", page 85).
- Do not operate the device if you identify damage. Clean the device and send it to WEINMANN Emergency or a technician expressly authorized by WEINMANN Emergency for repair.
- Before deflating vacuum mattresses, check the connection compatibility with the adapter for vacuum mattresses (not included).

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2.3 Warnings in this document

Warnings are used to flag up safety-relevant information.

You will find a warning preceding any action that entails a hazard for persons or equipment.

Warnings consist of

- the warning symbol (pictogram),
- a signal word designating the hazard level,
- information about the hazard, and
- instructions for avoiding the hazard.

The warnings appear in three hazard levels depending on the degree of danger:

⚠ DANGER	**Danger!** Designates an extremely dangerous situation. Failure to observe this warning will lead to serious, irreversible injury or death.
⚠ WARNING	**Warning!** Designates an extremely dangerous situation. Failure to observe this warning may lead to serious, irreversible or fatal injury.
⚠ CAUTION	**Caution!** Designates a dangerous situation. Failure to observe this warning may lead to minor or moderately serious injury.
NOTICE	**Notice!** Indicates a hazardous situation. Failure to observe this warning may lead to damage to equipment.
i	Designates useful information relating to a particular action.

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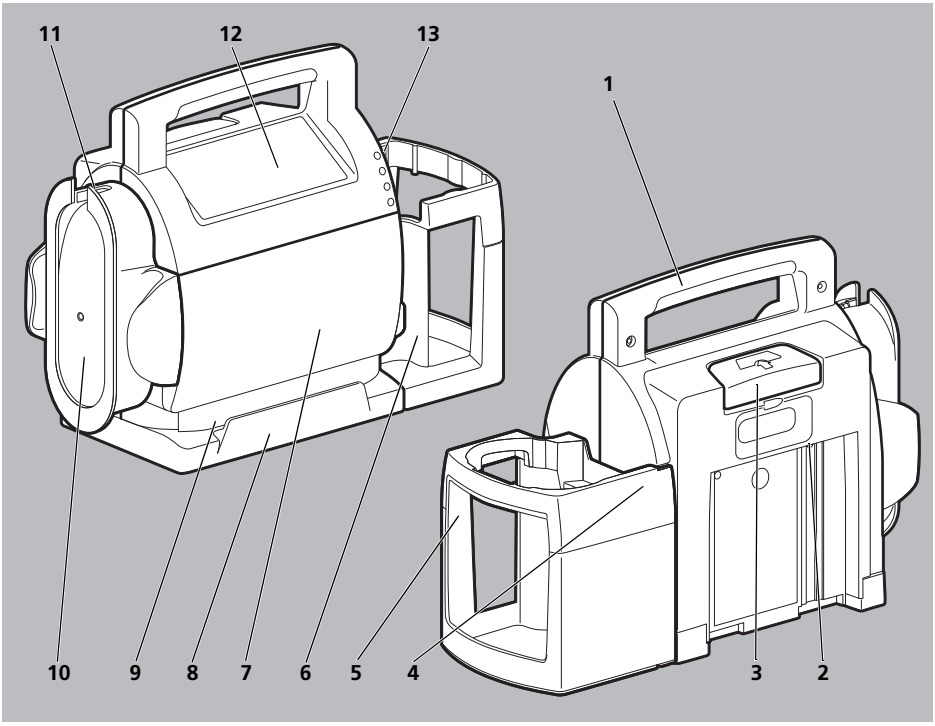
3 Description

3.1 Overview



3-1 Device

No.	Designation	Description
1	Handle	Enables the device to be carried.
2	Charging interface (covered)	Allows charging via a: • 12 V connection line • Power supply unit/charger
3	Unlocking button	Disconnects the device from the wall mounting
4	Device inlet (covered)	Connects the device to the container system.
5	Disposable container system holder	Holds the disposable container system and keeps it in position.

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No.	Designation	Description
6	Reusable container system holder	Holds the reusable container system and keeps it in position.
7	Battery compartment with cover and battery	• Houses the battery. • Includes an interface for service purposes.
8	Device base	• Protects the device against impacts. • Prevents slippage. • Guides the suction hose.
9	Hose guide	Guides the suction hose.
10	Hose reel	Used to store the suction hose if not required.
11	Hose holder	Used to insert the suction hose.
12	Control panel	Used to set and operate the device.
13	Lock (covered)	Connects the reusable container system holder with the device inlet.

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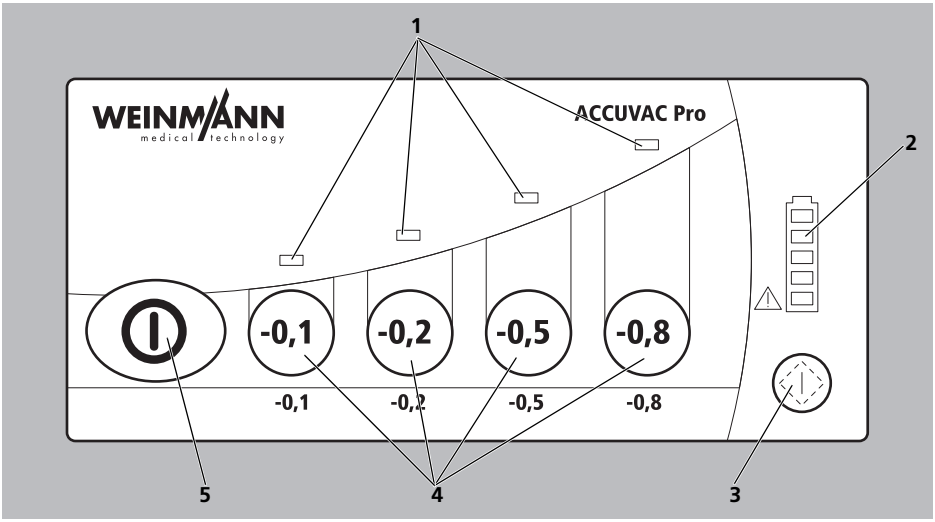
3.2 Control panel

3.2.1 ACCUVAC Pro



3-2 ACCUVAC Pro controls

No.	Designation	Description
1	Vacuum display	Displays the following vacuum: • Currently set vacuum (vacuum display flashes) • Attained vacuum (vacuum display stays illuminated)
2	Battery status indicator	Shows the battery status.
3	Test button	Starts the automatic function check.
4	Vacuum button	Allows you to select the required vacuum.
5	On/Off button	Switches the device on or off.

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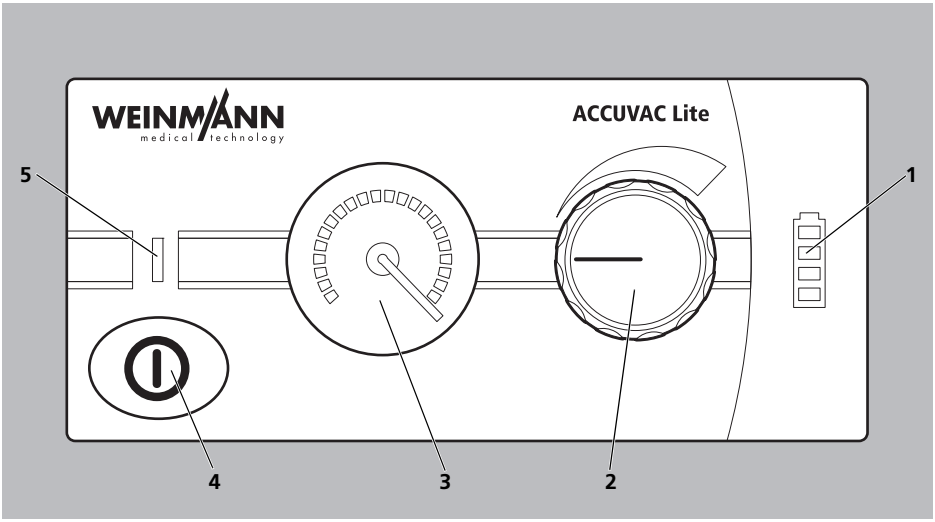
3.2.2 ACCUVAC Lite



3-3 ACCUVAC Lite controls

No.	Designation	Description
1	Battery status indicator	Shows the battery status.
2	Vacuum dial	Allows you to select the required vacuum.
3	Vacuum display	Displays the currently set vacuum.
4	On/Off button	Switches the device on or off.
5	Operation indicator	Displays whether the device is switched on/off.

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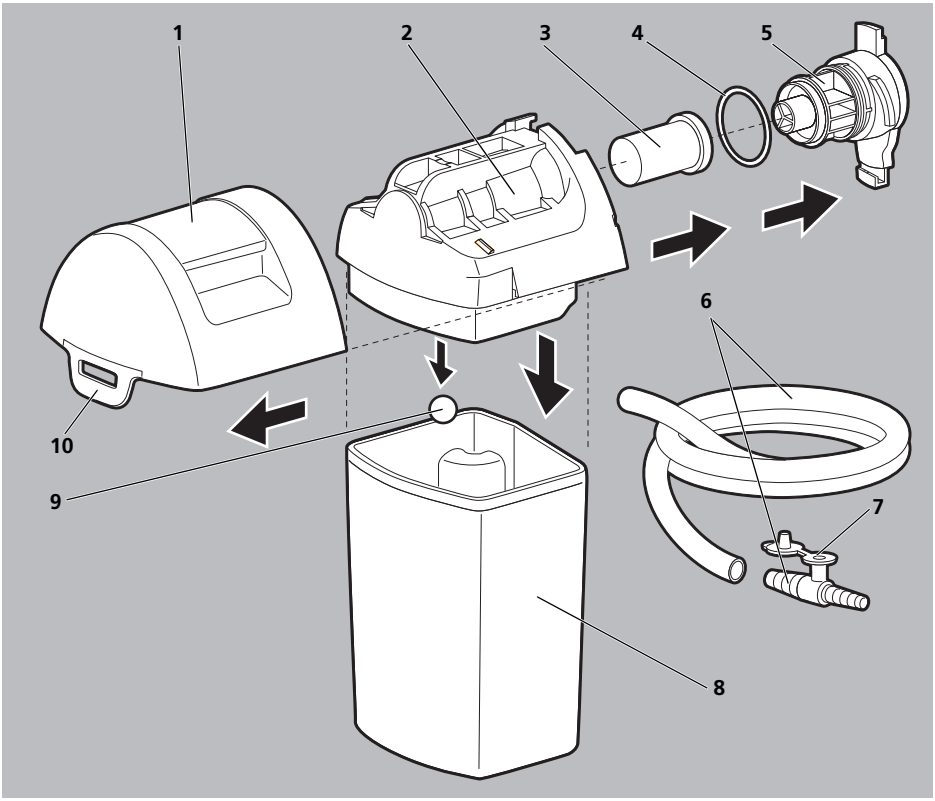
3.3 Components

3.3.1 Reusable container system



3-4 Reusable container system

No.	Designation	Description
1	Upper section of secretion container lid	Seals the reusable secretion container.
2	Lower section of secretion container lid	Houses the filter holder with the bacteria filter and the float ball.
3	Bacteria filter	Filters bacteria out of the suction material and protects against contamination.
4	O-ring	Seals the connection between the filter holder and the lower section of the secretion container lid.

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No.	Designation	Description
5	Filter holder	• Holds the bacteria filter in position. • Locks the connection between the secretion container lid and reusable secretion container.
6	Reusable suction hose with fingertip control	Sucks the suction material into the reusable secretion container.
7	Secondary air inlet	Used for manual regulation of the vacuum using a finger.
8	Reusable secretion container	Used to collect the suction material.
9	Float ball	Serves as protection against overflowing.
10	Container guard	Holds the reusable container system in the reusable container system holder.

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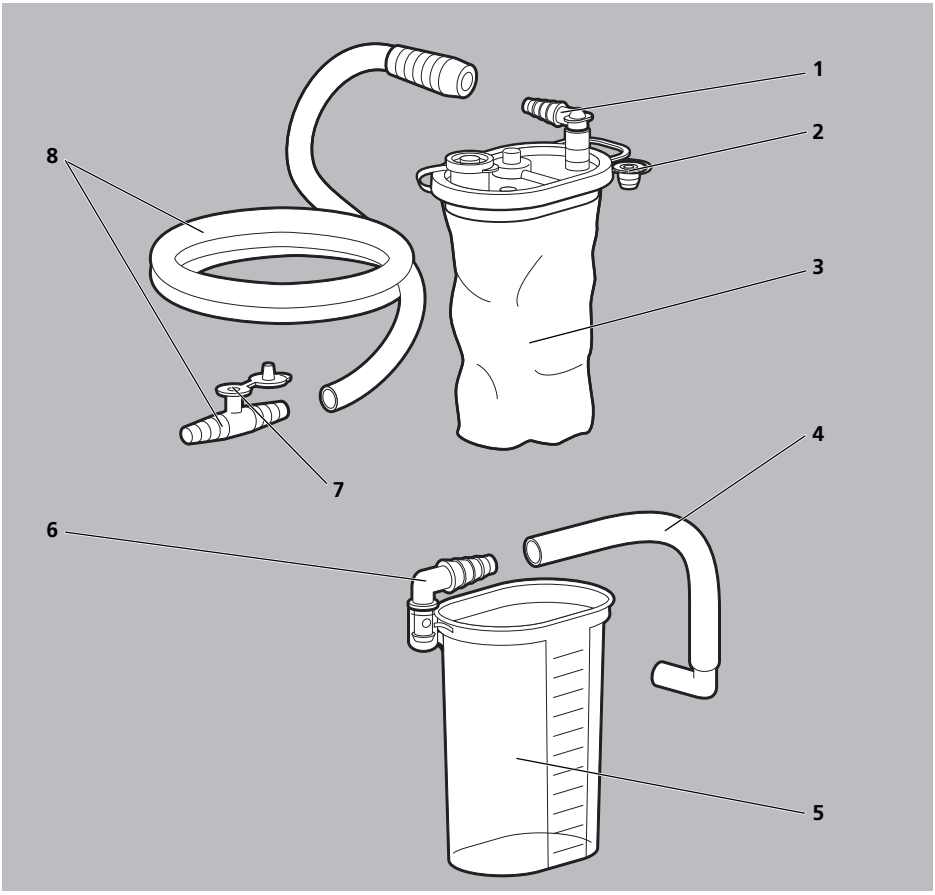
3.3.2 Disposable container system



3-5 Disposable container system

No.	Designation	Description
1	White elbow on Serres® suction bag	Connects the Serres® suction bag to the disposable suction hose.
2	Cap on Serres® suction bag	Seals the Serres® suction bag after use.
3	Serres® suction bag	Used to collect the suction material.
4	Vacuum hose	Connects the device inlet with the Serres® secretion container.
5	Serres® secretion container	Holds the Serres® suction bag.

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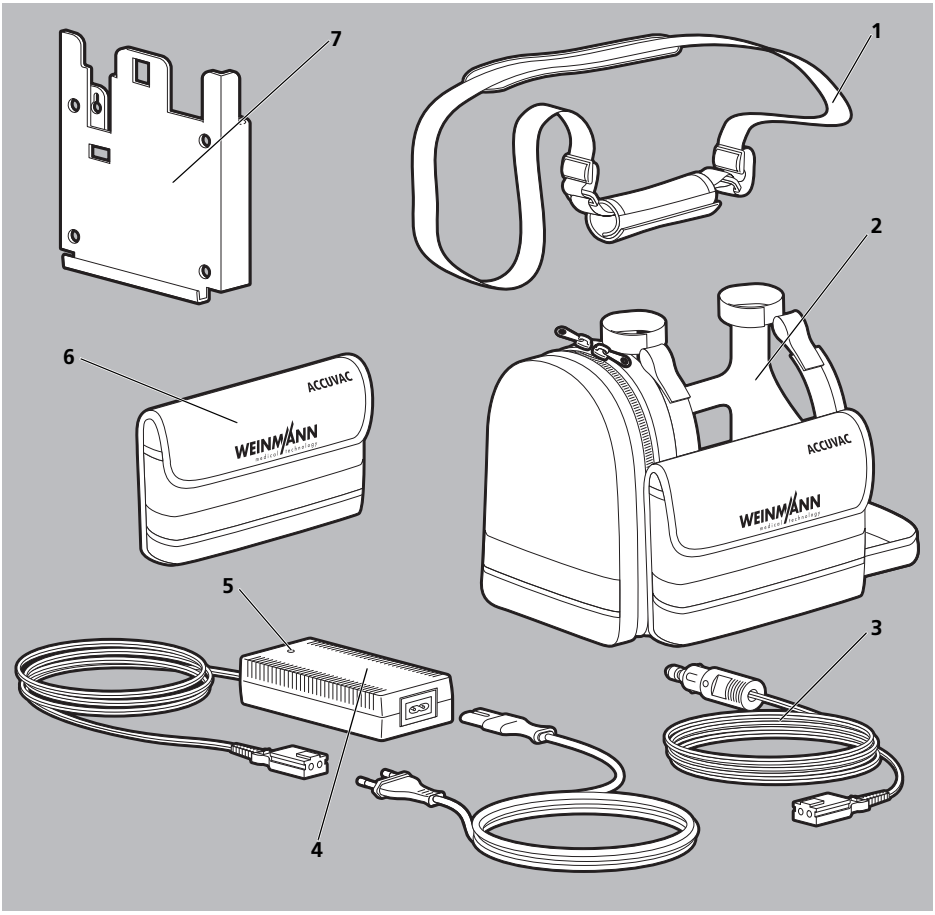
No.	Designation	Description
6	Gray elbow on the Serres® secretion container	Connects the Serres® secretion container to the vacuum hose.
7	Secondary air inlet	Used for manual regulation of the vacuum using a finger.
8	Disposable suction hose with fingertip control	Conducts the suction material into the Serres® suction bag.

3.4 Accessories



3-6 Accessories

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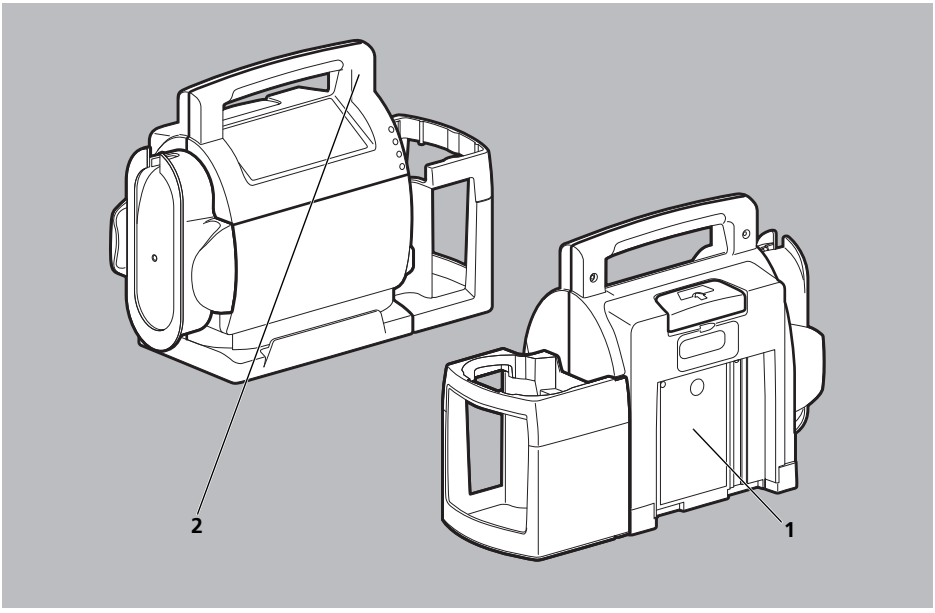
No.	Designation	Description
1	Shoulder strap	Allows you to carry the device over your shoulder.
2	Protective case	• Protects the device from damage. • Allows you to carry accessories.
3	12 V connection line	Connects the device's charging interface with a 12 V DC power source.
4	Power supply unit/charger	Connects the device's charging interface with a 230 V mains power supply.
5	Power supply unit/charger pilot lamp	Displays whether the power supply unit/charger is connected to a 230 V mains power supply.
6	Accessories bag	Holds additional accessories and can be used with the shoulder strap.
7	Wall mounting	Holds the device in place on a wall.

3.5 Labels and symbols

3.5.1 Labels on the product



3-7 Labels on the product

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No.	Symbol	Description
Device information label		
1	CE 0124	CE mark (confirms that the product complies with the applicable European directives)
		Date of manufacture
	IP34D	Degree of protection against • Ingress of solid objects • Ingress of dust • Ingress of water with harmful effect
		Type BF applied part
		Short-term operation
		Observe the instructions for use
		Do not dispose of device in household waste
	Typ	Name of device
		Serial number
		Manufacturer
Other labels		
2		Follow the instructions for use

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3.5.2 Labels on the battery

Symbol	Description
ACCUVAC Pro battery type plate	
	Date of manufacture
	Manufacturer
	European Article Number
	Serial number
	Article number
Other labels on ACCUVAC Pro battery	
	Indicates the correct installation direction of the battery.
	CE mark (confirms that the product complies with the applicable European directives)
	Do not dispose of battery in household waste
	European Recycling Platform
	Observe the instructions for use
	Do not throw the battery into fire
	Important

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Symbol	Description
ACCUVAC Lite battery type plate	
	China RoHS label (confirms that the product does not emit toxic substances for the number of years indicated)
	AC voltage
 Pb	Contains lead, recycle
 Pb	Contains lead, do not dispose of in household waste

3.5.3 Labels on the reusable container system

Symbol	Description
	Observe the instructions for use

3.5.4 Labels on the disposable container system

Symbol	Description
	CE mark (confirms that the product complies with the applicable European directives)
PATIENT	Patient connection
	Do not reuse

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3.5.5 Labels on the power supply unit/charger

Symbol	Description
Device information label	
	Date of manufacture
	Serial number
	Input (100 V-240 V/50 Hz-60 Hz/1.1 A)
	AC voltage
	Output (13.8 V/3.5 A)
	DC voltage
IP40	Degree of protection against • Ingress of solid objects • Ingress of dust • Ingress of water with harmful effect
	CE mark (confirms that the product complies with the applicable European directives)
	Observe the instructions for use
	Type of protection against electric shock: Protection class II device
	Type CF applied part
	For indoor use only
	Do not dispose of device in household waste

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3.5.6 Labels on bag, case and shoulder strap

Symbol	Description
	Article number
	Do not iron
	Wash at 30°C
	Do not tumble dry
	Observe the instructions for use
Shoulder strap only	
	Maximum weight

3.5.7 Labels on the packaging

Symbol	Description
Device	
	Article number
	CE mark with notified body (confirms that the product complies with the applicable European directives) e.g., for disposable container systems, fingertip controls, and suction hoses
	Serial number
	Manufacturer
	CE mark (confirms that the product complies with the applicable European directives)

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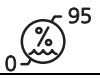
Symbol	Description
	Store in a dry place
	Fragile
	Permissible storage temperature: -40°C to +70°C
	Permissible humidity for storage: max. 95% relative humidity
	Observe the instructions for use
	Do not reuse
Power supply unit/charger	
	Article number
	Observe the instructions for use
	Permissible storage temperature: -40°C to +70°C
	Input (100 V-240 V/50 Hz-60 Hz/1.1 A)
	Output (13.8 V/3.5 A)
	CE mark (confirms that the product complies with the applicable European directives)
	Manufacturer
Set, bacteria filter	
	Article number
	CE mark (confirms that the product complies with the applicable European directives)

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Symbol	Description
	Do not reuse
	Observe the instructions for use
	Store in a dry place
	Batch code
	Manufacturer

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4 Preparation and operation

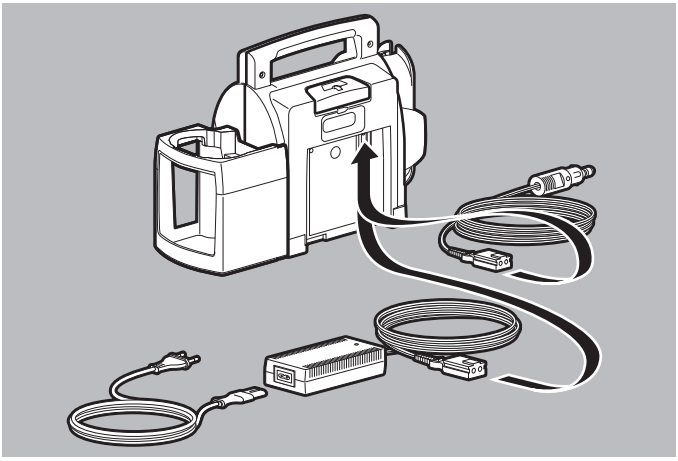
4.1 Mounting the device

The device is delivered ready for use. Charge the battery completely before you use the device for the first time (see "4.3.2 Charging the battery", page 34).

4.2 Connecting to a power supply

The device has the following power-supplying accessories:

- 12 V connection line
- Power supply unit/charger



1. Connect the charging interface on the device to a 12 V DC power source via the 12 V connection line

   or

   Connect the charging interface of the device to a 230 V mains power supply via the power supply unit/charger.

Result The device is ready for use.

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4.3 Using the rechargeable battery

4.3.1 General instructions

- Charge the battery completely before you use the device for the first time.
- Charge the battery under the prescribed ambient conditions (see "11.1 Technical data", page 100). Charging outside of the prescribed ambient conditions interrupts the charging process. If necessary, restore the prescribed ambient conditions. Avoid exposure to direct sunlight and proximity to heaters.
- You can also operate the device during the charging process.
- If the battery is not in the device or is completely discharged or defective, you can operate the device with the power-supplying accessories.
- Replace the battery if the battery's life becomes noticeably reduced.
- The life of the ACCUVAC Pro battery is exhausted after approx. 500 charging cycles. The battery of the ACCUVAC Lite is designed for 400 charging cycles in approx. 3 years.
- Observe the storage instructions for the battery (see "9 Storage", page 97).
- Storing the battery for too long without charging can deeply discharge the battery. A deeply discharged battery is defective and must be replaced. Always store the device with the battery charged.
- If all the status LEDs on the battery status indicator flash when the power-supplying accessories are connected, ensure that the battery is connected and you are using an original spare part (ACCUVAC Pro).

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4.3.2 Charging the battery

NOTICE

Material damage if the battery is deeply discharged!
A deeply discharged battery no longer performs optimally and must be replaced.
⇒ Charge the battery at the latest when a signal tone sounds or the red status LED of the battery status indicator flashes quickly (ACCUVAC Pro).
⇒ Charge the battery at the latest when the red status LED of the battery status indicator lights up (ACCUVAC Lite).

1. Place the device in the wall mounting with the power supply connected (see "4.5.1 Placing the device in the wall mounting", page 55)

   or

   Connect the charging interface on the device to a 12 V DC power source via the 12 V connection line

   or

   Connect the charging interface of the device to a 230 V mains power supply via the power supply unit/charger.

   The charging process begins:

   ACCUVAC Pro

   - All the green status LEDs up to the status LED for the current battery status light up at the same time.
   - The status LED for the current battery status lights up permanently and the green status LEDs flash successively.
   - The top green status LED lights up permanently once the charging process is complete.

   ACCUVAC Lite

   The top green status LED lights up.

Recommendation: Charge the ACCUVAC Lite if the lower green status LED of the battery status indicator lights up. In this way you ensure that there is sufficient operating time available for the next use.

Result The battery is charged.

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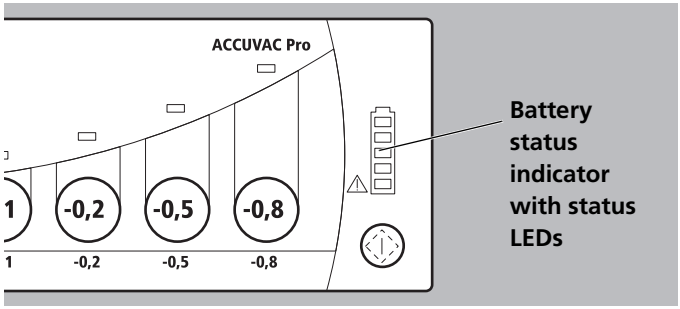
4.3.3 Battery status indicator

ACCUVAC Pro

You can read the battery status off the battery status indicator on the control panel. The battery status is indicated by 4 green status LEDs and 1 red status LED.



4-1 ACCUVAC Pro battery status indicator

Battery status indicator	Explanation	Meaning
	4 green status LEDs light up	Battery status < 100%
	3 green status LEDs light up	Battery status < 85%
	2 green status LEDs light up	Battery status < 60%
	1 green status LED lights up	Battery status < 35%

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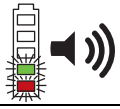
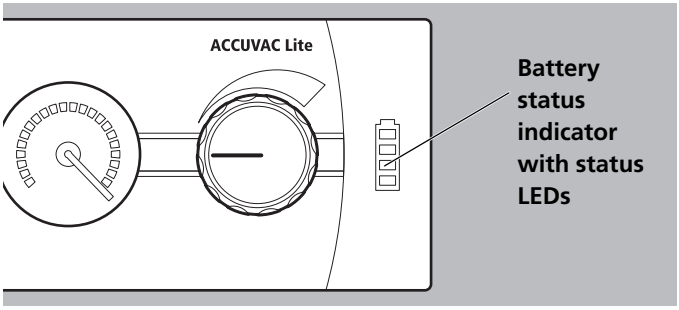
Battery status indicator	Explanation	Meaning
	1 green status LED flashes	Battery status < 15%
	1 green and the red status LED flash quickly and a signal tone sounds	Battery status < 10%
	The green status LEDs flash quickly several times	Battery status query runs when the device has been switched off for longer than 10 mins

ACCUVAC Lite

You can read the battery status off the battery status indicator on the control panel. The battery status is indicated by 3 green status LEDs and 1 red status LED.



4-2 ACCUVAC Lite battery status indicator

Battery status indicator	Explanation	Meaning
	Only the top green status LED lights up	Battery status ≤ 100%
	Only the middle green status LED lights up	Battery status approx. 60%

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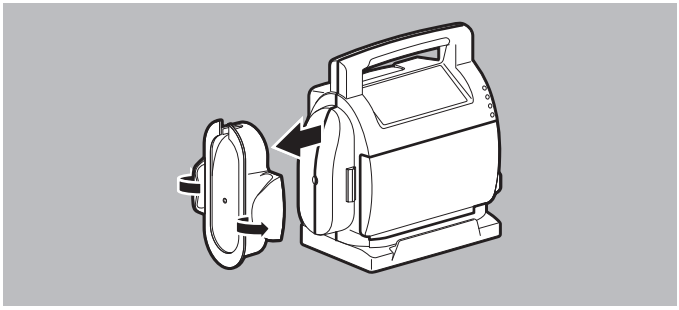
Battery status indicator	Explanation	Meaning
	Only the lower green status LED lights up	Battery status approx. 40%
	Only the red status LED lights up	• Battery status < 10% • Charge the battery
	The red status LED lights up after the battery has been charged for an extended period of time	• The battery has reached the end of its service life **or** • Battery defective

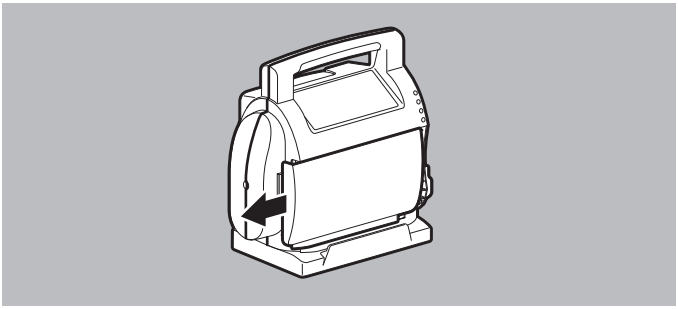
4.3.4 Preparing for a battery change

Result

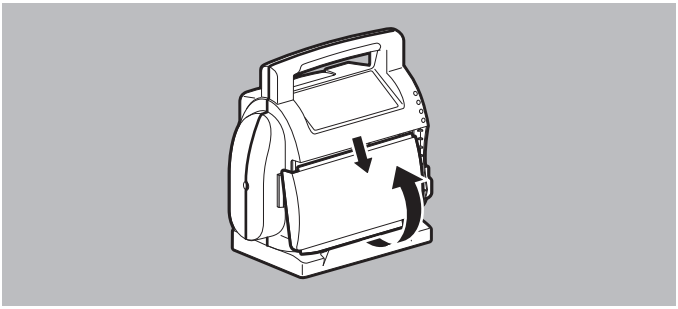
- The device is switched off (see "4.7 Switching off the device", page 61).
- The device is disconnected from the power supply.



1. With your thumbs, push the hose reel apart using the two wings and pull it off the device.



2. Push the battery compartment cover to the left.



3. Lift up the bottom of the battery compartment cover and pull it out of the top guide.
4. Lay the device on the lower part of the housing.
   The opened battery compartment faces upward.

Result Preparations for the battery change are complete.

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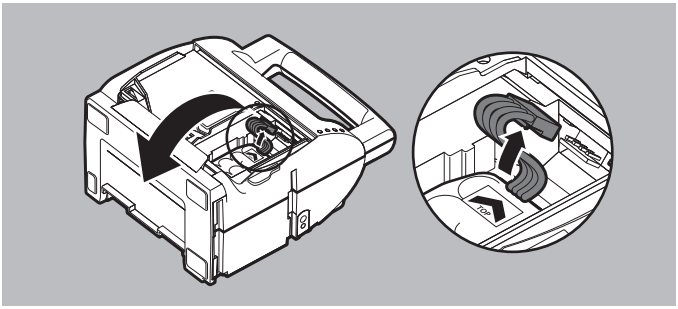
4.3.5 Changing the battery (ACCUVAC Pro)

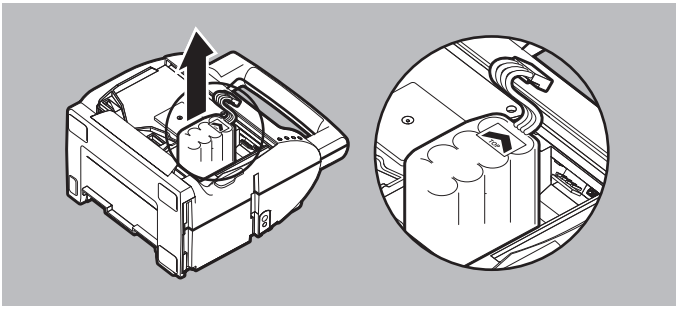
Requirement Preparations for the battery change are complete (see "4.3.4 Preparing for a battery change", page 37).



1. Press the unlocking button on the base of the battery connector and pull the battery connector out of the socket in the battery compartment.

NOTICE

Material damage if the unlocking button on the battery connector is not pressed!
Pulling the battery out without pressing the **unlocking button on the base** of the battery connector can damage the electronics of the device.
⇒ Always release the battery connector using the unlocking button before removal.



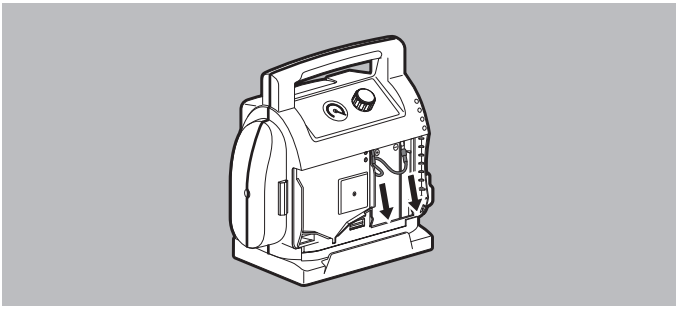
2. Pull the battery out of the device holding it by its body.
3. Insert a new battery.
   When doing so, note: The symbol TOP must face the socket in the battery compartment.

4. Push the battery connector into the socket in the battery compartment until the battery connector clicks into place.
5. Install the battery compartment cover (see "4.4.2 Installing the battery compartment cover", page 44).
6. Install the hose reel (see "4.4.3 Installing the hose reel", page 45).
7. To check whether the battery is correctly inserted: Switch on the device (see "4.6 Switching on the device", page 60).
8. Switch off the device (see "4.7 Switching off the device", page 61).
9. Charge battery (see "4.3.2 Charging the battery", page 34).
10. Perform a function check (see "6.2 Performing a function check", page 86).

Result The battery is changed.

4.3.6 Changing the battery (ACCUVAC Lite)

Requirement Preparations for the battery change are complete (see "4.3.4 Preparing for a battery change", page 37).



1. Detach the red and black cables from the contacts on the battery.
2. Stand the device up.

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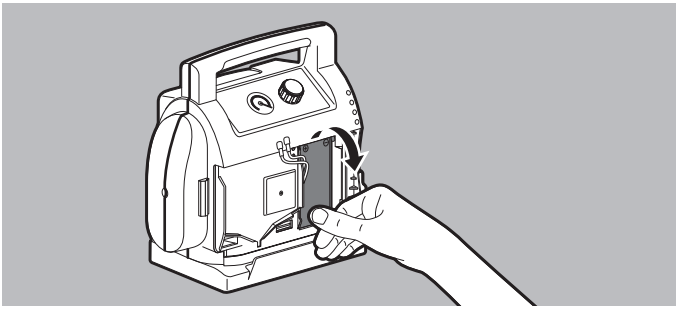
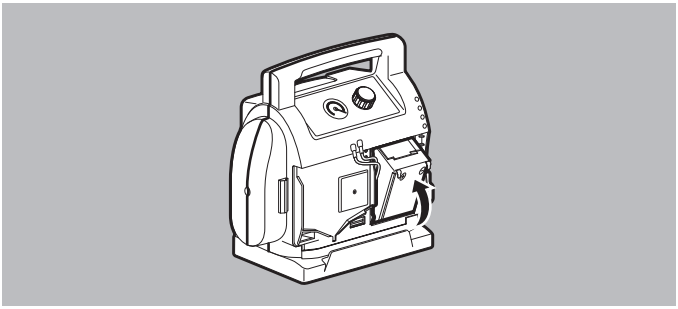


3. Press against the lower end of the battery.
   The battery must tilt forwards.
4. Tilt the battery out of the battery compartment and remove it.



5. Insert a new battery in the lower guide of the battery compartment.
   The battery must be tilted in the battery compartment.
6. Lay the device on the lower part of the housing.
   The opened battery compartment faces upward.
7. Press the battery into the lower guide of the battery compartment until it sits horizontally in the battery compartment.
8. Connect the red cable to the plus contact on the left of the battery.
9. Connect the black cable to the minus contact on the right of the battery.
10. Install the battery compartment cover (see “4.4.2 Installing the battery compartment cover”, page 44).

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11. Install the hose reel (see "4.4.3 Installing the hose reel", page 45).
12. To check whether the battery is correctly inserted: Switch on the device (see "4.6 Switching on the device", page 60).
13. Switch off the device (see "4.7 Switching off the device", page 61).
14. Charge battery (see "4.3.2 Charging the battery", page 34).
15. Perform a function check (see "6.2 Performing a function check", page 86).

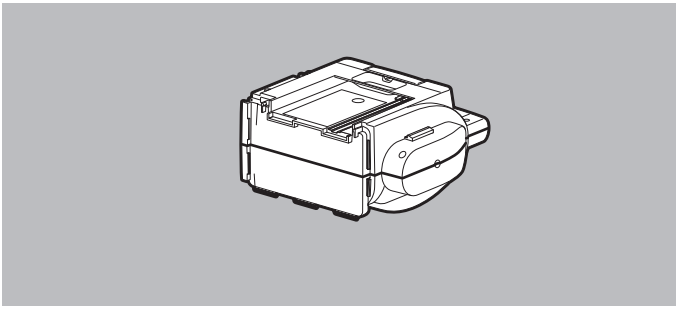
Result The battery is changed.

4.4 Connecting components

4.4.1 Installing the device base

Requirement

- The container system is removed.
- The container system holder is removed.
- The hose reel is removed.
- The battery compartment cover is removed.



1. Lay the device on the upper part of housing.

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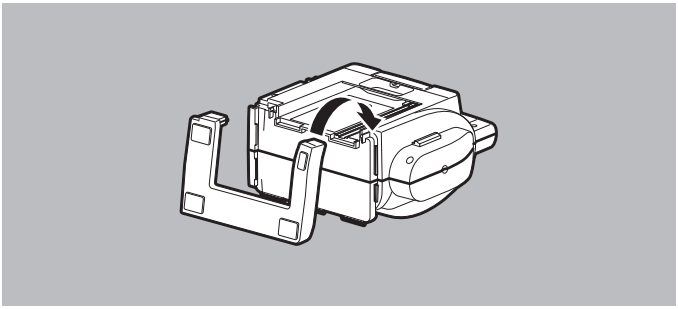
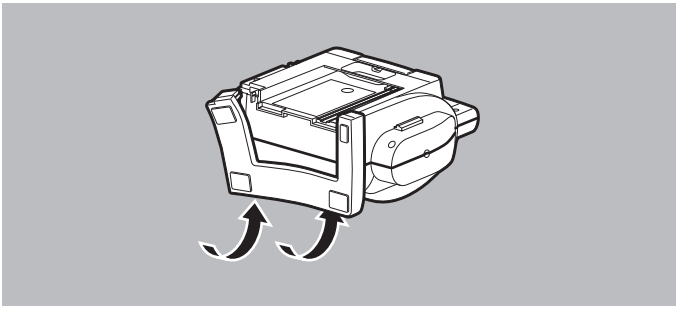
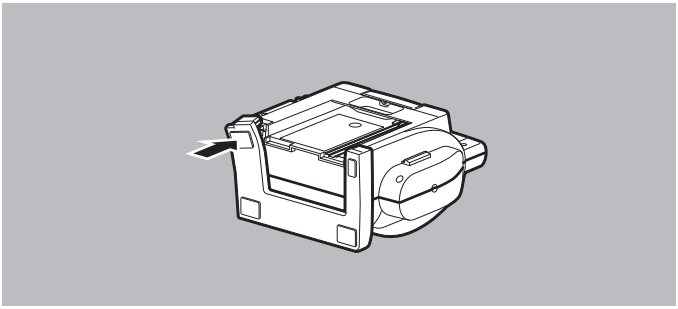


2. Hook the device base into the top corner on the hose reel side.



3. Press the device base into the guide along the hose reel side and the bottom.



4. Hook the device base into the top corner on the container system side.

Result The device base is installed.

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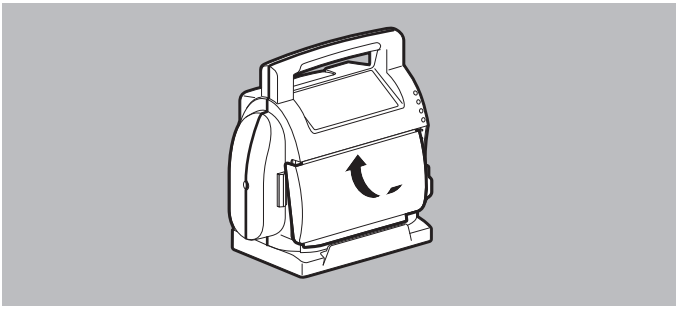
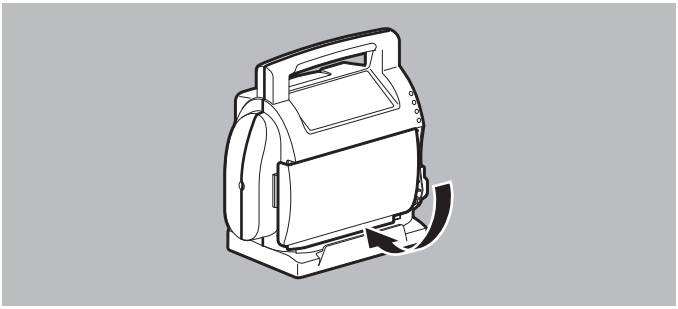
4.4.2 Installing the battery compartment cover

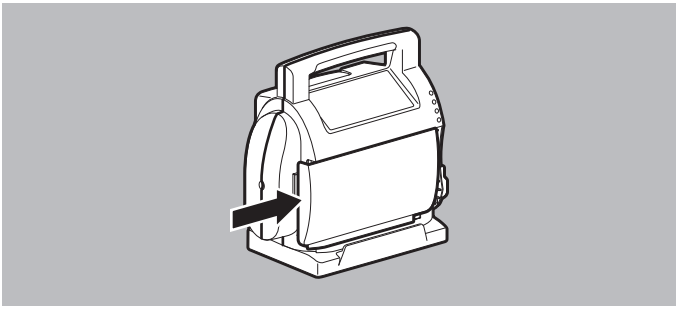
Requirement The device base is installed (see "4.4.1 Installing the device base", page 42).



1. Insert the battery compartment cover in the upper guide of the battery compartment.



2. Fold down the battery compartment cover into the lower guide of the battery compartment.



3. Push the battery compartment cover to the right until it audibly clicks into place.

Result The battery compartment cover is installed.

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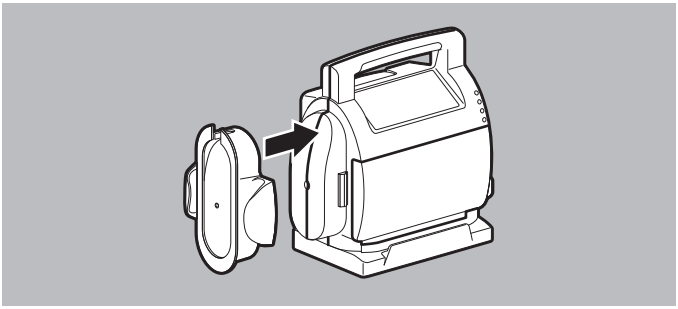
4.4.3 Installing the hose reel

Requirement

- The device base is installed (see "4.4.1 Installing the device base", page 42).
- The battery compartment cover is installed (see "4.4.2 Installing the battery compartment cover", page 44).



1. Push the hose reel with the hose holder at the top onto the side of the device until it audibly clicks into place.

Result The hose reel is installed.

4.4.4 Installing the container system holder

The holder is installed in the same way for both devices. There are two types of holders:

- Reusable container system holder
- Disposable container system holder

Requirement The device base is installed (see "4.4.1 Installing the device base", page 42).

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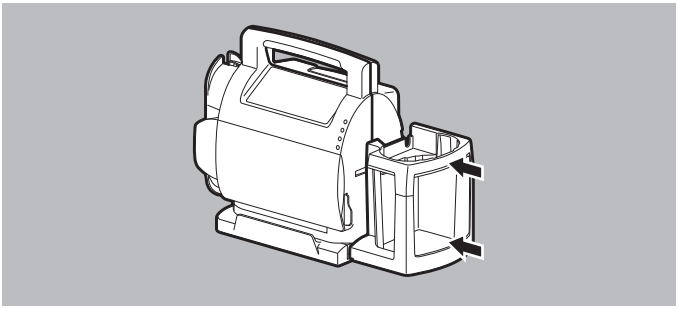
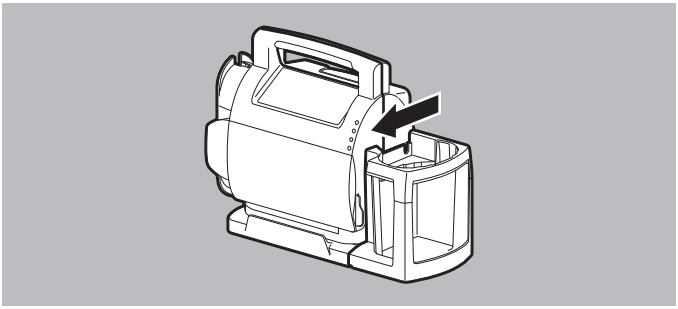


1. Insert the holder **centrally** in the guides on the right side of the device.
   When doing so, note: The holder must be inserted in both guides.



2. Push the holder to the end of the guides.
   When doing so, note:
   - The holder must be flush with the device base and the lower part of the housing.
   - The device inlet must be freely accessible.

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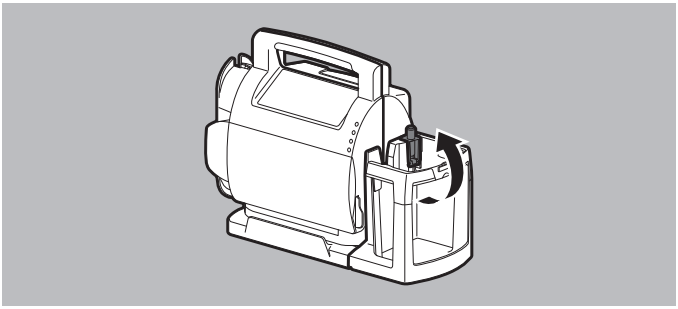

3. For the reusable container system holder: Push the lock through the recess on the holder in the device inlet.

Result The reusable container system holder/disposable container system holder is installed.

4.4.5 Connecting the reusable container system

⚠ WARNING

Risk of infection due to contaminated bacteria filter and secretion container lid!

Contaminated bacteria filters and secretion container lids can infect the patient and user.

⇒ Always operate the device with a bacteria filter.
⇒ Keep a replacement bacteria filter at the ready.
⇒ Always wear suitable gloves.
⇒ Only use new, dry bacteria filters.
⇒ Replace the bacteria filter after every patient.
⇒ Replace the bacteria filter after max. two weeks if no patient change has occurred.

Requirement The reusable container system holder is installed (see "4.4.4 Installing the container system holder", page 45).

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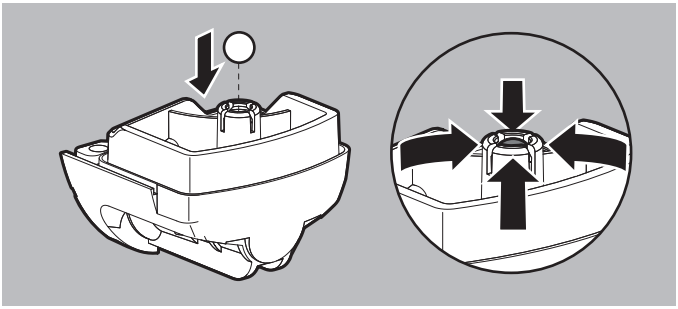
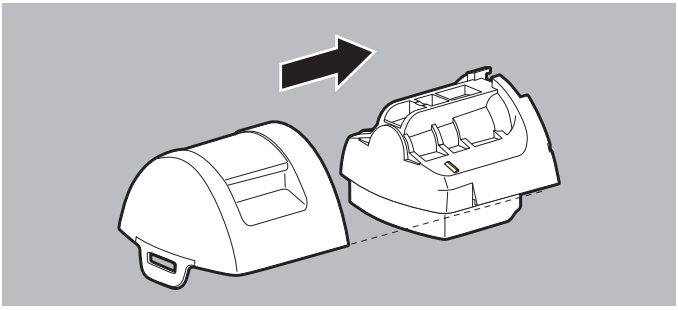


1. Press the segments of the ball holder apart gently and insert the float ball into the ball holder in the lower part of the secretion container lid.
2. Press the segments of the ball holder together gently. When doing so, note:
   - The float ball must not fall out of the ball holder.
   - The float ball must be able to move freely.



3. Push the upper section of the secretion container lid onto the lower section of the secretion container lid.
4. Place the reusable secretion container on a stable surface.

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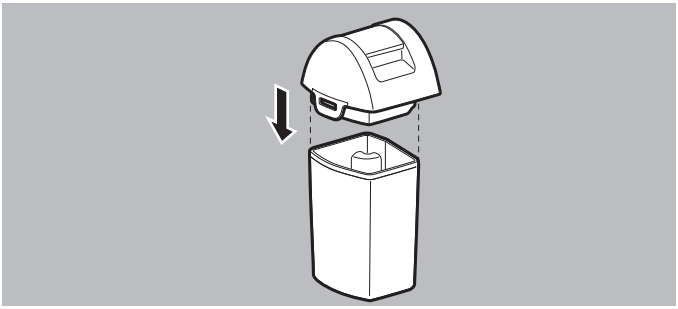
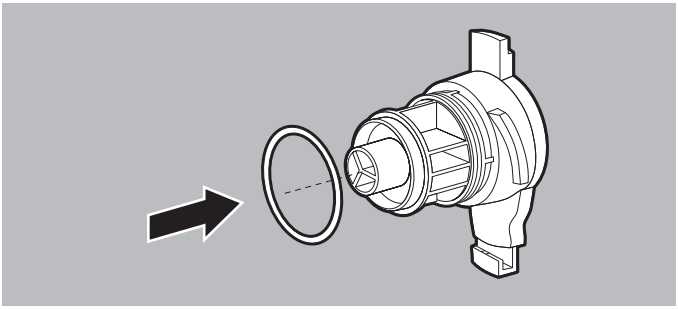
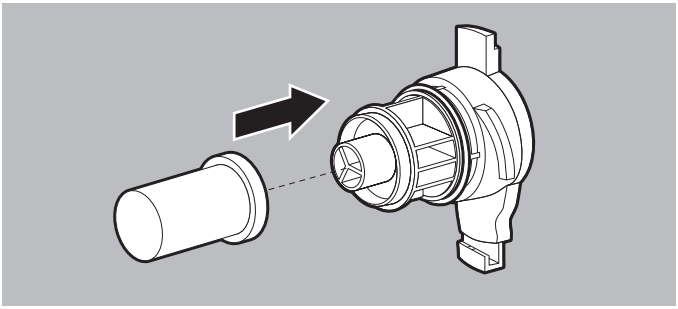


5. Place the secretion container lid on the reusable secretion container.
6. Press the secretion container lid on the reusable secretion container with both hands.



7. If necessary: Push the O-ring onto the filter holder.



8. Place the new bacteria filter on the filter holder.

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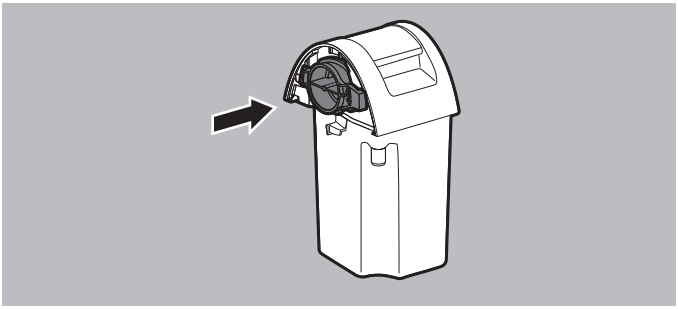
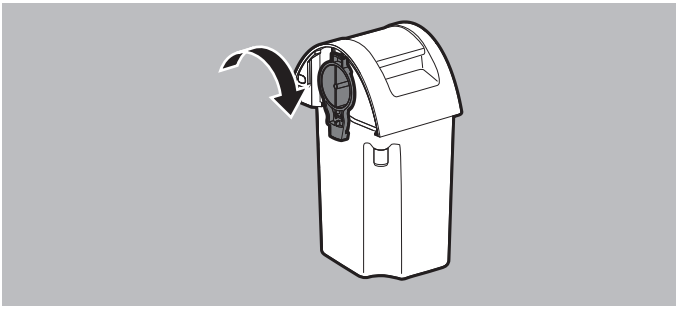
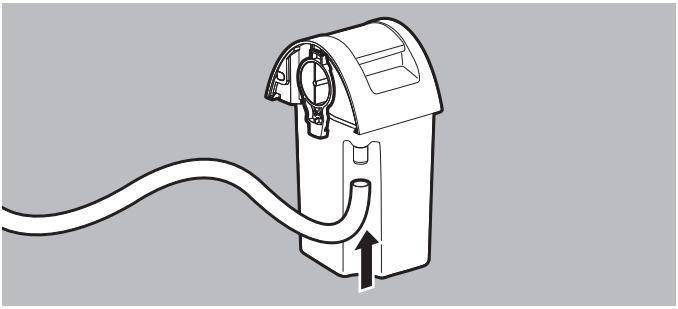


9. Insert the filter holder into the lower section of the secretion container lid.
   When doing so, note: The filter holder must be in a horizontal position.



10. Turn the filter holder as far as it will go clockwise.
    When doing so, note: The filter holder must be in a vertical position and click into place in the detent lug on the reusable secretion container.



11. Connect the reusable suction hose to the reusable secretion container.
12. Connect the fingertip control to the reusable suction hose.

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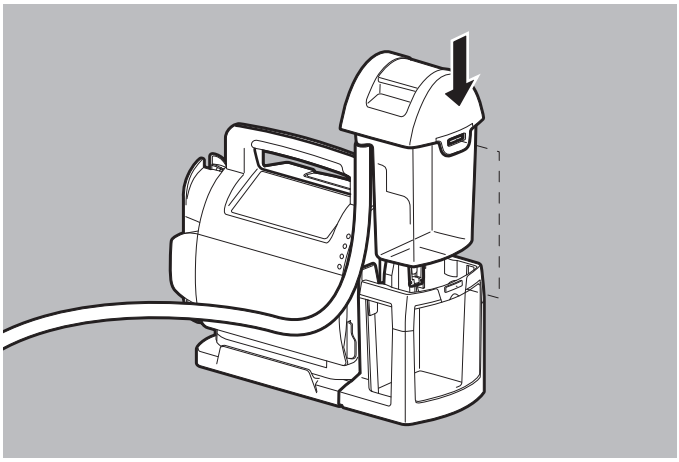
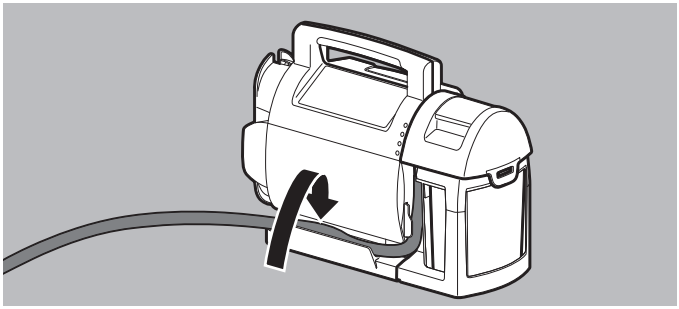


13. Insert the reusable container system into the reusable container system holder from above.
    The container guard must click into place fully in the reusable container system holder.



14. If necessary: Place the reusable suction hose in the hose guide on the device base.
15. If necessary: Coil the reusable suction hose on the hose reel.
16. If necessary: Clamp the reusable suction hose in the hose holder.
17. Perform a function check (see "6.2 Performing a function check", page 86).

Result The reusable container system is installed in the reusable container system holder.

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4.4.6 Connecting the disposable container system

⚠ WARNING

Risk of injury if the manufacturer's specifications are not followed!

Failure to comply with the manufacturer's specifications can injure the patient and damage the device, components, and accessories.

⇒ Observe the instructions for use from the manufacturer, Serres®.

⚠ WARNING

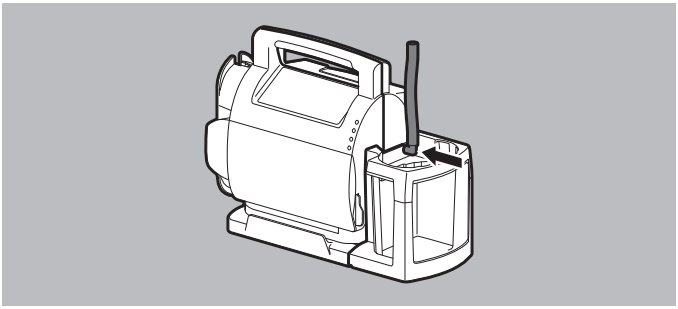
Risk of infection due to contaminated hoses and Serres® secretion containers!

Contaminated hoses and Serres® secretion containers can infect the patient and user.

⇒ Only use Serres® suction bags with an integrated bacteria filter.

⇒ Only use sterile packed parts if the packaging is undamaged.

Requirement The disposable container system holder is installed (see "4.4.4 Installing the container system holder", page 45).



1. Connect the vacuum hose on the right side of the device to the device inlet.

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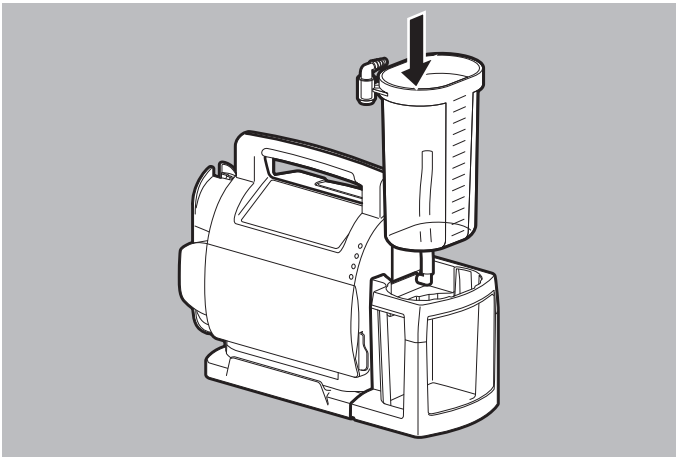
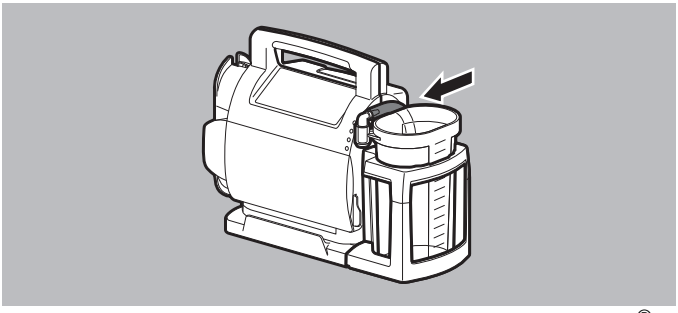


2. Insert the Serres® secretion container into the disposable container system holder from above.



3. Connect the vacuum hose to the gray elbow on the Serres® secretion container.
4. Unfold the Serres® suction bag.

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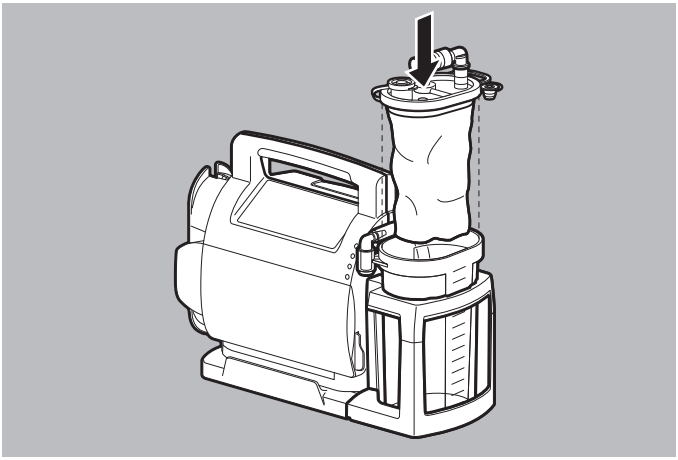

5. Insert the Serres® suction bag in the Serres® secretion container.
   When doing so, note: The film of the Serres® suction bag must be completely inside the Serres® secretion container and the lid of the Serres® suction bag must close off the Serres® secretion container tightly.
6. Switch on the device (see "4.6 Switching on the device", page 60).
7. Select a vacuum of -0.8 bar and press on the center of the Serres® suction bag from above.
   The suction bag must unfurl.
8. Close off the white elbow with your finger.
   The Serres® suction bag must unfurl completely until it rests on the base and against the sides of the Serres® secretion container.
9. Connect the disposable suction hose to the white elbow.
10. If necessary: Switch off the device (see "4.7 Switching off the device", page 61).

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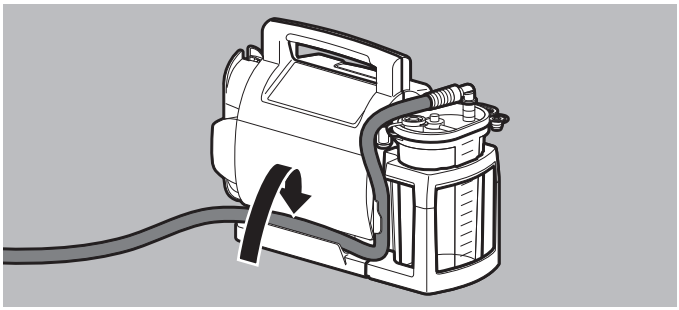

11. If necessary: Place the disposable suction hose in the hose guide on the device base.
12. If necessary: Coil the disposable suction hose on the hose reel.
13. Perform a function check (see "6.2 Performing a function check", page 86).

Result The disposable container system is installed in the disposable container system holder.

4.5 Connecting accessories

4.5.1 Placing the device in the wall mounting

Requirement

- The wall mounting is installed as per the assembly instructions.
- The 12 V connection line or the power supply unit/charger is clicked into place in the guide rail of the wall mounting.

1. Connect the 12 V connection line to a 12 V DC power source

   or

   Connect the power supply unit/charger to a 230 V mains power supply.

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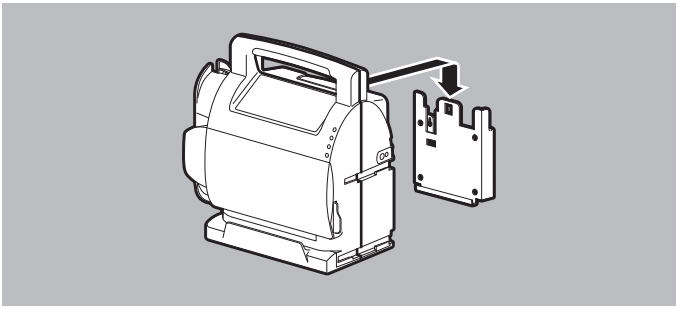


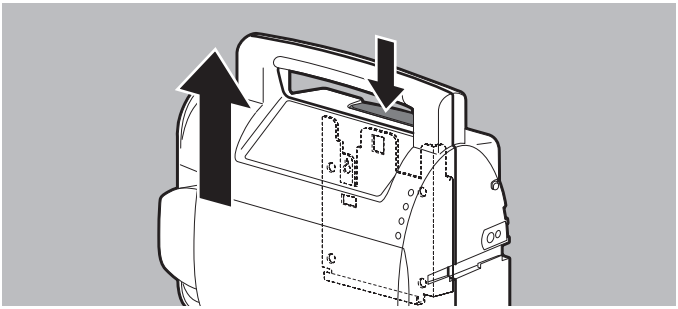
2. Place the device in the wall mounting.
3. Check that the device is securely positioned in the wall mounting.

Result The device is positioned in the wall mounting.

4.5.2 Taking the device out of the wall mounting

⚠ CAUTION

Risk of injury if the device should fall!
The device may fall if taken out of the wall mounting incorrectly. This can injure the user and patient and damage the device.
⇒ Hold the device firmly by the handle while removing.



1. Press the unlocking button on the device.
2. Pull the device upwards out of the wall mounting.

Result The device is removed from the wall mounting.

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4.5.3 Attaching the protective case

Requirement

- The hose reel is installed (see "4.4.3 Installing the hose reel", page 45).
- There is a container system installed.

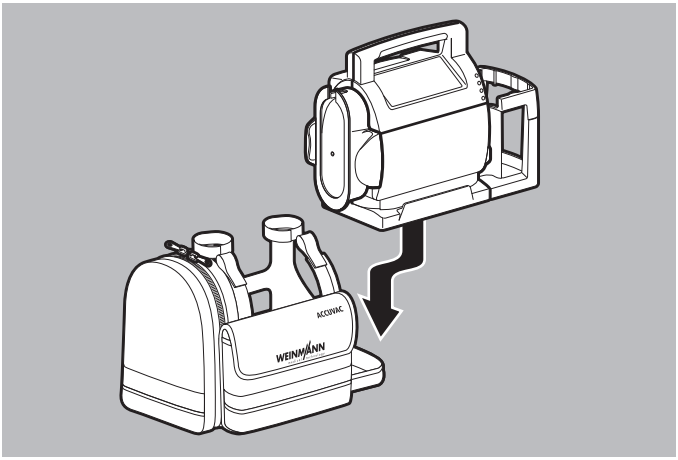
⚠ CAUTION

Risk of injury if the device is not held firmly in the wall mounting!

If the protective case covers a recess intended for the wall mounting, the device may not click into place properly in the wall mounting and may fall out. This can injure the user and patient and damage the device.

⇒ Ensure the recess for the wall mounting is not covered.

⇒ Check that the device is securely positioned in the wall mounting.



1. Insert the device in the protective case hose reel first from above and the side.
2. Push the device as far as possible to the left into the protective case.
3. Adjust the container system on the bottom of the protective case.

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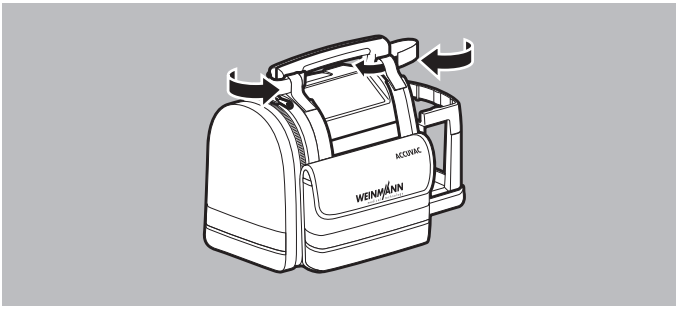
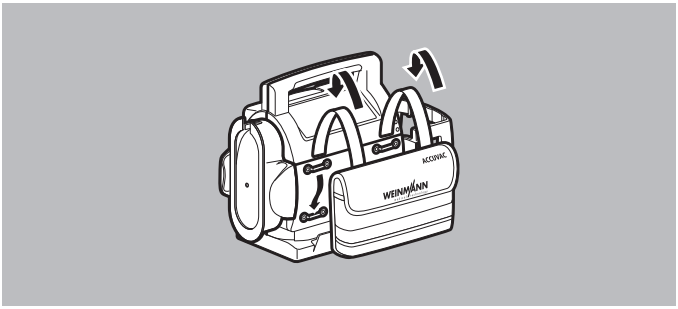


4. Pass the Velcro fasteners of the protective case through the loops on the protective case.
5. Pass the Velcro fasteners around both ends of the handle and close them.

Result The protective case is attached.

4.5.4 Attaching the accessories bag

Requirement There is a battery compartment cover for accessories bag installed (see "4.4.2 Installing the battery compartment cover", page 44).



1. Pass the Velcro fasteners of the accessories bag through the eyelets on the battery compartment cover.
2. Affix the Velcro fasteners on the bottom of the accessories bag.

Result The accessories bag is attached.

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4.5.5 Attaching the shoulder strap

⚠ CAUTION

Risk of injury if the shoulder strap is not used correctly or not attached correctly!

The device may fall out if the shoulder strap is not used correctly or is not attached to the device correctly. This can injure the user and patient and damage the device.

⇒ Observe the maximum load of the shoulder strap.

⇒ Do not attach any other or heavier objects to the shoulder strap.

⇒ Wrap the Velcro fastener of the shoulder strap around the device's handle tightly and close it.

⇒ Keep the Velcro fastener of the shoulder strap free from foreign particles and replace it regularly.

NOTICE

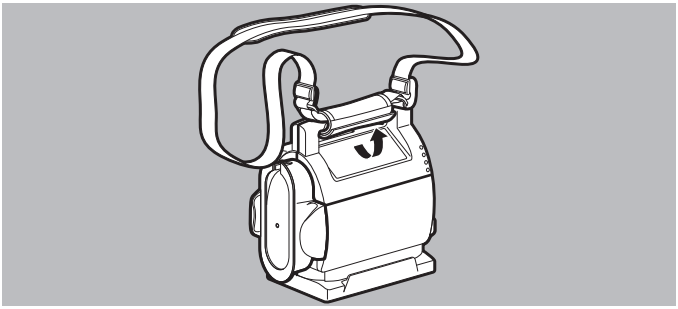
Material damage if the shoulder strap is not correctly attached to the device!

The device may fall and become damaged if the shoulder strap is not attached to the device correctly.

⇒ Wrap the Velcro fastener of the shoulder strap around the device's handle tightly and close it.

⇒ Keep the Velcro fastener free from foreign particles and replace it regularly.

⇒ Observe the maximum load of the shoulder strap.



1. Wrap the Velcro fastener of the shoulder strap around the device's handle tightly and close it.

Result The shoulder strap is attached.

4.6 Switching on the device

NOTICE

Material damage if the battery is not completely charged the first time the device is used!
Failure to charge the battery completely before the device is used for the first time can damage the battery.
⇒ Only operate the device with a battery showing at least 2 green status LEDs.

Requirement

- There is a battery showing at least 2 green status LEDs in the device

  or

- The device is connected to the power-supplying accessories.

1. Switch on the device using the On/Off button ⏻:

   ACCUVAC Pro

   - All the LEDs on the control panel light up briefly.
   - The battery status indicator displays the battery status.
   - The device starts with the last set vacuum. The corresponding LED of the vacuum display flashes.
   - The background illumination and the LEDs of the On/Off button ⏻ light up.

   ACCUVAC Lite

   - The battery status indicator displays the battery status.
   - The operation indicator lights up.

Result The device is ready for use.

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4.7 Switching off the device

1. Press and hold the On/Off button ⏻ for approx. 1 second.

   ACCUVAC Pro

   The LEDs of the On/Off button ⏻ stay lit up for another 10 minutes.

   ACCUVAC Lite

   The operation indicator goes out.

Result The device is completely switched off.

4.8 Performing suction

⚠ WARNING

Risk of asphyxia if the device fails or switches itself off during suction!

Devices which fail or switch themselves off impede suction and can result in serious injury to or death of the patient.

⇒ Keep an alternative suction possibility on hand at all times.

⇒ Do not use the device in short-term operation for longer than 60 minutes (ACCUVAC Pro) or 45 minutes (ACCUVAC Lite).

⇒ Check the battery status repeatedly and charge the battery if necessary.

⚠ WARNING

Risk of injury due to lack of knowledge and failure to follow procedure!

The use of the device by users without medical qualifications and training in suction and/or the failure to follow procedure can result in serious injury to or death of the patient.

⇒ Only use the device if the user has a medical qualification and is familiar with suction and the operation of the device.

⇒ Observe national and regional provisions and organizational procedure on suction.

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⚠ WARNING

Risk of infection from reused disposable items and contaminated or damaged parts!
Reused disposable items and contaminated or damaged parts can infect the patient or user.
⇒ Use new disposable items for each patient.
⇒ Only use a hygienically prepared container system.
⇒ Replace damaged parts before use.

⚠ WARNING

Risk of infection from suction material!
Suction material can come into contact with the user and infect him/her.
⇒ Always wear suitable gloves.

Requirement

- The hose reel is installed (see "4.4.3 Installing the hose reel", page 45).
- A container system with suction hose and fingertip control is installed.

1. Perform a function check (see "6.2 Performing a function check", page 86).
2. Switch on the device (see "4.6 Switching on the device", page 60).
3. Uncoil the suction hose with fingertip control from the hose reel.
4. If necessary: Connect additional accessories such as a suction catheter.

⚠ WARNING

Risk of injury due to vacuum which is too high!
Too high a vacuum can damage the patient's tissue.
⇒ Adapt the vacuum to suit the patient.
⇒ Observe the applicable guidelines.

5. Select the required vacuum:

   ACCUVAC Pro

   Press the vacuum button for the required vacuum.
   The vacuum display of the selected vacuum button flashes green.

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ACCUVAC Lite

Close off the open end of the fingertip control with a finger and set the required vacuum with the vacuum dial.
The vacuum display shows the selected vacuum.

⚠ WARNING

Risk of injury due to careless suction or unsuitable material!
Careless suction or unsuitable material can cause injuries in the patient's airways.
⇒ Open the secondary air inlet briefly if the suction catheter becomes attached to the skin.
⇒ Suction particularly carefully in the tracheal area.

6. Close the secondary air inlet on the fingertip control with your finger.
   The device sucks.
7. If necessary: Open the secondary air inlet on the fingertip control.
   The device does not suck.

If you interrupt the suction briefly, you can clamp the suction hose in the hose holder on the hose reel.

Do not kink the hoses as this will reduce the suction capacity.

8. If the reusable secretion container of the reusable container system is half full: Empty the reusable secretion container (see "4.9.1 Emptying the reusable secretion container", page 64).

If the reusable secretion container is too full, the float ball closes off the suction area in the secretion container lid and the device does not suck any more.

9. If the Serres® suction bag of the disposable container system is full: Exchange the Serres® suction bag (see "4.9.2 Exchanging the Serres® suction bag", page 66).

If the Serres® suction bag is too full, the bacteria filter swells and the device stops sucking.

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⚠ WARNING

Risk of infection due to suction material in the device!
Suction material in the device contaminates the device and reduces the suction capacity of the device. This can infect the patient or user.
⇒ Always wear suitable gloves.
⇒ Do not use the device.
⇒ Contact a technician authorized by WEINMANN Emergency.

10. If suction material enters the device: Contact a technician authorized by WEINMANN Emergency.

Suction material can enter the device if the device tilts, for example. Reduced suction capacity is an indicator for suction material in the device.

11. Switch off the device (see "4.7 Switching off the device", page 61).
12. Prepare the device hygienically (see "5 Hygienic preparation", page 72).
13. Perform a function check (see "6.2 Performing a function check", page 86).

Result The suction is performed.

4.9 Emptying the container system

4.9.1 Emptying the reusable secretion container

This section describes how the reusable secretion container can be emptied during suction and reused on the same patient. The reusable container system must be hygienically prepared before being used on a new patient (see "5.5 Hygienic preparation of the reusable container system", page 79).

Requirement

- The device is switched off (see "4.7 Switching off the device", page 61).
- The reusable suction hose is uncoiled from the hose reel and removed from the hose guide.

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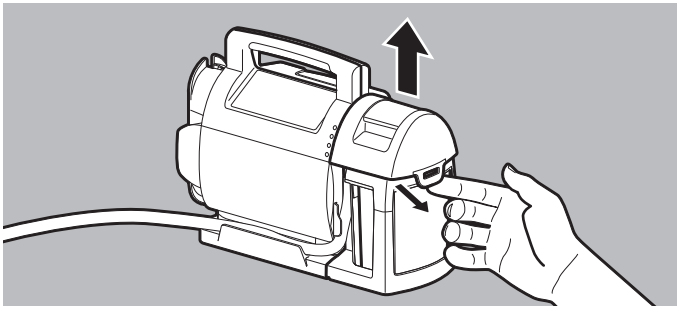
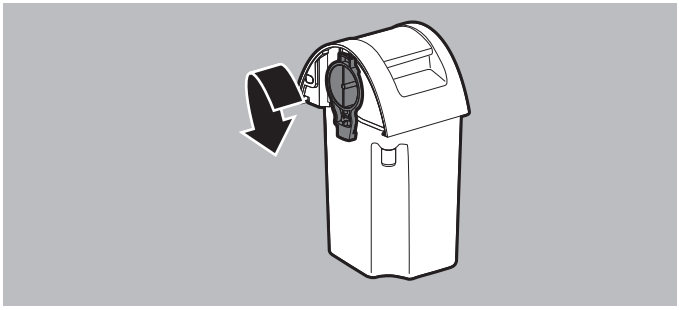
⚠ WARNING

Risk of infection from escaping suction material!
Suction material can escape the container system and infect the patient or user.
⇒ Always wear suitable gloves.
⇒ Remove the container system carefully.



1. Use your finger to unlock the holder guard on the secretion container lid sidewards and remove the reusable secretion container from the reusable container system holder.



2. Turn the filter holder counterclockwise until the filter holder no longer sits in the detent lug on the reusable secretion container.
   When doing so, note: The filter holder must remain in the secretion container lid.
3. Detach the secretion container lid carefully from the reusable secretion container: Tilt the secretion container lid to the right-hand side or backwards.
4. Dispose of the contents of the reusable secretion container (see "10 Disposal", page 98).

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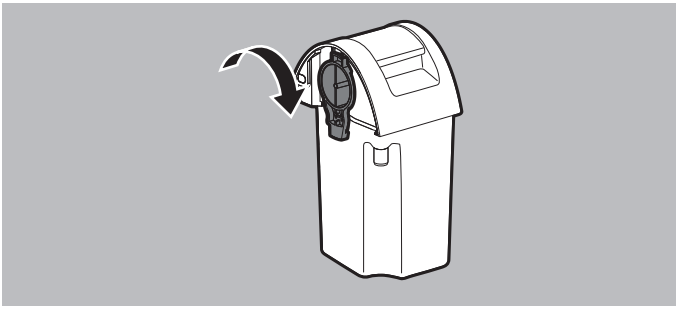
5. Place the secretion container lid on the reusable secretion container.
6. Press the secretion container lid on the reusable secretion container with both hands.



7. Turn the filter holder as far as it will go clockwise.
   When doing so, note: The filter holder must be in a vertical position and click into place in the detent lug on the reusable secretion container.
8. Insert the reusable container system into the reusable container system holder from above until it audibly clicks into place.
   The container guard must click into place fully in the reusable container system holder.
9. Switch on the device (see "4.6 Switching on the device", page 60).
10. Continue suction (see "4.8 Performing suction", page 61).

4.9.2 Exchanging the Serres® suction bag

Also observe the intervals of the manufacturer for the long-term treatment of patients.

⚠ WARNING

Risk of injury if the hygienic preparation specifications are not followed!
Failure to comply with the specifications for hygienic preparation can injure the patient and damage the device, components, and accessories.
⇒ Observe the instructions for use from the manufacturer, Serres®.

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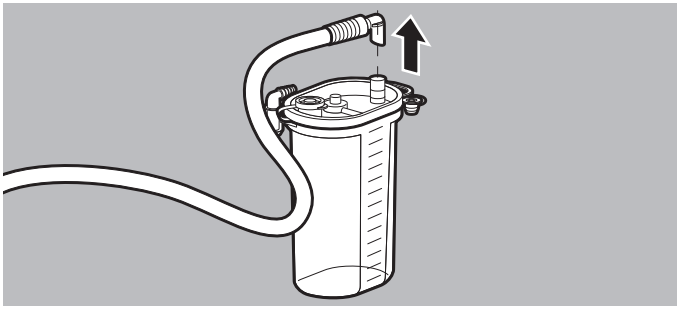
⚠ WARNING

Risk of infection from escaping suction material!
Suction material can escape the container system and infect the patient or user.
⇒ Always wear suitable gloves.
⇒ Remove the container system carefully.



1. Detach the disposable suction hose with the fingertip control and white elbow from the Serres® suction bag.

2. Close the **PATIENT** connection on the Serres® suction bag with the green cap.
3. Switch off the device (see "4.7 Switching off the device", page 61).
4. Pull the Serres® suction bag out of the Serres® secretion container using the handle and dispose of it (see "10 Disposal", page 98).
5. Unfold the new Serres® suction bag.

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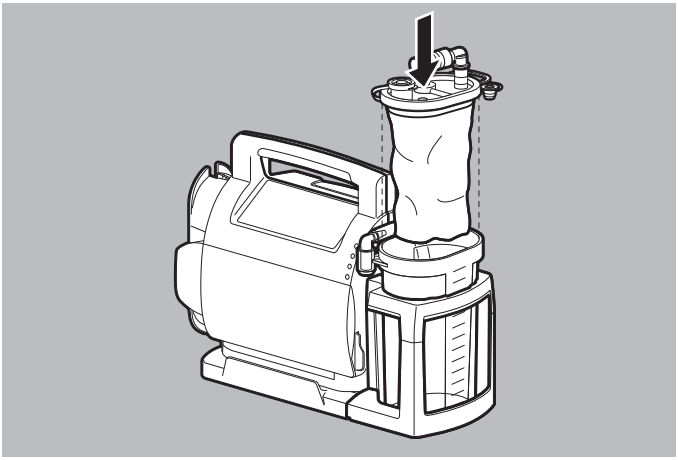

6. Insert the Serres® suction bag in the Serres® secretion container.
   When doing so, note: The film of the Serres® suction bag must be completely inside the Serres® secretion container and the lid of the Serres® suction bag must close off the Serres® secretion container tightly.
7. Switch on the device (see "4.6 Switching on the device", page 60).
8. Select a vacuum of -0.8 bar and press on the center of the Serres® suction bag from above.
   The suction bag must unfurl.
9. Close off the white elbow with your finger.
   The Serres® suction bag must unfurl completely until it rests on the base and against the sides of the Serres® secretion container.
10. Connect the disposable suction hose to the white elbow.
11. Continue suction (see "4.8 Performing suction", page 61).

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4.10 Exchanging the container system

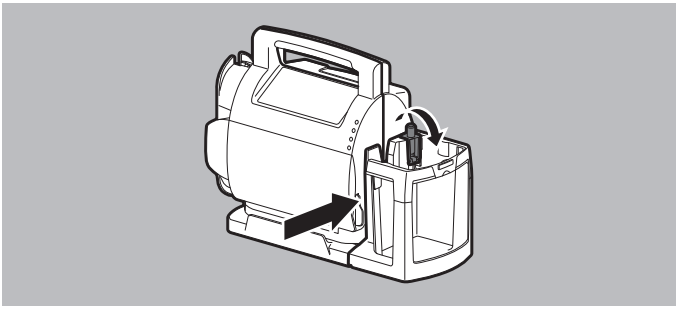
The conversion sets for the reusable container system/disposable container system can be used to change the device's container system.

Requirement

- The device is switched off (see "4.7 Switching off the device", page 61).
- The reusable container system is removed from the reusable container system holder

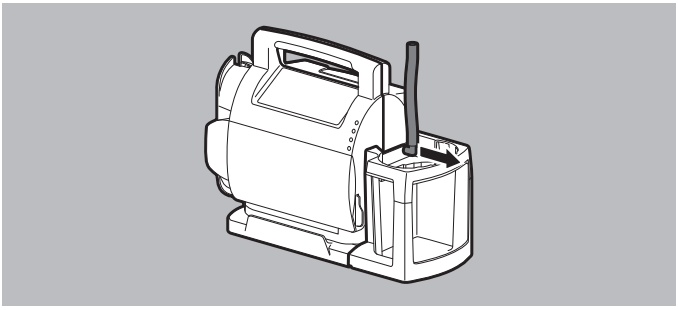
  or

  The disposable container system is removed from the disposable container system holder.



1. On the reusable container system: Release the lock from the device inlet

   or



   On the disposable container system: Release the vacuum hose from the device inlet.

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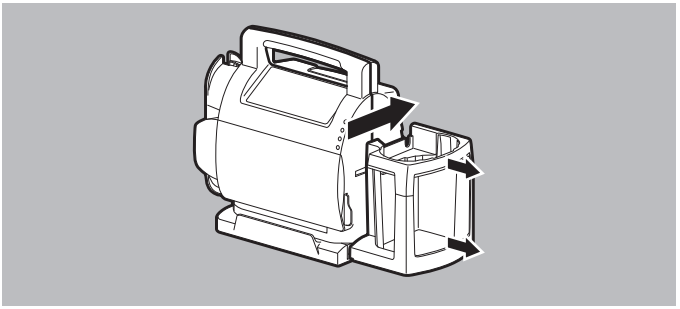

2. Push the container system holder to the center and remove it from the device.
3. Install the required holder (see "4.4.4 Installing the container system holder", page 45).
4. Connect the reusable container system (see "4.4.5 Connecting the reusable container system", page 47)

   or

   Connect the disposable container system (see "4.4.6 Connecting the disposable container system", page 52)

Result The container system is exchanged.

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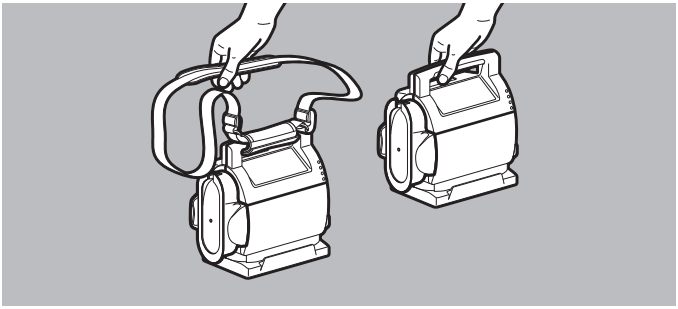
4.11 Transporting the device



4-3 Transport via handle or shoulder strap

You can transport the device in the following ways:

- With the handle on the device
- With the shoulder strap

4.12 After use

1. Switch off the device (see "4.7 Switching off the device", page 61).
2. Prepare the device hygienically (see "5 Hygienic preparation", page 72).
3. Perform a function check (see "6.2 Performing a function check", page 86).

Result The device is ready for use again.

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5 Hygienic preparation

5.1 General instructions

- **This product may contain disposable items. Disposable items are intended to be used only once.** So use these items only once and do **not** reprocess them. Reprocessing disposable items may impair the functionality and safety of the product and lead to unforeseeable reactions as a result of ageing, embrittlement, wear, thermal load, the effects of chemical processes, etc.
- Wear suitable gloves for disinfection work (e.g., household or disposable gloves).
- Please refer to the instructions for use supplied with the disinfectant used.
- Also observe the respective instructions for use for the components and the accessories.
- You can find further information about hygienic preparation and a list of all suitable cleaning agents and disinfectants in a brochure on the Internet at www.weinmann-emergency.de.
- The service life of reusable components is at least 30 preparation cycles.

5.2 Intervals

Clean the device, components, and accessories after each patient.

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5.3 Hygienic preparation of the device

⚠ WARNING

Risk of infection from suction material on device, components and accessories!
Suction material can contaminate the device, components, and accessories and infect the patient and user.
⇒ Always wear suitable gloves.
⇒ Prepare all the parts after use hygienically in accordance with the table in the instructions for use.
⇒ Dispose of the suction material in accordance with the regional, national, and internal disposal regulations.
⇒ If suction material enters the device: Do not use the device and contact a technician authorized by WEINMANN Emergency.

⚠ WARNING

Risk of injury due to reuse of disposable items!
Disposable items are intended for single use. Disposable items which are reused may be contaminated and/or impaired in their function and therefore cause injury to the patient.
⇒ Do not reuse disposable items.

⚠ CAUTION

Risk of injury due to ingress of liquids!
Liquids in the device or in the power-supplying accessories can trigger an electric shock and consequently injure the patient and user and damage the device and power-supplying accessories.
⇒ Do not immerse the device and power-supplying accessories in liquids.
⇒ Do not rinse off the device and power-supplying accessories under running water.
⇒ Do not wipe the device and power-supplying accessories with a wet cloth.
⇒ Do not immerse the device and power-supplying accessories in disinfectant.

1. Switch off the device (see “4.7 Switching off the device”, page 61).
2. Disconnect the device from the power supply.
3. If necessary: Disconnect the power-supplying accessories from the device.

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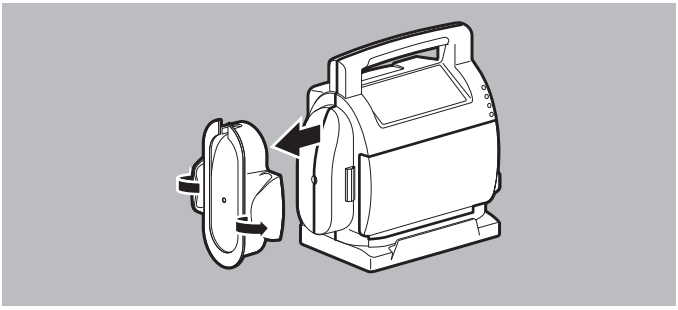
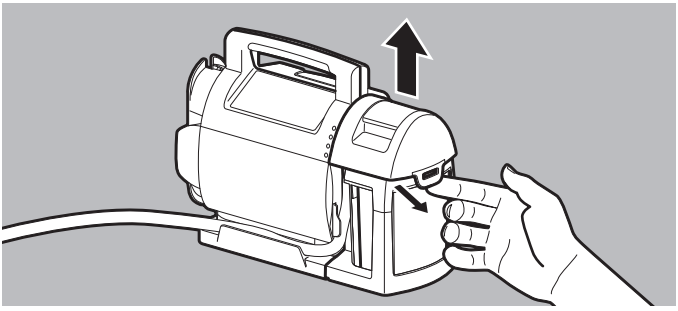
4. If necessary: Disconnect the following parts from the device:
   - Shoulder strap
   - Accessories bag
   - Protective case
5. Uncoil the suction hose from the hose reel and remove it from the hose guide.



6. If the hose reel requires immersion disinfection: With your thumbs, push the hose reel apart using the two wings and pull it off the device.



7. On the reusable container system: Use your finger to unlock the holder guard on the secretion container lid sidewards and remove the reusable container system from the reusable container system holder

   or

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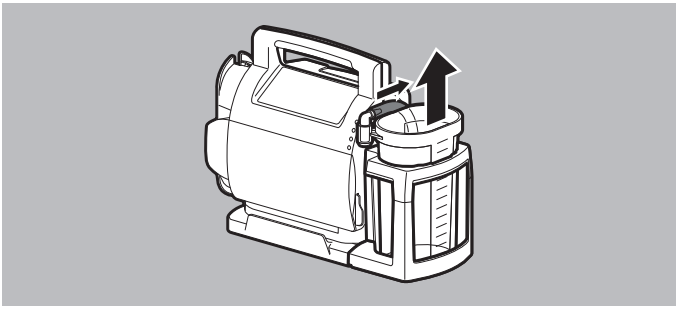
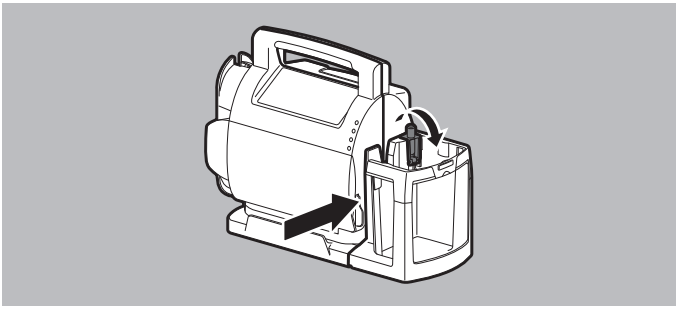


On the disposable container system: Disconnect the vacuum hose from the gray elbow on the Serres® secretion container and remove the disposable container system from the disposable container system holder.

8. Prepare the reusable container system hygienically (see "5.5 Hygienic preparation of the reusable container system", page 79)

   or

   Prepare the disposable container system hygienically (see "5.6 Hygienic preparation of the disposable container system", page 82).



9. On the reusable container system: Release the lock from the device inlet

   or

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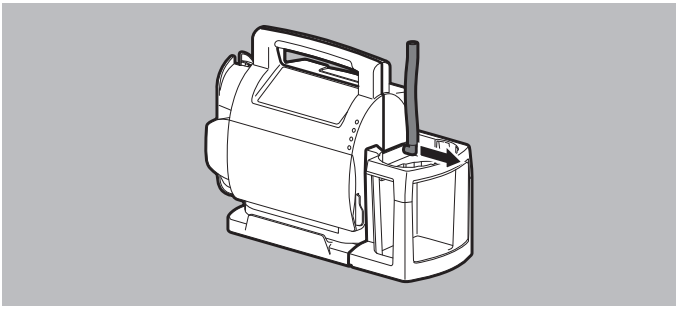
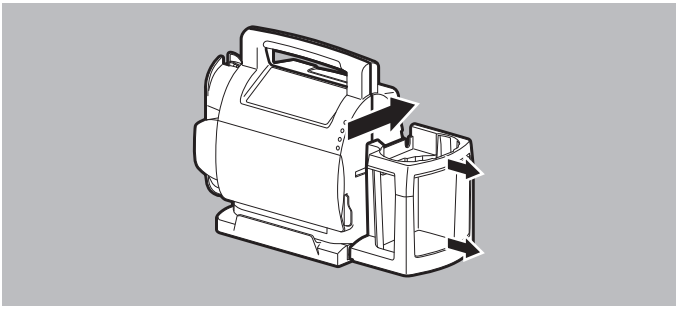


On the disposable container system: Remove the vacuum hose from the device inlet.



10. Push the container system holder to the center and remove it from the device.
11. If the device base requires immersion disinfection: Remove the device base (see "5.4 Removing the device base", page 78).
12. Carry out hygienic preparation of the device, components, and accessories as specified in the following table:

Part	Cleaning	Disinfection	Thermal disinfection	Sterilization
Device	Wipe with a damp cloth: Use water	Wipe disinfection (Recommendation: terralin® protect)	Not permitted	Not permitted
Device base	Wipe with a damp cloth: Use water	Wipe disinfection (Recommendation: terralin® protect)	Disinfect at 95°C in a washer and disinfector	Not permitted
Hose reel	Wipe with a damp cloth: Use water	Wipe disinfection (Recommendation: terralin® protect)	Disinfect at 95°C in a washer and disinfector	Not permitted

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Part	Cleaning	Disinfection	Thermal disinfection	Sterilization
Reusable container system holder/ Disposable container system holder	Wipe with a damp cloth: Use water	Wipe disinfection (Recommendation: terralin® protect)	Disinfect at 95°C in a washer and disinfector	Not permitted
Reusable container system	See "5.5 Hygienic preparation of the reusable container system", page 79.			
Disposable container system	See "5.6 Hygienic preparation of the disposable container system", page 82.			
Wall mounting	Wipe with a damp cloth: Using water or mild soap	Wipe disinfection (Recommendation: terralin® protect)	Not permitted	Not permitted
12 V connection line	Wipe with a damp cloth: Using water or mild soap	Wipe disinfection (Recommendation: terralin® protect)	Not permitted	Not permitted
Power supply unit/ charger	Wipe with a damp cloth: Using water or mild soap	Wipe disinfection (Recommendation: terralin® protect)	Not permitted	Not permitted
Protective case				
Accessories bag				
Shoulder strap				

The applicable instructions are those in the instructions for use from the manufacturers of the individual components or accessories. Observe these instructions for use.

Some disinfectants can discolor the secretion container lid of the reusable container system and the hoses. This has no effect on the function of the device.

13. If necessary: Install the device base (see "4.4.1 Installing the device base", page 42).
14. If necessary: Install the battery compartment cover (see "4.4.2 Installing the battery compartment cover", page 44).
15. Install the container system holder (see "4.4.4 Installing the container system holder", page 45).
16. Install the hose reel (see "4.4.3 Installing the hose reel", page 45).

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17. Install and connect up the reusable container system (see "4.4.5 Connecting the reusable container system", page 47)

    or

    Install and connect up the disposable container system (see "4.4.6 Connecting the disposable container system", page 52).

18. If necessary: Install the following parts:
    - Protective case (see "4.5.3 Attaching the protective case", page 57)
    - Accessories bag (see "4.5.4 Attaching the accessories bag", page 58)
    - Shoulder strap (see "4.5.5 Attaching the shoulder strap", page 59)
19. If necessary: Connect up the power-supplying accessories (see "4.2 Connecting to a power supply", page 32).
20. Perform a function check (see "6 Function check", page 85).

Result The device, components, and accessories have been hygienically prepared.

5.4 Removing the device base

Requirement
- The container system is removed.
- The container system holder is removed.
- The hose reel is removed.
- The battery compartment cover is removed.

1. Lay the device on the upper part of housing.

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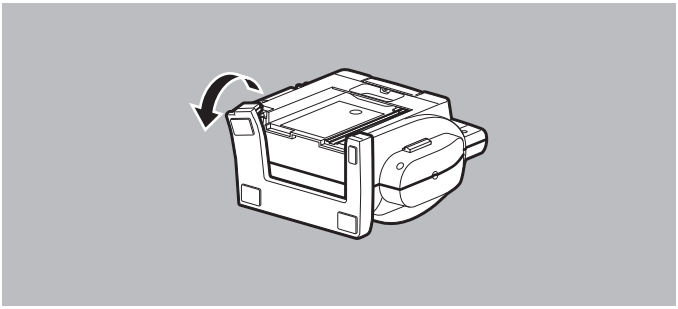
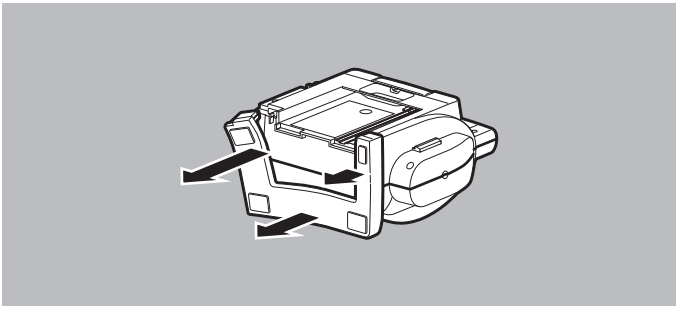


2. Detach the device base from the device starting at the top on the side of the container system.



3. Pull the device base from the device, working in a counterclockwise direction.

Result The device base is removed.

5.5 Hygienic preparation of the reusable container system

⚠ WARNING

Risk of infection from escaping suction material!
Suction material can escape the container system and infect the patient or user.
⇒ Always wear suitable gloves.
⇒ Remove the container system carefully.

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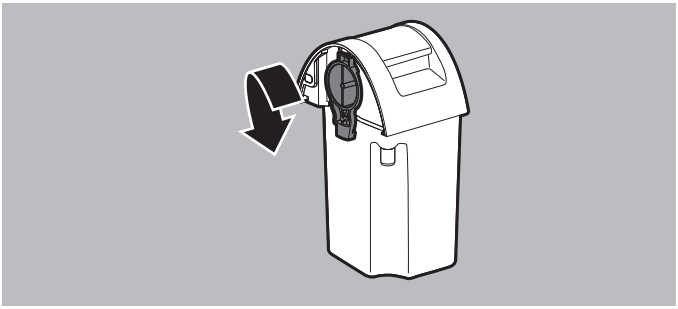

1. Turn the filter holder counterclockwise until the filter holder no longer sits in the detent lug on the reusable secretion container.
   When doing so, note: The filter holder must remain in the lower section of the secretion container lid.
2. Detach the secretion container lid carefully from the reusable secretion container: Tilt the secretion container lid to the right-hand side or backwards.
3. Dispose of the contents of the reusable secretion container (see "10 Disposal", page 98).
4. Detach the reusable suction hose with fingertip control from the reusable secretion container.
5. Detach the fingertip control from the reusable suction hose.
6. Turn the filter holder counterclockwise in the secretion container lid until it lies horizontally.
7. Pull the filter holder with the bacteria filter out of the secretion container lid.
8. Pull the bacteria filter off the filter holder and dispose of it (see "10 Disposal", page 98).
9. Pull the O-ring off the filter holder.
10. Remove the float ball from the lower section of the secretion container lid.

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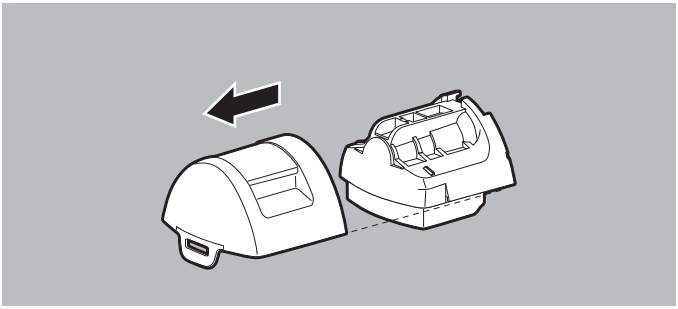

11. Pull the upper section of the secretion container lid off the lower section of the secretion container lid.

12. Carry out hygienic preparation of the individual components of the reusable container system as specified in the following table:

Part	**Cleaning**	**Disinfection**	**Thermal disinfection**	**Sterilization***
Reusable secretion container	Rinse off with clear water and clean with a brush/cloth	Immersion disinfection (Recommendation: GIGASEPT FF (new))	Disinfect at up to 95°C in a washer and disinfector	Steam sterilize at 134°C (for a minimum of 5 mins with devices which comply with EN 285)
Filter holder	Rinse off with clear water and clean with a brush/cloth	Immersion disinfection (Recommendation: GIGASEPT FF (new))	Disinfect at up to 95°C in a washer and disinfector	Steam sterilize at 134°C (for a minimum of 5 mins with devices which comply with EN 285)
O-ring	Wipe with a damp cloth: Use water	Immersion disinfection (Recommendation: GIGASEPT FF (new))	Disinfect at 95°C in a washer and disinfector	Not permitted
Bacteria filter	Disposable item, do not reuse			
Secretion container lid (upper section)	Rinse off with clear water and clean with a brush/cloth	Immersion disinfection (Recommendation: GIGASEPT FF (new))	Disinfect at up to 95°C in a washer and disinfector	Steam sterilize at 134°C (for a minimum of 5 mins with devices which comply with EN 285)

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Part	Cleaning	Disinfection	Thermal disinfection	Sterilization*
Secretion container lid (lower section)	• Rinse off with clear water and clean with a brush/cloth • Clean the float ball guide with a round brush	Immersion disinfection (Recommendation: GIGASEPT FF (new))	Disinfect at up to 95°C in a washer and disinfector	Steam sterilize at 134°C (for a minimum of 5 mins with devices which comply with EN 285)
Float ball	Rinse off with clear water and clean with a brush/cloth	Immersion disinfection (Recommendation: GIGASEPT FF (new))	Disinfect at up to 95°C in a washer and disinfector	Steam sterilize at 134°C (for a minimum of 5 mins with devices which comply with EN 285)
Reusable suction hose	Rinse out with warm, clear water for at least 10 seconds	Immersion disinfection (Recommendation: GIGASEPT FF (new))	Disinfect at 95°C in a washer and disinfector	Steam sterilize at 134°C (for a minimum of 5 mins with devices which comply with EN 285)
Fingertip control	Disposable item, do not reuse			

* The service life of reusable components is designed for at least 30 preparation cycles.

13. Allow the individual components of the reusable container system to dry.

Result The reusable container system is hygienically prepared.

5.6 Hygienic preparation of the disposable container system

⚠ WARNING

Risk of injury if the hygienic preparation specifications are not followed!

Failure to comply with the specifications for hygienic preparation can injure the patient and damage the device, components, and accessories.

⇒ Observe the instructions for use from the manufacturer, Serres®.

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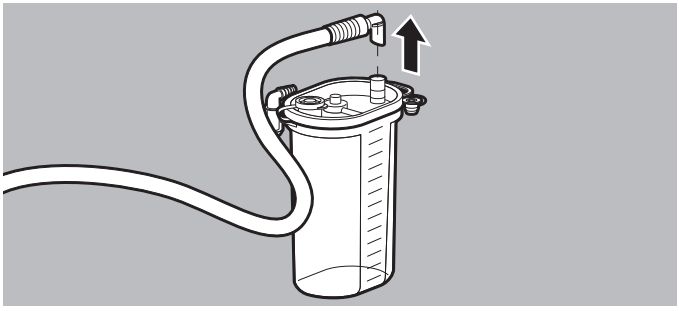
⚠ WARNING

Risk of infection from escaping suction material!
Suction material can escape the container system and infect the patient or user.
⇒ Always wear suitable gloves.
⇒ Remove the container system carefully.



1. Detach the disposable suction hose with the fingertip control and white elbow from the Serres® suction bag.

2. Close the **PATIENT** connection on the Serres® suction bag with the green cap.
3. Pull the Serres® suction bag out of the Serres® secretion container using the handle and dispose of it (see "10 Disposal", page 98).
4. Detach the gray elbow on the Serres® secretion container from the Serres® secretion container.

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5. Carry out hygienic preparation of the individual components of the Serres® secretion container as specified in the following table:

Part	Cleaning	Disinfection	Thermal disinfection	Sterilization
Serres® secretion container	Clean in warm water with a mild cleaning agent	Wipe disinfection (Recommendation: terralin® protect) / immersion disinfection (Recommendation: GIGASEPT FF (new)) and rinse off with distilled water	Rinse at up to 95°C	Steam sterilize at 121°C (for a minimum of 20 mins with devices which comply with EN 285)
Gray elbow on the Serres® secretion container	Clean in warm water with a mild cleaning agent	Wipe disinfection (Recommendation: terralin® protect) / immersion disinfection (Recommendation: GIGASEPT FF (new)) and rinse off with distilled water	Rinse at up to 95°C	Steam sterilize at 121°C (for a minimum of 20 mins with devices which comply with EN 285)
White elbow on Serres® suction bag	Disposable item, do not reuse			
Serres® suction bag	Disposable item, do not reuse			
Vacuum hose	Clean in warm water with a mild cleaning agent	Wipe disinfection (Recommendation: terralin® protect) / immersion disinfection (Recommendation: GIGASEPT FF (new)) and rinse off with distilled water	Not permitted	Not permitted
Disposable suction hose with fingertip control	Disposable item, do not reuse			

6. Allow the individual components of the Serres® secretion container to dry.

Result The Serres® secretion container is hygienically prepared.

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6 Function check

6.1 Intervals

Carry out a function check at regular intervals:

ACCUVAC Pro

- Before and after every use
- After each hygienic preparation
- Every 6 months (if the device is not used)

ACCUVAC Lite

- Before and after every use
- After each hygienic preparation
- Every 3 months (if the device is not used): Check the battery status and charge the battery if necessary.
- Every 6 months (if the device is not used)

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6.2 Performing a function check

6.2.1 Preparing for the function check

⚠ CAUTION

Risk of injury due to device which is damaged or not ready for use!
Operation of a device which is damaged or one which has failed a function check may result in injury to the patient.
⇒ Only use undamaged devices.
⇒ Only operate the device after it passes the function check.
⇒ Have the damaged device repaired.

Requirement
- There is a container system installed.
- There is a suction hose connected to the container system.

1. Check the following parts for external damage.
   - Device
   - Power-supplying accessories
   - Hoses
   - Container system

   If necessary: Replace parts.
2. If available: Connect the power supply unit/charger to a 230 V mains power supply.
   If the pilot lamp does not light up: Replace the power supply unit/charger.
3. Check the secure, correct positioning of the hoses and container system.
   If necessary: Connect the hoses and container system correctly.
4. Check the Velcro fastener on the shoulder strap.
   If the Velcro fastener is damaged or contaminated with lint: Replace the shoulder strap.

Result The function check is ready.

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6.2.2 Performing a function check (ACCUVAC Pro)

Requirement The function check is ready (see "6.2.1 Preparing for the function check", page 86).

1. If necessary: Connect the fingertip control to the suction hose.
2. Close the secondary air inlet on the fingertip control with the cap.
3. Close the opening on the end of the fingertip control with your thumb.
4. Hold the test button down for approx. 3 seconds until a signal tone sounds.
   The battery status indicator displays the current battery status.
5. If necessary: Charge battery (see "4.3.2 Charging the battery", page 34).

The automatic function check starts with the signal tone and all the LEDs on the control panel light up briefly. The LEDs of the On/Off button flash during the automatic function check. The automatic function check includes the following sequence of tests:

- Leaks
- System
- Battery

6. To cancel the function check:

   Press the test button

   or

   Press the On/Off button .

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7. Proceed with the device according to the following table:

Display	Meaning	Action
• A signal tone sounds.  • The three green status LEDs of the function check light up.	Function check passed	Use device without restriction.
• Two signal tones sound. • The red status LED lights up and one or more green status LEDs of the failed tests flash. • The green status LEDs of the passed tests light up.	Function check failed	Take action (see "6.2.3 Failed function check (ACCUVAC Pro)", page 89).

8. If necessary: Switch off the device (see "4.7 Switching off the device", page 61).

Result The automatic function check is complete.

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6.2.3 Failed function check (ACCUVAC Pro)

⚠ CAUTION

Risk of injury due to device which is damaged or not ready for use!

Operation of a device which is damaged or one which has failed a function check may result in injury to the patient.

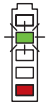
⇒ Only use undamaged devices.

⇒ Only operate the device after it passes the function check.

⇒ Have the damaged device repaired.

Requirement The automatic function check has been failed.

1. Proceed with the device according to the following table:

Display	Failed test	Rectification
• Red status LED lights up  • The upper green status LED flashes	Battery	Replace battery.
• Red status LED lights up  • The middle green status LED flashes	System	Have the device repaired.
• Red status LED lights up  • The lower green status LED flashes	Leaks	Check the connections and container system. If necessary: Have the device repaired.

2. Repeat the function check.
3. If the automatic function check has been failed again: Have the device repaired.

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6.2.4 Performing a function check (ACCUVAC Lite)

Requirement The function check is ready (see "6.2.1 Preparing for the function check", page 86).

1. Switch on the device (see "4.6 Switching on the device", page 60).

   Requirement:

   - All the LEDs on the control panel light up.
   - The status LEDS of the battery status indicator light up to reflect the battery status.

2. Check the battery status on the battery status indicator.
   If necessary: Charge battery (see "4.3 Using the rechargeable battery", page 33).
3. If necessary: Connect the fingertip control to the suction hose.
4. Close the secondary air inlet with the cap.
5. Close the opening on the end of the fingertip control with your thumb.
6. Select vacuum of -0.8 bar.

   Requirement:

   The device attains the maximum vacuum of -0.8 bar within 20 seconds.

The vacuum pump does not stop once the device attains the maximum vacuum of -0.8 bar.

7. If the device does not satisfy the requirements: Rectify the fault (see "7 Faults", page 91).
8. Repeat the function check.
9. If the device still does not satisfy the requirements: Have the device repaired.
10. Switch off the device (see "4.7 Switching off the device", page 61).

Result The manual function check is complete and the device is ready for use.

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7 Faults

If you are not able to clear an error message with the aid of the table, you should contact WEINMANN Emergency or your authorized dealer to have the device repaired. To avoid serious damage, do not continue using the device.

⚠ WARNING

Risk of infection from suction material on device, components and accessories!
Suction material can contaminate the device, components, and accessories and infect the patient and user.
⇒ Always wear suitable gloves.
⇒ Prepare all the parts after use hygienically in accordance with the table in the instructions for use.
⇒ If suction material enters the device: Prepare the device hygienically and have it repaired.

7.1 Device

The following faults apply for both devices. Faults or causes of faults which only apply for one device are marked with "(ACCUVAC Pro only)" or "(ACCUVAC Lite only)".

Fault	Cause	Remedy
Device cannot be switched on	Battery not connected	Check the battery connection.
	Battery empty	• Charge battery. • Replace battery.
	Device not connected to the power supply	Check the power supply connections.
	Fuse defective (ACCUVAC Lite only)	Have the device repaired.
	Device defective	Have the device repaired.

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Fault	Cause	Remedy
Device cannot be charged	Battery temperature higher than permissible charging temperature due to extended use	Allow device to cool.
	Device not connected to the power supply	Check the power supply connections.
	Voltage from 12 V DC power source too low	Connect 12 V DC power source with 12 V to 13.8 V.
	Battery temperature outside of permissible charging temperature range	Move battery to cooler or warmer ambient temperature, as appropriate.
	Plus and minus of 12 V vehicle electrical system reverse-poled	Check plus and minus on 12 V vehicle electrical system.
	12 V connection line defective	Replace 12 V connection line.
	Battery not connected	Check the battery connection.
	Power supply unit/charger defective	Replace the power supply unit/ charger.
	Battery deeply discharged	Replace battery.
	Vacuum pump switched on in presence of a vacuum (ACCUVAC Lite only)	Do not switch vacuum pump on in the presence of a vacuum.
	Fuse defective (ACCUVAC Lite only)	Have the device repaired.
	Device defective	Have the device repaired.
Device does not attain the set vacuum or create a vacuum at all	Opening on the end of the fingertip control not closed	Close the opening on the end of the fingertip control and repeat the function check.
	Secondary air inlet on the fingertip control not closed with the cap	Close the secondary air inlet with the cap and repeat the function check.
	Container system is leaking or is not correctly connected	Check the container system and hoses.
	Device operated at a greater height or lower ambient pressure	No resolution possible as due to physical laws.
	Device leaking	Have the device repaired.

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Fault	Cause	Remedy
Suction capacity too low	Container system not connected correctly	Check the connections on the container system.
	Container system leaking	
	Hoses kinked	Check hoses.
	Bacteria filter blocked	Replace the bacteria filter.
	Float ball closes the suction area in the secretion container lid (reusable container system)	Check the reusable container system: Switch off the device. Remove the reusable container system and install it again. The float ball is in the lower position again.
	Battery empty and device not connected to the power supply	Charge battery.
	Battery defective	Replace battery.
	Suction material within the device	Have the device repaired.
	Device defective	Have the device repaired.
Battery compartment cover cannot be closed	Battery incorrectly inserted	Insert battery correctly.
Device switches off after 60 mins (ACCUVAC Pro only)	Device's autoprotection system	Allow the device to cool for 2 hours (depending on ambient conditions).
Device switches off after < 60 mins (ACCUVAC Pro only)	Battery empty	Charge battery.
	Battery temperature too high due to operation at high ambient temperatures and at the highest suction level	Allow the device to cool and select a lower suction level.
All green status LEDs on the battery status indicator flash at the same time during operation (ACCUVAC Pro only)	Battery not inserted	Insert battery.
	Battery not connected correctly	Check the battery connection.
	Battery from other manufacturer used	Use a battery from WEINMANN Emergency.
	No communication between battery and device	Replace battery. If the fault persists: Have the device repaired.
	Battery defective	
	Device defective	Have the device repaired.
When the device is switched on, the red status LED flashes quickly for 5 seconds and a recurring signal tone sounds for 5 seconds (ACCUVAC Pro only)	Device may not be ready for use	Perform a function check (see 6.2, p. 86).

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Fault	Cause	Remedy
When the device is switched on, the lowest green status LED and the red status LED flash quickly and a signal tone sounds every 5 seconds (ACCUVAC Pro only)	Battery not sufficiently charged and the device is not connected to a power supply	• Charge battery. • Connect the device to the power supply.
When the device is switched on, all green status LEDs and the red status LED flash for 5 seconds and a recurring signal tone sounds for 5 seconds (ACCUVAC Pro only)	The battery has reached the end of its service life	Perform a function check (see 6.2, p. 86).
Battery fails to charge fully despite a charging time of > 14 hours (top green status LED of the battery status indicator does not light up) (ACCUVAC Lite only)	Unsuitable power supply unit/ charger	Use the WM 2620 power supply unit/charger.
	Battery defective	Replace battery.
Red status LED of the battery status indicator lights up if the battery is fully charged (ACCUVAC Lite only)	Battery defective	Replace battery.

7.2 Power supply unit/charger

Fault	Cause	Remedy
Pilot lamp does not light up	Power supply unit/charger defective	Replace the power supply unit/ charger.

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8 Maintenance

8.1 General instructions

- The device, components, and accessories require no maintenance. Observe the intervals for the function check (see "6 Function check", page 85).
- Maintenance work such as inspections and repairs must only be carried out by WEINMANN Emergency or a technician specifically authorized by WEINMANN Emergency.

8.2 Sending in device

⚠ WARNING

Risk of infection due to contaminated parts during maintenance work!
The device, components, and accessories may be contaminated, and infect the technicians with bacteria or viruses.
⇒ Clean and disinfect the device, components, and accessories.
⇒ Do not send in potentially contaminated parts.

1. Remove components and accessories.
2. Clean and disinfect the device, components, and accessories (see "5.3 Hygienic preparation of the device", page 73).
3. Send in the device and, if necessary, components and accessories to WEINMANN Emergency or a technician specifically authorized by WEINMANN Emergency.

If you send in parts which are visibly contaminated, they will be disposed of by WEINMANN Emergency or a technician specifically authorized by WEINMANN Emergency at your expense.

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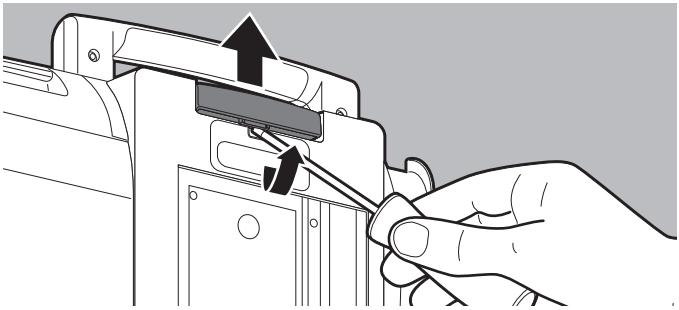
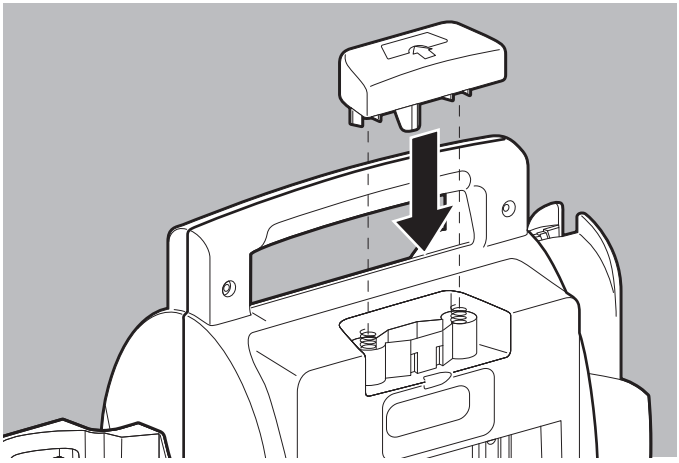
8.3 Changing the unlocking button



1. Lift the unlocking button up carefully in the center using a screwdriver and remove.
   When doing so, note: Take care not to lose the springs below the unlocking button.



2. Place the new unlocking button on the springs.
3. Push the unlocking button down until it audibly clicks into place.

Result The unlocking button is replaced.

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9 Storage

9.1 General instructions

- Store the device under the prescribed ambient conditions (see "11.1 Technical data", page 100).
- Always store the device with the battery fully charged.
- Charge the battery when stored for a long time:

  ACCUVAC Pro

  Every 6 months.

  ACCUVAC Lite

  Every 3 months.
- Do not store the battery in direct sunlight or close to heaters.
- The battery should ideally be stored in a temperature range of 8°C to 15°C.
- Observe the instructions for storing components and accessories in the manufacturer's instructions for use.

9.2 Storing the device

1. Switch off the device (see "4.7 Switching off the device", page 61).
2. If necessary: Disconnect the device from the power supply.
3. Clean and disinfect the device (see "5.3 Hygienic preparation of the device", page 73).
4. Store the device with the battery in a dry place.

Result The device and battery are stored in a dry place.

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10 Disposal

10.1 Electronic waste

Do not dispose of the product in the household waste. Consult an authorized, certified electronic waste recycling company for proper disposal. You can find out their address from your environmental officer or from your local council.

The following products are categorized as electronic waste:

- Cleaned and disinfected device

  Exception: If the inside of a device is contaminated with suction material, consult a certified specialist disposal company.
- 12 V connection line
- Power supply unit/charger

The device packaging (cardboard box and inserts) can be disposed of as waste paper.

10.2 Battery

Do not dispose of used batteries in the household waste. Contact WEINMANN Emergency or a public waste disposal authority.

10.3 Reusable container system

Prepare the reusable container system hygienically. Dispose of the reusable container system as household waste or recycle it.

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10.4 Disposable container system

Prepare the disposable container system hygienically. Dispose of the disposable container system in accordance with the national, regional, or internal recycling regulations. The Serres® suction bag is a disposable product and must not be reused.

10.5 Suction material

Dispose of the suction material (e.g., secretions, blood, or contaminated parts) as follows:

- In Germany: In accordance with the requirements of the guidelines for disposal of waste from healthcare facilities (LAGA communication). Observe the local disposal regulations.
- Internationally: In accordance with the provisions in the individual countries.

10.6 Bags/cases

Prepare the bags/cases hygienically. Dispose of them as household waste.

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11 Appendix

11.1 Technical data

11.1.1 Technical data on device

Specification	ACCUVAC Pro	ACCUVAC Lite
Product class according to Directive 93/42/EEC	IIa	
Dimensions (W x H x D) with container system	370 mm x 277 mm x 146 mm	
Weight: Device with battery/without container system and holder Reusable container system with reusable container system holder Disposable container system with disposable container system holder	 3.65 kg 1.00 kg 0.65 kg	 4.6 kg 1.00 kg 0.65 kg
Operation: Temperature range Humidity Air pressure	 -5°C to +50°C 5% to 95% relative humidity without condensation 540 hPa to 1100 hPa	
Transport/Storage: Temperature range Humidity Air pressure	 -40°C to +70°C 5% to 95% relative humidity without condensation 540 hPa to 1100 hPa	
Charging process: Temperature range Humidity Air pressure	 0°C to +40°C 5% to 95% relative humidity without condensation 540 hPa to 1100 hPa	 -5°C to +50°C 5% to 95% relative humidity without condensation 540 hPa to 1100 hPa
Maximum operating height	5000 m (above sea level)	
Pollution category	Class 1	
Overvoltage category	II	
Max. power consumption	45 W	
Maximum current consumption	3.8 A	4.3 A
Rated voltage	12 V DC nominal (min. 10 V, max. 15 V) at charging interface, via the power supply unit/charger or via the 12 V connection line from the vehicle	
Pump	Vacuum pump (membrane pump), 1 head	

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Specification	ACCUVAC Pro	ACCUVAC Lite
Suction capacity at the device inlet (without container system) at -0.8 bar, with charged battery, and at 21°C/1013 hPa (calculated with 1 l buffer container)	34 l/min ± 4 l/min	26 l/min ± 4 l/min
Suction capacity at reusable container system inlet at -0.8 bar, with charged battery, and at 21°C/1013 hPa	30 l/min ± 3 l/min	23 l/min ± 3 l/min
Maximum attainable vacuum	0.8 bar or 80% of air pressure	
Vacuum setting	Via predefined levels: -0.1 bar, -0.2 bar, -0.5 bar and -0.8 bar, electronically regulated	Via infinitely adjustable vacuum dial: -0.1 bar to -0.8 bar
Vacuum display	Via LEDs on the control panel	Gauge to maximum -1 bar, class of accuracy 2.5 (2.5%)
Display	Via LEDs on the control panel: On/Off, selected vacuum, actual vacuum, battery status indicator, warning (red status LED)	Via LEDs on the control panel: On/Off, battery status indicator, warning (red status LED)
Switching-on cycle (short-term operation)	60 mins on, 120 mins off	45 mins on, 90 mins off
Volume: Average sound pressure level 1 m away and at -0.8 bar	< 70 dB(A)	
Mounting	Compatible with wall mounting WM 15208	
Classification acc. to EN 60601-1: • Type of protection against electric shock • Degree of protection against electric shock	Protection class II (mains and battery operation) Type BF applied part	
Degree of protection against: • Ingress of solid foreign bodies • Ingress of dust • Ingress of water with harmful effect	IP34D	
Classification as per EN ISO 10079-1	High vacuum/high flow	
UMDNS code	15-016 Aspirators, emergency	
GMDN code	36616 Suction unit, transport and emergency	
Repeated safety checks (STKs, only in Germany)	Not applicable	

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11.1.2 Technical data for battery

Specification	ACCUVAC Pro	ACCUVAC Lite
Type	Li-ion 4IMR 19/66-2 BM18650Z3	Lead Panasonic LC-R123R4PG
Dimensions (W x H x D)	43 mm x 73 mm x 75 mm	67 mm x 134 mm x 67 mm
Weight	0.4 kg	1.15 kg
Rated capacity	at least 4.3 Ah	3.4 Ah
Rated voltage	14.8 V nominal	12 V nominal
Charging time	Battery status 80%: 2 h 40 mins at 20°C while not in use Battery status 100%: approx. 4 h Automatic changeover to trickle charging	Battery status 80%: 2.45 h Battery status 100%: 14 h Automatic changeover to trickle charging
Charging interval if in long-term storage	Every 6 months	Every 3 months
Battery operating time in continous operation with fully charged/new battery (> 20 l/min, setting -0.8 bar)	60 mins at -5°C 60 mins at +21°C 30 mins at +50°C	23 mins at -5°C 40 mins at +21°C 40 mins at +50°C
Service life	Approx. 500 charging cycles	400 charging cycles in approx. 3 years
Display	Battery status indicator during operation and charging	

Typical battery life*	ACCUVAC Pro	ACCUVAC Lite
-0.2 bar	145 mins	40 mins
-0.5 bar	100 mins	40 mins
-0.8 bar	60 mins	40 mins

*Measured at +21°C, continuous use, without charging the battery and with free air flow.

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11.1.3 Technical data for reusable container system

Specification	Reusable container system
Volume	1000 ml
Connection reusable suction hose	Ø 10 mm ID
Reusable suction hose Diameter Length	 Ø 10 mm ID 1300 mm
Connection to the suction device	Direct connection (without intermediate hose)
Bacteria filter	Hydrophobic bacteria filter cartridge for use in secretion container lid, disposable item
Separation efficiency of bacteria filter	> 99.9%

11.1.4 Technical data for disposable container system

Specification	Disposable container system
Volume	1000 ml
Connection disposable suction hose	Ø 7 mm ID
Disposable suction hose Diameter Length	 Ø 7 mm ID 1800 mm
Connection to the suction device	Via vacuum hose (intermediate hose)
Bacteria filter	Integrated in the Serres® suction bag

11.1.5 Technical data for power supply unit/charger

Specification	Power supply unit/charger
Product class according to Directive 93/42/EEC	I
Dimensions (W x H x D):	130 mm x 36 mm x 60 mm
Weight	280 g
Operation: Temperature range Humidity Air pressure	 0°C to +40°C 10% to 90% relative humidity without condensation 700 hPa to 1100 hPa
Transport/Storage: Temperature range Humidity Air pressure	 -40°C to +70°C 10% to 95% relative humidity without condensation 700 hPa to 1100 hPa
Electrical connection	100 V AC to 240 V AC 50 Hz to 60 Hz

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Specification	Power supply unit/charger
Maximum current consumption	1.1 A
Nominal output	13.8 V DC 3.5 A
Classification acc. to EN 60601-1: • Type of protection against electric shock • Degree of protection against electric shock	Protection class II Type CF applied part
Degree of protection against • Ingress of solid foreign bodies • Ingress of dust • Ingress of water with harmful effect	IP40
Length of output line	1.8 m
Length of power supply cable	Approx. 2 m

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11.1.6 Technical data for shoulder strap

Specification	Shoulder strap
Maximum weight	7 kg

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11.1.7 Technical data on electromagnetic compatibility (EMC)

Medical electrical equipment is subject to special precautions in relation to electromagnetic compatibility (EMC). It must be installed and put into operation in accordance with the EMC information contained in the accompanying documentation.

Separation distances

Recommended separation distances between portable and mobile RF communications equipment and the ACCUVAC Pro/ACCUVAC Lite			
ACCUVAC Pro/ACCUVAC Lite are intended for use in an electromagnetic environment in which the radiated RF disturbances are controlled. The customer or user of the ACCUVAC Pro/ACCUVAC Lite can avoid electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the ACCUVAC Pro/ACCUVAC Lite (as recommended below, according to the maximum output power of the communications equipment).			
Rated maximum output power of the RF device in W	**Separation distance according to frequency of transmitter in m**		
	150 kHz-80 MHz $d = [0.35]\sqrt{P}$	**80 MHz-800 MHz** $d = [0.35]\sqrt{P}$	**800 MHz-2.5 GHz** $d = [0.75]\sqrt{P}$
0.01	0.035	0.035	0.07
0.1	0.11	0.11	0.22
1	0.35	0.35	0.7
10	1.1	1.1	2.2
100	3.5	3.5	7.0

Further technical data can be requested from WEINMANN Emergency.

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11.2 Scope of supply

11.2.1 Standard scope of supply ACCUVAC Pro

ACCUVAC Pro with reusable container system / without accessories **WM 11600**

Part	Article number
ACCUVAC Pro basic device	
Lithium-ion battery	WM 11603
Reusable container system holder	WM 11654
Reusable secretion container, complete (with secretion container lid), 1000 ml	WM 11642
Reusable suction hose, 130 cm, Ø 10 mm	WM 10662
Fingertip control for reusable suction hose, Ø 10 mm	WM 10666
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ACCUVAC Pro with disposable container system / without accessories **WM 11605**

Part	Article number
ACCUVAC Pro basic device	
Lithium-ion battery	WM 11603
Disposable container system holder	WM 11754
Vacuum hose for Serres® secretion container	WM 11761
Serres® secretion container, complete, comprising: • Serres® secretion container, 1000 ml • Serres® suction bag, 1000 ml • Disposable suction hose with fingertip control, 180 cm, Ø 7 mm	WM 10790 WM 10775 WM 10774 WM 10778
ACCUVAC Pro/ACCUVAC Lite instructions for use EN	WM 68161

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11.2.2 Standard scope of supply ACCUVAC Lite

ACCUVAC Lite with reusable container system / without accessories **WM 11700**

Part	Article number
ACCUVAC Lite basic device	
Lead battery	WM 10747
Reusable container system holder	WM 11654
Reusable secretion container, complete (with secretion container lid), 1000 ml	WM 11642
Reusable suction hose, 130 cm, Ø 10 mm	WM 10662
Fingertip control for reusable suction hose, Ø 10 mm	WM 10666
ACCUVAC Pro/ACCUVAC Lite instructions for use EN	WM 68161

ACCUVAC Lite with disposable container system / without accessories **WM 11705**

Part	Article number
ACCUVAC Lite basic device	
Lead battery	WM 10747
Disposable container system holder	WM 11754
Vacuum hose for Serres® secretion container	WM 11761
Serres® secretion container, complete, comprising: • Serres® secretion container, 1000 ml • Serres® suction bag, 1000 ml • Disposable suction hose with fingertip control, 180 cm, Ø 7 mm	WM 10790 WM 10775 WM 10774 WM 10778
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11.2.3 Accessories

Accessories can be ordered separately, if required. A current list of accessories is available on the Internet at www.weinmann-emergency.de or from your authorized dealer.

Part	Article number
12 V connection line for ACCUVAC	WM 10650
Power supply unit/charger	WM 2620
Conversion set for reusable container system	WM 17820
Set, reusable container system	WM 17821
Secretion container lid, complete	WM 17822
Conversion set for disposable container system	WM 17825
Set, disposable container system	WM 17826
Set, bacteria filter (10 pieces)	WM 17830
Protective case	WM 11692
Conversion set for accessories bag ACCUVAC Pro	WM 17829
Conversion set for accessories bag ACCUVAC Lite	WM 17839
Shoulder strap	WM 11693
Wall mounting for ACCUVAC, including mounting set	WM 15208
Holding plate for equipment rail	WM 15845
Installation set for standard hospital rail with 2 adapters	WM 15805

11.2.4 Replacement parts

Replacement parts can be ordered separately, if required. A current list of replacement parts is available on the Internet at www.weinmann-emergency.de or from your authorized dealer.

11.3 Warranty

Starting from the date of purchase, WEINMANN Emergency offers the customer a limited warranty on a new original WEINMANN Emergency product or replacement parts installed by WEINMANN Emergency in accordance with applicable warranty terms and conditions for the particular product and the warranty periods listed below. The warranty terms and conditions are available on the Internet at www.weinmann-emergency.de. On request, we will send you the warranty terms and conditions by mail.

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If you wish to make a warranty claim, consult your authorized dealer.

Product	Warranty periods
WEINMANN Emergency devices, incl. accessories (excluding: masks) for oxygen therapy and emergency medicine	2 years
Masks, incl. accessories, batteries (unless otherwise stated in the technical documentation), sensors, hose systems	6 months
Disposable products	None

11.4 Declaration of Conformity

The manufacturer, ATMOS MedizinTechnik GmbH & Co. KG, Lenzkirch, Germany, declares herewith that the product complies fully with the respective regulations of the Medical Device Directive 93/42/EEC and Directive 2011/65/EU (RoHs II).

The unabridged text of the manufacturer's Declaration of Conformity can be found on the WEINMANN Emergency website at www.weinmann-emergency.de.

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